BID NO. T-11011/16/2010-Tech-UIDAI
UNIQUE IDENTIFICATION AUTHORITY OF INDIA,
PLANNING COMMISSION,
GOVERNMENT OF INDIA
NEW DELHI

Supply, Installation and Commissioning of Servers, Storage Systems, Security Systems and Accessories with Incidental Services

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RESPONSE TO CLARIFICATIONS SOUGHT BY THE PROSPECTIVE BIDDERS

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1	1 of 4	Check List		S. No. (v)	The Bidder should have minimum average annual turnover of Rs. 250,00,00,000/- (Rupees Two Hundred Fifty Crores) from sales if …..	Considering the Schedule of requirement and EMD of 5 Crores as stated in the RFP, we anticipate that the overall bid value will be quite large. With the payment terms as specified in the RFP, the bidder need to have financial capability and credibility to open LC to all majot compoenent vendors immediately whereas he will get a staggered payment. A company having turnover of 250 Crores is most unlikely to have that credit worthiness and may jeopardise the entire UID project. We request the tendering committee to seriously consider this clause and amend it to a logical value so that only those companies who have financial capability to execute h large & critical project become eligible.	The clause takes care of the financial capability of Bidders
2	2 of 2	I		g	Activity & dates	Bid submission has been asked on 24th of Dec. With all OEM not being available during christmas eve till 1st week of new year, we request that the submission date be postponed till 2nd week of Jan 2011.	Request noted.
3	2 of 14	II		1.5	Each copy of the bid should be a complete document and should be bound as a volume.	As per the clause each copy of the bid should be a complete document and should be bound as a volume. Kindly clarify whether the document is to be bound as a volume in spiral binding or hard binding.	Should be either spiral bound or Hard bound, No loose sheets allowed.
4	5 of 14	II		8.4	If during detailed study any upward revisions of the specifications and sizes given in Bid document, specification etc. are to be made….. All such changes shall be carried out within the lump sum contract price without any impact to the UIDAI.	Assumption: We assume that the responsibility of ensuring the correctness, completeness and fit-for-purpose of overall architecture and solution lies with UIDAI. We understand that the scope of the bidder is to supply the HW & SW as required in the Bid document and installation/configuring the H/W & S/W as instructed by UIDAI based on the Architecture/Solution owned by UIDAI. Request UIDAI to confirm whether the above mentioned assumption is correct assumption and if correct, request for modification to the Bid scope accordingly. we also want to highlight that - Clause 3.1.2 - does indicate that the bidder has to participate in data center layout planning and design. Also - Clause 3.14 - Explicitly calls for design of backup and replication. Hence we request clear articulation of scope from UIDAI for this RFP.	Assumption is correct . Clause 3.1.2 is self explanatory. Clause 3.1.4 stands deleted. Please refer to the Addendum to bid document released alongwith response to prebid queries for details.

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5	5 of 14	II		8.4	If during detailed study any upward revisions of the specifications and sizes given in Bid document, specification etc. are to be made….. All such changes shall be carried out within the lump sum contract price without any impact to the UIDAI.	1. We request UIDAI to define the scope, responsibilities of this supply with the clarity in the responsibility of the Vendor/Bidder/SI. 2. The understanding from the Scope section V of this RFP is that the vendor will be responsible for the Supply, installation, commissioning of servers, storage, security systems and accessories with Incidental services in the DC and DR, with warranty (5 for server storage and other goods 1 years) and AMC of 2 years and has to supply the BOM given in scope. 3. The extra line item in price bid will be the resident engineers who will support from onsite for 24 X7 for this infrastructure for One year. Hence we request UIDAI to modify this section to suggest that incase of a change required during deployment this will be mutually agreed and the changes if needed will be part of the Change Request process. 4. Also we understand that the managed services for the DC & DR along with the EMS solution or the tools etc are not part of this scope. Incase in future this is needed, this will again be mutually agreed and will form a part of a Change request process.	1. The scope of work of the bidder is clearly defined in Section V and addendum to bid document released alongwith response to prebid queries. 2. Please refer to clause 12 of section III and Annex 4.1.7 for period of warranty. 3. Please refer to clause 32 of Section II and clause 15 of Section III for change order(s). 4. The query is not relevant.
6	6 of 14	II		9.2	Commercial Bid should indicate the price to be charged and should include all taxes, duties, fees, etc. Hoever, Should there be any changes in the applicable taxes UIDAI reserves the right to negotiate with the selected bidder.	As the prices are quoted inclusive of taxes, any changes in the statutory taxes and duties will be borne by UIDAI. Kindly clarify.	The wordings "However, should there be a change in the applicable taxes, UIDAI reserves the right to negotiate with the selected Bidder." may be read as "However, should there be a downward or upward revision in the applicable taxes, the benefit of the same shall be be passed on to the purchaser or the selected Bidder, as the case may be."
7	6 of 14	II		11.2	Constituted Power of Attorney	Please clarify that POA issued by Company Secretary in the name of Signatory would suffice ?	The PoA should be issued by Authorised Person of the Bidder alongwith an evidence to this effect that Authorising person has the Authority to grant the PoA on behalf of the Bidder.

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8	8 of 14	II		20.1	Conditions for pre-qualification of bidders	As per the conditions for pre-qualification of bidders, there is no provision of formation of consortium in the bid. Cosidering the requirment ,we request you to kindly amend the clause and allow formation of consortium for meeting the conditions required for pre-qualification so that interested bidders like us can also participate with competitive solution.	Consortium bids are not allowed.
9	12 of 14	II		31.5	Post warranty Annual maintenancre cost	Kindly clarify what are payment terms for Post Warranty AMC	Payment terms shall be defined in the Annual Maintenance Contract,if any, executed after expiry of the Warranty period.
10	9 of 14	II		20.1 (iv)	The Bidder should be a profit making company in the last three financial years ended on 31.03.2010.	We request you to kindly change the clause as, "The Bidder should have made a net profit for at least one of the last three financial years, as on 31-03-10, and should have had a postive net-worth, in each of the three financial years.	The clause remains unchanged.
10.1	8 of 14	II		20.1 (ii)	The Bidder should be either the OEM manufacturing the Servers or the authorized agent/distributor and should produce ….	We request UIDAI to consider SI with partnership agreements as eligibility for participation	The wordings "authorized agent/distributor of such OEM " appearing in the clause 20.1(ii) may be read as " authorized agent/distributor/partner of such OEM"
11	1 of 4	Check List		S. No (ii)	The Bidder should be either the OEM manufacturing the Servers or the authorized agent/distributor and should produce ….	We request UIDAI to consider SI with partnership agreements as eligibility for participation	The wordings "authorized agent/distributor of such OEM " appearing in the clause 20.1(ii) may be read as " authorized agent/distributor/partner of such OEM"
12	8 of 14	II		20.1 (iv)	The Bidder should be a profit making company in the last three financial years ended on 31.03.2010	Going by the qualification criteria of earlier bids, UIDAI should reconsider this qualification criterion and remove the same.	Please refer to reply at Sr. No. 10

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13	9 of 14	II		20.1 (iv)	The Bidder should be a profit making company in the last three financial years ended on 31.03.2010.	Justification: The purpose is to validate the financial strength of the company. In the recent Tenders of DIT like State Data Centres (SDC's) & also State Wide Area Network Tenders (SWAN's); financial health is asked for as "Positive Net worth". Being a Service Provider our investment goes into building our infrastructure (including NOCS/ Data centres) across the country. Since, the operation model is majorly OPEX based, wherein effort is to charge our customers on the basis of services being rendered, our experience reflects in the investments made in creating the expansive infrastructure and not in the form of turnover.	Please refer to reply at Sr. No. 10
14	9 of 14	II		20.1 (v)	The Bidder should have minimum average annual turnover of Rs. 250,00,00,000/- (Rupees Two Hundred Fifty Crores) from sales if Information Technology(IT) equipment/ IT Systems Integration services during each of the last three financial years ended on 31.03.2010.	We request you to kindly change the clause as, " The Bidder should have minimum average annual turnover of Rs. 250,00,00,000/- (Rupees Two Hundred Fifty Crores) from sales of Information Technology(IT) equipment/ IT Systems Integration services / Providing Corporate Network / Connectivity Services / Facility and Infrastructure Management Services / Data Centre Services during each of the last three financial years ended on 31.03.2010.	Please refer to the Addendum to bid document released alongwith response to prebid queries for revised conditions and details.
15	28	VII	7.9	19	SSL Certificate support of 6500	One SSL certificate per application is required in the load balancer/application accelerator. Most of the leading vendors support max 1000 SSL certificates on the application acceleration device. 6500 is impractical to be used as it mean 6500 Different SSL applications behind the load balancer. It is suggested that the clause is amended as "SSL Certificate support of 1000"	Please refer to reply at Sr No 1266

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16	9 of 14	II		20.1 (vi)	The Bidder must have executed at least two (2) purchase orders/contracts in India involving supply, installation and commissioning of servers, storage systems, Networking Equipment and IT Security systems in the last three financial years. Each such order/contract should, interalia, include the value of at least Rs. 10,00,00,000/- (Rupees Ten Crores) from supply, installation and commissioning of servers, storage systems, Networking Equipment and IT Security systems.	We would request amendment as "The Bidder must have executed at least one (1) purchase order/contract in India involving supply, installation and commissioning of servers, storage systems or Networking / Connectivity Equipment or Services / IT Security systems / Data Centre Services in the last three financial years. Each such order/contract should, interalia, include the value of at least Rs. 30000000/- (Rupees Three Crores) from supply, installation and commissioning of servers, storage systems or Networking / Connectivity Equipment or Services / IT Security systems / Data Centre Services ."	Clause Remains unchanged
17	9 of 14	II		20.1 (vii)	The Bidder must have its own maintenance/support infrastructure ….	We request for UIDAI to verify this from the previous projects examples being asked in section 20.1 vi - where in SI has been able to provide such support to its customers. We request UIDAI to consider the eligibility to be based on customers supported in India as the qualification criteria and the service center support would be coming from the OEM.....Also Annexure 4.1.9 should be for OEMs.	The clause 20.1(vii) stands modified to read as under : "**The Bidder or the respective OEMs must have their own maintenance/support infrastructure facilities in India in respect of all goods/services covered in this Bid, so as to serve all over India particularly in the places as listed in Appendix F.**" However, Annexe 4.1.9 should be submitted by the Bidder .The necessary supporting documents from the respective OEMs, must be enclosed with the prequalification bid..
18	9 of 14	II		20.1 (vi)	Prequlification - 2 Purchase order of in India of atleast 10 Crores value	We request UIDAI to relax criteria to Rs atleast 5 crores value and above in place of Rs. 10 Crores.	Please refer to reply at Sr. No. 16

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19	3 of 14	II		20.1 (vi)	Purchase order which include Servers,Storage,Networking and IT Security system	Pls get this relaxed to Servers and Storage only.	Clause Remains unchanged
20	3 of 14	II		20.1 (vi)	Purchase order which include Servers,Storage,Networking and IT Security system	Pls get this relaxed to Servers and Storage only.	Clause Remains unchanged
21	9 of 14	II		20.1 (iv)	The Bidder should be a profit making company in the last three financial years ended on 31.03.2010.	PSU's may please be exempted for this clause.	Please refer to reply at Sr. No. 10
22	9 of 14	II		20.1 (v)	The bidder should have minimum average annual turnover of Rs 250, 00, 00,000 (Two Hundred and fifty crores) from sales if Information Technology equipment (IT) Equipment / IT system Integration services during the each of the last three financial years ended on 31.03.2010.....	Please amend the clause as follows: The bidder should have minimum average annual turnover of Rs 250, 00, 00,000 (Two Hundred and fifty crores) from sales of Information Technology equipment (IT) Equipment / IT system Integration services during the last three financial years ended on 31.03.2010.....	Please refer to the Addendum to bid document released alongwith response to prebid queries for revised conditions and details.
23	9 of 14	II		20.1 (vi)	The bidder must have executed atleast two (2) Purchase orders/Contract in India involving Supply, installation and commissioning of servers, storage systems, Networking equipment and IT security security systems in the last three financial years. Each such order /Contract should interalia include the value of at least Rs. 10,00,00,000- (Rupees Ten Crores) from supply, Installation and commissioning of servers, storage systems, Networking equipment and IT security systems.....	Please amend the clause as follows: The bidder must have executed atleast two (2) Purchase orders/Contract in India involving Supply, installation and commissioning of servers, storage systems, Networking equipment and IT security security system OR a combination of any of the above in the last five financial years. Each such order /Contract should interalia include the value of at least Rs. 10,00,00,000- (Rupees Ten Crores) from supply, Installation and commissioning of servers, storage systems, Networking equipment and IT security systems OR a combination of any of the above.	Please refer to reply at Sr. No. 16

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24	4 of 14	II		7.1.b.(i)	The Technical Bid should comprise of the following: (i) Section IV comprising of : 9. Maintenance Infrastructure Facilities: Annexure 4.1.9	"Maintenance Infrastructure Facilities: Annexure 4.1.9" as the Supplier/Bidder is anyway providing onsite 24x7 support with the requested Service Levels.	No clarification has been sought.
25	04 of 14	III		4	Patent Rights	This provisions is related to "patent/copyright indemnity – provision is incomplete – needs to have a proper clause describing procedure for indemnity, exceptions and limitations to indemnity. Request UIDAI to make it clear that Indemnity provisions shall be- on terms and conditions as prescribed by the Equipment owners/ OEM .	Please refer to the Addendum to bid document released alongwith response to prebid queries for details.
26	04 of 14	III		5.1	Patent Rights	5.1 The Vendor shall indemnify the Purchaser against all third-party claims of infringement of patent for all losses, costs and damages finally awarded by a court or agreed to in a settlement approved in writing by the Vendor, arising from the use of the Goods or any part thereof, provided that the Purchaser: (i) promptly notifies the Vendor in writing of the claim; and (ii) allows Vendor to control, and cooperates with the Vendor in, the defense and any related settlement negotiations. 5.2 If such a claim is made or appears likely to be made, Purchaser agrees to permit Vendor to enable Purchaser to continue to use the Goods, or to modify it, or replace it with one that is at least functionally equivalent. If Vendor determines that none of these alternatives is reasonably available, Purchaser agrees to return the Goods to Vendor on Vendor's written request. Vendor will then give Purchaser a credit equal to Purchaser's net book value calculated according to generally accepted accounting principles. 5.3 Vendor has no obligation regarding any claim based on any of the following: a. anything provided by Purchaser or a third party on Purchaser's behalf that is incorporated into the Goods or Vendor's compliance with any designs, specifications, or instructions provided by Purchaser or a third party on Purchaser's behalf; b. modification of Goods by Purchaser or a third party on Purchaser's behalf, or use of Vendor software other than in accordance with its applicable licenses and restrictions; c. the combination, operation, or use of Goods with any product, hardware device, program, data, apparatus, method, or process that Vendor did not provide as a system, if the infringement would not have occurred were it not for such combination, operation or use;	Please refer to the Addendum to bid document released alongwith response to prebid queries for details.

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27	04 of 14	III		6	BG for 10% of value of contract	Please clarify the validity period for the BG submitted.	Validity period of the performance BG shall be 36 months from the date of successful installation ,commissioning and acceptance. Accordingly, Clause 2 of Appendix B stands modified.
28	04 of 14	III		7	Installation, Erection, commissioning, Configuration, Testing and Acceptance Testing-	Uptime requirements are without standard down time conditions needs to incorporate them. Please clarify	Clauses 7.6, 7.7 and 7.8 of Section III are self explanatory
29	04 of 14	III		7	Installation, Erection, commissioning, Configuration, Testing and Acceptance Testing- Sub –Section 7.9 & 7.10 Acceptance Tests requirements	These provisions are without standard provisions of “deemed acceptance : “ If the Purchaser delays /refuses to give acceptance certificate in reasonable time after completion of the acceptance test or starts using the equipment in live environment before issuing such acceptance certificate then the equipment shall be deemed to have been accepted by the Purchaser.” Need to add such provisions, request clarification.	Clauses 7.9 & 7.10 remain unchanged.
30	05 of 14	III		7.6	Acceptance Tests	We understand that the acceptance test will be post complete installation of equipments at site.	Assumption is correct.
31	06 of 14	III		10	Delivery & documents	Can we assume that all quantities mentioned in the schedule of Requirementv will be purchased in one go or there is any plan for staggered procurement in phases?	Please refer to revised Clause 14 of Section V in Addendum to bid document released alongwith response to prebid queries.
32	07 of 14	III		11.3	maintenance	the price bid asks for only 2 years of AMC, here the commitment is for 5 years after acceptance	No clarification has been sought. It may however be noted that there is no commitment for 5 years for all items.
33	07 of 14	III		12	Warranty	Warranty provisions are without standard exceptions and exclusions need to add them. Need to make it clear that Warranty provisions shall be- on terms and conditions as prescribed by the Equipment owners/ OEM.	Comprehensive onsite warranty has to be provided as per Clause 12 of Section III.
34	07 of 14	III		12	Warranty of 36 months for Servers & storage and 12 months for other goods	Please clarify the TCO for Other goods for which it is defined that warranty shall be 1 year. As per the price bid format we have to only provide additional 2 years AMC. Hence pls clarify, how the remaining 2 years AMC for other goods will be considered?	The purchaser reserves the right to enter into AMC with the selected bidder after expiry of warranty period.

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35	07 of 14	III		12.2	warranty	36 months - 3 years for server storage and 12 months - 1 year for the other goods, then when does the AMC start - after acceptance and 3 yrs - request UIDAI to clarify in details.	The purchaser reserves the right to enter into AMC with the selected bidder after expiry of warranty period.
36	08 of 14	III		13	Payment	No specific payment terms are given need to add them on following lines: All invoices and bills will be raised by the selected bidder as per the Payment Section and will become due for payment within 30 days of presentation. All payments are to be made by demand draft/cheque favoring the selected bidder. All payments due for more than 30 days will attract an interest at the rate of 2 percent per month on the invoice amount.	The Clause remains unchanged.
37	08 of 14	III		13	50 % Payments and against delivery and installtion of goods/ service, 30% payment against satisfactory commissioning of Goods/Services,Balance 20% payment against acceptance of Goods/ Services. In case the acceptance of the Goods/Services	Need to know the difference between installation, commissioning and acceptance of goods/services. We request you to kindly provide some payment in advance.	Request not accepted.
38	08 of 14	III		13.2	Payment Term	We request payment terms be relaxed and and be considered as 70%, 20% and 10% as against 50% 30% and 20% mentioned in tender.	Request not accepted.
39	08 of 14	III		13.2	In case commissioning of goods delayed beyond 90 days of the receipt of the equipment at purchaser sites, then on written instructions of purchaser by furnishing BG payment can be claimed.	When would the client inform about the delay for the relevant milestone. Is it on achievement of previous milestone . Also need to understand if the commissioning delayed for more than 90 days when can the balance 20% be claimed which is due on acceptance.	The Clause remains unchanged.

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40	08 of 14	III		15	Change Orders 15.1 The Purchaser may at any time, by a written notice given to the Vendor pursuant to Clause 28, request changes within the general scope of the Contract in any one or more of the following: (a) drawings, designs or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser; (b) the method of shipment or packing; (c) the place of delivery; or (d) the Services to be provided by the Vendor. (e) increase/ decrease quantities of goods 15.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Vendor's performance of any part of the work under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Vendor for adjustment under this Clause must be	Any change order shall be final and effective only when signed by authorised representatives of both the parties.	Not accepted. The Clause remains unchanged
41	09 of 14	III		18	The vendor shall notify the purchaser in writing of all sub contract awarded under the contract if not already specified in his bid.	As per clause the vendor shall notify the purchaser in writing of all sub contract awarded under the contract if not already specified in his bid.We understand that subcontracts are allowed in the project awarded in this bid. Kindly confirm.	Clause 18 of Section III stands deleted . Accordingly , the wording "sub-contractor(s)" appearing anywhere in the bid document stands deleted. Please also refer to the Addendum to bid document released alongwith response to prebid queries.

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42	09 of 14	III		20	Liquidated Damages	We request to restrict LD to maximum of 10% ten percent in any case. Will time taken for preventive maintenance would be considered as down time ? Kindly specify the down time claculation criteria	The Clause remains unchanged. Time taken for preventive maintenance would not be considered as down time. Please refer to Clause 7.6 of Section III for uptime calculation.
43	09 of 14	III		20	Liquidated Damages	Need to add following to this Section. The aforesaid Liquidated Damages shall be levied provided the delay / default is for reasons solely and entirely attributable to the Supplier and not when the delay is for reasons attributable to the Purchaser and/or its other vendors.	The aforesaid Liquidated Damages shall not be levied provided the delay / default is for reasons solely and entirely attributable to the Purchaser.
44	09 of 14	III		20	For Delay in Delivery: 0.5% per week of contract price of delayed goods or unperformed services upto maximum 10% of contract price. Once maximum is reached contract can be terminated. For failure in securing acceptance of equipment within 220 days after arrival at site: Penalty at 2% of vendor value for each month of failure upto maximum 10%		No clarification has been sought.
45	10 of 14	III		21	Termination for Default	The Section does not provide for a specific notice period need to have a 30 days notice for rectification. Similarly the Vendor shall also have a right to terminate the agreement in event of breach of any term sand conditions by the Purchaser, by giving 30 days notice of breach to the Purchaser, provided the breach is not cured by the Purchaser within such notice period.	The Clause remains unchanged.

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46	10 of 14	III		21	The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Vendor, terminate the Contract in whole or in part: (a) If the Vendor fails to deliver any or all of the Goods within the time periods specified in the Contract, (b) If the Vendor fails to perform any other obligations under the contract. In the event the purchaser terminates the contract in whole or in part, the purchaser may procure upon such terms and in such manner as it deems appropriate, goods similar to those undelivered and the vendor shall be liable to the purchaser for any excess costs for such similar goods.	We propose that in case of termination for default there should be a notice period of 30 days. In case the vendor fails to rectify/ cure the defects within this notice period then only UIDAI should proceed with the termination of contract.	The Clause remains unchanged.

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47	10 of 14	III		21	Termination for Default 21.1 The purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the vendor, terminate the contract in whole or in part: (a) If the vendor fails to deliver any or all of the Goods within the time period(s) specified in the Contract, or any extension thereof granted by the Purchaser pursuant to Clause 19; OR (b) If the vendor fails to perform any other obligations(s) under the contract. 21.2 In the event the purchaser terminates the contract in whole or in part, perusuant to Clause 21.1 the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods similar to those undelivered, and the vendor shall be liable to the purchaser for any excess costs for such similar Goods. However, the Vendor shall continue performnace of the contract to the extent not terminated.	Termination for Default 21.1 Either party may, by written notice of 30 days of default sent to the other party, terminate the Contract in whole: (a) If the other party materially breaches this Contract and fails to cure such breach within the given notice period (b) INTENTIONALLY LEFT BLANK. 21.2 In the event either party terminates the Contract, pursuant to Clause 21.1 the Purchaser shall pay all charges for the Services and Goods delivered by the Vendor up to the effective date of termination, and any other reimbursable expenses incurred by the Vendor through such termination.	The Clause remains unchanged.

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48	10 of 14	III		23	Termination for Insolvency: The Purchaser may at any time terminate the contract by giving written notice to the Vendor, without compensation to the Vendor, if the Vendor becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accured or will accure thereafter to the Purchaser.	Termination by Vendor 23.1 If any amount due and payable by Purchaser under the Contract is more than [ ] days overdue, the Vendor may issue to Purchaser a notice that payment is overdue. If Purchaser fails to pay the Vendor within [ ] days after the date of the such notice, the Vendor may by a further notice to Purchaser terminate the Contract or at its election withdraw Services or stop performance of its obligations until payment is made.	Intent of clarification sought is not clear. The clause 23.1 of Section III remains unchanged.
49	10 of 14	III		24	Termination for Convenience – by the Purchaser	The right is without notice period. Need at least 90 day advance notice. ALSO need to have a provision- that :"The purchase shall pay to the Vendor a reasonable compensation to meet it agreed commitments."	The Clause remains unchanged.

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50	11 of 14	III		25	Dispute Resolution 25.1. If during the subsistence of this Contract or thereafter, any dispute between the Parties hereto arising out of or in connection with the validity, interpretation, implementation, material breach or any alleged material breach of any provision of this Contract or regarding any question, including as to whether the termination of this Contract by one Party hereto has been legitimate, the Parties hereto shall endeavor to settle such dispute amicably and/or by Conciliation to be governed by the Arbitration and Conciliation Act, 1996 or as may be agreed to between the Parties. The attempt to bring about an amicable settlement is considered to have failed as soon as one of the Parties hereto, after reasonable attempts; which attempt shall continue for not less than thirty (30) days, gives thirty (30) days notice to refer the dispute to arbitration to the other Party in writing.	Dispute Resolution 25.1. If during the subsistence of this Contract or thereafter, any dispute between the Parties hereto arising out of or in connection with the validity, interpretation, implementation, material breach or any alleged material breach of any provision of this Contract or regarding any question, including as to whether the termination of this Contract by one Party hereto has been legitimate, the Parties hereto shall endeavor to settle such dispute amicably and/or by non binding Conciliation to be governed by the Arbitration and Conciliation Act, 1996 or as may be agreed to between the Parties. The attempt to bring about an amicable settlement is considered to have failed as soon as one of the Parties hereto, after reasonable attempts; which attempt shall continue for not less than thirty (30) days, gives thirty (30) days notice to refer the dispute to arbitration to the other Party in writing.	The Clause remains unchanged.
51	12 of 14	III		31	Price Fall –Most Preferred Customer	This clause shall be applicable on in respect of –"Provision of similar goods/ provisions of similar services shall be –for the same quantum of business and in the same territory."	The Clause remains unchanged.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
52	12 of 14	III		31.1	Most Preferred Status	Dispute Resolution 25.1. If during the subsistence of this Contract or thereafter, any dispute between the Parties hereto arising out of or in connection with the validity, interpretation, implementation, material breach or any alleged material breach of any provision of this Contract or regarding any question, including as to whether the termination of this Contract by one Party hereto has been legitimate, the Parties hereto shall endeavor to settle such dispute amicably and/or by non binding Conciliation to be governed by the Arbitration and Conciliation Act, 1996 or as may be agreed to between the Parties. The attempt to bring about an amicable settlement is considered to have failed as soon as one of the Parties hereto, after reasonable attempts; which attempt shall continue for not less than thirty (30) days, gives thirty (30) days notice to refer the dispute to arbitration to the other Party in writing.	The intent of clarification sought is not clear. However, Clause remains unchanged.
53	12 of 14	III		31.1	Most Preferred Status	Can we do this or should we get this relaxed.There is a clause of 30 chassis and 300 servers and 4 chassis 34 servers. In full height we cannot meet this one. This is mentioned in scope of work section V clause 3.1.1	The clarification sought is not clear. However, Clause remains unchanged.
54	13 of 14	III		33	Passing of Property	We request that passing of title to UIDAI should be considered on delivery of equipment at UIDAI site	Not Accepted.
55	13 of 14	III		33	Passing of Property Ownership shall not pass to the purchaser unless and until the Goods have been delivered, installed and accepted, in accordance with the conditions of the contract to the entire satisfaction of the Purchaser.	Passing of Property, Risk of Loss and Insurance 33.1 Ownership shall not pass to the Purchaser unless and until the payment for such Goods has been made in full. 33.2 The Vendor shall bear the risk of loss or damage in Goods up to the time it is delivered to the Vendor-designated carrier for shipment to the Purchaser or its designated location. Thereafter, the Purchaser shall assume the risk. 33.3 Goods will be covered by insurance, arranged and paid for by the Vendor for the Purchaser, covering the period until it is delivered to the Purchaser or its designated location. In the event of any loss, damage, breakage or leakage or any shortage, the Purchaser must report the loss or damage in writing to the Vendor within 10 business days of delivery and follow the applicable claim procedure	Not Accepted.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
56	13 of 14	III		36	Taxes and duties	Sales tax would be paid extra if so stipulated in notification of award. What about other taxes like service tax. Also need clarity on tax law changes(incl. rate changes) implication on both purchaser and supplier. Request Clarification	Service Tax shall be payable upon submisssion of proof for payment of the same. In the event of any downward or upward changes in the taxes, the benefit of same sall be passed on to the Purchaser or the Vendor as the case may be.
57	14 of 14	III		40	Satisfactory complimentary Performance	Since system software asked by UIDAI is going to come from OEM's and asked by UIDAI. We would like UIDAI to kinldy clarify what kind of satisfactory performance is expected by UIDAI	The clause is self explanatory. However, the wordings "if the software features" stand modified to "if the hardware/software features"
58	08 of 14	III		13.2 (i)	50% payment against delivery and installation of Goods/Services	We understand that the said payment will be processed and released before the commissioning / accpetance test begins, request you to kindly confirm	The payment shall be processed at the earliest. However, the commissioning/acceptanc e shall be carried out as per the Implementation schedule stipulated in clause 14 of Section V. Please refer to revised Clause 14 of Section V in Addendum to bid document released alongwith response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
59	08 of 14	III		13.2 (ii)	30% payment against satisfactory commissioning of Goods/Services	We understand that the said payment will be processed and released before the accpetance test is begins, request you to kindly confirm	The payment shall be processed at the earliest. However, the commissioning/acceptanc e shall be carried out as per the Implementation schedule stipulated in Clause 14 of Section V.Please refer to revised Clause 14 of Section V in Addendum to bid document released alongwith response to prebid queries.
60	08 of 14	III		13.2 (iii)	20% payment against accpetancee of Goods/Services	We understand that the said payment will be processed and released against the accpetance test certificate, request you to kindly confirm	Yes
61	04 of 14	III		7.3 (a)	Factory Test : It Shall be the responsibility of the vendor to get pre-despatch inspection of the good as part of factory test through internationally reputed third party inspection agencies and furnish necessary certificate to the Purchaser certifying that the goods conform to the specifications given in the contract	Request to elaborate on the internationally reputed third party inspection agencies, and the tests required during the Factory test. In the event of the factory being outside India can we have the option of doing a “pre-dispatch inspection” at other premises in India.	The wordings "through internationally reputed third party inspection agencies" stand deleted. The pre-despatch inspection may be carried out by the OEM/Bidder. An undertaking should be given by the bidders to this effect alongwith the Technical Bid . A certificate of predespatch inspection will have to be furnished by the selected bidder before delivery of goods.
62	04 of 14	III		7.3 (b)	On-site commissioning tests	Please share the required test to be done during the on-site commissioning	This will be mutually decided with the selected Bidder.
63	06 of 14	III		8.1 (f)	Conduct of training of the Purchaser's personnel	Request to clarify, refer Clause 9 TRAINING on same page, mentions claused deleted.	No training of Purchaser's Personnel is required.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
64	14 of 14	III		new	Additional Clause : Limitation of Liability	There is no Limitation of Liability – provision in this RFP - need to have on following lines:"Detailed provisions limiting each party's' direct liability to the contract value and for exclusion of all indirect and consequential damages."	A new Clause 42 is inseted. Please refer to Addendum to bid document released alongwith the responses to prebid clarifications sought.
65		III		new		The vendor wishes to insert the following clauses when entering into a contract with UIDAI: 1. Limitation of Liability	Please refer to reply at S.No. 64.
66	16 of 33	IV	Annexe 4.1.11	5	Configuration of all Network devices.	The configuration backup of all network devices will be taken care by network monitoring tools. Thus request to remove this clause from the backup solution specs.	Requirement of Back up solution has been deleted . Please refer to the Addendum to bid document released alongwith response to prebid queries.
67	16 of 33	IV	Annexe 4.1.11	5 - 6 - (v)	(v) support integration with leading Enterprise Management Solutions	We request UIDAI to share the EMS details and the components that such EMS have to be integrated with by the Bidder	Clause is self explanatory. Please also refer to the Addendum to bid document released alongwith response to prebid queries.
68	16 of 33	IV	Annexe 4.1.11	6 (ii)	Support hostless backup and restore	Request to amend as: "Support backup & restore"	Please refer to reply at Sr No 66
69	18 of 33	IV	Annexe 4.1.12	4(2)(ix)	The proposed bandwidth between DC and DR site will be 100Mbps burstable to 300Mbps	Request to clarify how the bandwidth is achieved. Please specify the RPO and the RTO between the primary and the DR site. Different vendors have different replication methods and thus have different bandwidth requirements.	Requirement of Replication solution has been deleted . Please refer to the Addendum to bid document released alongwith response to prebid queries.
70	18 of 33	IV	Annexe 4.1.12	4(2)(ix)	The proposed bandwidth between DC and DR site will be 100Mbps burstable to 300Mbps	Request to clarify how the bandwidth is achieved. Please specify the RPO and the RTO between the primary and the DR site. Different vendors have different replication methods and thus have different bandwidth requirements.	Requirement of Replication solution has been deleted . Please refer to the Addendum to bid document released alongwith response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
71	18 of 33	IV	Annexe 4.1.12	4(2)(ix)	The proposed bandwidth between DC and DR site will be 100Mbps burstable to 300Mbps	Request to clarify how the bandwidth is achieved. Please specify the RPO and the RTO between the primary and the DR site. Different vendors have different replication methods and thus have different bandwidth requirements.	Requirement of Replication solution has been deleted . Please refer to the Addendum to bid document released alongwith response to prebid queries.
72	18 of 33	IV	Annexe 4.1.12		The replication solution shall provide asynchronous replication of data from Bangalore DC to Delhi/NCR DC via the network and shall cover the following aspects: (i) MySQL (ii) Oracle RAC (iii) Critical data stored in the file systems - including configuration, management data	(i) Do you require a replication solution which can work in bidirectional way? Please clarify (ii) Do you want to keep source and destination sites to be active during replication which will make both the sites available for normal operations? Please clarify	Requirement of Replication solution has been deleted . Please refer to the Addendum to bid document released alongwith response to prebid queries.
73	18 of 33	IV	Annexe 4.1.12		The proposed bandwidth between DC and DR site will be 100 Mbps burstable to 300 Mbps.	(i) Does UIDAI need a solution which will replicate minimal required data across the sites which will use logical replication to avoid corrupted blocks replication? Please clarify (ii) For a better network utilization, does UIDAI need a solution which can compress the data while moving it from one site to another?	Requirement of Replication solution has been deleted . Please refer to the Addendum to bid document released alongwith response to prebid queries.
74	18 of 33	IV	Annexe 4.1.12		The replication solution shall provide asynchronous replication of data from Bangalore DC to Delhi/NCR DC via the network and shall cover the following aspects: (i) MySQL (ii) Oracle RAC (iii) Critical data stored in the file systems - including configuration, management data	(i) Do you require a replication solution which can work in bidirectional way? Please clarify (ii) Do you want to keep source and destination sites to be active during replication which will make both the sites available for normal operations? Please clarify	Requirement of Replication solution has been deleted . Please refer to the Addendum to bid document released alongwith response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
75	18 of 33	IV	Annexe 4.1.12		The proposed bandwidth between DC and DR site will be 100 Mbps burstable to 300 Mbps.	(i) Does UIDAI need a solution which will replicate minimal required data across the sites which will use logical replication to avoid corrupted blocks replication? Please clarify (ii) For a better network utilization, does UIDAI need a solution which can compress the data while moving it from one site to another?	Requirement of Replication solution has been deleted . Please refer to the Addendum to bid document released alongwith response to prebid queries.
76	18 of 33	IV	Annexe 4.1.12		General	Pls provide the expected data size which needs to be replicated from DC-DR. Also pls let us know the rate of change of Data/hour.	Please refer to reply at sr No 75
77	07 of 33	IV	Annexe 4.1.3	42	Intra Rack Cabling & other accessories	Kindly confirm whether by Intra-rack cabling you mean to ask for necessary fiber and copper patch cords required within a rack only.Since the inter-rack cabling would be under the scope of DCSPs, the entire passive components other than the patch cords would fall under the DCSPs scope.	All components for Intra Rack Cabling are within the scope of work of the Bidder.
78	33 of 33	IV	Annexe 4.2.11	8	Additional 600 GB Hot Swappable FC Disks 15000 RPM for offered SAN-ODS and SAN-DFS including software license if any	Since SAS Disk Drives have become standard (refer previous clause where SAS disk has been recommended in the Server) with better performance and Reliability, We suggest incorporating FS / SAS disks in the upgrade specs.	Specifications remain unchanged. Please also refer to revised Annexe 4.2.11 in the Addendum to bid document released alongwith response to prebid queries.
79	33 of 33	IV	Annexe 4.2.11	8	Additional 600 GB Hot Swappable FC Disks 15000 RPM for offered SAN-ODS and SAN-DFS including software license if any	Since SAS Disk Drives have become standard (refer previous clause where SAS disk has been recommended in the Server) with better performance and Reliability, We suggest to incorporate FC / SAS disks in the upgrade specs.	Specifications remain unchanged.Please also refer to the Addendum to bid document released alongwith response to prebid queries.
80	33 of 33	IV	Annexe 4.2.11	11	Additional 600 GB Hot Swappable FC Disks 10000 RPM for offered NAS for offered NAS along with requisite accessories (for upgrade from 20TB to 40TBusable capacity) including software license if any	Since SAS Disk Drives have become standard (refer previous clause where SAS disk has been recommended in the Server) with better performance and Reliability, We suggest to incorporate FC / SAS disks in the upgrade specs.	Specifications remain unchanged.Please also refer to the Addendum to bid document released alongwith response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
81	33 of 33	IV	Annexe 4.2.11	11	Additional 600 GB Hot Swappable FC Disks 10000 RPM for offered NAS for offered NAS along with requisite accessories (for upgrade from 20TB to 40TBusable capacity) including software license if any	Since SAS Disk Drives have become standard (refer previous clause where SAS disk has been recommended in the Server) with better performance and Reliability, We suggest to incorporate FC / SAS disks in the upgrade specs.	Specifications remain unchanged.Please also refer to the Addendum to bid document released alongwith response to prebid queries.
82	33 of 33	IV	Annexe 4.2.11	3 & 6	Additional DDR3 32 GB Memory Qty 01 for offered blade servers	As of now we do not have 32 GB single DIMM module, is it mandatory to quote for all the optional items?	Yes, It is mandatory to quote for all the optional items. Please also refer to the Addendum to bid document released alongwith response to prebid queries.
83	33 of 33	IV	Annexe 4.2.11	3 & 6	Additional DDR3 32 GB Memory Qty 01 for offered blade servers	As of now we do not have 32 GB single DIMM module, is it mandatory to quote for all the optional items?	Yes, It is mandatory to quote for all the optional items. Please also refer to the Addendum to bid document released alongwith response to prebid queries.
84	30 of 33	IV	Annexe 4.2.9			Please share the qualification, certification, Job description and years of experience required for the resources asked.	Please refer to the Addendum to bid document released alongwith response to prebid queries.
85	18 of 33	IV	Annexe 4.1.12		The proposed bandwidth between DC & DR will be 100 to 300 Mbps	On what calculation these figures has come, kindly share the calculation parameter e.g. data structure to replication etc. (if possible)	Please refer to reply at sr No 75
86	18 of 33	IV	Annexe 4.1.12		Replication solution should be bases on open standards, should not be vendor locking	please elaborate & specify ???	Please refer to reply at sr No 75
87	18 of 33	IV	Annexe 4.1.12		Critical Data stored in File system	What is current file system which needs to be replicated (Specify the File system)	Please refer to reply at sr No 75
88	33 of 33	IV	Annexe 4.2.11		Optional Items	Is it mandatory to quote for all the optional items?	Yes. Please also refer to revised Annexe 4.2.11 in the Addendum to bid document released alongwith response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
89	33 of 33	IV	Annexe 4.2.11		Additional DDR3 32 GB Memory Qty 01 for offered blade servers	As of now all the vendors do not have 32 GB single DIMM module, please allow us to Quote for 2*16GB?	It is mandatory to quote for all the optional items. Please also refer to the Addendum to bid document released alongwith response to prebid queries.
90	06 of 20	II		20.1		UID is a very prestigious and mission critical project. Hence it is suggested that OEM should have minimum 10 OEM Engineers in India to provide deployment and troubleshooting support to the bidder.	Clause 20.1 of Section II stands revised. Please refer to the Addendum to bid document released alongwith response to prebid queries.
91	06 of 20	II		20.1		UID is a very prestigious and mission critical project. Hence it is suggested that OEM should have its own TAC center in India to provide support to UID project	Please refer to the reply at Sr No. 90
92	06 of 20	II		20.1		UID is a very prestigious and mission critical project. Hence it is suggested that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer to the reply at Sr No. 90
93	06 of 20	II		20.1		It is suggested that OEM should validate all the performance parameters and features as asked in the RFP's product specification section thru publicly available documents.	Please refer to the reply at Sr No. 90
94	06 of 20	II		20.1		It is suggested that OEM should be in last 3 Gartner's Magic quadrant report	Please refer to the reply at Sr No. 90
95	30 of 33	IV	Annexe 4.2.9		Annexure 4.2.9	Can we include an additional column for showing tax component in the said format	No.There is already a column for taxes in Annexe 4.2.9.Therefore, Service Tax, Education Cess , Works Contract Tax etc, if applicable, may be indicated in this column itself.
96	18 of 33	IV	Annexe 4.1.12		Database Versions	Request team to please provide version of Oracle RAC and mysql being used for which solution is required	Please refer to reply at sr No 75
97	18 of 33	IV	Annexe 4.1.12		Operating System Details	Please clarify the Operating system on which database is running	Please refer to reply at sr No 75
98	102	VII	7.27	9	Event Correlation (HIDS)	The Module instantly correlates security data from multiple sources to escalate serious threats such as attack on a vulnerability asset or a covert, multiple set attacks. As a Dedicated Event Correlation tool is asked for in the tender, this features is not required and will creates duplicacy of solution.	There is no minimum requirement specified for this parameter.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
99	107	VII	7.29	4	Perimeter Security Device	The appliance should have dedicated 10 G interface for management console, None of th monitoring ports should be shoud be used for this purpose. Request UIDAI team ot please evaluate the industry standards and make necessary changes.	Please refer to the reply at Sr No 943
100	107	VII	7.29		Perimeter Security Device	Kindly define the No of segments to be provided in the Perimeter Security Device.	Please refer to Additional parameter at Sr No 47 added in revised Annexure 7.29 under revised section VII.
101	117	VII	7.33		Network Operation Console	Please clarify the Network Operation Console (NOC), asked in the tender should have the Server / Application monitoring system also along with the Network monitoring components or it is exisitng with UIDAI, since there is no specifications mentioned for the same. Pl clarify	Server / Application monitoring system are not required. Please refer to revised Annexure 7.33 under revised Section VII .
102	16	VII	7.6	21	900 Devices(Event Correlation Server)	As the licenses are based on devices hence request you to please provide breakup of 900 devices in each location.	Major part of devices are to be supplied by the selected bidder. Also refer to reply at Sr No.1131
103	116	VII	7.6	32	(Event Correlation Server)	Please clarify Network Operation Console (NOC), asked in the tender should have the Server / Application monitoring system also along with the Network monitoring components or it is exisitng with UIDAI, since there is no specifications mentioned for the same. Pl clarify	Please Refer to reply at Sr No 101
104	05 of 20	V	3.2	3.2	The bidder is also expected to co-operate with UIDAI in critical situation to provide services beyond the established SOW	It will help to design the overall solution if you can put some light on critical situation (expectation beyond scope)	This will be shared with the selected bidder.
105	06 of 20	V	4.1	4.1	The bidder should offer only one choice for each of the compononents/services proposed as part of of this bid failing which the bid is liable to rejected	please advice, Can we suggest options to enhance the overall solution which may help to UIDAI or options are strictly prohibited ???	No. The clause remains unchanged.
106	07 of 20	V	4.15	4.15	Technology refresh	What is current policy for tech refresh(is it 3 years) ???	The Bidder has to provide the Technology Refresh Policy.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
107	05 of 20	V	3.1.1	42	Intrarack Cabling	Define the scope Intrarack Cabling at Bangalore & Delhi.	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the hardware items to be supplied.Please also refer to clause 18 of Section II.
108	05 of 20	V	3.1.3	3.1.3	Integration & migration or relocation where required, of existing IT infra	Kindly help in elaborate the relocation/migration scope	The scope of relocation/migration includes relocation/ migration to a new DC/DR site during the contract period. It also includes commissioning/decommissioning, configuration/ Reconfiguartion and help in transfer of assets at a late stage to 'Managed service Provider' of UIDAI.
109	18 of 33	IV	Annexe 4.1.12		Data stored in File system	What is file system of these applications/DB	Please refer to reply at sr No 75
110	03 of 20	V		2.1	UIDAI is committed to provide the HW & SW infrastructure to the appointed 3 BSP's	We understand that the scope of this RFP will be limited to the HW & SW (as needed for the HW) only and non Managed services or the Solutioning to the BOM required as part of this RFP. The current scope of this RFP is to supply the complete BOM and provide for the masked commercial BOM as part of the technical bid to determine the quantity. Incase their is a change in requirement UIDAI will give a clarification to the same or in case of a change after a successful bidder is on board UIDAI will have a change process for the same. The current scope is only the BOM provided as part of scope section V 3.1.1 page 3 of 20	No clarification has been sought.
111	05 of 20	V		3.2	The bidder is also expected to co-operate with UIDAI in critical situations to provide services beyond the established scope of work	How the additional scope would be fctored in commercials, is bidder need to raise the change request fro the same or any other mecanism would be developled later	Please refer to clause 32 of Section II and clause 15 of Section III for change order(s).
112	05 of 20	V		3.2	The bidder is also expected to co-operate with UIDAI in critical situation to provide services beyond the established SOW	It will help to design the overall solution if you can put some light on critical situation (expectation beyond scope)	This will be shared with the selected bidder.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
113	06 of 20	V		4.1	The bidder should offer only one choice for each of the compononents/services proposed as part of of this bid failing which the bid is liable to rejected	please advice, Can we suggest options to enhance the overall solution which may help to UIDAI or options are strictly prohibited ???	No. The clause remains unchanged.
114	07 of 20	V		4.12	Any additional components,subocomponents,assemblies,sub-assemblies that would be required to meet the desired performance requirements under "live"conditions will have to be provisioned by the bidder at no additional cost to UIDAI and without any project delays	Pls let us know in detail is there are any performance parameters that will be tested ?	The Bidder has to meet the standard levels of performance as per specifications of technical parameters for all the equipments stipulated in the bid document.
115	07 of 20	V		4.12	Any additional components,subocomponents,assemblies,sub-assemblies that would be required to meet the desired performance requirements under "live"conditions will have to be provisioned by the bidder at no additional cost to UIDAI and without any project delays	Pls let us know in detail is there are any performance parameters that will be tested ?	Please refer to reply at S. No. 114.
116	07 of 20	V		4.12	Any additional components,subocomponents,assemblies,sub-assemblies that would be required to meet the desired performance requirements under "live"conditions will have to be provisioned by the bidder at no additional cost to UIDAI and without any project delays	Pls let us know in detail is there are any performance parameters that will be tested ?	Please refer to reply at S. No. 114.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
117	07 of 20	V		4.12	Any additional components,sub components,assemblies,sub-assemblies that would be required to meet the desired performance requirements under "live"conditions will have to be provisioned by the bidder at no additional cost to UIDAI and without any project delays	Pls let us know in detail if there are any performance parameters that will be tested ?	Please refer to reply at S. No. 114.
118	07 of 20	V		4.15	Technology refresh	What is current policy for tech refresh(is it 3 years) ???	The Bidder has to provide the Technology Refresh Policy.
119	09 of 20	V		5.6	Terminal Servers	What is the purpose of the terminal servers? Some additional details are required regarding usage and requirements.	Not relevant in the context of scope of work. Please refer to Annexure 7.8 under Section VII for detailed specifications.
120	11 of 20	V		8.4	Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be an integrated device that should include the following modules : Firewall, Intrusion Detection system, VPN, Antivirus, Content Filtering	Annexure 7.29 detailing the technical specifications of perimeter security appliance does not contain any features regarding Firewall, VPN, Antivirus and content filtering. Rather the specifications are of a dedicated IPS appliance. It is an industry practice to deploy a dedicated intrusion prevention system as perimeter security in the Datacenter. Hence, it is suggested that this clause should be changed to "Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be a dedicated intrusion prevention system"	The clause remains unchanged.
121	11 of 20	V		8.4	Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be an integrated device that should include the following modules : Firewall, Intrusion Detection system, VPN, Antivirus, Content Filtering	Annexure 7.29 detailing the technical specifications of perimeter security appliance does not contain any features regarding Firewall, VPN, Antivirus and content filtering. Rather the specifications are of a dedicated IPS appliance. It is an industry practice to deploy a dedicated intrusion prevention system as perimeter security in the Datacenter. Hence, it is suggested that this clause should be changed to "Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be a dedicated intrusion prevention system"	The clause remains unchanged.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
122	11 of 20	V		8.4	Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be an integrated device that should include the following modules : Firewall, Intrusion Detection system, VPN, Antivirus, Content Filtering	Annexure 7.29 detailing the technical specifications of perimeter security appliance does not contain any features regarding Firewall, VPN, Antivirus and content filtering. Rather the specifications are of a dedicated IPS appliance. It is an industry practice to deploy a dedicated intrusion prevention system as perimeter security in the Datacenter. Hence, it is suggested that this clause should be changed to "Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be a dedicated intrusion prevention system"	The clause remains unchanged.
123	11 of 20	V		8.4	Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be an integrated device that should include the following modules : Firewall, Intrusion Detection system, VPN, Antivirus, Content Filtering	Annexure 7.29 detailing the technical specifications of perimeter security appliance does not contain any features regarding Firewall, VPN, Antivirus and content filtering. Rather the specifications are of a dedicated IPS appliance. It is an industry practice to deploy a dedicated intrusion prevention system as perimeter security in the Datacenter. Hence, it is suggested that this clause should be changed to "Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be a dedicated intrusion prevention system"	The clause remains unchanged.
124	11 of 20	V		8.4	Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be an integrated device that should include the following modules : Firewall, Intrusion Detection system, VPN, Antivirus, Content Filtering	Annexure 7.29 detailing the technical specifications of perimeter security appliance does not contain any features regarding Firewall, VPN, Antivirus and content filtering. Rather the specifications are of a dedicated IPS appliance. It is an industry practice to deploy a dedicated intrusion prevention system as perimeter security in the Datacenter. Hence, it is suggested that this clause should be changed to "Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be a dedicated intrusion prevention system"	The clause remains unchanged.
125	11 of 20	V		8.4	Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be an integrated device that should include the following modules : Firewall, Intrusion Detection system, VPN, Antivirus, Content Filtering	Annexure 7.29 detailing the technical specifications of perimeter security appliance does not contain any features regarding Firewall, VPN, Antivirus and content filtering. Rather the specifications are of a dedicated IPS appliance. It is an industry practice to deploy a dedicated intrusion prevention system as perimeter security in the Datacenter. Hence, it is suggested that this clause should be changed to "Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be a dedicated intrusion prevention system"	The clause remains unchanged.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
126	11 of 20	V		8.4	Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be an integrated device that should include the following modules : Firewall, Intrusion Detection system, VPN, Antivirus, Content Filtering	Annexure 7.29 detailing the technical specifications of perimeter security appliance does not contain any features regarding Firewall, VPN, Antivirus and content filtering. Rather the specifications are of a dedicated IPS appliance. There is already specifications of Network IDS and firewall in the tender. Please clarify on this point	The clause remains unchanged.
127	12 of 20	V		10	Show RHEL 5.x as the minimum requirement for the Linux operating system. Considering the specific technical requirements for the application to run, Oracle Linux 5.x can also be a part of the specification as the two distributions are exactly same	Oracle Linux is source and binary compatible with RHEL and is available for free download through Oracle website. It includes the identical set of packages at the same version levels with the same source code as the Red Hat distribution. Any application running on RHEL 5.x can run on Oracle Linux 5.x"	The clause remains unchanged. Please also refer to Addendum and revised Section VII released alongwith reply to prebid clarifications.
128	12 of 20	V		10	Show RHEL 5.x as the minimum requirement for the Linux operating system. Considering the specific technical requirements for the application to run, Oracle Linux 5.x can also be a part of the specification as the two distributions are exactly same	Oracle Linux is source and binary compatible with RHEL and is available for free download through Oracle website. It includes the identical set of packages at the same version levels with the same source code as the Red Hat distribution. Any application running on RHEL 5.x can run on Oracle Linux 5.x"	The clause remains unchanged. Please also refer to Addendum and revised Section VII released alongwith reply to prebid clarifications.
129	12 of 20	V		10	Show RHEL 5.x as the minimum requirement for the Linux operating system. Considering the specific technical requirements for the application to run, Oracle Linux 5.x can also be a part of the specification as the two distributions are exactly same	Oracle Linux is source and binary compatible with RHEL and is available for free download through Oracle website. It includes the identical set of packages at the same version levels with the same source code as the Red Hat distribution. Any application running on RHEL 5.x can run on Oracle Linux 5.x"	The clause remains unchanged. Please also refer to Addendum and revised Section VII released alongwith reply to prebid clarifications.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
130	12 of 20	V		10.1	Linux Operating System for Rack/Blade Servers:The operating system should be 64 bit RedHat enterprise Linux 5.0 (upgrade 1.0 or higher) and should support both 32 bit and 64 bit applications	We request the specifications should be open and not limited to only RedHat. The Existing clause can be modified as "The operating system should be 64 bit RedHat enterprise Linux 5.0 (upgrade 1.0 or higher)/Suse Linux Enterprise Server 10 or higher and should support both 32 bit and 64 bit applications" Novell Inc. is an globally renowned Software Infrastructure Company working extensively in the field on open source Linux and heavily contributing in the community through our brand SUSE Linux. Currently Suse Linux Enterprise Server(SLES) 11 Service Pack 1 is available, which is one of the best platforms to run your business critical applications.	The clause remains unchanged. Please also refer to Addendum and revised Section VII released alongwith reply to prebid clarifications.
131	12 of 20	V		10.1	Linux Operating System for Blade/ Rack Servers: The Operating systems (OS) should be 64-bit Redhat Enterprise Linux 5.0 (upgrade 1 or higher) and should support both 32-bit and 64-bit applications. The Selected Bidder shall provide requisite licenses as also support for this Operating System.	We understand that the requirement is for supported version of 64-bit Linux operating system which is source and binary compatible with Redhat Enterprise Linux 5.0 (upgrade 1 or higher), and UIDAI is not looking for any vendor specific operating system. Equivalent or better offering, which is source and binary compatible to RHEL is acceptable (OEM certificate claiming the same to be provided). Request your confirmation.	The clause remains unchanged. Please also refer to Addendum and revised Section VII released alongwith reply to prebid clarifications.
132	12 of 20	V		10.1	Linux Operating System for Rack/Blade Servers:The operating system should be 64 bit RedHat enterprise Linux 5.0 (upgrade 1.0 or higher) and should support both 32 bit and 64 bit applications	We request the specifications should be open and not limited to only RedHat. The Existing clause can be modified as "The operating system should be 64 bit RedHat enterprise Linux 5.0 (upgrade 1.0 or higher)/Suse Linux Enterprise Server 10 or higher and should support both 32 bit and 64 bit applications" Novell Inc. is an globally renowned Software Infrastructure Company working extensively in the field on open source Linux and heavily contributing in the community through our brand SUSE Linux. Currently Suse Linux Enterprise Server(SLES) 11 Service Pack 1 is available, which is one of the best platforms to run your business critical applications. Few reasons why it should be considered:- A) SUSE occupies the 1st position in terms OS in the Top500 supercomputer list. Since 1993, SUSE engineers have made significant contributions to the advancement and tuning of the Linux kernel and key kernel-related performance technologies. B) All leading Hardware vendors like HP, IBM, SGI, Sun, Fujitsu, Dell are certified to run SUSE Enterprise Linux from Novell. SUSE Linux Enterprise runs on five processor architectures, and supports a wide range of form factors—physical, virtual and cloud. C) Over 5000 applications today	The clause remains unchanged. Please also refer to Addendum and revised Section VII released alongwith reply to prebid clarifications.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
133	12 of 20	V		10.1	Linux Operating System for Blade/ Rack Servers: The Operating systems (OS) should be 64-bit Redhat Enterprise Linux 5.0 (upgrade 1 or higher) and should support both 32-bit and 64-bit applications. The Selected Bidder shall provide requisite licenses as also support for this Operating System.	We understand that the requirement is for supported version of 64-bit Linux operating system which is source and binary compatible with Redhat Enterprise Linux 5.0 (upgrade 1 or higher), and UIDAI is not looking for any vendor specific operating system. Equivalent or better offering, which is source and binary compatible to RHEL is acceptable (OEM certificate claiming the same to be provided). Request your confirmation.	The clause remains unchanged. Please also refer to Addendum and revised Section VII released alongwith reply to prebid clarifications.
134	12 of 20	V		10.1	Linux Operating System for Blade/ Rack Servers the Operating systems (OS) should be 64-bit Redhat Enterprise Linux 5.0 (upgrade 1 or higher) and should support both 32-bit and 64-bit applications. The Selected Bidder shall provide requisite licenses as also support for this Operating System. However, the UIDAI reserves the right to negotiate the price directly with the OEM/Principal.	You have mentioned of negotiating the prices with OEM / Principal. Does this mean that in case UID is able to negotiate a better price than offered by bidder, UID will procure it directly or bidder need to supply on negotiated price alongwith agreed margin & finance cost?	The clause remains unchanged. Please also refer to Addendum and revised Section VII released alongwith reply to prebid clarifications.
135	12 of 20	V		10.4	The backup solution should cover the following components (v) Configuration of all network devices	As you are aware Network device configuration backup is not part of any of the backup solution, as the network device are not running with OS, Hence we suggest team to remove this point.	Requirement of Backup solution has been deleted . Please refer to the Addendum to bid document released alongwith response to prebid queries.
136	12 of 20	V		10.4	The backup solution should support the following (II) support hostless backup & restore	Do we need to consider the hostless backup? If yes, then please specify which all servers need this type of backup methodology? (As the hostless backup requires the additional server as staging server where the snapshot data gets mounted & then getting backed up on tape, requires extra hardware)	Please refer to reply at Sr No. 135
137	14 of 20	V		10.5	Replication Software	Kindly specify the RPO and RTO needed	Please refer to reply at Sr No. 75
138	14 of 20	V		11.1	Mini NOC to be integrated with CIDR Bangalore	As per our understanding NOC had already been provided by Data Centre Vendor. Do we need to integrate with existing NOC. Request to please Clarify.	The proposed NOC will be dedicated to UIDAI.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
139	14 of 20	V		11.2	The NOC shall integrate with Even Corelation servers; Open source management tools used by UIDAI	Please mention the open source tools which are running in UID for integration with Even corelation	Clause 11.2(b) of Section V stands deleted.
140	18 of 20	V		13.3		Bidder is expected to do only Hardware/software break-fix as per the scope defined in the current RFP while day to day sustenance and administration (Managed IT Services) would be taken care by other selected vendor by UID which is out of scope from this RFP. Please confirm to this.	The Clause is self explanatory
141	19 of 20	V		14	It should be noted….	Delivery time should be 10 weeks	Please refer to the Addendum to bid document released alongwith response to prebid queries for revised timelines.
142	19 of 20	V		14	All items should be…..	Implementation time should be 4 weeks	Please refer to the Addendum to bid document released alongwith response to prebid queries for revised timelines.
143	19 of 20	V		14	13.1 Delivery Schedule.	I feel this needs to be corrected to 14.1. Please check.	There are two Sub-Clauses 13.1 appearing under Clause 14. These may be read as 14.1 and 14.2 respectively.Please also refer to the Addendum to bid document released alongwith response to prebid queries for revised timelines.
144	19 of 20	V		14	13.1.iii Delivery Schedulde. All other items	We understand rest Network equipments, etc. had to be provided in Phase I. Please clarify	Yes. Phased purchase order/deliveies are applicable only with respect to Blade Servers.
145	20 of 20	V		15.2	Acceptance of System	We request that the acceptance criteria for testing may kindly be defined by UIDAI. Does UIDAI intends to test application being developed on the proposed hardware	Please refer to Clause 7 of Section III.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
146	05 of 20	V		42	Inter Rack Cabling	There are no details as far as Cabling is concerned, so the clarifications required are as follows:-	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
147	05 of 20	V		42	Inter Rack Cabling	Clarity required regarding - Number of servers / chassis per rack	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
148	05 of 20	V		42	Inter Rack Cabling	The type of copper and fiber connectivity between the racks will be useful. RFP does not emphasize on the type and construction of Copper and Fiber cables (LSZH or Plenum or PVC etc.) and also the fiber interface (LC or SC) – please specify	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
149	05 of 20	V		42	Inter Rack Cabling	Clarity required regarding type of fiber required i.e. OS2, OM3 etc and specification of copper cable i.e. 10G / C6A or 1G / C6.	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
150	05 of 20	V		42	Inter Rack Cabling	Can Plug & Play fiber solution be quoted? This would provide flexibility of changes in patching and save time required for field connectorisation	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
151	05 of 20	V		42	Inter Rack Cabling	Number of server racks has been specified for both DC & DR as follows, but number of network racks has not been specified. Please specify. o 35 server racks in DC in Bangalore. o 50 server racks in DR in NCR.	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
152	05 of 20	V		42	Inter Rack Cabling	What is the type of Connectivity - Cross Connect / Interconnect?	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
153	05 of 20	V		42	Inter Rack Cabling	Will there be redundancy on switch level. If yes, then cabling will have to be doubled.	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
154	13 of 20	V		10.4.9	The backup window is 4 hours for daily backup, 8 hours of weekly backup. In addition, critical database transaction logs have to be backed up on a hourly basis.	The requirement mentioned in terms of the backup window would require huge amount of backup servers and tape drives to be installed. To achieve the backup window, the better option is to look for a disk based backup solution where the primary storage will backup the data to the disk instead of tapes to ensure that the backup SLAs are met in time without adding more compute power	Requirement of Backup solution has been deleted . Please refer to the Addendum to bid document released alongwith response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
155	09 of 20	V		6.2.1	The storage system should be compatible with the proposed replication software which have to be provisioned for replication from storage to storage of all leading SAN disk arrays and tape libraries including EMC, Hitachi, HP, IBM, Network Appliance. Storage vendors should also propose the heterogeneous replication solution which works across the different vendor storage arrays and system and application	The specification specifies replication software to be compatible with tape library. The replication software does not work on the tape library. Hence request to modify this point	The wordings "and tape libraries" stand deleted.
156	13 of 20	V		10.4.2	Backup solution will support hostless backup and restore	Does this imply a 'split mirror offhost' backup or a serverless backup ?	Please refer to reply at Sr No. 135
157	13 of 20	V		10.4.2	Table Level Backup	Restrictive clause supporting only one OEM.Request to remove	Requirement of Backup solution has been deleted . Please refer to the Addendum to bid document released alongwith response to prebid queries.
158	13 of 20	V		10.4.2	Backup solution will support hostless backup and restore	Does this imply a 'split mirror offhost' backup or a serverless backup ?	Please refer to reply at Sr No. 135
159	13 of 20	V		10.4.2	Backup solution will support hostless backup and restore	Does this imply a 'split mirror offhost' backup or a serverless backup ?	Please refer to reply at Sr No. 135
160	13 of 20	V		10.4.2	Backup solution will support hostless backup and restore	Does this imply a 'split mirror offhost' backup or a serverless backup ?	Please refer to reply at Sr No. 135
161	13 of 20	V		10.4.2	Backup solution will support hostless backup and restore	Does this imply a 'split mirror offhost' backup or a serverless backup ?	Please refer to reply at Sr No. 135
162	12 of 20	V		10.4.2	Mention of Oracle RAC in these clauses	What servers are going to run Oracle RAC - the biometric servers or data center servers? Who provides the Oracle licenses?	The clarification sought is not relevant.
162.1	14 of 20	V		10.5.2	Mention of Oracle RAC in these clauses	What servers are going to run Oracle RAC - the biometric servers or data center servers? Who provides the Oracle licenses?	The clarification sought is not relevant.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
163	12 of 20	V		10.4.2 iv	The backup solution should support the following (IV) Based on open standards, no vendor locking	Request you to please provide some more details on open standard requirement?	Please refer to reply at Sr No. 135
164	13 of 20	V		10.4.3	restore databases at table level	Restrictive clause supporting only one OEM.Request to remove	Please refer to reply at Sr No. 135
165	13 of 20	V		10.4.9	The Backup window is 4 hours for daily ,8 hours for weekly backups.	Does this imply 8 hours for the full dataset of 60+20TB = 80TB dataset ?	Please refer to reply at Sr No. 135
166	13 of 20	V		10.4.9	The backup window is 4 hours for daily backup, 8 hours of weekly backup. In addition, critical database transaction logs have to be backed up on a hourly basis.	The requirement mentioned in terms of the backup window would require huge amount of backup servers and tape drives to be installed. To achieve the backup window, the better option is to look for a disk based backup solution where the primary storage will backup the data to the disk instead of tapes to ensure that the backup SLAs are met in time without adding more compute power	Please refer to reply at Sr No. 135
167	13 of 20	V		10.4.9	The Backup window is 4 hours for daily ,8 hours for weekly backups.	Does this imply 8 hours for the full dataset of 60+20TB = 80TB dataset ?	Please refer to reply at Sr No. 135
168	13 of 20	V		10.4.9	The Backup window is 4 hours for daily ,8 hours for weekly backups.	Does this imply 8 hours for the full dataset of 60+20TB = 80TB dataset ?	Please refer to reply at Sr No. 135
169	12 of 20	V		10.4.9	The backup window is 4 hours for daily backup, 8 hours for weekly backup	Please specify the daily & weekly data Size to be consider to achieve 4 & 8 hrs of backup window?	Please refer to reply at Sr No. 135
170	13 of 20	V		10.4.9	The Backup window is 4 hours for daily ,8 hours for weekly backups.	Does this imply 8 hours for the full dataset of 60+20TB = 80TB dataset ?	Please refer to reply at Sr No. 135
171	13 of 20	V		10.4.9	The backup window is 4 hours for daily backup, 8 hours of weekly backup. In addition, critical database transaction logs have to be backed up on a hourly basis.	The requirement mentioned in terms of the backup window would require huge amount of backup servers and tape drives to be installed. To achieve the backup window, the better option is to look for a disk based backup solution where the primary storage will backup the data to the disk instead of tapes to ensure that the backup SLAs are met in time without adding more compute power	Please refer to reply at Sr No. 135
172	13 of 20	V		10.4.9	Backup window, Daily -4 hr, weekly 8 hr	Can bidder propose disk based backup solution to meet the desired backup window	Please refer to reply at Sr No. 135
173	13 of 20	V		10.4.9	Backup window, Daily -4 hr, weekly 8 hr	Can bidder propose disk based backup solution to meet the desired backup window	Please refer to reply at Sr No. 135
174	13 of 20	V		10.4.9	Database Backup	How many online backup agents required for Hot Backup	Please refer to reply at Sr No. 135
175	13 of 20	V		10.4.9	The Backup window is 4 hours for daily ,8 hours for weekly backups.	Please provide us the inputs on the size of dataset which will be there for incremental and full backup so that we can size the library accordingly.Does this imply 8 hours for the full dataset of 60+20TB = 80TB dataset ?	Please refer to reply at Sr No. 135

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
176	13 of 20	V		10.4.9	Database Backup	What is approx Size for the databases	Please refer to reply at Sr No. 135
177	13 of 20	V		10.5.2	Replication aspects	only Mysql & oracle data needs to be replicated, please guide	Please refer to reply at Sr No. 75
178	13 of 20	V		10.5.2	Replication aspects	Only Mysql & oracle data needs to be replicated, please guide	Please refer to reply at Sr No. 75
179	14 of 20	V		11.2 (f)	install commission all necessary SW required on desktop to operate a NOC	We request UIDAI to elaborate on the tools and SW expected to be installed by the Bidder. Is the bidder/ SI also has to provide the EMS, NMS and other tools. Also will the resident engineer be expected to operate the NOC ? Or will the operations be done by other managed service resources from the DC or MSP or UIDAI to operate the NOC. The SOC also is not mentioned, we understand this does not need to be provisioned for.	EMS and NMS are not within the scope of this tender.
180	15 of 20	V		13.1.2	De-installaton and relocation of …..	Please provide the details of existing hardware , software as it will affect the commericals	The scope of relocation/migration includes replocation/ migration to a new DC/DR site during the contract period. It also includes commissioning/decommissioning, configuration/ Reconfiguartion and help in transfer of assets at a late stage to 'Managed service Provider' of UIDAI.
181	17 of 20	V		13.2.3.1	Installation & Configuration of Security Suite - Bidder should undertake a study of secrity policy & design the overall solution accordingly.	Kindly share the existing security policy/Architecture deployed at Bangalore DC so as to design the Security Architecture and select the appropriate solution components for DR accordingly.	This will be shared with the selected bidder.
182	17 of 20	V		13.2.3.2	Installation of RSA Authentication	How many users are expected to use the Authentication service to ensure that all users authenticate to the UIDAI resources including VPN, servers etc. in a secure yet convenient time synchronous One Time password based RSA Authentication technology.	The wordings "RSA authentication" may be treated as deleted.
183	17 of 20	V		13.2.3.2	Installation of RSA Authentication	How many users are expected to use the Authentication service to ensure that all users authenticate to the UIDAI resources including VPN, servers etc. in a secure yet convenient time synchronous One Time password based RSA Authentication technology.	Please refer to reply at S. No. 182
184	17 of 20	V		13.2.3.2	Installation of RSA Authentication	How many users are expected to use the Authentication service to ensure that all users authenticate to the UIDAI resources including VPN, servers etc. in a secure yet convenient time synchronous One Time password based RSA Authentication technology.	Please refer to reply at S. No. 182

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
185	17 of 20	V		13.2.3.2	Installation of RSA Authentication	How many users are expected to use the Authentication service to ensure that all users authenticate to the UIDAI resources including VPN, servers etc. in a secure yet convenient time synchronous One Time password based RSA Authentication technology?	Please refer to reply at S. No. 182
186	17 of 20	V		13.2.3.2	Installation of RSA Authentication	Please clarify the total number of users that will be authenticating using RSA authentication technology. It is suggested that each user who will be authenticating UID resources, is recommended to have RSA SecureID Tokens for Time synchronous One Time Password.	Please refer to reply at S. No. 182
187	17 of 20	V		13.2.3.2	Installation of RSA Authentication	How many users are expected to use the Authentication service to ensure that all users authenticate to the UIDAI resources including VPN, servers etc. in a secure yet convenient time synchronous One Time password based RSA Authentication technology.	Please refer to reply at S. No. 182
188	17 of 20	V		13.2.3.2	The configuration for firewall rules for items including but not limited to LAN, WAN & DMZ	LAN Switches required for DMZ zones have not been mentioned in the RFP. Please clarify	LAN Switches are already factored.
189	17 of 20	V		13.2.3.2	Installation of Perimeter security , firewall , network IDS, Host IDS, RSA Authentication in accordance with architecture	There is no count of how many RSA authentication tokens are required in the tender	The wordings "RSA authentication" may be treated as deleted.
190	17 of 20	V		13.2.3.5	Installation and Configuration of VirusWall to scan inbound and outbound traffic for malicious activities. Configure the Viruswall and Integrate with firewall	Please give us the specifications of VirusWall	Clause 13.2.3.5 stands deleted. Please also refer to the Addendum to bid document released alongwith response to prebid queries.
191	18 of 20	V		13.3.1	Technical Support	Incase of fault requiring part replacement what would be the resolution time acceptable to UIDAI	The bidder has to meet uptime of 99.5% as provided in clause 13.3.1
192	18 of 20	V		13.3.5	The OEM of server and storage….	The hardware support enginner should be either from bidder or from OEM	Please refer to the Addendum to bid document released alongwith response to prebid queries.
193	03 of 20	V		3.1.1	Event Correlation Server , quantity Required at Data Centre at Bengaluru - 2, at Disaster Recover Data Centre - 2	Can we assume that the 2 quantity of server at each location has been asked to ensure redundancy each with individual capability to service the minimum requirements of 7000 EPS ? Should we assume that no other hardware should be considered for any other functionality with respect to the Event Correlation and collection requirements ?	The clarification sought is not relevant. Also please refer to reply at Sr No 1128

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
194	03 of 20	V		3.1.1	DFS SAN	Serial No E.12: Enterprise SAN for DFS. What all servers will have access to this array. Is it the Biometric Servers or Data Center Servers or both?	The clarification sought is not relevant.
195	04 of 20	V		3.1.1	Number of ports needed in DC Core SAN Switch	Serial No F-16: DC Core SAN Switch. It is mentioned 150 ports in this page. Whereas in Section 7.16, Sl. No 21, it talks of 256 ports. Which is the correct number?	Please refer to revised Annexure 7.16 of revised Section VII.
196	05 of 20	V		3.1.1	Serial No L-35 - MySQL	Which servers will run the MySQL db - the data center servers or biometric servers or both? The bid has asked only 4 MySQL licenses. Does it mean only 4 servers are going to run MySQL?	The clarification sought is not relevant.
197	05 of 20	V		3.1.1	Network Operation Console.	As per the RFP scope line items, the UID environment will require Enterprise Systems Management tools. The RFP does not state requirement of network and infrastructure monitoring / management software (EMS/NMS requirement). Is this being separately provided by UIDAI. Please share the EMS/NMS solution planned to be used.	The clarification sought is not relevant.
198	03 of 20	V		3.1.1	Event Correlation Server , quantity Required at Data Centre at Bengaluru - 2, at Disaster Recover Data Centre - 2	Can we assume that the 2 quantity of server at each location has been asked to ensure redundancy each with individual capability to service the minimum requirements of 7000 EPS ? Should we assume that no other hardware should be considered for any other functionality with respect to the Event Correlation and collection requirements ?	Please refer to reply at Sr No 193
199	03 of 20	V		3.1.1	Event Correlation Server , quantity Required at Data Centre at Bengaluru - 2, at Disaster Recover Data Centre - 2	Can we assume that the 2 quantity of server at each location has been asked to ensure redundancy each with individual capability to service the minimum requirements of 7000 EPS ? Should we assume that no other hardware should be considered for any other functionality with respect to the Event Correlation and collection requirements ?	Please refer to reply at Sr No 193
200	03 of 20	V		3.1.1	Event Correlation Server , quantity Required at Data Centre at Bengaluru - 2, at Disaster Recover Data Centre - 2	Can we assume that the 2 quantity of server at each location has been asked to ensure redundancy each with individual capability to service the minimum requirements of 7000 EPS ? Should we assume that no other hardware should be considered for any other functionality with respect to the Event Correlation and collection requirements ?	Please refer to reply at Sr No 193
201	03 of 20	V		3.1.1	Event Correlation Server , quantity Required at Data Centre at Bengaluru - 2, at Disaster Recover Data Centre - 2	Please clarify that quantity for Event Correlation Server: 2 at each location has been asked to ensure redundancy each with individual capability to service the minimum requirements of 7000 EPS. Also clarify whether no other hardware should be considered for any other functionality with respect to the Event Correlation and collection requirements.	Please refer to reply at Sr No 193
202	03 of 20	V		3.1.1	Event Correlation Server , quantity Required at Data Centre at Bengaluru - 2, at Disaster Recover Data Centre - 2	Can we assume that the 2 quantity of server at each location has been asked to ensure redundancy each with individual capability to service the minimum requirements of 7000 EPS ? Should we assume that no other hardware should be considered for any other functionality with respect to the Event Correlation and collection requirements ?	Please refer to reply at Sr No 193

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
203	03 of 20	V		3.1.1	Event Correlation Server , quantity Required at Data Centre at Bengaluru - 2, at Disaster Recover Data Centre - 2	Can we assume that the 2 quantity of server at each location has been asked to ensure redundancy each with individual capability to service the minimum requirements of 7000 EPS ? Should we assume that no other hardware should be considered for any other functionality with respect to the Event Correlation and collection requirements ?	Please refer to reply at Sr No 193
204	04 of 20	V		3.1.1	I. Networking Components (a) Internet Routers.	Kindly suggest on the type of WAN connectivity envisaged for Internet routers and also on the scope of bidder in regards to the connectivity.	The clarification sought is not relevant at this stage.
205	04 of 20	V		3.1.1	J. Security Compionents (a) Firewall - Firewall with content filtering 3 pairs each of different makes for DC & DR out of which one pair non CISCO for DC.	Please clarify on 3 pairs as given in description as the quantity asked is 4 for DC and 6 for DR. Also since you have mentioned for a non CISCO pair for DC, does that implies we need to provide one CISCO and one non CISCO for DC as the total qty asked for DC is 4.	One CISCO pair already exists in DC. Other 2 pairs for DC may be from any other OEM . Bidder has to ensure that all three pairs at DR are also of different OEMs.
206	03 of 20	V		3.1.1 (Blade Servers)	300 blade server and 30 Blade Chassis	There is a clause of 30 chassis and 300 servers and 4 chassis 34 servers. Specifying number of chassis and servers would not allow a lot of prime x86 vendors to quote and hence should be removed.	For revised quantities, please refer to the Addendum to bid document released alongwith response to prebid queries. However, in case of any increase/decrease in the quantity of chassis required at the time of placement of order/award of contract,appropriate adjustment in the purchase order/contract value would be made based on unit price.
207	05 of 20	V		3.1.2	Immediately, after the receipt of letter of intent/ purchase order, the selected bidder shall have to visit the DC and DR Data Center Services Providers for finalizing the layout and cabling Plan which needed to be followed by DCSP for providing necessary inter rack cabling	In addition to this point and referring to Section V, Clause 12, Page 15 of 20, where the average load per rack (7 KVA) is mentioned, we understand that along with the network cabling the DCSP will also be doing the required electrical cabling for the racks	Intra Rack Cabling is within the scope of work of the selected Bidder. Please also refer to clause 3.1.2 of Section V.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
208	05 of 20	V		3.1.3	Installation & Commissioning of infrastructure including security system	RFP does not mention about policy formulation for security operations, administration, monitoring of the infrastructure and security appliances. RFP does not mention finalization of security policy etc… to arrive at configuration of security system. Our assumption is that these (along with the security solution) are being taken care by UIDAI or its partners. Are these being taken care by UIDAI ?	This will be shared with the selected bidder.
209	05 of 20	V		3.1.3	Integration & migration or relocation where required, of existing IT infra	Kindly help in elaborate the relocation/migration scope	The scope of relocation/migration includes replocation/ migration to a new DC/DR site during the contract period. It also includes commissioning/decommissioning, configuration/ Reconfiguartion and help in transfer of assets at a late stage to 'Managed service Provider' of UIDAI.
210	05 of 20	V		3.1.5	Deployment of Antivirus clients on approximately 10000 desktops/laptops/servers for two years	As the tender is for 5 years (3years + 2 years), we understand that the AV licenses are to be factored for 3 + 2 years and not 2 + 2 years as mentioned (2 years in said clause and 2 years in options), request to please clarify	Please refer to clause 9.3.1, which is self explanatory.
211	05 of 20	V		3.1.6	Resident Engineer		No clarification has been sought.
212	18 of 20	V		3.1.6 &13.5.3	Onsite Resident Engineers…	How many onsite resident engineer you need at DC and DR? Please mentioned qualification & No. of years of expereince because it will affect the commerical	Please refer to Addendum released alongwith reply to prebid clarifications.
213	08 of 20	V		5.2.1	Blade servers will be mainly used for running UIDAI Application, Biometric De-Duplication, and Biometric Authentication services.	This clause states that the Blade servers will be used for authentication and the will be done by Rack servers as well. We would request UID to clarify what is the difference in the authentication of both as this will have a direct impact on the performance of the storage. This will also determine what servers get connected to which storage.	The clarification sought is not relevant at this stage.
214	08 of 20	V		5.2.1	Blade servers will be mainly used for running UIDAI Application, Biometric De-Duplication, and Biometric Authentication services.	This clause states that the Blade servers will be used for authentication and the will be done by Rack servers as well. We would request UID to clarify what is the difference in the authentication of both as this will have a direct impact on the performance of the storage. This will also determine what servers get connected to which storage.	The clarification sought is not relevant at this stage.

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215	08 of 20	V		5.2.1	Blade servers will be mainly used for running UIDAI Application, Biometric De-Duplication, and Biometric Authentication services.	This clause states that the Blade servers will be used for authentication and the will be done by Rack servers as well. We would request UID to clarify what is the difference in the authentication of both as this will have a direct impact on the performance of the storage. This will also determine what servers get connected to which storage.	The clarification sought is not relevant at this stage.
216	08 of 20	V		5.2.1	Blade servers will be mainly used for running UIDAI Application, Biometric De-Duplication, and Biometric Authentication services.	This clause states that the Blade servers will be used for authentication and the will be done by Rack servers as well. We would request UID to clarify what is the difference in the authentication of both as this will have a direct impact on the performance of the storage. This will also determine what servers get connected to which storage.	The clarification sought is not relevant at this stage.
217	08 of 20	V		5.3.1	Rack servers will be mainly used for running Biometric Database de-duplication, Authentication, Management and Administration.	This clause states that the Blade servers will be used for authentication and the will be done by Rack servers as well. We would request UID to clarify what is the difference in the authentication of both as this will have a direct impact on the performance of the storage. This will also determine what servers get connected to which storage.	The clarification sought is not relevant at this stage.
218	08 of 20	V		5.3.1	Rack servers will be mainly used for running Biometric Database de-duplication, Authentication, Management and Administration.	This clause states that the Blade servers will be used for authentication and the will be done by Rack servers as well. We would request UID to clarify what is the difference in the authentication of both as this will have a direct impact on the performance of the storage. This will also determine what servers get connected to which storage.	The clarification sought is not relevant at this stage.
219	08 of 20	V		5.3.1	Rack servers will be mainly used for running Biometric Database de-duplication, Authentication, Management and Administration.	This clause states that the Blade servers will be used for authentication and the will be done by Rack servers as well. We would request UID to clarify what is the difference in the authentication of both as this will have a direct impact on the performance of the storage. This will also determine what servers get connected to which storage.	The clarification sought is not relevant at this stage.
220	08 of 20	V		5.3.1	Blade servers will be mainly used for running UIDAI Application, Biometric De-Duplication, and Biometric Authentication services.	This clause states that the Blade servers will be used for authentication and the will be done by Rack servers as well. We would request UID to clarify what is the difference in the authentication of both as this will have a direct impact on the performance of the storage. This will also determine what servers get connected to which storage.	The clarification sought is not relevant at this stage.
221	08 of 20	V		5.3.1	Rack servers will be mainly used for running Biometric Database de-duplication, Authentication, Management and Administration.	This clause states that the Blade servers will be used for authentication and the will be done by Rack servers as well. We would request UID to clarify what is the difference in the authentication of both as this will have a direct impact on the performance of the storage. This will also determine what servers get connected to which storage.	The clarification sought is not relevant at this stage.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
222	08 of 20	V		5.3.1	Rack servers will be mainly used for running Biometric Database de-duplication, Authentication, Management and Administration.	This clause states that the Blade servers will be used for authentication and the will be done by Rack servers as well. We would request UID to clarify what is the difference in the authentication of both as this will have a direct impact on the performance of the storage. This will also determine what servers get connected to which storage.	The clarification sought is not relevant at this stage.
223	09 of 20	V		6.2.1	The storage system should be compatible with the proposed replication software which have to be provisioned for replication from storage to storage of all leading SAN disk arrays and tape libraries including EMC, Hitachi, HP, IBM, Network Appliance. Storage vendors should also propose the heterogeneous replication solution which works across the different vendor storage arrays and system and application	The specification specifies replication software to be compatible with tape library. The replication software does not work on the tape library. Hence request to modify this point	The wordings "and tape libraries" stand deleted.
224	09 of 20	V		6.2.1	The storage system should be compatible with the proposed replication software which have to be provisioned for replication from storage to storage of all leading SAN disk arrays and tape libraries including EMC, Hitachi, HP, IBM, Network Appliance. Storage vendors should also propose the heterogeneous replication solution which works across the different vendor storage arrays and system and application	The specification specifies replication software to be compatible with tape library. The replication software does not work on the tape library. Hence request to modify this point	The wordings "and tape libraries" stand deleted.
225	10 of 20	V		8.1.2	security policy of UIDAI is optimally implemented	we understand that we have to supply the network components as per the BOM, we request UIDAI to share the security policy and also detail the scope BOM which needs to be supplied for this	This will be shared with the selected bidder.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
226	12 of 20	V		9.2.2	The antivirus server should than distribute the updates to all the desktop..	in UID environment like 10000 machines as mentioned in the RFP , to update latest antivirus definition on the windows client machines is a critical process which should get enforcement with in the same antivirus agent. Hence Proposed solution should include the self enforcement as integrated feature in the same AV agent so that policy can be created to check which update virus definition version that is running , if not updated then restrict that non-compliance machine using agent policy and enforce the update first.	This will be decided in consultation with the selected bidder.
227	13 of 20	V		10.4.2	Based on Open standards ; no vendor lock-in	Backup Software backs up Data in a specific format. This means that the backup taken by one vendor can not be restored by any other backup software from any other vendor. Does no vendor lock-in means that the backup taken by the backup software can be restored natively by OS utilities without the need for that backup software to be available?	Please refer to reply at Sr No. 135
228	09 of 20	V		6.2.1	The Storage system shall be compatible with proposed replication software which have to be provisioned for replication from storage to Storage of all leading SAN disk arrays.	The term "storage to storage replication" is generally used for controller based replication which limits the compatibility to a specific Storage model and a specific Storage OEM. Request you to modify the clause to modify the clause to state "The Storage system shall be compatible with proposed replication software which have to be provisioned for replication from storage across heterogeneous Storage of all leading SAN disk arrays."	Please refer to reply at Sr No. 75
229	09 of 20	V		6.2.1	The Storage system shall be compatible with proposed replication software which have to be provisioned for replication from storage to Storage of all leading SAN disk arrays.	In order to ensure no vendor lock-in from Storage array perspective; Data replication is not the only capability that should be storage array independent. It is also important that the Storage Management capabilities like Multi-Pathing ; Snapshot Management ; file system must support multiple Storage arrays and heterogeneous Operating Systems. This will not only help ensure that the data is not only portable across multiple Storage arrays but also multiple Operating systems without requiring any backup/restore exercise. Some of these capabilities might not be natively available with storage and system software and need to be mentioned to achieve the intent of infrastructure interoperability.	Please refer to reply at Sr No. 75
230		V			NIL	In larger interest of the project and to avoid any compatibility issues , we would like to request UIDAI to include the following point " All the Network Switching components should be from the same OEM "This will avoid integration and operational issues in between Core , Distribution and Management switching layers	Request not accepted. Please also refer to the Addendum to bid document released alongwith response to prebid queries.
231	Management	VII	7.21			VLAN management	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
232	14	VII	7.6	20	number of events minimum 7000 events	Many solutions distinguish between number of collected EPS and correlated EPS, can we assume that the requirement is for minimum sustained EPS of 7000 for both collection of all logs in its original format without any data filtering and correlation of the same with an additional buffer for peak EPS correlation and collection capacity ?	Please refer to reply at Sr.No. 1128
233		V				A lot of infrastructure is being bought through this rfp. Will the vendor be responsible for the NOC integration with open source mgmt tools for these new infra?	Yes
234	05 of 20	V				How many resident engineers are required for each of the following: Server, Storage, Network & Security equipments & Asset mgmt? Will the window of operation be 24x7 for the resident engineers?	Please also refer to the Addendum to bid document released alongwith response to prebid queries Yes
235		V				Is Vendor mgmt part of the SI scope? What is the service window for this function? Is it 24x7?	No.
236	10 of 20	V			Bidder should offer following networking equipments along with associated accessories, cables and software.	Kindly share the Network Architecture envisaged by UIDAI basis which different types of switches,routers and security equipment has been asked & please clarify on the role of each type of switch viz. DC Core LAN, DC Core Management Lan, DC Core Backup,DC access switches and ABIS Lan switches.	This will be shared with the selected bidder.
237	05 of 20	V	3.1.1	42	Inter Rack Cabling	1. OEM Make of Cabling Components to be used is not there.	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
238	05 of 20	V	3.1.1	42	Inter Rack Cabling	2. DC layout drawing with Rack positioning marked required for detailing of Cabling.	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
239	05 of 20	V	3.1.1	42	Inter Rack Cabling	3. Under Floor Raceways are in our scope or in Electrical Contractors' scope?	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
240	05 of 20	V	3.1.1	42	Inter Rack Cabling	4. Are the Cables to be terminated in Jack Panels mounted in the Server Racks/Network Racks or are we planning for Jack Panels positioned inside Consolidation Points?	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
241	05 of 20	V	3.1.1	42	Inter Rack Cabling	5. If we are installing the Jack Panels inside the racks so the position of the Jack Panel can be fixed so that the Cable lengths inside the racks and the Patch Cords lengths accordingly can ne estimated.	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
242	05 of 20	V	3.1.1	42	Inter Rack Cabling	7. What kind of redundancy is needed for UTP & Fibre?	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
243	05 of 20	V	3.1.1	42	Inter Rack Cabling	8. Is the Inter Rack cabling on Cat 6 or Cat 6A ?	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.

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244	05 of 20	V	3.1.1	42	Inter Rack Cabling	9. Do you need an y Intelligent Cabling Solution?	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
245	05 of 20	V	3.1.1	42	Inter Rack Cabling	10. Any Inter Floor Cabling is required from the DC?	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
246	05 of 20	V	3.1.1	42	Inter Rack Cabling	11. How many Cables- UTP/Fibre are required per Rack?	The Bidder has to ascertain the scope and requirements of Intrarack cabling considering the Hardware items to be supplied. Please also refer to clause 18 of Section II.
247	11 of 20	V		8.4	Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be an integrated device that should include the following modules : Firewall, Intrusion Detection system, VPN, Antivirus, Content Filtering	Annexure 7.29 detailing the technical specifications of perimeter security appliance does not contain any features regarding Firewall, VPN, Antivirus and content filtering. Rather the specifications are of a dedicated IPS appliance. It is an industry practice to deploy a dedicated intrusion prevention system as perimeter security in the Datacenter. Hence, it is suggested that this clause should be changed to "Bidder should provision for an appropriate Perimeter security appliance. The perimeter security device should be a dedicated intrusion prevention system"	The clause remains unchanged.

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248	4 of 10	VI		Appendix- B	Performa of Bank Guarantee for Contract Performance Guarantee Bond	This Bank Guarantee does not have “Standard Bank” clause in it –needs to add as under : Not withstanding any thing contained herein above Our liability under this bank guarantee shall not exceed Rs_____/- (Rupees_____ only). This bank guarantee shall be valid upto ---------- We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only if you serve upon us a written claim or demand (and which should be received by us), on or before ----------before 14.30 hours (Indian Standard Time) where after it ceases to be in effect in all respects whether or not the original bank guarantee is returned to us.	Accepted
249	6 of 10	VI		Appendix- B	Bid Security Form	This Bank Guarantee does not have “Standard Bank” clause in it –needs to add as under : Not withstanding any thing contained herein above Our liability under this bank guarantee shall not exceed Rs_____/- (Rupees_____ only). This bank guarantee shall be valid upto ---------- We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only if you serve upon us a written claim or demand (and which should be received by us), on or before ----------before 14.30 hours (Indian Standard Time) where after it ceases to be in effect in all respects whether or not the original bank guarantee is returned to us.	Accepted

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
250	7 of 10	VI		Appendix D	Details of avg value of spares etc	We request UIDAI to evaluate the bidder/SI through the project experience and in case the bidder is successful supplier for this RFP, these details could be furnished at the time of contract signing since the bidder/SI is already committing to a 24X7 99.5% uptime and onsite support engineers. The SI through its OEM partners is able to provide this support and will be committed to the SLA and uptime	The selected Bidder/ respective OEM will be required to maintain adequate spares for the equipment supplied so as to meet the uptime requirement of 99.5%. However, clause A(iv) "Service facility(ies) Location:" of Appendix 'D' stands modified to read as under : " A(iv) List of Service facilities locations and spare depots of the Bidder/OEMs in India : (a) List of service centres (b) List of spares depots" Please also refer to the Addendum to bid document released alongwith response to prebid queries.
251	1	VII	7.1	4	DIMM Size - 4 GB	64 GB Memory has been asked and which should be achieved keeping 4 nos of DIMM Slots free. As per the industry standard 2 CPU Socket servers support 12 DIMM Slots and therefore for achieveing 64 GB Memory alongwith 4 DIMM Slots to be free , it would be require to use DIMM Size of 8 GB per slot to achieve 64 GB . Therefore it is requested to change the requirement of DIMM Size from 4 GB to 8 GB . (8 GB x 8 Slots = 64 GB , 4 Slots free for future , Total Slots = 12)	Minimum DIMM module size is raised to 8 GB. Total memory expandible to minimum 96 GB. All DIMM modules used should be of same size.
252	1	VII	7.1	4	DIMM Size : 4GB	Please clarify DIMM size Minimum requirement is 4GB so could we install 8GB DIMM Size	Please refer Reply at Sr No-251
253	1	VII	7.1	4	DIMM Size - 4 GB	64 GB Memory has been asked and which should be achieved keeping 4 nos of DIMM Slots free. As per the industry standard 2 CPU Socket servers support 12 DIMM Slots and therefore for achieveing 64 GB Memory alongwith 4 DIMM Slots to be free , it would be require to use DIMM Size of 8 GB per slot to achieve 64 GB . Therefore it is requested to change the requirement of DIMM Size from 4 GB to 8 GB . (8 GB x 8 Slots = 64 GB , 4 Slots free for future , Total Slots = 12)	Please refer Reply at Sr No-251

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
254	1	VII	7.1	4	Main Memory: Size - 64 GB, Expandable Upto per Core - 8 GB Per Core, Type -DDR3, DIMM Type - ECC, DIMM Size - 4 GB, Free DIMM slots after populating 64 GB RAM - 4	Maximum supported DIMM slots on servers of this category is 18 DIMM slots. If we populate 64 GB using 4 GB DIMM size, it will utilize 16 DIMM slots. This will leave with only 2 free slots against required 4 free slots. Kindly confirm.	Please refer Reply at Sr No-251
255	1	VII	7.1	4	Main Memory: Size - 64 GB, Expandable Upto per Core - 8 GB Per Core, Type -DDR3, DIMM Type - ECC, DIMM Size - 4 GB, Free DIMM slots after populating 64 GB RAM - 4	Maximum supported DIMM slots on servers of this category is 18 DIMM slots. If we populate 64 GB using 4 GB DIMM size, it will utilize 16 DIMM slots. This will leave with only 2 free slots against required 4 free slots. Kindly confirm.	Please refer Reply at Sr No-251
256	1	VII	7.1	5	Raid Levels (0/1/5/6)	Since 2 Nos of 300 GB HDD have been asked therefore Raid 0 or 1 would only be supported. Therefore requesting to change the clause to Raid Levels (0/1) and remove Raid 5/6	RAID "1" against parameter "Raid Protection Type is mandatory minimum requirement. There is no minimum requirement in respect of "RAID levels supported". The Bidder is required to indicate supported RAID levels in column "Specification offered".
257	1	VII	7.1	5	Raid Levels (0/1/5/6)	Since 2 Nos of 300 GB HDD have been asked therefore Raid 0 or 1 would only be supported. Therefore requesting to change the clause to Raid Levels (0/1) and remove Raid 5/6	Please refer Reply at Sr No-256
258	1	VII	7.1	6	Network 1 and Network 2	Since Network 2 asks for 10 Gbps Ethernet Controller therefore it is requested to remove the requirement for Network 1 . Oth Network 1 and Network 2 (1 Gbps and 10 Gbps) can't co-exist inside a Blade server	The minimum requirement in respect of Network-1 and Network-2 stands modified to one ethernet controller for each Network . Both Network-1 and Network-2 to have only one 10G controller with dual ethernet ports ,

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
259	1	VII	7.1	6	Network 1 No of Ethernet Controllers Proposed; 2	Blade server being one of the compact form factor servers in the Industry and have limited PCI Slots available and maximum of 2 PCI Slots are available with all the OEM's. Request you to please ask for Dual Ethernet Ports instead of Dual Ethernet Controllers as additional Ethernet Controller will occupy an PCI Slot which will limit for other I/O cards like 10G Ethernet and Fiber Channel Adapters	Please refer Reply at Sr No-258
260	1	VII	7.1	6	Network 1 and Network 2	Since Network 2 asks for 10 Gbps Ethernet Controller therefore it is requested to remove the requirement for Network 1 . Oth Network 1 and Network 2 (1 Gbps and 10 Gbps) can't co-exist inside a Blade server	Please refer Reply at Sr No-258
261	2	VII	7.1	7	Network 2 No of Ethernet Controllers Proposed; 2	Blade server being one of the compact form factor servers in the Industry and have limited PCI Slots available and maximum of 2 PCI Slots are available with all the OEM's. Request you to please ask for Dual 10G Ethernet Ports instead of Dual 10g Ethernet Controllers as additional Ethernet Controller will occupy an PCI Slot which will limit for other I/O cards like Fiber Channel Adapters	Please refer Reply at Sr No-258
262	2	VII	7.1	8	Host Bus Adapters Number of HBA required	Blade server being one of the compact form factor servers in the Industry and have limited PCI Slots available and maximum of 2 PCI Slots are available with all the OEM's. Request you to please ask for Dual 8GB Fiber Channel Ports instead of Dual Dual 8GB Fiber ChannelControllers.	Please refer to revised Annexure 7.1 under revised Section VII of the bid document released alongwith the response to prebid queries.
263	2	VII	7.1	8	2 Nos of Dual Port 8 Gbps Host Bus Adapters	Please allow bidders to quote for converged Network fabric based connectivity for each blade server as an alternate option against requirement for dedicated HBA and Ethernet. Converged Network fabric or FCOE is already industry standard (INCITS FC-BB-5). Bidders can quote for 1 Nos of 10 Gbps FCOE per Server to take care of LAn and SAN traffic simultaneously.	Please refer to revised Annexure 7.1 under revised Section VII of the bid document released alongwith the response to prebid queries.
264	2	VII	7.1	9	Operating Systems Operating system Support RHEL 5 .X and CentOS X	CentOS is not supported and request you to please remove the same	Words "and CentOS" deleted
265	2	VII	7.1	9	Virtulization support (support for hypervisors like ESXi/ESX, XEN , KVM, HYPER V, Virtual Box	Virtual Box is not supported and request you to please remove the Virtual Box option from the Virtulization Hypervisor support	The wordings "Virtual Box" stand deleted.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
266	2	VII	7.1	9	Operating System Support – RHEL 5.X and CentOS X	In section V, scope of work, clause 10.1 you have asked for Red Hat with proper licenses and support (24x7) from the OEM/bidder. While in Annexure 7 you have given an option of CentOS, which being a community version of operating system, has neither any principal/OEM to back it nor it is certified to run on various hardware/storage product. It is the product of a group of volunteers none of whom have any obligation to continue working on the project. and hence no formal support mechanism, documentation etc. Request you to please remove it else it will lead to ambiguity	Words "and CentOS" deleted
267	2	VII	7.1	9	Operating System Support – RHEL 5.X and CentOS X	In section V, scope of work, clause 10.1 you have asked for Red Hat with proper licenses and support (24x7) from the OEM/bidder. While in Annexure 7 you have given an option of CentOS, which being a community version of operating system, has neither any principal/OEM to back it nor it is certified to run on various hardware/storage product. It is the product of a group of volunteers none of whom have any obligation to continue working on the project. and hence no formal support mechanism, documentation etc. Request you to please remove it else it will lead to ambiguity	Words "and CentOS" deleted
268	3	VII	7.1	13	Estimated Ratings of offered conf. tpmC, SPECpower_ssj2008	Does an OEM need to submit the Benchmark certificate for the said parameters. In case of non availability of the publicly available benchmark certificate can we furnish the Lab results if required. Said benchmarks are not used for any CPU performance criteria but has been asked for Blade server as well as for Rack server 1 , and 3	Yes.
269	3	VII	7.1	13	Estimated rating of offerd configuration: tpmC, SPECpower_ssj2008	SPEC CPU benchmarks (SPEC_int2006, SPEC_fp2006, SPECint_rate_base2006, SPECfp_rate_base2006) are done by most of the vendors on these category of servers. tpmC and SPECpower_ssj2208 are not done by us on these category of servers. Since you have already mentioned the complete system configuration (exact comfiguration to be quoted in terms of number/type of CPU, memory, HDD etc), and we will be providing estimated rating for above mentioned SPEC CPU benchmarks, request you to open the clause by making these two benchmarks (tpmC, SPECpower_ssj2008) as optional.	Please refer Reply at Sr No-268
270	3	VII	7.1	13	Estimated rating of offerd configuration: tpmC, SPECpower_ssj2008	SPEC CPU benchmarks (SPEC_int2006, SPEC_fp2006, SPECint_rate_base2006, SPECfp_rate_base2006) are done by most of the vendors on these category of servers. tpmC and SPECpower_ssj2208 are not done by us on these category of servers. Since you have already mentioned the complete system configuration (exact comfiguration to be quoted in terms of number/type of CPU, memory, HDD etc), and we will be providing estimated rating for above mentioned SPEC CPU benchmarks, request you to open the clause by making these two benchmarks (tpmC, SPECpower_ssj2008) as optional.	Please refer Reply at Sr No-268

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
271	3	VII	7.1	14	Support Is the proposed product End of Life or will reach End of life within 24 months from the date of submission of bid or 12 months from the date of acceptance which ever is later	Due to the inherent nature of Intel product line, we see new processors getting introduced typically every 12 months which indeed have an impact on the server models. The proposed servers will reach their end-of-life date within the said timelines. However, we wish to confirm that at the time of supply, if any product has already been declared end-of-life, we will offer a new product in its place, without having any additional hardware cost to UIDAI and also without any performance degradation.	The parameter is modified to read as under : "Is the proposed product End of Life or will reach End of life within 24 months from the date of submission of bid or 12 months from the date of acceptance which ever is earlier"
272	34	VII	7.11	21	Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliverhigh compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Accepted. CISC processor architecture is included.
273	1	VII	7.1		Blade Servers - Main Memory	DIMM Size is asked as 4 GB and to populate 64 GB, we would need 8* 8GB DIMMS, so that 4 DIMMS are left free. Kindly change the reqt of DIMM Size as 8 GB in lieu of 4 GB.	Please refer Reply at Sr No-251
274	1	VII	7.1		Blade Servers - Network-1 / Network-2 / Host Bus Adapters	Total cards to be populated is 5 Nos. while the PCI slots available in a blade is 2 only. Hence would require additional PCI extension, which would take additional blade rack space within the chassis and thus the maximum Blades that can be populated in one chassis will reduce.	Please refer Reply at Sr No-258
275	1	VII	7.1		No of ethernet controllers-2	Pls change no of controllers to ports, as on motherboard controller with dual ports come. Pls help in relaxing the same so that we are able to participate. There is a clause of 30 chassis and 300 servers and 4 chassis 34 servers. With full height we cannot meet this clause.	Please refer Reply at Sr No-258
276	2	VII	7.1		No of ethernet controllers-2	Pls change no of controllers to ports, as on motherboard controller with dual ports come. Pls help in relaxing the same so that we are able to participate. There is a clause of 30 chassis and 300 servers and 4 chassis 34 servers. With full height we cannot meet this clause.	Please refer Reply at Sr No-258
277	2	VII	7.1		No of HBA required-2	Pls change no of controllers to ports, as on motherboard controller with dual ports come. Pls help in relaxing the same so that we are able to participate. There is a clause of 30 chassis and 300 servers and 4 chassis 34 servers. With full height we cannot meet this clause.	Please refer to Revised Annexure 7.1 under revised Section VII of the bid document.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
278	3	VII	7.1		tpmC	Can we submit estimated results	Please refer Reply at Sr No-268
279	3	VII	7.1		specpower_ssj2008	We do not have published specpower ratings for full height blades	Please refer Reply at Sr No-268
280	2	VII	7.1		No of HBA required-2	Pls change no of controllers to ports and number of FC ports required to 2**Gbps, as on motherboard controller with dual ports come. This will allow a lot of vendors to qualify since as of now the requirement on ports makes it specific to a particular vendor.	Please refer to Revised Annexure 7.1 under revised Section VII of the bid document.
281	1	VII	7.1		No of ethernet controllers-2	Pls change no of controllers to ports, as on motherboard controller with dual ports come. This will restict a lot of major vendors hence not leading to a competitive commercial bid.	Please refer Reply at Sr No-258
282	2	VII	7.1		No of ethernet controllers-2	Pls change no of controllers to ports, as on motherboard controller with dual ports come.This will restict a lot of major vendors hence not leading to a competitive commercial bid.	Please refer Reply at Sr No-258
283	3	VII	7.1		tpmC	Prime x86 vendors do not have published tpmC ratings	Please refer Reply at Sr No-268
284	3	VII	7.1		specpower_ssj2008	Prime x86 do not have published specpower ratings for full height blades	Please refer Reply at Sr No-268
285	1	VII	7.1		DIMM SIZE 4GB	We would request this to be removed since you have mentioned memory requirement and expansion. Making DIMM size specific and asking for expansion slots makes a lot of prime vendors disqualified and specific to vendor.	Please refer Reply at Sr No-251
286	1	VII	7.1		No of ethernet controllers-2	Pls change no of controllers to ports, as on motherboard controller with dual ports come. Pls help in relaxing the same so that we are able to participate	Please refer Reply at Sr No-258
287	1	VII	7.1		Dual Homing support -Yes/NO	Every vendor has theirown architecture of chassis and it can be redundant only if there are active components. We do not make chassis with active components , hence relax it for option of passive also.	Please refer to Revised Annexure 7.2 Under revised Section VII of the bid document.
288	2	VII	7.1		No of ethernet controllers-2	Pls change no of controllers to ports, as on motherboard controller with dual ports come. Pls help in relaxing the same so that we are able to participate	Please refer Reply at Sr No-258

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
289	2	VII	7.1		Dual Homing support -Yes/NO		No clarification sought
290	2	VII	7.1		No of HBA required-2	Pls change no of controllers to ports, as on motherboard controller with dual ports come. Pls help in relaxing the same so that we are able to participate	Please refer Reply at Sr No-258
291	3	VII	7.1		tpmC		No clarification sought
292	3	VII	7.1		specpower_ssj2008		No clarification sought
293	1	VII	7.1		No. of Ethernet Controller proposed - 2	As per industry standard no blade server can support this many HBAs. Request the same to changed to 2 x 10 / 100 / 1000 Gigabit ports, 2 x 10G ports & 2 8G FC ports	Please refer Reply at Sr No-258
294	2	VII	7.1		No. of 10G Ethernet Controller proposed - 2	As per industry standard no blade server can support this many HBAs. Request the same to changed to 2 x 10 / 100 / 1000 Gigabit ports, 2 x 10G ports & 2 8G FC ports	Please refer Reply at Sr No-258
295	2	VII	7.1		Dual port 8G FC HBA - 2	As per industry standard no blade server can support this many HBAs. Request the same to changed to 2 x 10 / 100 / 1000 Gigabit ports, 2 x 10G ports & 2 8G FC ports	Please refer Reply at Sr No-258
296	1	VII	7.1		No of ethernet controllers-2	Pls change no of controllers to ports, as on motherboard controller with dual ports come. Pls help in relaxing the same so that we are able to participate	Please refer Reply at Sr No-258
297	2	VII	7.1		No of ethernet controllers-2	Pls change no of controllers to ports, as on motherboard controller with dual ports come. Pls help in relaxing the same so that we are able to participate	Please refer Reply at Sr No-258
298	2	VII	7.1		No of HBA required-2	Pls change no of controllers to ports, as on motherboard controller with dual ports come. Pls help in relaxing the same so that we are able to participate	Please refer Reply at Sr No-258
299	3	VII	7.1		tpmC	We do not have published tpmC ratings	Please refer Reply at Sr No-268

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
300	3	VII	7.1		specpower_ssj2008	We do not have published specpower ratings for full height blades	Please refer Reply at Sr No-268
301	2	VII	7.1		Network -1	1Gbps is currently not required since existing ethernet is based on 10GB and for management of blade servers a separate dedicated port is available through chassis via On-board Administrator. Pls delete entire Components.	Please refer Reply at Sr No-258
302	2	VII	7.1	8	Host Bus Adapter , No. of HBA required=2	No. of HBA required=1 Since in Blade form factor, PCI slots are limited.	Please refer Reply at Sr No-258
303	2	VII	7.1		Network -2	Please clarify if 2 separate cards are required or 2 ports	Please refer Reply at Sr No-258
304	2	VII	7.1	8	Host Bus Adapter , No. of HBA required=2	Please clarify if 2 separate cards are required or 2 ports	Two separate cards are required.
305	2	VII	7.1	9	Operating System Support – RHEL 5.X and CentOS X	Section V, scope of work, clause 10.1 you have asked for Red Hat with proper licenses and support (24x7) from the OEM/bidder. While in Annexure 7 you have given an option of CentOS, which being a community version of operating system, has neither any principal/OEM to back it nor it is certified to run on various hardware/storage product. It has no formal support mechanism, documentation etc. Request you to please clarify as it will lead to ambiguity	Words "and CentOS" deleted
306	1	VII	7.1		Number of Ethernet ports needed per server.	It is not clear how many Ethernet network ports are required per blade. Number of controllers have been specified but total number of ports are not specified.	Please refer Reply at Sr No-258
307	1	VII	7.1	5	RAID Levels (0/1/5/6/other)	Pls amed as : " Raid level (0/1/5/ others)"	Please refer Reply at Sr No-256
308	2	VII	7.1	2,13		However, in the server specifications we request that the clause that specifies clock speed of 2.93Ghz be removed as the performance benchmarks mentioned i.e"The server processor should have Processor SPEC CPU2006 benchmarked with SPEC rating in the range of at least 281-290 (60% of SPECint_rate_base plus 40% of SPECfp_rate_base2006 scores" would ensure that all the OEM's quote a processor that meets this performance benchmark. Further owing to fundamental changes in the architecture, CPU performance is no longer measured by CPU clock speed alone but is also dependent on certain other factors such as L2 and L3 cache, speed at which the CPU communicates with the Memory Controller Hub and other CPU's.	The minimum requirement of clock speed and SPEC rating are deleted. Please refer to revised Annexure 7.1, 7.3, 7.4 & 7.5 under revised Section VII released alongwith response to prebid queries.
309	33	VII	7.11	18	Overall capacity of storage array with full expansion	Should the storage capacity with full expansion be usable? Because for other storage requirements such as DFS & ODS, UIDAI has asked "Overall usable capacity of storage array with full expansion". Therefore would request UIDAI to amend this clause to " Overall usable capacity of storage array with full expansion"	Accepted. The parameter stands modified to read as "Overall usable capacity of storage array with full expansion"

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
310	33	VII	7.11	18	Overall capacity of storage array with full expansion	Should the storage capacity with full expansion be usable? Because for other storage requirements such as DFS & ODS, UIDAI has asked "Overall usable capacity of storage array with full expansion". Therefore would request UIDAI to amend this clause to " Overall usable capacity of storage array with full expansion"	Accepted. The parameter stands modified to read as "Overall usable capacity of storage array with full expansion"
311	33	VII	7.11	18	Overall capacity of storage array with full expansion	Should the storage capacity with full expansion be usable? Because for other storage requirements such as DFS & ODS, UIDAI has asked "Overall usable capacity of storage array with full expansion". Therefore would request UIDAI to amend this clause to " Overall usable capacity of storage array with full expansion"	Accepted. The parameter stands modified to read as "Overall usable capacity of storage array with full expansion"
312	33	VII	7.11	19	Disk Spindle Type : FC	As per the current standards and the future roadmaps, SAS has evolved as a much better technology than FC. Currently with 3Gbps and 6Gbps throughput, SAS has roadmap to go to 12Gbps in the near future. FC on the other hand is on 4Gbps and has no roadmap. The Disk OEMs are also considering SAS as the future technology disk and has no plans for FC in the future. Hence foreseeing the future trend and the technology adoption, the configuration should be done using SAS disks.	The disk spindle type is changed to "Dual ported FC"
313	33	VII	7.11	19	Disk Sub-System No of Global Hot Spares Disks proposed 15%	As industry best practices , ratio of disk:hot spares is 30:1. With the advancement and high MTBF disks, most of the manufactures also recommend the same. Hence would request UIDAI to kindly amend the clause as one host spare disk per 30 drives or 2% of the proposed number of disk drives.	The figure 0.15 or 15% appearing under minimum requirements stands modified to one hot spare disk for every 15 or less disks. Accordingly the word 'Percentage' under column 'Unit of measurement' stands modified to read as 'Ratio'
314	33	VII	7.11	19	Disk Spindle Type - FC	Since SAS Disk Drives have become standard (refer previous clause where SAS disk has been recommended in the Server) with better performance and Reliability, We suggest incorporating FC / SAS disks in the Disk type requirements.	The disk spindle type is changed to "Dual ported FC"
315	33	VII	7.11	19	Disk Spindle Type : FC	As per the current standards and the future roadmaps, SAS has evolved as a much better technology than FC. Currently with 3Gbps and 6Gbps throughput, SAS has roadmap to go to 12Gbps in the near future. FC on the other hand is on 4Gbps and has no roadmap. The Disk OEMs are also considering SAS as the future technology disk and has no plans for FC in the future. Hence foreseeing the future trend and the technology adoption, the configuration should be done using SAS disks.	Please refer Reply at Sr No-312

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
316	33	VII	7.11	19	Disk Spindle Type - FC	Since SAS Disk Drives have become standard (refer previous clause where SAS disk has been recommended in the Server) with better performance and Reliability, We suggest to incorporate FC / SAS disks in the Disk type requirements.	Please refer Reply at Sr No-312
317	33	VII	7.11	19	Disk Spindle Type : FC	As per the current standards and the future roadmaps, SAS has evolved as a much better technology than FC. Currently with 3Gbps and 6Gbps throughput, SAS has roadmap to go to 12Gbps in the near future. FC on the other hand is on 4Gbps and has no roadmap. The Disk OEMs are also considering SAS as the future technology disk and has no plans for FC in the future. Hence foreseeing the future trend and the technology adoption, the configuration should be done using SAS disks.	Please refer Reply at Sr No-312
318	33	VII	7.11	19	Disk Sub-System No of Global Hot Spares Disks proposed 15%	As industry best practices , ratio of disk:hot spares is 30:1. With the advancement and high MTBF disks, most of the manufactures also recommend the same. Hence would request UIDAI to kindly amend the clause as one host spare disk per 30 drives or 2% of the proposed number of disk drives.	Please refer Reply at Sr No-313
319	33	VII	7.11	19	Disk Sub-System No of Global Hot Spares Disks proposed 15%	As industry best practices , ratio of disk:hot spares is 30:1. With the advancement and high MTBF disks, most of the manufactures also recommend the same. Hence would request UIDAI to kindly amend the clause as one host spare disk per 30 drives or 2% of the proposed number of disk drives.	Please refer Reply at Sr No-313
320	35	VII	7.11	21	Controllers No of FC Host ports proposed 4	UIDIA has asked for 8 number of front end ports to be proposed in the storage array. However in this clause the host ports asked are 4 in number. Would request UIDAI to kindly clarify if 8 or 4 ports are to be proposed as both front end ports or host ports refers to same in technology term.	The Technical specification "Max no of FC Host ports supported on the system " stands deleted in Annexure 7.11,7.12,7.13
321	34	VII	7.11	21	No. of processors dedicated for backend processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments. Hence request you to delete this point.	Please refer Reply at Sr No-321
322	34	VII	7.11	21	No. of processors dedicated for front end processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments.Hence request you to delete this point.	Please refer Reply at Sr No-321

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
323	35	VII	7.11	21	Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Different storage vendors have different methods and techniques to implement RAID. High peformance and Data protection can be achieved by implementing RAID. RAID 4 is similar to RAID 5 as it provides protection against single disk failure through single parity mechanism. High performance RAID 6 (also called as RAID-DP) provides equivalent performance as in RAID 10 with less spindles and provides protection against any 2 simultaneous disk failures, unlike RAID 10 which only provides protection against 2 disk failures which are not part of the same mirror. Hence request to allow better RAID technologies to qualify and participate. Request you to modilfy the clause having Type of RAID Protection Supported : 0, 1, 4/5, 1+0/RAID-DP, 6+1	RAID level 5 and 1+0 is a mandatory requirement, which has to be supported . Therefore, under the column "Specification Offered" , apart from indication of RAID level 5 and 1+0 , the bidder may also indicate other RAID levels supported.
324	34	VII	7.11	21	Controllers Type of Processor MIPS/RICS	In the light of recent developments in processor technology, most of the storage OEMs now have moved to more powerful CISC based Processors. Also CISC based technology provides the biggest advantage of upwardly compatible with next generation developments. Based on this, we would request UIDAI to kindly include CISC also in the list of processors type to enable the participation of multiple vendors with latest technology, rather than outdated RISC / MIPS processors.	Accepted. CISC processor architecture is included.
325	35	VII	7.11	21	Controllers No of FC Host ports proposed 4	UIDIA has asked for 8 number of front end ports to be proposed in the storage array. However in this clause the host ports asked are 4 in number. Would request UIDAI to kindly clarify if 8 or 4 ports are to be proposed as both front end ports or host ports refers to same in technology term.	Please refer Reply at Sr No-320
326	35	VII	7.11	21	Storage System end to end bandwidth from FC Host port to backend disk - 4Gbps	Since Storage Subsystem backend Architecture has been innovated and gone beyond 4Gbps. Recommendations is to put minimum backend bandwidth to be 48Gbps instead of mentioning individual ports	Please refer to revised Annexure 7.11 under revised Section VII of the bid document released alongwith the response to prebid queries.
327	34	VII	7.11	21	Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliverhigh compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Please refer Reply at Sr No-324
328	34	VII	7.11	21	No. of processors dedicated for backend processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments. Hence request you to delete this point.	Please refer Reply at Sr No-321

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
329	34	VII	7.11	21	No. of processors dedicated for front end processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments.Hence request you to delete this point.	Please refer Reply at Sr No-321
330	35	VII	7.11	21	Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Different storage vendors have different methods and techniques to implement RAID. High peformance and Data protection can be achieved by implementing RAID. RAID 4 is similar to RAID 5 as it provides protection against single disk failure through single parity mechanism. High performance RAID 6 (also called as RAID-DP) provides equivalent performance as in RAID 10 with less spindles and provides protection against any 2 simultaneous disk failures, unlike RAID 10 which only provides protection against 2 disk failures which are not part of the same mirror. Hence request to allow better RAID technologies to qualify and participate. Request you to modilfy the clause having Type of RAID Protection Supported : 0, 1, 4/5, 1+0/RAID-DP, 6+1	Please refer Reply at Sr No-323
331	35	VII	7.11	21	No. of FC Hosts ports proposed : 4	One of the points in the specifications defines the quantity for the front end ports. The front end ports and the FC hosts ports are same and used interchangeably. Request to remove this point	Please refer Reply at Sr No-320
332	35	VII	7.11	21	Storage System end to end bandwidth from FC Host port to backend disk - 4Gbps	Since Storage Subsystem backend Architecture has been innovated and gone beyond 4Gbps. Recommendations is to put minimum backend bandwidth to be 48Gbps instead of mentioning individual ports.	Please refer Reply at Sr No-326
333	34	VII	7.11	21	Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliver high compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Please refer Reply at Sr No-324
334	34	VII	7.11	21	No. of processors dedicated for front end processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments. Hence request you to delete this point.	Please refer Reply at Sr No-321

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
335	35	VII	7.11	21	Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Include other double parity RAID schemes such as RAID-DP in addition to RAID-6	Please refer Reply at Sr No-323
336	35	VII	7.11	21	No. of FC Hosts ports proposed : 4	One of the points in the specifications defines the quantity for the front end ports. The front end ports and the FC hosts ports are same and used interchangeably. Request to remove this point	Please refer Reply at Sr No-320
337	34	VII	7.11	21	Controllers Type of Processor MIPS/RICS	In the light of recent developments in processor technology, most of the storage OEMs now have moved to more powerful CISC based Processors. Also CISC based technology provides the biggest advantage of upwardly compatible with next generation developments. Based on this, we would request UIDAI to kindly include CISC also in the list of processors type to enable the participation of multiple vendors with latest technology, rather than outdated RISC / MIPS processors.	Please refer Reply at Sr No-324
338	35	VII	7.11	21	Controllers No of FC Host ports proposed 4	UIDIA has asked for 8 number of front end ports to be proposed in the storage array. However in this clause the host ports asked are 4 in number. Would request UIDAI to kindly clarify if 8 or 4 ports are to be proposed as both front end ports or host ports refers to same in technology term.	Please refer Reply at Sr No-320
339	34	VII	7.11	21	Controllers Type of Processor MIPS/RICS	In the light of recent developments in processor technology, most of the storage OEMs now have moved to more powerful CISC based Processors. Also CISC based technology provides the biggest advantage of upwardly compatible with next generation developments. Based on this, we would request UIDAI to kindly include CISC also in the list of processors type to enable the participation of multiple vendors with latest technology, rather than outdated RISC / MIPS processors.	Please refer Reply at Sr No-324
340	35	VII	7.11	21	Controllers No of FC Host ports proposed 4	UIDIA has asked for 8 number of front end ports to be proposed in the storage array. However in this clause the host ports asked are 4 in number. Would request UIDAI to kindly clarify if 8 or 4 ports are to be proposed as both front end ports or host ports refers to same in technology term.	Please refer Reply at Sr No-320
341	35	VII	7.11	22	No. of FC Loops proposed	Storage Subsystem back end Architecture has been innovated and gone beyond FC_AL loops to SAS Architecture, Recommendation is to include No. of SAS links in addition to FC_AL loops	Please refer to revised Annexure 7.11 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
342	35	VII	7.11	23	Cache	The specifications mentioned for the cache are very much specific to one vendor. Different vendors have different methods of configuring cache in the storage with different protection mechanisms. Request to make the specifications more generic and open for other storage vendors to participate. The storage should be configured with 128GB of usable and protected cache across the controllers.	The proposed data cache requirement stands revised to 64 GB and expandable to minimum 128 GB
343	34	VII	7.11	19	Capability of completely automating activities including but not limited to defrag routines ; scan disks ; disk scrubbing ; file system checks , consistency checks etc	Does the volume Management and the file systems that will use this storage array should also provide automation of some of the operational change management activities like online change the no of columns of a striped volume, change stripe size, convert striped to non-striped volume and online array migration from one Storage OEM to other Storage OEM . Its important to consider this to avoid planned downtime and these capabilities might not be natively present in the System software of Linux/Windows OS and Storage array.	No
344	35	VII	7.11	23	Cache	The specifications mentioned for the cache are very much specific to one vendor. Different vendors have different methods of configuring cache in the storage with different protection mechanisms. Request to make the specifications more generic and open for other storage vendors to participate. The storage should be configured with 128GB of usable and protected cache across the controllers.	Please refer Reply at Sr No-342
345	38	VII	7.11	33	Estimated Ratings: SPC Benchmark 1	Most of the leading storage vendors does not benchmark all the models available in their portfolio with SPC. Since SPC benchmarks the storage performance for a certain specific workload, it does not give clear picture of the performance which a storage can deliver in different workloads. Hence SPC benchmark should not be asked.	There is no minimum requirement specified for "SPC BENCHMARK 1™"
346	38	VII	7.11	33	Estimated Ratings: SPC Benchmark 1	Most of the leading storage vendors does not benchmark all the models available in their portfolio with SPC. Since SPC benchmarks the storage performance for a certain specific workload, it does not give clear picture of the performance which a storage can deliver in different workloads. Hence SPC benchmark should not be asked.	Please refer Reply at Sr No-345
347	74	VII	7.21		The Switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of Providing graceful restart for all IPV4 routing protocols.	Graceful restart is one of the critical features achieved by modular OS.In Modular OS modular processes are instantiated on demand, each in a separate protected memory space. Thus, processes are started and system resources allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps to ensure the timely processing of critical functions too. Request the clause to be changed to " Switch should have Full Modular OS with support of protective mempory space for all critical processes and should support Hitless software upgrades to reduce downtime during software upgrades "	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
348	33	VII	7.11	18	Overall capacity of storage array with full expansion	Should the storage capacity with full expansion be usable? Because for other storage requirements such as DFS & ODS, UIDAI has asked "Overall usable capacity of storage array with full expansion". Therefore would request UIDAI to amend this clause to " Overall usable capacity of storage array with full expansion"	Please refer Reply at Sr No-311
349	34	VII	7.11	21	Controllers Type of Processor MIPS/RICS	In the light of recent developments in processor technology, most of the storage OEMs now have moved to more powerful CISC based Processors. Also CISC based technology provides the biggest advantage of upwardly compatible with next generation developments. Based on this, we would request UIDAI to kindly include CISC also in the list of processors type to enable the participation of multiple vendors with latest technology, rather than outdated RISC / MIPS processors.	Please refer Reply at Sr No-324
350	74	VII	7.21		The Switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of Providing graceful restart for all IPV4 routing protocols.	Graceful restart is one of the critical features achieved by modular OS.In Modular OS modular processes are instantiated on demand, each in a separate protected memory space. Thus, processes are started and system resources allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps to ensure the timely processing of critical functions too. Request the clause to be changed to " Switch should have Full Modular OS with support of protective mempory space for all critical processes and should support Hitless software upgrades to reduce downtime during software upgrades "	Please refer Reply at Sr No-347
351	75	VII	7.21	24	IP & IPX , RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing,Netflow and support of 100000+ route enteries.	IPX is a legacy network layer protocol (layer 3 of the OSI Model) because IP is a more mature and extensively used and over the time IPX usage has declined. Despite the protocols' association with NetWare, it is neither required for NetWare communication nor exclusively used on NetWare networks. NetWare communication requires an NCP implementation, which can use IPX/SPX, TCP/IP, or both, as a transport. Hence we request you to remove IPX and modified as "IP, RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing,Netflow and suppport of 100000+ route enteries."	The word "IPX" stands deleted.Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
352	33	VII	7.11	19	Disk Sub-System No of Global Hot Spares Disks proposed 15%	As industry best practices , ratio of disk:hot spares is 30:1. With the advancement and high MTBF disks, most of the manufactures also recommend the same. Hence would request UIDAI to kindly amend the clause as one host spare disk per 30 drives or 2% of the proposed number of disk drives.	Please refer Reply at Sr No-313
353	34	VII	7.11	21	Controllers Type of Processor MIPS/RICS	In the light of recent developments in processor technology, most of the storage OEMs now have moved to more powerful CISC based Processors. Also CISC based technology provides the biggest advantage of upwardly compatible with next generation developments. Based on this, we would request UIDAI to kindly include CISC also in the list of processors type to enable the participation of multiple vendors with latest technology, rather than outdated RISC / MIPS processors.	Please refer Reply at Sr No-324

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
354	33	VII	7.11	18	Overall capacity of storage array with full expansion	Should the storage capacity with full expansion be usable? Because for other storage requirements such as DFS & ODS, UIDAI has asked "Overall usable capacity of storage array with full expansion". Therefore would request UIDAI to amend this clause to " Overall usable capacity of storage array with full expansion"	Please refer Reply at Sr No-311
355	35	VII	7.11	21	Controllers No of FC Host ports proposed 4	UIDIA has asked for 8 number of front end ports to be proposed in the storage array. However in this clause the host ports asked are 4 in number. Would request UIDAI to kindly clarify if 8 or 4 ports are to be proposed as both front end ports or host ports refers to same in technology term.	Please refer Reply at Sr No-320
356	35	VII	7.11	21	No. of FC Hosts ports proposed : 4	One of the points in the specifications defines the quantity for the front end ports. The front end ports and the FC hosts ports are same and used interchangeably. Request to remove this point	Please refer Reply at Sr No-320
357	35	VII	7.11	23	Cache	The specifications mentioned for the cache are very much specific to one vendor. Different vendors have different methods of configuring cache in the storage with different protection mechanisms. Request to make the specifications more generic and open for other storage vendors to participate. The storage should be configured with 128GB of usable and protected cache across the controllers.	Please refer Reply at Sr No-342
358	38	VII	7.11	33	Estimated Ratings: SPC Benchmark 1	Most of the leading storage vendors does not benchmark all the models available in their portfolio with SPC. Since SPC benchmarks the storage performance for a certain specific workload, it does not give clear picture of the performance which a storage can deliver in different workloads. Hence SPC benchmark should not be asked.	Please refer Reply at Sr No-345
359	74	VII	7.21		The Switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of Providing graceful restart for all IPV4 routing protocols.	Graceful restart is one of the critical features achieved by modular OS.In Modular OS modular processes are instantiated on demand, each in a separate protected memory space. Thus, processes are started and system resources allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps to ensure the timely processing of critical functions too. Request the clause to be changed to " Switch should have Full Modular OS with support of protective mempory space for all critical processes and should support Hitless software upgrades to reduce downtime during software upgrades "	Please refer Reply at Sr No-347

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
360	75	VII	7.21	24	IP & IPX , RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing,Netflow and support of 100000+ route enteries.	IPX is a legacy network layer protocol (layer 3 of the OSI Model) because IP is a more mature and extensively used and over the time IPX usage has declined. Despite the protocols' association with NetWare, it is neither required for NetWare communication nor exclusively used on NetWare networks. NetWare communication requires an NCP implementation, which can use IPX/SPX, TCP/IP, or both, as a transport. Hence we request you to remove IPX and modified as "IP, RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing,Netflow and suppport of 100000+ route enteries."	The word "IPX" stands deleted. Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
361	77	VII	7.21		Cooling FANS:Hot swapable cooling fans proposed	Key infrsastructre compnents such as core Switch should be provisioned with appropriate level of redundnacy and high availability features. Fan tray plays a critical role in keeping networking equipments run in good condition without frequent failures. There have been examples and instances where vendors claim that Having removable fan tray is hot swapable, while it gives an option to replace the damaged fans in the field. As a switch can sustain for few minutes only(depends on the environment and cards installed) without fan tray, the replacement can intrupt the services as switch might reboot or shut.There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. It is better to have a fan tray in redundant fashion. Hence we request it to be changed to "Hot swappable redundant cooling fan tray proposed"	The minimum requirements is in terms of cooling functionality.
362	33	VII	7.11	19	No. of Global Hot spare - 15%	Overall number of Global Hot spare seems to be very high.	Please refer Reply at Sr No-313
363	34	VII	7.11	21	Number of Front-end proposed - 8 Number of FC host port proposed - 4	Both of this, seems to be giving the same meaning but with different number of ports. Pls. suggest which one needs to be used.	Please refer Reply at Sr No-320
364	35	VII	7.11	21	Throughput of each FC port - 8Gbps	Throughput of each FC ports - 4/8Gbps 1. Our Storage Architecture doesn't need 8Gbps Front-end ports due to true active-active ports in nature where a single logical unit can be serviced by Multiple ports. 2. Since back-end speed being demanded is 4Gbps hence there is also practical no advantage of 8Gbps on the front-end side. 3. Considering the above, Would suggest the same to be changed to 4/8Gbps speed.	The minimum requirement for 'Throughput of each FC Port' stands modified to 4 Gbps.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
365	36	VII	7.11	23	Proposed Data Cache - 16GB Data Cache supported on systesm - 32GB	Proposed Cache - 16GB. Cache supported on the system = 32GB.Every storage vendor uses cache for both data and control operations. Some vendor also keep OS in the Cache. Some vendors shows both of them as a consolidated cache whereas some of them shows as separate one (like us) hence request to change the same to Proposed cache - 16GB. Cache supported on the system - 32GB.	Please refer Reply at Sr No-342
366	34	VII	7.11		Maximum Number of Back-end, Front-end and Cache Pages 34 & 36	Pls. confirm whether Upgradability to Maximum number of Front-end, Back-end and Cache shall be non-disruptive in nature or downtime is accepted.	Planned down time for cache is acceptable
367	39	VII	7.12	18	Minimum Requirement 1280 TB	We would request to please change minimum requirement to 1260 TB as this would make the specification vendor neutral	Parameter 13 i.e. "Usable capacity of offered SAN storage array" stands increased to 1200 TB fully populated under column minimum requirements. Accordingly, Parameter 18 i.e. "Overall usable capacity of storage array with full expansion" stands deleted.
368	39	VII	7.12	18	Overall usable capacity of storage array with full expansion 1280TB	As UIDAI has asked for double the capacity expansion support in both DMZ and ODS storage arrays whereas in DFS storage array overall usable capacity at full expansion is marginally increased by 20% over the usable offered capacity in proposed array. Going by RFP, this array would store the images of all enrolled users, which are very capacity intensive. Therefore would request UIDAI to enhance this limit to 1600 TB usable capacity to have better TCO & ROI by enabling storage of maximum numbers of images within the same storage arrays.	Please refer Reply at Sr No-367
369	44	VII	7.13	18	Overall usable capacity of storage array with full expansion 300 TB with SSD support	Would request UIDAI to kindly clarify whether the 300TB capacity would need to be proposed with SSD drives or does this mean 300TB capacity with FC and support for SSD.	200 TB (as changed) FC disks (90% capacity with RAID 0+1 and 10% with RAID 5) and 10 TB of SSD disks are required . Overall usable capacity stands modified to 400 TB capacity with FC drives and should support SSD .

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
370	39	VII	7.12	18	Overall usable capacity of storage array with full expansion 1280TB	As UIDAI has asked for double the capacity expansion support in both DMZ and ODS storage arrays whereas in DFS storage array overall usable capacity at full expansion is marginally increased by 20% over the usable offered capacity in proposed array. Going by RFP, this array would store the images of all enrolled users, which are very capacity intensive. Therefore would request UIDAI to enhance this limit to 1600 TB usable capacity to have better TCO & ROI by enabling storage of maximum numbers of images within the same storage arrays.	Please refer Reply at Sr No-367
371	39	VII	7.12	18	Overall usable capacity of storage array with full expansion 1280TB	As UIDAI has asked for double the capacity expansion support in both DMZ and ODS storage arrays whereas in DFS storage array overall usable capacity at full expansion is marginally increased by 20% over the usable offered capacity in proposed array. Going by RFP, this array would store the images of all enrolled users, which are very capacity intensive. Therefore would request UIDAI to enhance this limit to 1600 TB usable capacity to have better TCO & ROI by enabling storage of maximum numbers of images within the same storage arrays.	Please refer Reply at Sr No-367
372	39	VII	7.12	19	Disk Sub-System No of Global Hot Spares Disks proposed 15%	As industry best practices , ratio of disk:hot spares is 30:1. With the advancement and high MTBF disks, most of the manufactures also recommend the same. Hence would request UIDAI to kindly amend the clause as one host spare disk per 30 drives or 2% of the proposed number of disk drives.	The figure 0.15 or 15% appearing under minimum requirements stands modified to one hot spare disk for every 15 or less disks. Accordingly the word 'Percentage' under column 'Unit of measurement' stands modified to read as 'Ratio'
373	39	VII	7.12	19	Disk Sub-System No of Global Hot Spares Disks proposed 15%	As industry best practices , ratio of disk:hot spares is 30:1. With the advancement and high MTBF disks, most of the manufactures also recommend the same. Hence would request UIDAI to kindly amend the clause as one host spare disk per 30 drives or 2% of the proposed number of disk drives.	Please refer Reply at Sr No-372
374	39	VII	7.12	19	Disk Sub-System No of Global Hot Spares Disks proposed 15%	As industry best practices , ratio of disk:hot spares is 30:1. With the advancement and high MTBF disks, most of the manufactures also recommend the same. Hence would request UIDAI to kindly amend the clause as one host spare disk per 30 drives or 2% of the proposed number of disk drives.	Please refer Reply at Sr No-372

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
375	40	VII	7.12	21	Controllers: Max no. of Backend ports proposed. 32	This clause of back-end port needs to be read in conjunction with the one mentioned below for front-end ports. It is recommended that the no. of Back-end ports be equal to Front-end ports for a symmetric configuration to avoid performance bottlenecks. In an end-to-end 4Gbps systems 64 Frontend ports pumping data would choke the 32 backend ports. We request that UID consider this very important point and change the Back-end ports also to 64 to match with front-end ports or alternatively bring down the Front-end ports to 32.	Minimum number of frontend ports proposed stands revised to 64 number and max number of frontend ports supported on the system stands revised to 128 or more number of ports.
376	40	VII	7.12	21	Controllers: Max no. of front-end ports proposed. 64	This clause of Frontend ports needs to be read in conjunction with the one mentioned above for back-end ports. It is recommended that the no. of Front-end ports be equal to Back-end ports for a symmetric configuration to avoid performance bottlenecks. In an end-to-end 4Gbps systems 64 Frontend ports pumping data would choke the 32 backend ports. We request that UID consider this very important point and change the Front-end ports also to 32 to match with back-end ports or alternatively bring up the back-end ports to 64.	Minimum number of frontend ports proposed stands revised to 64 number and max number of frontend ports supported on the system stands revised to 128 or more number of ports.
377	41	VII	7.11,7.12,7.13	21	Controllers No of FC host ports proposed 8	UIDIA has asked for 64 number of front end ports to be proposed in the storage array. However in this clause the host ports asked are 8 in number. Would request UIDAI to kindly clarify if 64 or 8 ports are to be proposed as both front end ports or host ports refers to same in technology term.	The Technical specification "Max no of FC Host ports supported on the system " stands deleted in Annexure 7.11,7.12,7.13
378	40	VII	7.12	21	Minimum Requirement 2 Controllers	Please clarify if vendors are free to provide required capacity spread across multiple controllers and these controllers is shown as a single storage system using external virtualization engine.	Please refer to revised Annexure 7.12 under revised Section VII of the bid document released alongwith the response to prebid queries.
379	40	VII	7.12	21	Controllers: Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliverhigh compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Accepted. CISC processor architecture is included.
380	40	VII	7.12	21	Controllers: Max no. of front end ports supported on the system : 128	Since the backend ports are 32 and would be scaled to 48, considering linear ratio between the front end and the backend ports, the maximum front end ports should be 48	Please refer Reply at Sr No-376

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
381	40	VII	7.12	21	Controllers: No. of processors dedicated for backend processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments. Hence request you to delete this point.	Please refer to revised Annexure 7.12 under revised Section VII of the bid document released alongwith the response to prebid queries.
382	40	VII	7.12	21	Controllers: No. of processors dedicated for front end processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments.Hence request you to delete this point.	Please refer Reply at Sr No-381
383	40	VII	7.12	21	Controllers: Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Different storage vendors have different methods and techniques to implement RAID. High peformance and Data protection can be achieved by implementing RAID. RAID 4 is similar to RAID 5 as it provides protection against single disk failure through single parity mechanism. High performance RAID 6 (also called as RAID-DP) provides equivalent performance as in RAID 10 with less spindles and provides protection against any 2 simultaneous disk failures, unlike RAID 10 which only provides protection against 2 disk failures which are not part of the same mirror. Hence request to allow better RAID technologies to qualify and participate	RAID level 5 is a mandatory requirement, which has to be supported . Therefore, under the column "Specification Offered" , apart from indication of RAID level 5 , the bidder may also indicate other RAID levels supported.
384	41	VII	7.12	21	Cache	The specifications mentioned for the cache are very much specific to one vendor. Different vendors have different methods of configuring cache in the storage with different protection mechanisms. Request to make the specifications more generic and open for other storage vendors to participate. The storage should be configured with 128GB of usable and protected cache across the controllers.	The proposed data cache requirement stands revised to 512 GB and expandable to minimum 1024 GB
385	43	VII	7.12	34	Estimated Ratings: SPC Benchmark 1	Most of the leading storage vendors does not benchmark all the models available in their portfolio with SPC. Since SPC benchmarks the storage performance for a certain specific workload, it does not give clear picture of the performance which a storage can deliver in different workloads. Hence SPC benchmark should not be asked.	Please refer Reply at Sr No-345
386	41	VII	7.12	21	Controllers No of FC host ports proposed 8	UIDIA has asked for 64 number of front end ports to be proposed in the storage array. However in this clause the host ports asked are 8 in number. Would request UIDAI to kindly clarify if 64 or 8 ports are to be proposed as both front end ports or host ports refers to same in technology term.	Please refer Reply at Sr No-377

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
387	40	VII	7.12	21	Controllers: Max no. of Backend ports proposed. 32	This clause of back-end port needs to be read in conjunction with the one mentioned below for front-end ports. It is recommended that the no. of Back-end ports be equal to Front-end ports for a symmetric configuration to avoid performance bottlenecks. In an end-to-end 4Gbps systems 64 Frontend ports pumping data would choke the 32 backend ports. We request that UID consider this very important point and change the Back-end ports also to 64 to match with front-end ports or alternatively bring down the Front-end ports to 32.	Please refer Reply at Sr No-375
388	40	VII	7.12	21	Controllers: Max no. of front-end ports proposed. 64	This clause of Frontend ports needs to be read in conjunction with the one mentioned above for back-end ports. It is recommended that the no. of Front-end ports be equal to Back-end ports for a symmetric configuration to avoid performance bottlenecks. In an end-to-end 4Gbps systems 64 Frontend ports pumping data would choke the 32 backend ports. We request that UID consider this very important point and change the Front-end ports also to 32 to match with back-end ports or alternatively bring up the back-end ports to 64.	Please refer Reply at Sr No-376
389	40	VII	7.12	21	Controllers: Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliverhigh compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Accepted. CISC processor architecture is included.
390	40	VII	7.12	21	Controllers: No. of front end ports proposed : 64	In an enterprise SAN environment, the hosts are connected to the SAN switches. In practical scenarios, the hosts are never directly attached to the storage host ports. Considering the fan-out ratio of the SAN ports, the mapping of a storage host port to a server is 1:8 with optimal performance. Hence, 32 ports can suffice the requirement.	Please refer Reply at Sr No-376
391	40	VII	7.12	21	Controllers: Max no. of backend ports supported on the system : 64	As per the specifications, the disk scalability has been asked from 1024TB to 1280TB. Since the increase of capacity from the proposed capacity is 20% increase, the backend ports needs to be increased in the linear ratio. Hence, request to change the scalability of the backend ports to 48	Please refer Reply at Sr No-375
392	40	VII	7.12	21	Controllers: Max no. of front end ports supported on the system : 128	Since the backend ports are 32 and would be scaled to 48, considering linear ratio between the front end and the backend ports, the maximum front end ports should be 48	Please refer Reply at Sr No-376

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
393	40	VII	7.12	21	Controllers: No. of processors dedicated for backend processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments. Hence request you to delete this point.	Please refer to revised Annexure 7.12 under revised Section VII of the bid document released alongwith the response to prebid queries.
394	40	VII	7.12	21	Controllers: No. of processors dedicated for front end processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments.Hence request you to delete this point.	Please refer Reply at Sr No-393
395	40	VII	7.12	21	Controllers: Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Different storage vendors have different methods and techniques to implement RAID. High peformance and Data protection can be achieved by implementing RAID. RAID 4 is similar to RAID 5 as it provides protection against single disk failure through single parity mechanism. High performance RAID 6 (also called as RAID-DP) provides equivalent performance as in RAID 10 with less spindles and provides protection against any 2 simultaneous disk failures, unlike RAID 10 which only provides protection against 2 disk failures which are not part of the same mirror. Hence request to allow better RAID technologies to qualify and participate	RAID level 5 is a mandatory requirement, which has to be supported . Therefore, under the column "Specification Offered" , apart from indication of RAID level 5 , the bidder may also indicate other RAID levels supported.
396	41	VII	7.12	21	Controllers: No. of FC Hosts ports proposed : 8	One of the points in the specifications defines the quantity for the front end ports. The front end ports and the FC hosts ports are same and used interchangeably. Request to remove this point	Please refer Reply at Sr No-377
397	41	VII	7.12	21	Cache: Proposed Data Cache : 256GB	As per the specifications, 256GB data cache is required & scalable up to 512GB. The cache on storage systems offered by various storage vendors is typically protected through techniques like mirroring etc. & after additional overheads on account of replication etc, the usable cache may reduce further, resulting in an even smaller amount of effective usable cache for I/O. Hence it is important to ask for usable cache rather than total cache. We would therefore request UID to specify at least 128GB of usable cache after taking protection mechanisms / overheads into account scalable to 192GB of usable cache	Please refer Reply at Sr No-384
398	41	VII	7.12	21	Cache	The specifications mentioned for the cache are very much specific to one vendor. Different vendors have different methods of configuring cache in the storage with different protection mechanisms. Request to make the specifications more generic and open for other storage vendors to participate. The storage should be configured with 128GB of usable and protected cache across the controllers.	Please refer Reply at Sr No-384

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
399	40	VII	7.12	21	Controllers: Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliver high compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Please refer Reply at Sr No-389
400	40	VII	7.12	21	Controllers: No. of processors dedicated for backend processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments. Hence request you to delete this point.	Please refer Reply at Sr No-393
401	40	VII	7.12	21	Controllers: No. of processors dedicated for front end processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments. Hence request you to delete this point.	Please refer Reply at Sr No-393
402	40	VII	7.12	21	Controllers: Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Include other double parity RAID schemes such as RAID-DP in addition to RAID-6	Please refer Reply at Sr No-395
403	41	VII	7.12	21	Controllers: No. of FC Hosts ports proposed : 8	One of the points in the specifications defines the quantity for the front end ports. The front end ports and the FC hosts ports are same and used interchangeably. Request to remove this point	Please refer Reply at Sr No-377
404	41	VII	7.12	21	Cache	The specifications mentioned for the cache are very much specific to one vendor. Different vendors have different methods of configuring cache in the storage with different protection mechanisms. Request to make the specifications more generic and open for other storage vendors to participate. The storage should be configured with 128GB of usable and protected cache across the controllers.	Please refer Reply at Sr No-384
405	41	VII	7.12	21	Controllers No of FC host ports proposed 8	UIDIA has asked for 64 number of front end ports to be proposed in the storage array. However in this clause the host ports asked are 8 in number. Would request UIDAI to kindly clarify if 64 or 8 ports are to be proposed as both front end ports or host ports refers to same in technology term.	Please refer Reply at Sr No-377

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
406	40	VII	7.12	21	Controllers: Max no. of Backend ports proposed. 32	This clause of back-end port needs to be read in conjunction with the one mentioned below for front-end ports. It is recommended that the no. of Back-end ports be equal to Front-end ports for a symmetric configuration to avoid performance bottlenecks. In an end-to-end 4Gbps systems 64 Frontend ports pumping data would choke the 32 backend ports. We request that UID consider this very important point and change the Back-end ports also to 64 to match with front-end ports or alternatively bring down the Front-end ports to 32.	Please refer Reply at Sr No-375
407	40	VII	7.12	21	Controllers: Max no. of front-end ports proposed. 64	This clause of Frontend ports needs to be read in conjunction with the one mentioned above for back-end ports. It is recommended that the no. of Front-end ports be equal to Back-end ports for a symmetric configuration to avoid performance bottlenecks. In an end-to-end 4Gbps systems 64 Frontend ports pumping data would choke the 32 backend ports. We request that UID consider this very important point and change the Front-end ports also to 32 to match with back-end ports or alternatively bring up the back-end ports to 64.	Please refer Reply at Sr No-376
408	41	VII	7.12	21	Controllers No of FC host ports proposed 8	UIDIA has asked for 64 number of front end ports to be proposed in the storage array. However in this clause the host ports asked are 8 in number. Would request UIDAI to kindly clarify if 64 or 8 ports are to be proposed as both front end ports or host ports refers to same in technology term.	Please refer Reply at Sr No-377
409	40	VII	7.12	21	Controllers: Max no. of Backend ports proposed. 32	This clause of back-end port needs to be read in conjunction with the one mentioned below for front-end ports. It is recommended that the no. of Back-end ports be equal to Front-end ports for a symmetric configuration to avoid performance bottlenecks. In an end-to-end 4Gbps systems 64 Frontend ports pumping data would choke the 32 backend ports. We request that UID consider this very important point and change the Back-end ports also to 64 to match with front-end ports or alternatively bring down the Front-end ports to 32.	Please refer Reply at Sr No-375
410	40	VII	7.12	21	Controllers: Max no. of front-end ports proposed. 64	This clause of Frontend ports needs to be read in conjunction with the one mentioned above for back-end ports. It is recommended that the no. of Front-end ports be equal to Back-end ports for a symmetric configuration to avoid performance bottlenecks. In an end-to-end 4Gbps systems 64 Frontend ports pumping data would choke the 32 backend ports. We request that UID consider this very important point and change the Front-end ports also to 32 to match with back-end ports or alternatively bring up the back-end ports to 64.	Please refer Reply at Sr No-376

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
411	41	VII	7.12	22	Minimum Requirement 4Gbps	It is requested to change the minimum requirement of FC-AL loop from 4 Gbps to 2 Gbps to make it vendor neutral.	Please refer to revised Annexure 7.12 under revised Section VII of the bid document released alongwith the response to prebid queries.
412	35	VII	7.12	22	No. of FC Loops proposed	Storage Subsystem back end Architecture has been innovated and gone beyond FC_AL loops to SAS Architecture, Recommendation is to include No. of SAS links in addition to FC_AL loops.	Please refer to revised Annexure 7.12 under revised Section VII of the bid document released alongwith the response to prebid queries.
413	41	VII	7.12	23	Minimum Requirement 512 GB	We would request to change minimum requirement to 384GB to make it vendor neutral.	Please refer to revised Annexure 7.12 under revised Section VII of the bid document released alongwith the response to prebid queries.
414	34	VII	7.12	19	Capability of completely automating activities including but not limited to defrag routines ; scan disks ; disk scrubbing ; file system checks , consistency checks etc	Does the volume Management and the file systems that will use this storage array should also provide automation of some of the operational change management activities like online change the no of columns of a striped volume, change stripe size, convert striped to non-striped volume and online array migration from one Storage OEM to other Storage OEM . Its important to consider this to avoid planned downtime and these capabilities might not be natively present in the System software of Linux /Windows OS and Storage array.	No
415	43	VII	7.12	32	Minimum Requirement FC: YES FCIP FCOE: YES iSCSI: YES FC Host port : 8	The storage interface minimum requirement should be FC to make it vendor neutral. The remaining protocol requirement should be made as optional.	FCOE and ISCSI are now optional requirements. For requirement of number of FC Host Ports, please refer to the number of front end ports required. Requirement of 10GE Ports stands deleted.
416	43	VII	7.12	32	Protocols Support	Why ISCSI - This can be incorporated in the FC Switch	Please refer Reply at Sr No-415
417	43	VII	7.12	32	Protocols Support	Why ISCSI - This can be incorporated in the FC Switch	Please refer Reply at Sr No-415

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
418	43	VII	7.12	34	Estimated Ratings: SPC Benchmark 1	Most of the leading storage vendors does not benchmark all the models available in their portfolio with SPC. Since SPC benchmarks the storage performance for a certain specific workload, it does not give clear picture of the performance which a storage can deliver in different workloads. Hence SPC benchmark should not be asked.	Please refer Reply at Sr No-345
419	43	VII	7.12	34	Estimated Ratings: SPC Benchmark 1	Most of the leading storage vendors does not benchmark all the models available in their portfolio with SPC. Since SPC benchmarks the storage performance for a certain specific workload, it does not give clear picture of the performance which a storage can deliver in different workloads. Hence SPC benchmark should not be asked.	Please refer Reply at Sr No-345
420	39	VII	7.12	19	Disk Sub-System No of Global Hot Spares Disks proposed 15%	As industry best practices , ratio of disk:hot spares is 30:1. With the advancement and high MTBF disks, most of the manufactures also recommend the same. Hence would request UIDAI to kindly amend the clause as one host spare disk per 30 drives or 2% of the proposed number of disk drives.	Please refer Reply at Sr No-372
421	39	VII	7.12	18	Overall usable capacity of storage array with full expansion 1280TB	As UIDAI has asked for double the capacity expansion support in both DMZ and ODS storage arrays whereas in DFS storage array overall usable capacity at full expansion is marginally increased by 20% over the usable offered capacity in proposed array. Going by RFP, this array would store the images of all enrolled users, which are very capacity intensive. Therefore would request UIDAI to enhance this limit to 1600 TB usable capacity to have better TCO & ROI by enabling storage of maximum numbers of images within the same storage arrays.	Please refer Reply at Sr No-367
422	40	VII	7.12	21	Controllers: Max no. of Backend ports proposed. 32	This clause of back-end port needs to be read in conjunction with the one mentioned below for front-end ports. It is recommended that the no. of Back-end ports be equal to Front-end ports for a symmetric configuration to avoid performance bottlenecks. In an end-to-end 4Gbps systems 64 Frontend ports pumping data would choke the 32 backend ports. We request that UID consider this very important point and change the Back-end ports also to 64 to match with front-end ports or alternatively bring down the Front-end ports to 32.	Please refer Reply at Sr No-375
423	41	VII	7.12	21	Controllers No of FC host ports proposed 8	UIDIA has asked for 64 number of front end ports to be proposed in the storage array. However in this clause the host ports asked are 8 in number. Would request UIDAI to kindly clarify if 64 or 8 ports are to be proposed as both front end ports or host ports refers to same in technology term.	Please refer Reply at Sr No-377
424	40	VII	7.12	21	Controllers: No. of front end ports proposed : 64	In an enterprise SAN environment, the hosts are connected to the SAN switches. In practical scenarios, the hosts are never directly attached to the storage host ports. Considering the fan-out ratio of the SAN ports, the mapping of a storage host port to a server is 1:8 with optimal performance. Hence, 32 ports can suffice the requirement.	Please refer Reply at Sr No-376

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
425	40	VII	7.12	21	Controllers: Max no. of backend ports supported on the system : 64	As per the specifications, the disk scalability has been asked from 1024TB to 1280TB. Since the increase of capacity from the proposed capacity is 20% increase, the backend ports needs to be increased in the linear ratio. Hence, request to change the scalability of the backend ports to 48	Please refer Reply at Sr No-375
426	41	VII	7.12	21	Controllers: No. of FC Hosts ports proposed : 8	One of the points in the specifications defines the quantity for the front end ports. The front end ports and the FC hosts ports are same and used interchangeably. Request to remove this point	Please refer Reply at Sr No-377
427	41	VII	7.12	21	Cache: Proposed Data Cache : 256GB	As per the specifications, 256GB data cache is required & scalable up to 512GB. The cache on storage systems offered by various storage vendors is typically protected through techniques like mirroring etc. & after additional overheads on account of replication etc, the usable cache may reduce further, resulting in an even smaller amount of effective usable cache for I/O. Hence it is important to ask for usable cache rather than total cache. We would therefore request UID to specify at least 128GB of usable cache after taking protection mechanisms / overheads into account scalable to 192GB of usable cache	Please refer Reply at Sr No-384
428	40	VII	7.12	23	Maximum Number of Back-end, Front-end and Cache	Pls. confirm whether Upgradability to Maximum number of Front-end, Back-end and Cache shall be non-disruptive in nature or downtime is accepted.	Planned down time for cache is acceptable
429	43	VII	7.12	32	FC-IP, FCOE, ISCSI, 10Gbe ports	Protocal support with the help of required engines. Most of the high-end storage supports FC-IP, FCOE and ISCSI with the help of external engines which are tightly integrated with storage subsystem. Considering the same, request the clause to be modified	Please refer to reply at Sr No. 415
430	64	VII	7.18	13	No of drives supported in a single frame without cascading	Specifications mentioned for scalability seems to be vendor specific. It is requested to ask for overall scalability to 18 drives.	Please refer Reply at Sr No-562
431	64	VII	7.18	13	No of frames proposed with scalability of frames, Minimum requirement: 1	Specifications mentioned are vendor specific. It is requested to change the specification to make it open.	Please refer Reply at Sr No-562
432	44	VII	7.13	18	Overall usable capacity of storage array with full expansion 300 TB with SSD support	Would request UIDAI to kindly clarify whether the 300TB capacity would need to be proposed with SSD drives or does this mean 300TB capacity with FC and support for SSD.	Please refer Reply at Sr No-369
433	44	VII	7.13	18	Overall usable capacity of storage array with full expansion 300 TB with SSD support	Would request UIDAI to kindly clarify whether the 300TB capacity would need to be proposed with SSD drives or does this mean 300TB capacity with FC and support for SSD.	Please refer Reply at Sr No-369

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
434	44	VII	7.13	18	Overall usable capacity of storage array with full expansion 300 TB with SSD support	Would request UIDAI to kindly clarify whether the 300TB capacity would need to be proposed with SSD drives or does this mean 300TB capacity with FC and support for SSD.	Please refer Reply at Sr No-369
435	44	VII	7.13	19	Disk Spindle Type - FC	Since SAS Disk Drives have become standard with better performance and Reliability, Recommendation is to incorporate FC / SAS disks in the Disk type requirements.	The disk spindle type is changed to "Dual ported FC"
436	44	VII	7.13	19	Disk Spindle Type - FC	Since SAS Disk Drives have become standard with better performance and Reliability, Recommendation is to incorporate FC / SAS disks in the Disk type requirements.	Please refer Reply at Sr No-435
437	45	VII	7.13	19	Capability of completely automating activities including but not limited to defrag routines ; scan disks ; disk scrubbing ; file system checks , consistency checks etc	Does the volume Management and the file systems that will use this storage array should also provide automation of some of the operational change management activities like online change the no of columns of a striped volume, change stripe size, convert striped to non-striped volume and online array migration from one Storage OEM to other Storage OEM . Its important to consider this to avoid planned downtime and these capabilities might not be natively present in the System software of Linux /Windows OS and Storage array.	No
438	45	VII	7.13	21	Controllers Max No of backend ports supported on the System 32	With the evolution of 8 Gbps throughput ports, better cache handling algorithms, and with enhanced proceesors, more I/O traffic can be handled at storage array level. This has been observered under various workloads conditions that Increase in front ports or backend ports beyond a certain numbers might not even enhance the overall performance. Basis this we would request UIDAI to kindly reduce the max no of backend ports to 16 numbers to have better TCO and ROI factors.	Please refer to Revised Annexure 7.11,7.12,7.13 under revised Section VII fo the bid document
439	45	VII	7.13	21	Controllers Max No of front-end ports supported on the System 32	With the evolution of 8 Gbps throughput ports, better cache handling algorithms, and with enhanced proceesors, more I/O traffic can be handled at storage array level. This has been observered under various workloads conditions that Increase in front ports or backend ports beyond a certain numbers might not even enhance the overall performance. Basis this we would request UIDAI to kindly reduce the max no of front-end ports to 16 to have better TCO and ROI factors.	Please refer Reply at Sr No-438
440	45	VII	7.13	21	Storage controllers which should cover the frontend and backend requirements as specified in dual configuration mode.	Please clarify if vendors are free to provide required capacity spread across multiple controllers and these controllers is shown as a single storage system using external virtualization engine.	Please refer Reply at Sr No-378
441	45	VII	7.13	21	Storage controllers which should cover the frontend and backend requirements as specified in dual configuration mode.	Please clarify if vendors are free to provide required capacity spread across multiple controllers and these controllers is shown as a single storage system using external virtualization engine.	Please refer Reply at Sr No-378

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
442	44	VII	7.13	21	Disk Sub System: Disk Spindle Type : FC	As per the current standards and the future roadmaps, SAS has evolved as a much better technology than FC. Currently with 3Gbps and 6Gbps throughput, SAS has roadmap to go to 12Gbps in the near future. FC on the other hand is on 4Gbps and has no roadmap. The Disk OEMs are also considering SAS as the future technology disk and has no plans for FC in the future. Hence foreseeing the future trend and the technology adoption, the configuration should be done using SAS disks.	Please refer Reply at Sr No-435
443	45	VII	7.13	21	Controllers: Max no. of front end ports supported on the system : 32	As per the specifications, the front end ports to be proposed are 8. Considering 2x as the scalability in the ports which is the standard scalability creteria in terms of ports, the max no. of front end ports supported on the system should be 16	Please refer Reply at Sr No-438
444	45	VII	7.13	21	Controllers Max No of backend ports supported on the System 32	With the evolution of 8 Gbps throughput ports, better cache handling algorithms, and with enhanced proceesors, more I/O traffic can be handled at storage array level. This has been observered under various workloads conditions that Increase in front ports or backend ports beyond a certain numbers might not even enhance the overall performance. Basis this we would request UIDAI to kindly reduce the max no of backend ports to 16 numbers to have better TCO and ROI factors.	Please refer Reply at Sr No-438
445	45	VII	7.13	21	Controllers Max No of front-end ports supported on the System 32	With the evolution of 8 Gbps throughput ports, better cache handling algorithms, and with enhanced proceesors, more I/O traffic can be handled at storage array level. This has been observered under various workloads conditions that Increase in front ports or backend ports beyond a certain numbers might not even enhance the overall performance. Basis this we would request UIDAI to kindly reduce the max no of front-end ports to 16 to have better TCO and ROI factors.	Please refer Reply at Sr No-438
446	45	VII	7.13	21	Controllers Max No of backend ports supported on the System 32	With the evolution of 8 Gbps throughput ports, better cache handling algorithms, and with enhanced processors, more I/O traffic can be handled at storage array level. This has been observe red under various workloads conditions that Increase in front ports or backend ports beyond a certain numbers might not even enhance the overall performance. Basis this we would request UIDAI to kindly reduce the max no of backend ports to 16 numbers to have better TCO and ROI factors.	Please refer Reply at Sr No-438
447	45	VII	7.13	21	Controllers Max No of front-end ports supported on the System 32	With the evolution of 8 Gbps throughput ports, better cache handling algorithms, and with enhanced processors, more I/O traffic can be handled at storage array level. This has been observe red under various workloads conditions that Increase in front ports or backend ports beyond a certain numbers might not even enhance the overall performance. Basis this we would request UIDAI to kindly reduce the max no of front-end ports to 16 to have better TCO and ROI factors.	Please refer Reply at Sr No-438

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
448	45	VII	7.13	21	Controllers Max No of backend ports supported on the System 32	With the evolution of 8 Gbps throughput ports, better cache handling algorithms, and with enhanced proceesors, more I/O traffic can be handled at storage array level. This has been observered under various workloads conditions that Increase in front ports or backend ports beyond a certain numbers might not even enhance the overall performance. Basis this we would request UIDAI to kindly reduce the max no of backend ports to 16 numbers to have better TCO and ROI factors.	Please refer Reply at Sr No-438
449	45	VII	7.13	21	Controllers Max No of front-end ports supported on the System 32	With the evolution of 8 Gbps throughput ports, better cache handling algorithms, and with enhanced proceesors, more I/O traffic can be handled at storage array level. This has been observered under various workloads conditions that Increase in front ports or backend ports beyond a certain numbers might not even enhance the overall performance. Basis this we would request UIDAI to kindly reduce the max no of front-end ports to 16 to have better TCO and ROI factors.	Please refer Reply at Sr No-438
450	46	VII	7.13	22	Bandwidth of FC-AL loop, Minimum Requirement: 4Gbps	It is requested to change the minimum requirement of FC-AL loop from 4 Gbps to 2 Gbps	Please refer to revised Annexure 7.13 under revised Section VII of the bid document released alongwith the response to prebid queries.
451	46	VII	7.13	22	Bandwidth of FC-AL loop, Minimum Requirement: 4Gbps	It is requested to change the minimum requirement of FC-AL loop from 4 Gbps to 2 Gbps. Being monolithic architecture, every storage system has its own design to meet required performance and make the specifications open for all high end disk vendors .	Please refer Reply at Sr No-450
452	46	VII	7.13	23	Max data cache supported on system Minimum Requirement :512GB	A prospective bidder has raised an issue that the Highest amount of cache provided by its storage system is 384 GB. It has requested to change the max data cache supported on system to 384 GB.	The proposed data cache requirement stands revised to 128GB and expandable to minimum 256GB
453	46	VII	7.13	23	Max data cache supported on system Minimum Requirement :512GB	We would request to change minimum requirement to 384GB to make it vendor neutral.	Please refer Reply at Sr No-452
454	48	VII	7.13	32	Protocol Support FC: Yes FCIP FCOE: Yes iSCSI: Yes FC Host ports: 8 10GE ports:2	Please specify requirement of 10 GE ports on storage system	Please refer to reply at Sr No. 415

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
455	48	VII	7.13	32	Protocol Support FC: Yes FCIP FCOE: Yes iSCSI: Yes FC Host ports: 8 10GE ports:2	The storage interface minimum requirement should be FC to make it vendor neutral. The remaining protocol requirement should be made as optional.	Please refer to reply at Sr No. 415
456	45	VII	7.13	21	Controllers Max No of backend ports supported on the System 32	With the evolution of 8 Gbps throughput ports, better cache handling algorithms, and with enhanced proceesors, more I/O traffic can be handled at storage array level. This has been observered under various workloads conditions that Increase in front ports or backend ports beyond a certain numbers might not even enhance the overall performance. Basis this we would request UIDAI to kindly reduce the max no of backend ports to 16 numbers to have better TCO and ROI factors.	Please refer Reply at Sr No-438
457	45	VII	7.13	21	Controllers Max No of front-end ports supported on the System 32	With the evolution of 8 Gbps throughput ports, better cache handling algorithms, and with enhanced proceesors, more I/O traffic can be handled at storage array level. This has been observered under various workloads conditions that Increase in front ports or backend ports beyond a certain numbers might not even enhance the overall performance. Basis this we would request UIDAI to kindly reduce the max no of front-end ports to 16 to have better TCO and ROI factors.	Please refer Reply at Sr No-438
458	44	VII	7.13	18	Overall usable capacity of storage array with full expansion 300 TB with SSD support	Would request UIDAI to kindly clarify whether the 300TB capacity would need to be proposed with SSD drives or does this mean 300TB capacity with FC and support for SSD.	Please refer Reply at Sr No-369
459	45	VII	7.13		Controllers:Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliverhigh compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Accepted. CISC processor architecture is included.
460	45	VII	7.13	21	Controllers: Max no. of backend ports supported on the system : 32	As per the specifications, the backend ports to be proposed are 8. Considering 2x as the scalability in the ports which is the standard scalability creteria in terms of ports, the max no. of backend ports supported on the system should be 16	Please refer Reply at Sr No-438

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
461	45	VII	7.13		Controllers: No. of processors dedicated for backend processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments.Hence request you to delete this point.	Please refer to revised Annexure 7.13 under revised Section VII of the bid document released alongwith the response to prebid queries.
462	45	VII	7.13	21	Controllers: No. of processors dedicated for front end processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments. Hence request you to delete this point.	Please refer Reply at Sr No-461
463	45	VII	7.13		Controllers: Max no of FC Host ports supported on the system : 8	The max front end ports have already been defined in the above points of the specifications. Hence this is a repeat specification and request to delete the same.	The Technical specification "Max no of FC Host ports supported on the system " stands deleted in Annexure 7.11,7.12,7.13
464	46	VII	7.13		Controllers:Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Different storage vendors have different methods and techniques to implement RAID. High peformance and Data protection can be achieved by implementing RAID. RAID 4 is similar to RAID 5 as it provides protection against single disk failure through single parity mechanism. High performance RAID 6 (also called as RAID-DP) provides equivalent performance as in RAID 10 with less spindles and provides protection against any 2 simultaneous disk failures, unlike RAID 10 which only provides protection against 2 disk failures which are not part of the same mirror. Hence request to allow better RAID technologies to qualify and participate	RAID level 5 and 1+0 are a mandatory requirement, which has to be supported . Therefore, under the column "Specification Offered" , apart from indication of RAID level 5 and 1+0 , the bidder may also indicate other RAID levels supported.
465	46	VII	7.13		Controllers:Cache	The specifications mentioned for the cache are very much specific to one vendor. Different vendors have different methods of configuring cache in the storage with different protection mechanisms. Request to make the specifications more generic and open for other storage vendors to participate. The storage should be configured with 32GB of usable and protected cache across the controllers.	Please refer to Revised Annexure 7.11,7.12,7.13 under revised Section VII fo the bid document

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
466	46	VII	7.13	21	Throughput of each FC port - 8Gbps	Throughput of each FC ports - 4/8Gbps.1. Our Storage Architecture doesn't need 8Gbps Front-end ports due to true active-active ports in nature where a single logical unit can be serviced by Multiple ports. 2. Since back-end speed being demanded is 4Gbps hence there is also practical no advantage of 8Gbps on the front-end side. 3. Considering the above, Would suggest the same to be changed to 4/8Gbps speed.	The minimum requirement for 'Throughput of each FC Port' stands modified to 4 Gbps.
467	46	VII	7.13	23	Maximum Data Cache - 120GB	Overall cache scalability is too high. 48GB cache shall be sufficient enough. Would also request to change the word Data Cache to "Cache" since every vendor interpret the cache in different ways.	Not Accepted
468	48	VII	7.13	32	FC-IP, FCOE, ISCSI, 10Gbe ports	Protocal support with the help of required engines.Most of the high-end storage supports FC-IP, FCOE and ISCSI with the help of external engines which are tightly integrated with storage subsystem. Considering the same, request the clause to be modified	Please refer to reply at Sr No. 415
469	44	VII	7.13	21	Disk Sub System: Disk Spindle Type : FC	As per the current standards and the future roadmaps, SAS has evolved as a much better technology than FC. Currently with 3Gbps and 6Gbps throughput, SAS has roadmap to go to 12Gbps in the near future. FC on the other hand is on 4Gbps and has no roadmap. The Disk OEMs are also considering SAS as the future technology disk and has no plans for FC in the future. Hence foreseeing the future trend and the technology adoption, the configuration should be done using SAS disks.	Please refer Reply at Sr No-435
470	45	VII	7.13		Controllers:Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliverhigh compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Please refer Reply at Sr No-459
471	45	VII	7.13	21	Controllers: Max no. of backend ports supported on the system : 32	As per the specifications, the backend ports to be proposed are 8. Considering 2x as the scalability in the ports which is the standard scalability creteria in terms of ports, the max no. of backend ports supported on the system should be 16	Please refer Reply at Sr No-438
472	45	VII	7.13	21	Controllers: Max no. of front end ports supported on the system : 32	As per the specifications, the front end ports to be proposed are 8. Considering 2x as the scalability in the ports which is the standard scalability creteria in terms of ports, the max no. of front end ports supported on the system should be 16	Please refer Reply at Sr No-438

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
473	45	VII	7.13	21	Controllers: No. of processors dedicated for backend processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments.Hence request you to delete this point.	Please refer Reply at Sr No-461
474	45	VII	7.13	21	Controllers: No. of processors dedicated for front end processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments. Hence request you to delete this point.	Please refer Reply at Sr No-461
475	45	VII	7.13	21	Controllers: Max no of FC Host ports supported on the system : 8	The max front end ports have already been defined in the above points of the specifications. Hence this is a repeat specification and request to delete the same.	Please refer Reply at Sr No-463
476	46	VII	7.13	21	Controllers:Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Different storage vendors have different methods and techniques to implement RAID. High peformance and Data protection can be achieved by implementing RAID. RAID 4 is similar to RAID 5 as it provides protection against single disk failure through single parity mechanism. High performance RAID 6 (also called as RAID-DP) provides equivalent performance as in RAID 10 with less spindles and provides protection against any 2 simultaneous disk failures, unlike RAID 10 which only provides protection against 2 disk failures which are not part of the same mirror. Hence request to allow better RAID technologies to qualify and participate	Please refer Reply at Sr No-464
477	46	VII	7.13		Controllers:Cache	The specifications mentioned for the cache are very much specific to one vendor. Different vendors have different methods of configuring cache in the storage with different protection mechanisms. Request to make the specifications more generic and open for other storage vendors to participate. The storage should be configured with 32GB of usable and protected cache across the controllers.	Please refer Reply at Sr No-465
478	44	VII	7.13	21	Disk Sub System: Disk Spindle Type : FC	As per the current standards and the future roadmaps, SAS has evolved as a much better technology than FC. Currently with 3Gbps and 6Gbps throughput, SAS has roadmap to go to 12Gbps in the near future. FC on the other hand is on 4Gbps and has no roadmap. The Disk OEMs are also considering SAS as the future technology disk and has no plans for FC in the future. Hence foreseeing the future trend and the technology adoption, the configuration should be done using SAS disks.	Please refer Reply at Sr No-435

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
479	45	VII	7.13		Controllers: Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliver high compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Please refer Reply at Sr No-459
480	45	VII	7.13	21	Controllers: Max no. of backend ports supported on the system : 32	As per the specifications, the backend ports to be proposed are 8. Considering 2x as the scalability in the ports which is the standard scalability criteria in terms of ports, the max no. of backend ports supported on the system should be 16	Please refer Reply at Sr No-438
481	45	VII	7.13	21	Controllers: Max no. of front end ports supported on the system : 32	As per the specifications, the front end ports to be proposed are 8. Considering 2x as the scalability in the ports which is the standard scalability criteria in terms of ports, the max no. of front end ports supported on the system should be 16	Please refer Reply at Sr No-438
482	45	VII	7.13	21	Controllers: No. of processors dedicated for backend processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments. Hence request you to delete this point.	Please refer Reply at Sr No-461
483	45	VII	7.13	21	Controllers: No. of processors dedicated for front end processing	In the modular architecture, most of the storage vendors use PCIe technology where the ports (front end or backend) and added through PCIe adapters. The adapters have ASICs available which controls the processing of the ports. Dedicated processors for front end and backend ports is a monolithic architecture and is generally used in mainframe environments. Hence request you to delete this point.	Please refer Reply at Sr No-461
484	45	VII	7.13	21	Controllers: Max no of FC Host ports supported on the system : 8	The max front end ports have already been defined in the above points of the specifications. Hence this is a repeat specification and request to delete the same.	Please refer Reply at Sr No-463
485	46	VII	7.13	21	Controllers: Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Include other double parity RAID schemes such as RAID-DP in addition to RAID-6	Please refer Reply at Sr No-464

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
486	46	VII	7.13		Controllers: Cache	The specifications mentioned for the cache are very much specific to one vendor. Different vendors have different methods of configuring cache in the storage with different protection mechanisms. Request to make the specifications more generic and open for other storage vendors to participate. The storage should be configured with 32GB of usable and protected cache across the controllers.	Please refer to Revised Annexure 7.11,7.12,7.13 under revised Section VII fo the bid document
487	50	VII	7.14	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	The minimum requirement stands deleted
488	50	VII	7.14	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-487
489	50	VII	7.14	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-487
490	50	VII	7.14	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-487
491	50	VII	7.14	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-487
492	50	VII	7.14	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-487
493	50	VII	7.14	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-487

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
494	48	VII	7.13	22	No. of FC Loops proposed	Storage Subsystem back end Architecture has been innovated and gone beyond FC_AL loops to SAS Architecture, Recommendation is to include No. of SAS links in addition to FC_AL loops.	Please refer to revised Annexure 7.13 under revised Section VII of the bid document released alongwith the response to prebid queries.
495	50	VII	7.14	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-487
496	50	VII	7.14	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-487
497	50	VII	7.14	20	IP Over Fiber channel	Shall be removed or through separate IP over Fiber channel module.This clause is vendor restrictive to one SAN switch vendor only. Since 48 port switch is a entry level switch and every bidder will need to provide the Replication solution as per their solution needs, hence requested to relax this clause	Please refer Reply at Sr No-487
498	53	VII	7.15	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	The minimum requirement stands deleted
499	53	VII	7.15	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-498
500	53	VII	7.15	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-498
501	53	VII	7.15	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-498
502	53	VII	7.15	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-498

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503	53	VII	7.15	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-498
504	53	VII	7.15	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-498
505	53	VII	7.15	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-498
506	53	VII	7.15	20	Protocols Supported - IP over Fiber Channel	In DC Core SAN switch FCIP Module has already been asked and replication would happen from Core SAN Switch. Therefore IP over Fiber Channel protocol support should be removed from BSP SAN Switch	Please refer Reply at Sr No-498
507	53	VII	7.15	20	IP Over Fiber channel	Shall be removed or through separate IP over Fiber channel module.This clause is vendor restrictive to one SAN switch vendor only. Since 48 port switch is a entry level switch and every bidder will need to provide the Replication solution as per their solution needs, hence requested to relax this clause	Please refer Reply at Sr No-498
508	56	VII	7.16	14	Architecture - Chassis based Director class Fiber Channel Switch with sufficient modules/line cards to fit required FC ports. Chassis shall have at least 8 payloads and scalable more than 400 ports. The director class switch should support Logical partioning. Investment Protection by live migration to IO consolidation. Switch based data replication	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules.”	The minimum requirement against parameter no. 21 stands revised to "450 ports with minimum of 48 ports on each module"

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509	56	VII	7.16	14	Architecture - Chassis based Director class Fiber Channel Switch with sufficient modules/line cards to fit required FC ports. Chassis shall have at least 8 payloads and scalable more than 400 ports. The director class switch should support Logical partioning. Investment Protection by live migration to IO consolidation. Switch based data replication		No clarification sought
510	56	VII	7.16	14	Architecture - Chassis based Director class Fiber Channel Switch with sufficient modules/line cards to fit required FC ports. Chassis shall have at least 8 payloads and scalable more than 400 ports. The director class switch should support Logical partioning. Investment Protection by live migration to IO consolidation. Switch based data replication	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508
511	56	VII	7.16	14	Architecture - Chassis based Director class Fiber Channel Switch with sufficient modules/line cards to fit required FC ports. Chassis shall have at least 8 payloads and scalable more than 400 ports. The director class switch should support Logical partioning. Investment Protection by live migration to IO consolidation. Switch based data replication	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508

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512	56	VII	7.16	14	Architecture - Chassis based Director class Fiber Channel Switch with sufficient modules/line cards to fit required FC ports. Chassis shall have at least 8 payloads and scalable more than 400 ports. The director class switch should support Logical partioning. Investment Protection by live migration to IO consolidation. Switch based data replication		No clarification sought
513	56	VII	7.16	14	Architecture - Chassis based Director class Fiber Channel Switch with sufficient modules/line cards to fit required FC ports. Chassis shall have at least 8 payloads and scalable more than 400 ports. The director class switch should support Logical partioning. Investment Protection by live migration to IO consolidation. Switch based data replication	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508
514	56	VII	7.16	14	Architecture - Chassis based Director class Fiber Channel Switch with sufficient modules/line cards to fit required FC ports. Chassis shall have at least 8 payloads and scalable more than 400 ports. The director class switch should support Logical partion	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standa	Please refer Reply at Sr No-508

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
515	56	VII	7.16	14	Architecture - Chassis based Director class Fiber Channel Switch with sufficient modules/line cards to fit required FC ports. Chassis shall have at least 8 payloads and scalable more than 400 ports. The director class switch should support Logical partioning. Investment Protection by live migration to IO consolidation. Switch based data replication	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508
516	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs	1. HBAs are the cards which are inserted in the Servers therefore kindly change "HBAs" to "Ports"	Autosensing ports are required which should be compatible with HBAs of the offered Blade and Rack servers. 8 Gbps (1/2/4/8 Autosensing) ports and support for 10 Gbps ports for uplinking . In case separate accesories for 10 Gbps ports are required . The same should be built in.
517	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs - 8 Gbps and 10 Gbps Autosensing	2. As per industry standards autosensing is supported for 1/2/4/8 Gbps. There is separate and dedicated modules available for 10 Gbps ports as the same are normally used for inter switch linking between two SAN switches. Therefore , kindly remove "10Gbps" from "autosensing" requirement and the same can be asked as an separate module	Please refer to reply at Sr.No. 516
518	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs	1. HBAs are the cards which are inserted in the Servers therefore kindly change "HBAs" to "Ports"	Please refer Reply at Sr No-516
519	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs - 8 Gbps and 10 Gbps Autosensing	2. As per industry standards autosensing is supported for 1/2/4/8 Gbps. There is separate and dedicated modules available for 10 Gbps ports as the same are normally used for inter switch linking between two SAN switches. Therefore , kindly remove "10Gbps" from "autosensing" requirement and the same can be asked as an separate module	Please refer Reply at Sr No-516

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520	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs	1. HBAs are the cards which are inserted in the Servers therefore kindly change "HBAs" to "Ports"	Please refer Reply at Sr No-516
521	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs - 8 Gbps and 10 Gbps Autosensing	2. As per industry standards autosensing is supported for 1/2/4/8 Gbps. There is separate and dedicated modules available for 10 Gbps ports as the same are normally used for inter switch linking between two SAN switches. Therefore , kindly remove "10Gbps" from "autosensing" requirement and the same can be asked as an separate module	Please refer Reply at Sr No-516
522	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs	1. HBAs are the cards which are inserted in the Servers therefore kindly change "HBAs" to "Ports"	Please refer Reply at Sr No-516
523	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs - 8 Gbps and 10 Gbps Autosensing	2. As per industry standards autosensing is supported for 1/2/4/8 Gbps. There is separate and dedicated modules available for 10 Gbps ports as the same are normally used for inter switch linking between two SAN switches. Therefore , kindly remove "10Gbps" from "autosensing" requirement and the same can be asked as an separate module	Please refer Reply at Sr No-516
524	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs	1. HBAs are the cards which are inserted in the Servers therefore kindly change "HBAs" to "Ports"	Please refer Reply at Sr No-516
525	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs - 8 Gbps and 10 Gbps Autosensing	2. As per industry standards autosensing is supported for 1/2/4/8 Gbps. There is separate and dedicated modules available for 10 Gbps ports as the same are normally used for inter switch linking between two SAN switches. Therefore , kindly remove "10Gbps	Please refer Reply at Sr No-516
526	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs	1. HBAs are the cards which are inserted in the Servers therefore kindly change "HBAs" to "Ports"	Please refer Reply at Sr No-516
527	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs - 8 Gbps and 10 Gbps Autosensing	2. As per industry standards autosensing is supported for 1/2/4/8 Gbps. There is separate and dedicated modules available for 10 Gbps ports as the same are normally used for inter switch linking between two SAN switches. Therefore , kindly remove "10Gbps" from "autosensing" requirement and the same can be asked as an separate module	Please refer Reply at Sr No-516

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
528	57	VII	7.16	21	Total No of Ports proposed in the switch - 256 Ports with support for 512 ports with minimum of 64 ports on each module	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508
529	57	VII	7.16	21	Total No of Ports proposed in the switch - 256 Ports with support for 512 ports with minimum of 64 ports on each module	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508
530	57	VII	7.16	21	Total No of Ports proposed in the switch - 256 Ports with support for 512 ports with minimum of 64 ports on each module	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508
531	57	VII	7.16	21	Total No of Ports proposed in the switch - 256 Ports with support for 512 ports with minimum of 64 ports on each module	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508
532	57	VII	7.16	21	Total No of Ports proposed in the switch - 256 Ports with support for 512 ports with minimum of 64 ports on each module	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508
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535	57	VII	7.16	22	FCIP Module - No of Ports per module - 64 Ports	FCIP ports are different from native 1/2/4/8 Gbps FC Ports. As per Industry standard FCIP ports on a module do not come in density of 64 . Therefore would request for reducing the number of FCIP ports per module from 64 to 16 so that same can be supported by the vendors.	The minimum number of FCIP ports per module stands changed to 8.
536	57	VII	7.16	22	FCIP Module - No of Ports per module - 64 Ports	FCIP ports are different from native 1/2/4/8 Gbps FC Ports. As per Industry standard FCIP ports on a module do not come in density of 64 . Therefore would request for reducing the number of FCIP ports per module from 64 to 16 so that same can be supported by the vendors.	Please refer Reply at Sr No-535
537	57	VII	7.16	22	FCIP Module - No of Ports per module - 64 Ports	FCIP ports are different from native 1/2/4/8 Gbps FC Ports. As per Industry standard FCIP ports on a module do not come in density of 64 . Therefore would request for reducing the number of FCIP ports per module from 64 to 16 so that same can be supported by the vendors.	Please refer Reply at Sr No-535
538	57	VII	7.16	22	FCIP Module - No of Ports per module - 64 Ports	FCIP ports are different from native 1/2/4/8 Gbps FC Ports. As per Industry standard FCIP ports on a module do not come in density of 64 . Therefore would request for reducing the number of FCIP ports per module from 64 to 16 so that same can be supported by the vendors.	Please refer Reply at Sr No-535
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540	57	VII	7.16	22	FCIP Module - No of Ports per module - 64 Ports	FCIP ports are different from native 1/2/4/8 Gbps FC Ports. As per Industry standard FCIP ports on a module do not come in density of 64 . Therefore would request for reducing the number of FCIP ports per module from 64 to 16 so that same can be supported by the vendors.	Please refer Reply at Sr No-535
541	57	VII	7.16	22	FCIP Module - No of Ports per module - 64 Ports	FCIP ports are different from native 1/2/4/8 Gbps FC Ports. As per Industry standard FCIP ports on a module do not come in density of 64 . Therefore would request for reducing the number of FCIP ports per module from 64 to 16 so that same can be supported	Please refer Reply at Sr No-535

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543	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs	1. HBAs are the cards which are inserted in the Servers therefore kindly change "HBAs" to "Ports"	Please refer Reply at Sr No-516
544	57	VII	7.16	20	Support for 1/2/4/8 Gbps and 10 Gbps HBAs - 8 Gbps and 10 Gbps Autosensing	2. As per industry standards autosensing is supported for 1/2/4/8 Gbps. There is separate and dedicated modules available for 10 Gbps ports as the same are normally used for inter switch linking between two SAN switches. Therefore , kindly remove "10Gbps" from "autosensing" requirement and the same can be asked as an separate module	Please refer Reply at Sr No-516
545	57	VII	7.16	20	Total No of Ports proposed in the switch - 256 Ports with support for 512 ports with minimum of 64 ports on each module	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508
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Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
549	57	VII	7.16	21	Total No of Ports proposed in the switch - 256 Ports with support for 512 ports with minimum of 64 ports on each module	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508
550	56	VII	7.16	14	Architecture - Chassis based Director class Fiber Channel Switch with sufficient modules/line cards to fit required FC ports. Chassis shall have at least 8 payloads and scalable more than 400 ports. The director class switch should support Logical partioning. Investment Protection by live migration to IO consolidation. Switch based data replication	For the DC core switch - Instead of 64 port modules the same to be changed to 48 port modules. The scalability of 512 ports will still be met with the 48 port modules. The 64 port modules are non industry standard and do not use the standard SFP or standard LC cables. The SFPs from the 64 port modules cannot be used in other modules from the same OEM. They also need specific non standard cabling. Hence the scalability if the switch of 512 ports should be met with 48 port industry standard SFP based Modules."	Please refer Reply at Sr No-508
551	57	VII	7.16	22	FCIP Module - No of Ports per module - 64 Ports	FCIP ports are different from native 1/2/4/8 Gbps FC Ports. As per Industry standard FCIP ports on a module do not come in density of 64 . Therefore would request for reducing the number of FCIP ports per module from 64 to 16 so that same can be supported by the vendors.	Please refer Reply at Sr No-535
552	61	VII	7.17	19	Disk subsystem: Capacity of each disk drive - 600 GB, Disk speed - 15000 rpm	We offer 1TB/2 TB SAS disks with 7200 RPM for capacity and SSDs (used as high performing read/write cache) for better throughput. This will give better performance as compared to 15000 RPM SAS disks. Request you to kindly consider.	Not Accepted
553	61	VII	7.17	19	Disk subsystem: Capacity of each disk drive - 600 GB, Disk speed - 15000 rpm	We offer 1TB/2 TB SAS disks with 7200 RPM for capacity and SSDs (used as high performing read/write cache) for better throughput. This will give better performance as compared to 15000 RPM SAS disks. Request you to kindly consider.	Please refer Reply at Sr No-552
554	62	VII	7.17	21	Controllers: Hardware based storage RAID controller - YES	We can offer only software based RAID capability. The software based RAID provides Striping, mirroring, triple-mirroring single-parity RAID, double-parity RAID, triple-parity RAID. This will give equivalent and better performance as compared to hardware based RAID controller. Request you to kindly consider.	Not Accepted
555	62	VII	7.17	21	Controllers: Hardware based storage RAID controller - YES	We can offer only software based RAID capability. The software based RAID provides Striping, mirroring, triple-mirroring single-parity RAID, double-parity RAID, triple-parity RAID. This will give equivalent and better performance as compared to hardware based RAID controller. Request you to kindly consider.	Please refer Reply at Sr No-554

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
556	61	VII	7.17		Controllers: Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliverhigh compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Accepted. CISC processor architecture is included.
557	61	VII	7.17		Controllers: Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Different storage vendors have different methods and techniques to implement RAID. High peformance and Data protection can be achieved by implementing RAID. RAID 4 is similar to RAID 5 as it provides protection against single disk failure through single parity mechanism. High performance RAID 6 (also called as RAID-DP) provides equivalent performance as in RAID 10 with less spindles and provides protection against any 2 simultaneous disk failures, unlike RAID 10 which only provides protection against 2 disk failures which are not part of the same mirror. Hence request to allow better RAID technologies to qualify and participate	RAID level 5 is now a mandatory requirement, which has to be supported . Therefore, under the column "Specification Offered" , apart from indication of RAID level 5 , the bidder may also indicate other RAID levels supported.
558	61	VII	7.17		Controllers: Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliverhigh compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Please refer Reply at Sr No-556
559	61	VII	7.17	21	Controllers: Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Different storage vendors have different methods and techniques to implement RAID. High peformance and Data protection can be achieved by implementing RAID. RAID 4 is similar to RAID 5 as it provides protection against single disk failure through single parity mechanism. High performance RAID 6 (also called as RAID-DP) provides equivalent performance as in RAID 10 with less spindles and provides protection against any 2 simultaneous disk failures, unlike RAID 10 which only provides protection against 2 disk failures which are not part of the same mirror. Hence request to allow better RAID technologies to qualify and participate	Please refer Reply at Sr No-557
560	61	VII	7.17		Controllers: Type of Processor : RISC/MIPS	In the storage architecture, the performance is driven by the data cache and the number of disks. The Processors only provide the compute power to the controllers which is not the major role of storage. Since computing is done at the server level, the processor type becomes important in the server. Moreover, CISC processors like Intel/AMD has the capability to deliver high compute power required in the storage architecture. Hence request to allow vendors with CISC processor architecture to qualify.	Please refer Reply at Sr No-556

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
561	61	VII	7.17	21	Controllers: Type of RAID Protection Supported : 0, 1, 5, 1+0, 6+1	Include other double parity schemes similar to RAID-6 such as RAID-DP	Please refer Reply at Sr No-557
562	64	VII	7.18	13	No of drives supported in a single frame without cascading	Specifications mentioned for scalability is vendor specific. It is requested to ask for overall scalability to 18 drives.	Minimum requirement of "No. of drives proposed" stands increased to 36 and "No. of drives supported in a single frame without cascading" stands revised to 12. Also parameter "Max. no. of frame supported in proposed Tape Library" stands revised to "Frames supported in proposed Tape Library" with minimum specification of 3 frames.
563	64	VII	7.18	13	No of frames proposed with scalability of frames, Minimum requirement: 1	Specifications mentioned are vendor specific. It is requested to change the specification to make it open.	Please refer Reply at Sr No-562
564	64	VII	7.18	13	Tape Library Frame: No. drives supported in a single frame without cascading - 18, No. of frames proposed with scalability of frames - 1, Max. no. of frame supported in proposed Tape Library - Should be scalable upwards of 4 frames	Requirement is not clear. Kindly clarify the requirement for maximum number of tape drives supported within a single Tape Library.	Please refer Reply at Sr No-562
565	64	VII	7.18	13	Tape Library Frame: No. drives supported in a single frame without cascading - 18, No. of frames proposed with scalability of frames - 1, Max. no. of frame supported in proposed Tape Library - Should be scalable upwards of 4 frames	Requirement is not clear. Kindly clarify the requirement for maximum number of tape drives supported within a single Tape Library.	Please refer Reply at Sr No-562

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
566	65	VII	7.18		13 Tape library frame-No of media slots proposed-700	Pls reduce it to 400 slots so that we are able to participate with our library.	Please refer to revised Annexure 7.18 under revised section VII of the bid document.
567	65	VII	7.18	13	13 Tape library frame-No of media slots proposed-700	Pls reduce it to 400 slots so that we are able to participate with our library.	Please refer Reply at Sr No-566
568	65	VII	7.18	13	13 Tape library frame-No of media slots proposed-700	Pls reduce it to 400 slots so that we are able to participate with our library.	Please refer Reply at Sr No-566
569	64	VII	7.18		Sustained data transfer rate (without compression) - 120	Please change this to 140	Please refer to revised Annexure 7.18 under revised Section VII of the bid document released alongwith the response to prebid queries.
570	64	VII	7.18	12	Sustained data transfer rate (with compression) - 240	Please change this to 280	Please refer Reply at Sr No-569
571	64	VII	7.18	13	Tape library frame	Please mention - Tape library frame / module	Please refer Reply at Sr No-562
572	64	VII	7.18	13	No. of drives supported in a single frame without cascading - 18	Please change this to 12	Please refer Reply at Sr No-562
573	64	VII	7.18	13	No. of frames proposed with scalability of frames - 1	Please clarify / provide more information	Please refer Reply at Sr No-562
574	64	VII	7.18	13	Maximum No. of frames supported in proposed tape library - should be scalable upwards of 4 frames	Please clarify / provide more information	Please refer Reply at Sr No-562
575	65	VII	7.18	13	Dual Active-Active Robotic Arm	Please change this to Single / Dual Active-Active Arm	Not Accepted
576	65	VII	7.18		Support for Multiple hosts running OS including AIX, HP-UX, Linux, Solaris, Windows	Please change this to - Shall support all industry standard Back up software	Parameter stands modified to "Support for Multiple hosts running OS including AIX, HP-UX, Linux, Solaris, Windows and all industry leading Back up software"
577	64	VII	7.18	12	Sustained data transfer rate (without compression)	140 is the default throughput speed that comes with LTO 5. Hence change required.	Please refer Reply at Sr No-569

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
578	64	VII	7.18	12	Sustained data transfer rate (with compression)	280 is the default throughput speed that comes with LTO 5. Hence change required.	Please refer Reply at Sr No-569
579	64	VII	7.18	13	No. of drives supported in s single frame without cascading	Change to "12". No of drives in a single frame makes the specification very specific so would request the same to be modified. Would appreciate if we only mention scalability.	Please refer Reply at Sr No-562
580	65	VII	7.18		Support for Multiple hosts running OS including AIX, HP-UX, Linux, Solaris, Windows	Change to "Shall support all industry standard Back up software". Tape library is interfacing with back up software and not with OS. Hence modification requested	Please refer Reply at Sr No-576
581	64	VII	7.18	13	No. of frames proposed with scalability of frames	Please clarify / provide more information	Please refer Reply at Sr No-562
582	64	VII	7.18	13	Maximum No. of frames supported in proposed tape library	Please clarify / provide more information	Please refer Reply at Sr No-562
583	65	VII	7.18	13	Tape library frame-No of media slots proposed-700	Pls reduce it to 400 slots .This will allow all major vendors to qualify giving a commercially competitive bid.	Please refer Reply at Sr No-566
584	65	VII	7.18		Dual Active-Active Robotic Arm	Request change spec to Single / Dual Active-Active Arm. Since a lot of vendour in the desired library support single Robotic arm.	Please refer Reply at Sr No-575
585	64	VII	7.18		No. of drives proposed	The word frame is proprietary and different OEMs have different terminology. Hence Please change to frame / module.	Please refer to revised Annexure 7.18 under revised Section VII of the bid document released alongwith the response to prebid queries.
586	64	VII	7.18		Type of tape drive proposed		No clarification sought
587	64	VII	7.18		Type of tape drive interface		No clarification sought

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
588	67	VII	7.19	13	Router support in service software upgrade and downgrade , should be performed without traffic loss	Router should support in service patch upgrade which shall be performed without traffic loss	Please refer to revised Annexure 7.19 under revised Section VII of the bid document released alongwith the response to prebid queries.
589	67	VII	7.19	13	Router support in service software upgrade and downgrade , should be performed without traffic loss	Router should support in service patch upgrade which shall be performed without traffic loss	Please refer Reply at Sr No-588
590	67	VII	7.19	13	Router support in service software upgrade and downgrade , should be performed without traffic loss	Inservice software upgrade is required in Service Provider network. Please reframe" The Router should support online software hotpatching technology."	Please refer Reply at Sr No-588
591	68	VII	7.19	14	Router should support graceful restart , modular operating system for high uptime	Router suppporting graceful restart of different routing protocols allows the particular routing process to be independently restarted without affecting other processes of the router hence effective functioning of the router. Kindly remove the modular operating system which is specific to certain OEMs.	Word " modular" stands replaced by "modular/network".
592	68	VII	7.19	14	Router should support graceful restart , modular operating system for high uptime	Router supporting graceful restart of different routing protocols allows the particular routing process to be independently restarted without affecting other processes of the router hence effective functioning of the router. Kindly remove the modular operating system which is specific to certain OEMs.	Please refer Reply at Sr No-591
593	68	VII	7.19	14	Router should support graceful restart , modular operating system for high uptime	This feature is required in Service Provider network. Router suppporting graceful restart of different routing protocols allows the particular routing process to be independently restarted without affecting other processes of the router hence effective functioning of the router. Kindly remove the modular operating system which is specific to certain OEMs.Please Remove this Point	Please refer Reply at Sr No-591
594	67	VII	7.19	15	at least 10 Gbps and upgradeable	throughput in defined in packet per second (pps) and it should be in the range of 15-20 Mpps	Minimum requirement stands modified to "At least 10 GBPS and upgradable to 40 GBPS without forklift upgrade"
595	67	VII	7.19	15	at least 10 Gbps and upgradeable	throughput in defined in packet per second (pps) and it should be in the range of 15-20 Mpps	Please refer Reply at Sr No-594
596	67	VII	7.19	15	at least 10 Gbps and upgradeable	Throughput is defined in packet per second (pps) and it should be in the range of 15-20 Mpps. This is industry Standard.	Please refer Reply at Sr No-594

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
597	68	VII	7.19	19	ATM UNI, AAL5 , IP over ATM encapsulation, IEEE 802.1Q VLAN,IGMPv2, IGMPv3 and IGMP snooping	Network would be deployed on IP technology and ATM shall not be used, so kindly remove the same.	Please refer to revised Annexure 7.19 under revised Section VII of the bid document released alongwith the response to prebid queries. The Bidder has to only indicate supported protocols under the column "specification offered".
598	68	VII	7.19	19	ATM UNI, AAL5 , IP over ATM encapsulation, IEEE 802.1Q VLAN,IGMPv2, IGMPv3 and IGMP snooping	Network would be deployed on IP technology and ATM shall not be used, so kindly remove the same.	Please refer Reply at Sr No-597
599	68	VII	7.19	19	ATM UNI, AAL5 , IP over ATM encapsulation, IEEE 802.1Q VLAN,IGMPv2, IGMPv3 and IGMP snooping	Network would be deployed on IP technology and ATM shall not be used, so kindly remove the same.	Please refer Reply at Sr No-597
600	68	VII	7.19	20	Integrated Control plane policing and min 4000 Ipsec tunnel, support MD5 authentication and control plane policing	Control plane policing is specific to OEMs, request to make it optional	Please refer to the revised Annexure 7.19 under revised Section VII for changes. The Bidder has to only indicate supported security features under the column "specification offered".
601	68	VII	7.19	20	Integrated Firewall support for protocols (HTTP, FTP,SIP, H323, Telnet, TFTP and SMTP) and Unicast RFP.	We understand that this is hardware based firewall module.	The Bidder should offer appropriate harware/software/firmware to meet this specification.
602	68	VII	7.19	20	Integrated Control plane policing and min 4000 Ipsec tunnel, support MD5 authentication and control plane policing	Control plane policing is specific to OEMs, request to make it optional	Please refer Reply at Sr No-600
603	68	VII	7.19	20	Integrated Firewall support for protocols (HTTP, FTP,SIP, H323, Telnet, TFTP and SMTP) and Unicast RFP.	We understand that this is hardware based firewall module.	Please refer Reply at Sr No-601

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
604	68	VII	7.19	20	Integrated Control plane policing and min 4000 Ipsec tunnel, support MD5 authentication and control plane policing	Control plane policing is specific to OEMs, request to make it optional	Please refer Reply at Sr No-600
605	68	VII	7.19	20	Integrated Firewall support for protocols (HTTP, FTP,SIP, H323, Telnet, TFTP and SMTP) and Unicast RFP.	We understand that this is hardware based firewall module.	Please refer Reply at Sr No-601
606	68	VII	7.19	20	Integrated Control plane policing and min 4000 Ipsec tunnel, support MD5 authentication and control plane policing	Control plane policing is specific to OEMs, request to make it optional	Please refer Reply at Sr No-600
607	69	VII	7.19	23	Integrated support Hierarchial QOS policy , cRTP for VOIP, RSVP for voice and video call admission. Router includes the congestion avoidance through WRED and selective packet discard using WRED through IP precedence and DSCP	cRTP is used for low speed interface where the bandwidth is less than 1Mbps , so this should be deleted from the specs. This network is primarily a data network , so request to make all the voice and video features optional.	Please refer to revised Annexure 7.19 under revised Section VII of the bid document released alongwith the response to prebid queries.
608	69	VII	7.19	23	Includes traffic policing, traffic shaping and mark traffic using IP precedence, DSCP and MPLS EXP. Router support at least 30000 hardware queues for deployment of per-user, per-application, per-port QOS.	The reference to 30K hardware queue is vendor specific so kindly remove the same.	Please refer to revised Annexure 7.19 under revised Section VII of the bid document released alongwith the response to prebid queries.
609	69	VII	7.19	23	Integrated support Hierarchial QOS policy , cRTP for VOIP, RSVP for voice and video call admission. Router includes the congestion avoidance through WRED and selective packet discard using WRED through IP precedence and DSCP	cRTP is used for low speed interface where the bandwidth is less than 1Mbps , so this should be deleted from the specs. This network is primarily a data network , so request to make all the voice and video features optional.	Please refer Reply at Sr No-607

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
610	69	VII	7.19	23	Includes traffic policing, traffic shaping and mark traffic using IP precedence, DSCP and MPLS EXP. Router support at least 30000 hardware queues for deployment of per-user, per-application, per-port QOS.	The reference to 30K hardware queue is vendor specific so kindly remove the same.	Please refer Reply at Sr No-608
611	69	VII	7.19	23	Integrated support Hierarchical QOS policy , cRTP for VOIP, RSVP for voice and video call admission. Router includes the congestion avoidance through WRED and selective packet discard using WRED through IP precedence and DSCP	cRTP is used for low speed interface where the bandwidth is less than 1Mbps , so this should be deleted from the specs. This network is primarily a data network , so request to make all the voice and video features optional.	Please refer Reply at Sr No-607
612	69	VII	7.19	23	Includes traffic policing, traffic shaping and mark traffic using IP precedence, DSCP and MPLS EXP. Router support at least 30000 hardware queues for deployment of per-user, per-application, per-port QOS.	The reference to 30K hardware queue is vendor specific so kindly remove the same.	Please refer Reply at Sr No-608
613	69	VII	7.19	23	Integrated support Hierarchial QOS policy , cRTP for VOIP, RSVP for voice and video call admission. Router includes the congestion avoidance through WRED and selective packet discard using WRED through IP precedence and DSCP	cRTP is used for low speed interface where the bandwidth is less than 1Mbps , so request to remove the same. This network is primarily a data network , so request to make all the voice and video features optional. Please remove the same or make it Optional.	Please refer Reply at Sr No-607

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
614	69	VII	7.19	23	Includes traffic policing, traffic shaping and mark traffic using IP precedence, DSCP and MPLS EXP. Router support at least 30000 hardware queues for deployment of per-user, per-application, per-port QOS.	Includes traffic policing, traffic shaping and mark traffic using IP precedence, DSCP and MPLS EXP. Router support at least 2000 hardware queues for deployment of per-user, per-application, per-port QOS. 30,000 hardware queues looks to be in very high range and OEM specific. Please reduce to 2K	Please refer Reply at Sr No-608
615	69	VII	7.19	26	Capability to monitor IP SLA in real time parameters like TCP/UDP delay, jitter , application response time, VOIP MOS Score, Packet Loss etc, Scripts for real time parameters and statistics and tools like ping and traceroute	This network is primarily a data network , so request to make all the voice and video features optional.	There is no minimum requirement specified for this parameter, which has to be supported . Therefore, under the column "Specification Offered" , the bidder is required to indicate indicate the supported features.
616	69	VII	7.19	26	Capability to monitor IP SLA in real time parameters like TCP/UDP delay, jitter , application response time, VOIP MOS Score, Packet Loss etc, Scripts for real time parameters and statistics and tools like ping and traceroute	This network is primarily a data network , so request to make all the voice and video features optional.	Please refer Reply at Sr No-615
617	69	VII	7.19	26	Capability to monitor IP SLA in real time parameters like TCP/UDP delay, jitter , application response time, VOIP MOS Score, Packet Loss etc, Scripts for real time parameters and statistics and tools like ping and trace route	This network is primarily a data network , so request to make all the voice and video features optional.	Please refer Reply at Sr No-607
618	69	VII	7.19	26	Capability to monitor IP SLA in real time parameters like TCP/UDP delay, jitter , application response time, VOIP MOS Score, Packet Loss etc, Scripts for real time parameters and statistics and tools like ping and traceroute	This network is primarily a data network , so request to make all the voice and video features optional. Please make the Voice Features Optional	Please refer Reply at Sr No-615

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
619	68	VII	7.19	15	At least 10 GBPS and upgradable	We need to mention the desired upgradable bandwidth hence we request this to be changed to "At least 10 GBPS and upgradable to 40 GBPS without forklift upgrade"	Please refer Reply at Sr No-594
620	68	VII	7.19	15	At least 10 GBPS and upgradable	We need to mention the desired upgradable bandwidth hence we request this to be changed to "At least 10 GBPS and upgradable to 40 GBPS without forklift upgrade"	Please refer Reply at Sr No-594
621	68	VII	7.19		Integrated firewall	A firewall or perimeter level defence is expected to have deep packet inspection hence we request this to be changed to "Should have integrated firewall with DPI"	Please refer to revised Annexure 7.19 under revised Section VII of the bid document released alongwith the response to prebid queries.
622	68	VII	7.19		Integraded firewall	A firewall or perimeter level defence is expected to have deep packet inspection hence we request this to be changed to "Should have integraded firewall with DPI"	Please refer Reply at Sr No-621
623	68	VII	7.19	15	At least 10 GBPS and upgradable	We need to mention the desired upgradable bandwidth hence we request this to be changed to "At least 10 GBPS and upgradable to 40 GBPS without forklift upgrade"	Please refer Reply at Sr No-594
624	68	VII	7.19		Integraded firewall	A firewall or perimeter level defence is expected to have deep packet inspection hence we request this to be changed to "Should have integraded firewall with DPI"	Please refer Reply at Sr No-621
625	68	VII	7.19	19	ATM UNI, AAL5 , IP over ATM encapsulation, IEEE 802.1Q VLAN,IGMPv2, IGMPv3 and IGMP snooping	Please Remove ATM,UNI,AAL5. Network would be deployed on IP technology and ATM shall not be used, so kindly remove the same.	Please refer Reply at Sr No-597
626	68	VII	7.19	15	At least 10 GBPS and upgradable	We need to mention the desired upgradable bandwidth hence we request this to be changed to "At least 10 GBPS and upgradable to 40 GBPS without forklift upgrade"	Please refer Reply at Sr No-594
627	68	VII	7.19		Integraded firewall	A firewall or perimeter level defence is expected to have deep packet inspection hence we request this to be changed to "Should have integraded firewall with DPI"	Please refer Reply at Sr No-621
628	68	VII	7.19	15	At least 10 GBPS and upgradable	We need to mention the desired upgradable bandwidth hence we request this to be changed to "At least 10 GBPS and upgradable to 40 GBPS without forklift upgrade"	Please refer Reply at Sr No-594
629	68	VII	7.19		Integraded firewall	A firewall or perimeter level defence is expected to have deep packet inspection hence we request this to be changed to "Should have integraded firewall with DPI"	Please refer Reply at Sr No-621

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
630	4	VII	7.2	2	" Accomodating 14 Blades in a chassis"	Please change this to minimum 8 Blades per Chassis which can allow other reputed bidders to quote for Servers	The words "14 servers" changed to " minimum 8 Full/Half height blade servers "
631	4	VII	7.2	2	" Accomodating 14 Blades in a chassis"	Please change this to minimum 8 Blades per Chassis which can allow other reputed bidders to quote for Servers	Please refer Reply at Sr No-630
632	4	VII	7.2	2	Blade Density: no. of blade servers (which fit into the enterprise class chassis) Full Blades - 2 processor blades capable of accommodating 14 servers in the chassis	It is mentioned that the requirement is for 14 nos of Full Height Blade servers within a single chassis. Our blade chassis supports only upto 10 full height blade servers withing a single chassis providing equivalent or better performance. Request you to open the clause to enable us to bid. However this will not affect the quantity of servers & chassis as per the required BOQ (mentioned on page 3 of Section V, Clause 3.1.1)	Please refer Reply at Sr No-630
633	4	VII	7.2	4	Redundancy: Backplane redundancy - YES	Backplance redundancy is required only in case of active backplane. Our architecture is fully modular with passive backplane providing highest level of availability and servicibility, and does not require active backplane redundancy. Request you to modify the clause to "Backplane redundancy (only in case of active backplane) - YES"	The specification "Backplane redundancy" stands modified to "Backplane redundancy/ dual backplane bus for high availability"
634	4	VII	7.2	2	Blade Density: no. of blade servers (which fit into the enterprise class chassis) Full Blades - 2 processor blades capable of accommodating 14 servers in the chassis	It is mentioned that the requirement is for 14 nos of Full Height Blade servers within a single chassis. Our blade chassis supports only upto 10 full height blade servers withing a single chassis providing equivalent or better performance. Request you to open the clause to enable us to bid. However this will not affect the quantity of servers & chassis as per the required BOQ (mentioned on page 3 of Section V, Clause 3.1.1)	Please refer Reply at Sr No-630
635	4	VII	7.2	2	Redundancy: Backplane redundancy - YES	Backplance redundancy is required only in case of active backplane. Our architecture is fully modular with passive backplane providing highest level of availability and servicibility, and does not require active backplane redundancy. Request you to modify the clause to "Backplane redundancy (only in case of active backplane) - YES"	Please refer Reply at Sr No-633
636	4	VII	7.2	5	Power and Cooling No of cooling Fans proposed	Every OEM has its own design of Blade Chassis as well as Power and Cooling. A prospective bidder has stated that they use Blowers instead of Fans which are much more reliable and provide efficient cooling for entire Blade center chassis than Fans. Requested to put Blower's as an option to Fans for Power and Cooling.	Words "Cooling Fans" maybe read as "Cooling Fans /Blowers"

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
637	4	VII	7.2	5	Power and Cooling Redundant cooling fans	Every OEM has its own design of Blade Chassis as well as Power and Cooling. A prospective bidder has stated that they use Blowers instead of Fans which are much more reliable and provide efficient cooling for entire Blade center chassis than Fans. Requested to put Blower's as an option to Fans for Power and Cooling.	Please refer Reply at Sr No-636
638	4	VII	7.2	6	All Points	Please allow bidders to quote for alternate options for better performance against all points mentioned under this clause . This will allow other vendors to quote for the Servers. The alternate option details are given below: • Dual Redundant (Active – Active), Hot-pluggable Fabric within the chassis each providing : o 10 Gigabit Ethernet external ports - the number of 10 Gbe uplink ports across the two fabric must be equal to the number of blades. i.e. the total number of uplink ports from the chassis must be equal to the number of Blades. o Minimum 8 x 10 Gigabit Ethernet internal ports – the number of 10 Gbe ports for blade connectivity in the fabric should match the number of blades. o The Fabric on the Chassis should support FCoE OR additional redundant SAN storage Fabric to be provided on the chassis – the total number of uplink ports across the two fabric should be equal to the number of blades. o Capability to fail over from one fabric to the other in the event of a failure o IEEE 802.1Q: VLAN tagging	Please refer to revised Annexure 7.2 under revised Section VII of the bid document released alongwith the response to prebid queries.
639	4	VII	7.2	6	All Points	Please allow bidders to quote for alternate options for better performance against all points mentioned under this clause . This will allow other vendors to quote for the Servers. The alternate option details are given below: • Dual Redundant (Active – Active), Hot-pluggable Fabric within the chassis each providing : o 10 Gigabit Ethernet external ports - the number of 10 Gbe uplink ports across the two fabric must be equal to the number of blades. i.e. the total number of uplink ports from the chassis must be equal to the number of Blades. o Minimum 8 x 10 Gigabit Ethernet internal ports – the number of 10 Gbe ports for blade connectivity in the fabric should match the number of blades. o The Fabric on the Chassis should support FCoE OR additional redundant SAN storage Fabric to be provided on the chassis – the total number of uplink ports across the two fabric should be equal to the number of blades. o Capability to fail over from one fabric to the other in the event of a failure o IEEE 802.1Q: VLAN tagging	Please refer Reply at Sr No-638

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
640	2	VII	7.2	8	2 Nos of Dual Port 8 Gbps Host Bus Adapters	Please allow bidders to quote for converged Network fabric based connectivity for each blade server as an alternate option against requirement for dedicated HBA and Ethernet. Converged Network fabric or FCOE is already industry standard (INCITS FC-BB-5). Bidders can quote for 1 Nos of 10 Gbps FCOE per Server to take care of LAn and SAN traffic simultaneously.	Please refer to revised Annexure 7.2 under revised Section VII of the bid document released alongwith the response to prebid queries.
641	5	VII	7.2	8	Others Proposed Number of Blade chassis (fully loaded) per 42U rack at 7KVA power consumption	For 7KVA we are talking of 14 Blade Servers with all the I/O Modules and other accessories, request you to please relax the Power consumption up to 9KVA per rack so that minimum of 2 Blade Center chassis can get accomodated which will in turn reduce the Rack foot print in the Data center.Typically fully loaded Blade Center chassis will take 4-5 KVA of Power	The average power consumption across racks should be 7 KVA. However, Blade density stands modified to minimum of 8 full/half height blade servers per chassis.
642	5	VII	7.2	8	Support Is the proposed product End of Life or will reach End of life within 24 months from the date of submission of bid or 12 months from the date of acceptance which ever is later		No clarification sought
643	71	VII	7.20	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Accepted. The load balancer has to be IPv6 supported.
644	71	VII	7.20	12	Network connectivity support 8 X 10/100/1 Gbps connectivity	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have link load balancers connected to the Firewall/Router on 10Gig interfaces to ensure that Link load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 4 X 10G Interfaces"	Accepted. The minimum requirement stands modified to read as "Network connectivity support 4 X 10/100/1000 BaseT and 10 X 10G Interfaces"
645	71	VII	7.20	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches/Router and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
646	71	VII	7.20	12	Network connectivity support 8 X 10/100/1 Gbps connectivity	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have link load balancers connected to the Firewall/Router on 10Gig interfaces to ensure that Link load balancer does not become bottleneck to application performance. Hence it is required that the appliance should also have 4 X 10G interfaces	Please refer Reply at Sr No-644

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
647	71	VII	7.20	12		Link load balancer deployed in datacenter should support load balancing of both inbound and outbound traffic. It is suggested that link load balancer should support this feature	Accepted. The offered Link load balancer should support load balancing of both inbound and outbound traffic.
648	71	VII	7.20	12		Link load balancer should select the most appropriate link to Direct the incoming and outgoing traffic based on Number of hops and end to end network latency. It is suggested that link load balancer should support this feature	Accepted. The offered Link load balancer should select the most appropriate link to Direct the incoming and outgoing traffic based on Number of hops and end to end network latency.
649	71	VII	7.20	12	Network connectivity support 8 X 10/100/1 Gbps connectivity	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have link load balancers connected to the Firewall/Router on 10Gig interfaces to ensure that Link load balancer does not become bottleneck to application performance. Hence it is required that the appliance should also have 4 X 10G interfaces	Please refer Reply at Sr No-644
650	71	VII	7.20	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches/Router and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
651	71	VII	7.20	12		OEM should validate all the performance parameters and features thru publicly available documents.	The context of clarification sought is not clear
652	71	VII	7.20	12		Link load balancer deployed in datacenter should support load balancing of both inbound and outbound traffic. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-647
653	71	VII	7.20	12		Link load balancer should select the most appropriate link to Direct the incoming and outgoing traffic based on Number of hops and end to end network latency. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-648
654	71	VII	7.20	12		Link load balancer is deployed at the perimeter of the network and is an appropriate point to deployment bandwidth management policies like rate shaping, prioritization etc. It is suggested that link load balancer should support this feature	Accepted. The offered Link load balancer should deploy bandwidth management policies like rate shaping, prioritization etc.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
655	71	VII	7.20	12	Network connectivity support 8 X 10/100/1 Gbps connectivity	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have link load balancers connected to the Firewall/Router on 10Gig interfaces to ensure that Link load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 2 X 10G Interfaces"	Please refer Reply at Sr No-644
656	71	VII	7.20	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
657	71	VII	7.20	12		Link load balancer deployed in datacenter should support load balancing of both inbound and outbound traffic. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-647
658	71	VII	7.20	12		Link load balancer should select the most appropriate link to Direct the incoming and outgoing traffic based on Number of hops and end to end network latency. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-648
659	71	VII	7.20	12		Link load balancer is deployed at the perimeter of the network and is an appropriate point to deployment bandwidth management policies like rate shaping, prioritization etc. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-654
660	71	VII	7.20	12	Network connectivity support 8 X 10/100/1 Gbps connectivity	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have link load balancers connected to the Firewall/Router on 10Gig interfaces to ensure that Link load balancer does not become bottleneck to application performance. Hence it is required that the appliance should also have 4 X 10G interfaces	Please refer Reply at Sr No-644
661	71	VII	7.20	12		Link load balancer should select the most appropriate link to Direct the incoming and outgoing traffic based on Number of hops and end to end network latency. It is suggested that link load balancer should support Network proximity for optimum link selection	Please refer Reply at Sr No-648
662	71	VII	7.20	12		Link load balancer is deployed at the perimeter of the network and is an appropriate point to deployment bandwidth management policies like rate shaping, prioritization etc. It is suggested that link load balancer should support bandwidth management features like Rate shaping and prioritization.	Please refer Reply at Sr No-654
663	71	VII	7.20	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches/Router and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
664	71	VII	7.20	12	Network connectivity support 8 X 10/100/1 Gbps connectivity	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have link load balancers connected to the Firewall/Router on 10Gig interfaces to ensure that Link load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 4 X 10G Interfaces"	Please refer Reply at Sr No-644

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
665	71	VII	7.20	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
666	71	VII	7.20	12		Link load balancer deployed in datacenter should support load balancing of both inbound and outbound traffic. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-647
667	71	VII	7.20	12		Link load balancer should select the most appropriate link to Direct the incoming and outgoing traffic based on Number of hops and end to end network latency. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-648
668	71	VII	7.20	12		Link load balancer is deployed at the perimeter of the network and is an appropriate point to deployment bandwidth management policies like rate shaping, prioritization etc. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-654
669	71	VII	7.20	12	Network connectivity support 8 X 10/100/1 Gbps connectivity	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have link load balancers connected to the Firewall/Router on 10Gig interfaces to ensure that Link load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 4 X 10G Interfaces"	Please refer Reply at Sr No-644
670	71	VII	7.20	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
671	71	VII	7.20	12		Link load balancer deployed in datacenter should support load balancing of both inbound and outbound traffic. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-647
672	71	VII	7.20	12		Link load balancer should select the most appropriate link to Direct the incoming and outgoing traffic based on Number of hops and end to end network latency. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-648
673	71	VII	7.20	12		Link load balancer is deployed at the perimeter of the network and is an appropriate point to deployment bandwidth management policies like rate shaping, prioritization etc. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-654
674	71	VII	7.20	12	Memory 4GB	Keeping traffic requirement, scalability and overall solution under consideration. LLB solution must have 8Gb of memory for efficient handling of traffic. Please change it to "Memory on device - 8GB"	The minimum requirement of parameter " Memory" stands revised to 8 GB
675	71	VII	7.20		Suggested Specification /Addition	Integrated GSLB (global server load balancing) in the same appliance to achieve DC/DR failover. Please add "Should have Integrated GSLB (global server load balancing) in the same appliance to achieve DC/DR failover"	Suggested specification/Addition not accepted.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
676	71	VII	7.20		Suggested Specification /Addition	The Hardware appliance should support round robin, weighted round robin, proximity based and response based algorithms for load balancing. Please add "should support round robin, weighted round robin, proximity based and response based algorithms for load balancing"	Suggested specification/Addition not accepted.
677	71	VII	7.20		Suggested Specification /Addition	Should provide both port based and application based bandwidth management and shaping. Please add "should provide both port based and application based bandwidth management and shaping"	Suggested specification/Addition not accepted.
678	71	VII	7.20		Suggested Specification /Addition	Please add "Should Support Class Based Queue's, borrow and unborrow bandwidth from queues"	Suggested specification/Addition not accepted.
679	4	VII	7.2	2	No of blade servers (which fit into enterprise class chassis)Full blades	Pls change it to Full/Half height blades or else reduce to 8 blades	Please refer Reply at Sr No-630
680	4	VII	7.2		Backplane redundancy	Every vendor has theirown architecture of chassis and it can be redundant only if there are active components. We do not make chassis with active components , hence relax it for option of passive also. Pls change it to redundant or passive chassis	Please refer Reply at Sr No-287
681	4	VII	7.2		No of 10 G ethernet ports in high availability -from chassis to external network so that end to end connectivity is 10 Gbps - 4		No clarification sought
682	71	VII	7.20	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches/Router and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
683	4	VII	7.2		No of blade servers (which fit into enterprise class chassis)Full blades - 2 processor blades capable of accomodating 14 servers in a chassis	As per our understanding UID wants 14 Nos of 2 Socket blades to be accomodated in a single chassis. The word "full blade" is not required and may please be removed.	Blade density stands modified to minimum of 8 full/half height blade servers per chassis. Please also refer to the revised Annexure 7.2 under revised Section VII for details.
684	4	VII	7.2		Backplane redundancy	Backplane redundancy is required to carter to the high availability in case you have active components on the backplane. So this clause should be applicable to the vendors which have active components on the backplane and should not be applicable to vendors with passive backplane. Please clarify?	Please refer Reply at Sr No-287

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
685	71	VII	7.20		Network connectivity support 8 X 10/100/1 Gbps connectivity	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have link load balancers connected to the Firewall/Router on 10Gig interfaces to ensure that Link load balancer does not become bottleneck to application performance. Hence it is required that the appliance should also have 4 X 10G interfaces	Please refer Reply at Sr No-644
686	71	VII	7.20	12		Link load balancer should select the most appropriate link to Direct the incoming and outgoing traffic based on Number of hops and end to end network latency. It is suggested that link load balancer should support Network proximity for optimum link selection	Please refer Reply at Sr No-648
687	71	VII	7.20	12		Link load balancer is deployed at the perimeter of the network and is an appropriate point to deployment bandwidth management policies like rate shaping, prioritization etc. It is suggested that link load balancer should support bandwidth management features like Rate shaping and prioritization.	Please refer Reply at Sr No-654
688	71	VII	7.20	12		Link load balancer is deployed at the perimeter of the network and is an appropriate point to deployment bandwidth management policies like rate shaping, prioritization etc. It is suggested that link load balancer should support this feature	Please refer Reply at Sr No-654
689	8	II	7.20			UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
690	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90
691	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
692	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
693	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
694	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90
695	4	VII	7.2	2	No of blade servers (which fit into enterprise class chassis)Full blades	Pls change it to Full/Half height blades or else reduce to 8 blades	Please refer Reply at Sr No-630
696	4	VII	7.2		Backplane redundancy	Pls change it to redundant or passive chassis	Please refer Reply at Sr No-287

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
697	4	VII	7.2		No of 10 G ethernet ports in high availability -from chassis to external network so that end to end connectivity is 10 Gbps - 4		No clarification sought
698	4	VII	7.2	2	No of blade servers (which fit into enterprise class chassis)Full blades	Pls change it to Full/Half height blades or else reduce to 8 blades	Please refer Reply at Sr No-630
699	4	VII	7.2		Backplane redundancy	Pls change it to redundant or passive chassis	Please refer Reply at Sr No-287
700	4	VII	7.2		No of 10 G ethernet ports in high availability -from chassis to external network so that end to end connectivity is 10 Gbps - 4		No clarification sought
701	4	VII	7.2	4	Backplane redundancy	Vendor specific clause.Chassis design is different for every vendors. Pls delete	Please refer Reply at Sr No-287
702	4	VII	7.2	6	Whether blade chassis should have embedded network or SAN switch.	Choice of edge switches for Network and Storage Switch - whether inside the chassis or outside should be left to the bidder. In blade chassis switch may force higher network oversubscription - which may be detrimental for certain workloads.	Please refer to revised Annexure 7.2 under revised Section VII of the bid document released alongwith the response to prebid queries.
703	4	VII	7.2		Description of ports availbale on the blade Chassis	Since the asked specifications does not specify the redundancy in the architecture, request the same tobe changed to "2 x 10 / 100 / 1000 Layer 2+ Gigabit Ethernet Switch, 2 x 10G Ethernet Switch, 2 x 8G FC Switch - to support the fully pouplated blade chassis"	Please refer to Revised Annexure 7.2 Under revised Section VII of the bid document
704		V		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
705		V		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
706		V		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 2 years.	Please refer Reply at Sr No-90
707		V		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
708		V		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
709		V		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90
710		V		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
711		V		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
712		V		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90
713	88	VII	7.24	13	Support consolidating IP, Storage, FC and traditional Ethernet protocols into single media	Support consolidating IP, and traditional Ethernet protocols into single media. As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer to revised Annexure 7.24 under revised Section VII of the bid document released alongwith the response to prebid queries.
714	74	VII	7.21	14	The switch should support Hitless software upgrade to reduce downtime during software upgrades and switch should capable of providing graceful restart for all IPv4 protocols	As a practice hitless upgrade is aplicable to software patches only. Kindly change the same.	Please refer Reply at Sr No-347
715	79	VII	7.21	14	Components like modules/power supplies/fan tray should be hot swappable. The performance of the switch in Gbps and Mbps rating should not reduce upon failure of any one supervisior/CPU/Switching fabric.	The best switch architecture is one in which the CPU works in Active-Active mode rather than Active-Standby mode. All the next generation switches use Active-Active mode in which the failure of one control module results in momentarily performance degradation. So request to make this point optional.	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
716	74	VII	7.21	14	The switch should support Hitless software upgrade to reduce downtime during software upgrades and switch should capable of providing graceful restart for all IPv4 protocols	As a practice hitless upgrade is aplicable to software patches only. Kindly change the same.	Please refer Reply at Sr No-347

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
717	74	VII	7.21	14	The switch should support Hitless software upgrade to reduce downtime during software upgrades and switch should capable of providing graceful restart for all IPv4 protocols	As a practice hitless upgrade is applicable to software patches only. Kindly change the same.	Please refer Reply at Sr No-347
718	74	VII	7.21	14	The switch should support Hitless software upgrade to reduce downtime during software upgrades and switch should capable of providing graceful restart for all IPv4 protocols	As a practice hitless upgrade is aplicable to software patches only.This feature is required in Service Provider network. Please remove this point. Please reframe as should support Online Hot Patch "The switch should support Onlibe Hot Patch and switch should capable of providing graceful restart for all IPv4 protocols"	Please refer Reply at Sr No-347
719	79	VII	7.21	14	Components like modules/power supplies/fan tray should be hot swappable. The performance of the switch in Gbps and Mbps rating should not reduce upon failure of any one supervisior/CPU/Switching fabric.	The best switch architecture is one in which the CPU works in Active-Active mode rather than Active-Standby mode. All the next generation switches use Active-Active mode in which the failure of one control module results in momentarily performance degradation. So request to make this point optional.Please make this point optional.	Please refer Reply at Sr No-715
720	79	VII	7.22	15	400 Mbps or higher	The required throughput is for IPv4 or IPv6 or for both	Throughput of 400 Mpps or higher for IPv4 and support for IPv6 is required.
721	79	VII	7.21	17	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
722	74	VII	7.21	17	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer Reply at Sr No-721

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
723	74	VII	7.21	17	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer Reply at Sr No-721
724	74	VII	7.21	17	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer Reply at Sr No-721
725	74	VII	7.21	17	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Sufficient memory to hold the latest software releases without affecting the performance.Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer Reply at Sr No-721
726	85	VII	7.21	17	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Sufficient memory to hold the latest software releases without affecting the performance.Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer Reply at Sr No-721
727	74	VII	7.21	19	The Switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of Providing graceful restart for all IPV4 routing protocols.	Graceful restart is one of the critical features achieved by modular OS.In Modular OS modular processes are instantiated on demand, each in a separate protected memory space. Thus, processes are started and system resources allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps to ensure the timely processing of critical functions too. Request the clause to be changed to " Switch should have Full Modular OS with support of protective mempory space for all critical processes and should support Hitless software upgrades to reduce downtime during software upgrades "	Please refer Reply at Sr No-347
728	80	VII	7.21	23	802.1X Network Security and Radius/ TACACS+, AAA authentication	802.1x is an important security parameter and each port should be capable of handling multiple supplicants for avoid piggybagging and allow only authorized users to access the network. So request to modify the same as "802.1x with min 32 supplicants per port"	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
729	80	VII	7.22	21	IPS capability with minimum 500Mbps inline prevention. Access lists to limit telnet and SNMP access	The IPS capability should be min 1Gbps to handle the envisaged traffic load.	Please refer to revised Annexure 7.22 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
730	80	VII	7.21	21	IPS capability with minimum 500Mbps inline prevention. Access lists to limit telnet and SNMP access	IPS capability with minimum 1Gbps inline prevention. Access lists to limit telnet and SNMP access.The IPS capability should be min 1Gbps to handle the envisaged traffic load.	Please refer Reply at Sr No-729
731	75	VII	7.21	23	MAC Address filtering based on source and desintination address, Port based security,Various ACLs like port based/time based, Standard/Extended ACLs, Contol plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs	This (Contol plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs)is vendor specific so kindly remove the same.	Please refer to Revised Annexure 7.21 Under revised Section VII of the bid document
732	75	VII	7.21	23	MAC Address filtering based on source and desintination address, Port based security,Various ACLs like port based/time based, Standard/Extended ACLs, Contol plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs	This (Contol plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs)is vendor specific so kindly remove the same.	Please refer Reply at Sr No-731
733	75	VII	7.21	23	MAC Address filtering based on source and desintination address, Port based security, Various ACLs like port based/time based, Standard/Extended ACLs, Control plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs	This (Control plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs)is vendor specific so kindly remove the same.	Please refer Reply at Sr No-731
734	75	VII	7.21	23	MAC Address filtering based on source and desintination address, Port based security,Various ACLs like port based/time based, Standard/Extended ACLs, Contol plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs	MAC Address filtering based on source and desintination address, Port based security,Various ACLs like port based/time based, Standard/Extended ACLs, Contol plan policing to filter unwanted traffic, support more than 2000 security and QOS ACLs.50,000 hardware queues looks to be in very high range. Please reduce to 2K	Please refer Reply at Sr No-731

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
735	85	VII	7.21	23	MAC Address filtering based on source and desintination address, Port based security,Various ACLs like port based/time based, Standard/Extended ACLs, Contol plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs	MAC Address filtering based on source and desintination address, Port based security,Various ACLs like port based/time based, Standard/Extended ACLs, Contol plan policing to filter unwanted traffic, support more than 2000 security and QOS ACLs.50,000 hardware queues looks to be in very high range. Please reduce to 2K	Please refer Reply at Sr No-731
736	75	VII	7.21	24	IP & IPX, RIP V1 & V2,OSPF, BGP, IS-IS, ipv6, Policy based routing, Netflow and support minimum of 100000+ route entries	IPX is old generation technology and would not be used in this network so kindly remove the same.	The word "IPX" stands deleted.Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
737	75	VII	7.21	24	IP & IPX, RIP V1 & V2,OSPF, BGP, IS-IS, ipv6, Policy based routing, Netflow and support minimum of 100000+ route entries	IPX is old generation technology and would not be used in this network so kindly remove the same.	Please refer Reply at Sr No-736
738	75	VII	7.21	24	IP & IPX, RIP V1 & V2,OSPF, BGP, IS-IS, ipv6, Policy based routing, Net flow and support minimum of 100000+ route entries	IPX is old generation technology and would not be used in this network so kindly remove the same.	Please refer Reply at Sr No-736
739	86	VII	7.21	24	IP & IPX, RIP V1 & V2,OSPF, BGP, IS-IS, ipv6, Policy based routing, Netflow and support minimum of 100000+ route entries	IP , RIP V1 & V2,OSPF, BGP, IS-IS, ipv6, Policy based routing, Netflow and support minimum of 100000+ route entries. IPX is old generation technology and would not be used in this network so kindly remove the same.	Please refer Reply at Sr No-736

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
740	81	VII	7.22	25	Support congestion avoidance using WRED, multi queue threshholds. Support the policing aggregate-Flow, excess-rate policing,micro-flow	Micro-flow is vendor specific so kindly remove the same	Please refer to revised Annexure 7.22 under revised Section VII of the bid document released alongwith the response to prebid queries. Micro-flow refers to a mechanism to manage traffic flow at the port level and flow level on individual TCP/UDP ports on the device.
741	75	VII	7.21	26	Advanced protocls like but not limited to GLBP,HSRP, VRRP,PBR	GLBP is Cisco specific so kindly remove the same.	The Advanced Protocols mentioned are required. The specification remains unchanged.
742	75	VII	7.21	26	Advanced protocls like but not limited to GLBP,HSRP, VRRP,PBR	GLBP is Cisco specific so kindly remove the same.	Please refer Reply at Sr No-741
743	75	VII	7.21	26	Advanced protocols like but not limited to GLBP,HSRP, VRRP,PBR	GLBP is Cisco specific so kindly remove the same.	Please refer Reply at Sr No-741
744	86	VII	7.21	26	Advanced protocls like but not limited to GLBP,HSRP,VRRP,PBR	GLBP is Cisco specific so kindly remove the same.	Please refer Reply at Sr No-741
745	76	VII	7.21	29	support for standards compliance with ieee802.3, 10BaseT, ieee802.3u, ieee802.3z,ieee802.3ab, ieee802.3ae,ieee802.1D, 802.1S and 1W, ieee802.3x, ieee802.1AE	IEEE 802.1AE is Cisco specific so kindly remove the same.	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
746	76	VII	7.21	29	support for standards compliance with ieee802.3, 10BaseT, ieee802.3u, ieee802.3z,ieee802.3ab, ieee802.3ae,ieee802.1D, 802.1S and 1W, ieee802.3x, ieee802.1AE	IEEE 802.1AE is Cisco specific so kindly remove the same.	Please refer Reply at Sr No-745

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
747	76	VII	7.21	29	support for standards compliance with ieee802.3, 10BaseT, ieee802.3u, ieee802.3z,ieee802.3ab, ieee802.3ae,ieee802.1D, 802.1S and 1W, ieee802.3x, ieee802.1AE	IEEE 802.1AE is Cisco specific so kindly remove the same.	Please refer Reply at Sr No-745
748	76	VII	7.21	29	support for standards compliance with ieee802.3, 10BaseT, ieee802.3u, ieee802.3z,ieee802.3ab, ieee802.3ae,ieee802.1D, 802.1S and 1W, ieee802.3x, ieee802.1AE	OEM Specific. Please remove 802.1ae	Please refer to reply at Sr.No. 745
749	86	VII	7.21	29	support for standards compliance with ieee802.3, 10BaseT, ieee802.3u, ieee802.3z,ieee802.3ab, ieee802.3ae,ieee802.1D, 802.1S and 1W,ieee802.3x, ieee802.1AE	OEM Specific. Please remove 802.1ae	Please refer Reply at Sr No-745
750	75	VII	7.21	23	ACL on virtual terminal (VTY)	This feature allows configuration of access control for the switch for a virtual terminal, regardless of where the connection is established (mgmt0 or an external interface).Hence we request you to consider this feature.	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
751	75	VII	7.21	25	Transport interconnection	The switch should have a feature that offers a topology-based Layer 2 routing mechanism that provides an equal-cost multipath (ECMP) forwarding model, that solves the MAC address table scalability problem characteristic of switched Layer 2 networks.This feature can help us to build us for building the private cloude hence we request you to consider it.	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
752	76	VII	7.21		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
753	74	VII	7.21		The Switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of Providing graceful restart for all IPV4 routing protocols.	Graceful restart is one of the critical features achieved by modular OS.In Modular OS modular processes are instantiated on demand, each in a separate protected memory space. Thus, processes are started and system resources allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps to ensure the timely processing of critical functions too. Request the clause to be changed to " Switch should have Full Modular OS with support of protective mempory space for all critical processes and should support Hitless software upgrades to reduce downtime during software upgrades "	Please refer Reply at Sr No-347
754	75	VII	7.21		IP & IPX , RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing,Netflow and support of 100000+ route enteries.	IPX is a legacy network layer protocol (layer 3 of the OSI Model) because IP is a more mature and extensively used and over the time IPX usage has declined. Despite the protocols' association with NetWare, it is neither required for NetWare communication nor exclusively used on NetWare networks. NetWare communication requires an NCP implementation, which can use IPX/SPX, TCP/IP, or both, as a transport. Hence we request you to remove IPX and modified as "IP, RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing,Netflow and suppport of 100000+ route enteries."	Please refer Reply at Sr No-351
755	77	VII	7.21	35	Cooling FANS:Hot swapable cooling fans proposed	Key infrsastructre compnents such as core Switch should be provisioned with appropriate level of redundnacy and high availability features. Fan tray plays a critical role in keeping networking equipments run in good condition without frequent failures. There have been examples and instances where vendors claim that Having removable fan tray is hot swapable, while it gives an option to replace the damaged fans in the field. As a switch can sustain for few minutes only(depends on the environment and cards installed) without fan tray, the replacement can intrupt the services as switch might reboot or shut.There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. It is better to have a fan tray in redundant fashion. Hence we request it to be changed to "Hot swappable redundant cooling fan tray proposed"	Please refer Reply at Sr No-361
756	75	VII	7.21	24	IP & IPX , RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing,Netflow and support of 100000+ route enteries.	IPX is a legacy network layer protocol (layer 3 of the OSI Model) because IP is a more mature and extensively used and over the time IPX usage has declined. Despite the protocols' association with NetWare, it is neither required for NetWare communication nor exclusively used on NetWare networks. NetWare communication requires an NCP implementation, which can use IPX/SPX, TCP/IP, or both, as a transport. Hence we request you to remove IPX and modified as "IP, RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing,Netflow and suppport of 100000+ route enteries."	Please refer Reply at Sr No-351

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
757	77	VII	7.21	35	Cooling FANS:Hot swapable cooling fans proposed	Key infrsastructre compnents such as core Switch should be provisioned with appropriate level of redundnacy and high availability features. Fan tray plays a critical role in keeping networking equipments run in good condition without frequent failures. There have been examples and instances where vendors claim that Having removable fan tray is hot swapable, while it gives an option to replace the damaged fans in the field. As a switch can sustain for few minutes only(depends on the environment and cards installed) without fan tray, the replacement can intrupt the services as switch might reboot or shut.There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. It is better to have a fan tray in redundant fashion. Hence we request it to be changed to "Hot swappable redundant cooling fan tray proposed"	Please refer Reply at Sr No-361
758	74	VII	7.21		DC Core LAN - L3 Switches, point 20. Ports - 60 x 10/100/1000 and 140 x 10G has been asked.	Kindly clarify whether the SFP's to be chosen for all type of switches asked should be single mode or multimode. It would also be dependent upon the inter-rack cabling planned by DCSPs.	Multimode
759	79	VII	7.22	14	Components like modules/power supplies/fan tray should be hot swappable. The performance of the switch in Gbps and Mbps rating should not reduce upon failure of any one supervisior/CPU/Switching fabric.	The best switch architecture is one in which the CPU works in Active-Active mode rather than Active-Standby mode. All the next generation switches use Active-Active mode in which the failure of one control module results in momentarily performance degradation. So request to make this point optional.	Please refer Reply at Sr No-715
760	79	VII	7.22	14	Components like modules/power supplies/fan tray should be hot swappable. The performance of the switch in Gbps and Mbps rating should not reduce upon failure of any one supervisor/CPU/Switching fabric.	The best switch architecture is one in which the CPU works in Active-Active mode rather than Active-Standby mode. All the next generation switches use Active-Active mode in which the failure of one control module results in momentarily performance degradation. So request to make this point optional.	Please refer Reply at Sr No-715
761	79	VII	7.22	15	400 Mbps or higher	The required throughput is for IPv4 or IPv6 or for both	Please refer Reply at Sr No-720
762	79	VII	7.22	15	400 Mbps or higher	The required throughput is for IPv4 or IPv6 or for both	Please refer Reply at Sr No-720

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
763	79	VII	7.22	16	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer Reply at Sr No-721
764	79	VII	7.22	16	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer Reply at Sr No-721
765	80	VII	7.22	21	802.1X Network Security and Radius/ TACACS+, AAA authentication	802.1x is an important security parameter and each port should be capable of handling multiple supplicants for avoid piggybagging and allow only authorized users to access the network. So request to modify the same as "802.1x with min 32 supplicants per port"	Please refer Reply at Sr No-728
766	80	VII	7.22	21	IPS capability with minimum 500Mbps inline prevention. Access lists to limit telnet and SNMP access	The IPS capability should be min 1Gbps to handle the envisaged traffic load.	Please refer Reply at Sr No-729
767	80	VII	7.22	21	802.1X Network Security and Radius/ TACACS+, AAA authentication	802.1x is an important security parameter and each port should be capable of handling multiple supplicants for avoid piggy bagging and allow only authorized users to access the network. So request to modify the same as "802.1x with min 32 supplicants per port"	Please refer Reply at Sr No-728
768	80	VII	7.22	21	IPS capability with minimum 500Mbps inline prevention. Access lists to limit telnet and SNMP access	The IPS capability should be min 1Gbps to handle the envisaged traffic load.	Please refer Reply at Sr No-729
769	81	VII	7.22	25	Support congestion avoidance using WRED, multi queue threshholds. Support the policing aggregate-Flow, excess-rate policing,micro-flow	Micro-flow is vendor specific so kindly remove the same	Please refer Reply at Sr No-740

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
770	81	VII	7.22	25	Support congestion avoidance using WRED, multi queue thresholds. Support the policing aggregate-Flow, excess-rate policing, micro-flow	Micro-flow is vendor specific so kindly remove the same	Please refer Reply at Sr No-740
771	82	VII	7.22	27	standards such as ieee802.3.ieee802.3u,ieee803z, 802.3ab,ieee802.3ae, ieee802.3af-POE,ieee802.1D, ieee802.1w,ieee802.1s,ieee802.1p, ieee802.1Q, 802.1x. Chassis should support hardware Modules like Network analysis (RMON II), Server Load balancing, Network Intrusion Detection Module, Firewall Module, SSL Load Balancing module, VPN IPSec module, PSTN voice gateway module with support for FXS ports/E1 R2/PRI ports	This (PSTN voice gateway module with support for FXS ports/E1 R2/PRI ports)is vendor specific so kindly remove the same	Please refer to revised Annexure 7.22 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
772	82	VII	7.22	27	standards such as ieee802.3.ieee802.3u,ieee803 z, 802.3ab,ieee802.3ae, ieee802.3af-POE,ieee802.1D, ieee802.1w,ieee802.1s,ieee80 2.1p, ieee802.1Q, 802.1x. Chassis should support hardware Modules like Network analysis (RMON II), Server Load balancing, Network Intrusion Detection Module, Firewall Module, SSL Load Balancing module, VPN IPSec module, PSTN voice gateway module with support for FXS ports/E1 R2/PRI ports	This (PSTN voice gateway module with support for FXS ports/E1 R2/PRI ports)is vendor specific so kindly remove the same	Please refer Reply at Sr No-771
773	83	VII	7.22	35	Cooling FANS:Hot swapable cooling fans proposed	Having removable fan tray gives an option to replace the damaged fans in the field, as a switch can sustain for few minute (depends on the environment and cards installed) without fan tray. There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. which some people called hotswapable. It is better to have a fan module/tray in redundant fashion. Hence we request this to be changed to "Hot swappable cooling fan tray proposed"	Please refer Reply at Sr No-361
774	77	VII	7.22	35	Cooling FANS:Hot swapable cooling fans proposed	Key infrsastructre compnents such as core Switch should be provisioned with appropriate level of redundnacy and high availability features. Fan tray plays a critical role in keeping networking equipments run in good condition without frequent failures. There have been examples and instances where vendors claim that Having removable fan tray is hot swapable, while it gives an option to replace the damaged fans in the field. As a switch can sustain for few minutes only(depends on the environment and cards installed) without fan tray, the replacement can intrupt the services as switch might reboot or shut.There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. It is better to have a fan tray in redundant fashion. Hence we request it to be changed to "Hot swappable redundant cooling fan tray proposed"	Please refer Reply at Sr No-361

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
775	83	VII	7.22	35	Cooling FANS:Hot swapable cooling fans proposed	Having removable fan tray gives an option to replace the damaged fans in the field, as a switch can sustain for few minute (depends on the environment and cards installed) without fan tray. There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. which some people called hotswapable. It is better to have a fan module/tray in redundant fashion. Hence we request this to be changed to "Hot swappable cooling fan tray proposed"	Please refer Reply at Sr No-361
776	76	VII	7.21	30	Remote port miroring	Remote port miroring introduces an additional level of flexibility to the monitoring capability, since it allows the source and destination ports of the monitored data to be in different locations of the routed or switched network. It offers this feature by encapsulating the mirrored traffic within a Layer 3 routable generic routing encapsulation (GRE) tunnel.Hence we request you to cosider this feature.	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
777	82	VII	7.22		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
778	83	VII	7.22	35	Cooling FANS:Hot swapable cooling fans proposed	Having removable fan tray gives an option to replace the damaged fans in the field, as a switch can sustain for few minute (depends on the environment and cards installed) without fan tray. There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. which some people called hotswapable. It is better to have a fan module/tray in redundant fashion. Hence we request this to be changed to "Hot swappable cooling fan tray proposed"	Please refer Reply at Sr No-361
779	82	VII	7.22		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
780	83	VII	7.22	35	Cooling FANS:Hot swapable cooling fans proposed	Having removable fan tray gives an option to replace the damaged fans in the field, as a switch can sustain for few minute (depends on the environment and cards installed) without fan tray. There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. which some people called hotswapable. It is better to have a fan module/tray in redundant fashion. Hence we request this to be changed to "Hot swappable cooling fan tray proposed"	Please refer Reply at Sr No-361

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
781	83	VII	7.22	35	Cooling FANS:Hot swapable cooling fans proposed	Having removable fan tray gives an option to replace the damaged fans in the field, as a switch can sustain for few minute (depends on the environment and cards installed) without fan tray. There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. which some people called hotswapable. It is better to have a fan module/tray in redundant fashion. Hence we request this to be changed to "Hot swappable cooling fan tray proposed"	Please refer Reply at Sr No-361
782	82	VII	7.22		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
783	85	VII	7.23	17	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer Reply at Sr No-721
784	85	VII	7.23	17	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer Reply at Sr No-721
785	85	VII	7.23	17	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer Reply at Sr No-721
786	85	VII	7.23	23	MAC Address filtering based on source and desintination address, Port based security,Various ACLs like port based/time based, Standard/Extended ACLs, Contol plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs	This (Contol plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs)is vendor specific so kindly remove the same.	Please refer Reply at Sr No-788

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
787	85	VII	7.23	23	MAC Address filtering based on source and desintination address, Port based security,Various ACLs like port based/time based, Standard/Extended ACLs, Contol plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs	This (Contol plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs)is vendor specific so kindly remove the same.	Please refer Reply at Sr No-788
788	85	VII	7.23	23	MAC Address filtering based on source and desintination address, Port based security, Various ACLs like port based/time based, Standard/Extended ACLs, Control plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs	This (Control plan policing to filter unwanted traffic, support more than 50000 security and QOS ACLs)is vendor specific so kindly remove the same.	Please refer to Revised Annexure 7.23 Under revised Section VII of the bid document
789	86	VII	7.23	24	IP & IPX, RIP V1 & V2,OSPF, BGP, IS-IS, ipv6, Policy based routing, Netflow and support minimum of 100000+ route entries	IPX is old generation technology and would not be used in this network so kindly remove the same.	Please refer Reply at Sr No-736
790	86	VII	7.23	24	IP & IPX, RIP V1 & V2,OSPF, BGP, IS-IS, ipv6, Policy based routing, Netflow and support minimum of 100000+ route entries	IPX is old generation technology and would not be used in this network so kindly remove the same.	Please refer Reply at Sr No-736
791	86	VII	7.23	24	IP & IPX, RIP V1 & V2,OSPF, BGP, IS-IS, ipv6, Policy based routing, Net flow and support minimum of 100000+ route entries	IPX is old generation technology and would not be used in this network so kindly remove the same.	Please refer Reply at Sr No-736
792	86	VII	7.23	26	Advanced protocls like but not limited to GLBP,HSRP,VRRP,PBR	GLBP is Cisco specific so kindly remove the same.	Please refer Reply at Sr No-741

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
793	86	VII	7.23	26	Advanced protocls like but not limited to GLBP,HSRP,VRRP,PBR	GLBP is Cisco specific so kindly remove the same.	Please refer Reply at Sr No-741
794	86	VII	7.23	26	Advanced protocols like but not limited to GLBP,HSRP,VRRP,PBR	GLBP is Cisco specific so kindly remove the same.	Please refer Reply at Sr No-741
795	82	VII	7.23	27	standards such as ieee802.3.ieee802.3u,ieee803 z, 802.3ab,ieee802.3ae, ieee802.3af-POE,ieee802.1D, ieee802.1w,ieee802.1s,ieee80 2.1p, ieee802.1Q, 802.1x. Chassis should support hardware Modules like Network analysis (RMON II), Server Load balancing, Network Intrusion Detection Module, Firewall Module, SSL Load Balancing module, VPN IPSec module, PSTN voice gateway module with support for FXS ports/E1 R2/PRI ports	This (PSTN voice gateway module with support for FXS ports/E1 R2/PRI ports) is vendor specific so kindly remove the same	Please refer Reply at Sr No-771
796	86	VII	7.23	29	support for standards compliance with ieee802.3, 10BaseT, ieee802.3u, ieee802.3z,ieee802.3ab, ieee802.3ae,ieee802.1D, 802.1S and 1W, ieee802.3x, ieee802.1AE	IEEE 802.1AE is Cisco specific so kindly remove the same.	Please refer Reply at Sr No-745
797	86	VII	7.23	29	support for standards compliance with ieee802.3, 10BaseT, ieee802.3u, ieee802.3z,ieee802.3ab, ieee802.3ae,ieee802.1D, 802.1S and 1W, ieee802.3x, ieee802.1AE	IEEE 802.1AE is Cisco specific so kindly remove the same.	Please refer Reply at Sr No-745

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
798	86	VII	7.23	29	support for standards compliance with ieee802.3, 10BaseT, ieee802.3u, ieee802.3z,ieee802.3ab, ieee802.3ae,ieee802.1D, 802.1S and 1W, ieee802.3x, ieee802.1AE	IEEE 802.1AE is Cisco specific so kindly remove the same.	Please refer Reply at Sr No-745
799	85	VII	7.23		The Switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of Providing graceful restart for all IPV4 routing protocols.	Graceful restart is one of the critical features achieved by modular OS.In Modular OS modular processes are instantiated on demand, each in a separate protected memory space. Thus, processes are started and system resources allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps to ensure the timely processing of critical functions too. Request the clause to be changed to " Switch should have Full Modular OS with support of protective mempory space for all critical processes and should support Hitless software upgrades to reduce downtime during software upgrades "	Please refer Reply at Sr No-347
800	85	VII	7.23		The Switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of Providing graceful restart for all IPV4 routing protocols.	Graceful restart is one of the critical features achieved by modular OS.In Modular OS modular processes are instantiated on demand, each in a separate protected memory space. Thus, processes are started and system resources allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps to ensure the timely processing of critical functions too. Request the clause to be changed to " Switch should have Full Modular OS with support of protective mempory space for all critical processes and should support Hitless software upgrades to reduce downtime during software upgrades "	Please refer Reply at Sr No-347
801	86	VII	7.23	24	IP & IPX , RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing, Netflow and support of 100000+ route entries	IPX is a legacy network layer protocol (layer 3 of the OSI Model) because IP is a more mature and extensively used IPX usage has declined. Despite the protocols' association with NetWare, it is neither required for NetWare communication nor exclusively used on NetWare networks. NetWare communication requires an NCP implementation, which can use IPX/SPX, TCP/IP, or both, as a transport. Hence we request you to remove IPX and it should be read as "IP, RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing, Netflow and support of 100000+ route entries."	Please refer Reply at Sr No-351

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
802	87	VII	7.23	35	Cooling FANS:Hot swapable cooling fans proposed	Key infrsastructre compnents such as core Switch should be provisioned with appropriate level of redundnacy and high availability features. Fan tray plays a critical role in keeping networking equipments run in good condition without frequent failures. There have been examples and instances where vendors claim that Having removable fan tray is hot swapable, while it gives an option to replace the damaged fans in the field. As a switch can sustain for few minutes only(depends on the environment and cards installed) without fan tray, the replacement can intrupt the services as switch might reboot or shut.There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. It is better to have a fan tray in redundant fashion. Hence we request it to change as "Hot swappable redundant cooling fan tray proposed"	Please refer Reply at Sr No-361
803	85	VII	7.23		The Switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of Providing graceful restart for all IPV4 routing protocols.	Graceful restart is one of the critical features achieved by modular OS.In Modular OS modular processes are instantiated on demand, each in a separate protected memory space. Thus, processes are started and system resources allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps to ensure the timely processing of critical functions too. Request the clause to be changed to " Switch should have Full Modular OS with support of protective mempory space for all critical processes and should support Hitless software upgrades to reduce downtime during software upgrades "	Please refer Reply at Sr No-347
804	86	VII	7.23	24	IP & IPX , RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing, Netflow and support of 100000+ route entries	IPX is a legacy network layer protocol (layer 3 of the OSI Model) because IP is a more mature and extensively used IPX usage has declined. Despite the protocols' association with NetWare, it is neither required for NetWare communication nor exclusively used on NetWare networks. NetWare communication requires an NCP implementation, which can use IPX/SPX, TCP/IP, or both, as a transport. Hence we request you to remove IPX and it should be read as "IP, RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing, Netflow and support of 100000+ route entries."	Please refer Reply at Sr No-351

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
805	87	VII	7.23	35	Cooling FANS:Hot swapable cooling fans proposed	Key infrsastructre compnents such as core Switch should be provisioned with appropriate level of redundnacy and high availability features. Fan tray plays a critical role in keeping networking equipments run in good condition without frequent failures. There have been examples and instances where vendors claim that Having removable fan tray is hot swapable, while it gives an option to replace the damaged fans in the field. As a switch can sustain for few minutes only(depends on the environment and cards installed) without fan tray, the replacement can intrupt the services as switch might reboot or shut.There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. It is better to have a fan tray in redundant fashion. Hence we request it to change as "Hot swappable redundant cooling fan tray proposed"	Please refer Reply at Sr No-361
806	86	VII	7.23	24	IP & IPX , RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing, Netflow and support of 100000+ route entries	IPX is a legacy network layer protocol (layer 3 of the OSI Model) because IP is a more mature and extensively used IPX usage has declined. Despite the protocols' association with NetWare, it is neither required for NetWare communication nor exclusively used on NetWare networks. NetWare communication requires an NCP implementation, which can use IPX/SPX, TCP/IP, or both, as a transport. Hence we request you to remove IPX and it should be read as "IP, RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing, Netflow and support of 100000+ route entries."	Please refer Reply at Sr No-351
807	87	VII	7.23	35	Cooling FANS:Hot swapable cooling fans proposed	Key infrsastructre compnents such as core Switch should be provisioned with appropriate level of redundnacy and high availability features. Fan tray plays a critical role in keeping networking equipments run in good condition without frequent failures. There have been examples and instances where vendors claim that Having removable fan tray is hot swapable, while it gives an option to replace the damaged fans in the field. As a switch can sustain for few minutes only(depends on the environment and cards installed) without fan tray, the replacement can intrupt the services as switch might reboot or shut.There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. It is better to have a fan tray in redundant fashion. Hence we request it to change as "Hot swappable redundant cooling fan tray proposed"	Please refer Reply at Sr No-361

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
808	89	VII	7.24	20	ieee802.3af-POE	POE is not relevant for DC access switches as the end boxes points are Servers. The power requirement for these end points are much more than what can be delivered over Ethernet. Moreover the DC access switches are separate class of networking devices specificaly designed for DC access such as High bandwidth ports, Unified fabric etc and does not support non relvant features such as POE. Hence we request this feature to be removed.	There is no minimum requirement specified for this parameter, which has to be supported . Therefore, under the column "Specification Offered" , the bidder is required to indicate indicate the supported features.
809	89	VII	7.23		SNMP V1,V2 c/ V3	SNMPv3 primarily added security and remote configuration enhancements to SNMP. Security has been the biggest weakness of SNMP since the beginning.SNMPv3 provides important security features: Confidentiality - Encryption of packets to prevent snooping by an unauthorized source. Integrity - Message integrity to ensure that a packet has not been tampered with in transit. Authentication - to verify that the message is from a valid source. Hence we request this feature to be changed to "SNMP V1,V2 &V3 "	Accepted.
810	90	VII	7.23	35	Hot swapable cooling fans proposed	Having removable fan tray gives an option to replace the damaged fans in the field, as a switch can sustain for few minute (depends on the environment and cards installed) without fan tray. There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. which some people called hotswapable. It is better to have a fan module/tray in redundant fashion. Hence we request this to be changed to "Hot swappable cooling fan tray proposed"	Please refer Reply at Sr No-361
811	85	VII	7.23		The Switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of Providing graceful restart for all IPV4 routing protocols.	Graceful restart is one of the critical features achieved by modular OS.In Modular OS modular processes are instantiated on demand, each in a separate protected memory space. Thus, processes are started and system resources allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps to ensure the timely processing of critical functions too. Request the clause to be changed to " Switch should have Full Modular OS with support of protective mempory space for all critical processes and should support Hitless software upgrades to reduce downtime during software upgrades "	Please refer Reply at Sr No-347

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
812	86	VII	7.23	24	IP & IPX , RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing, Netflow and support of 100000+ route entries	IPX is a legacy network layer protocol (layer 3 of the OSI Model) because IP is a more mature and extensively used IPX usage has declined. Despite the protocols' association with NetWare, it is neither required for NetWare communication nor exclusively used on NetWare networks. NetWare communication requires an NCP implementation, which can use IPX/SPX, TCP/IP, or both, as a transport. Hence we request you to remove IPX and it should be read as "IP, RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing, Netflow and support of 100000+ route entries."	Please refer Reply at Sr No-351
813	87	VII	7.23	35	Cooling FANS:Hot swapable cooling fans proposed	Key infrsastructre compnents such as core Switch should be provisioned with appropriate level of redundnacy and high availability features. Fan tray plays a critical role in keeping networking equipments run in good condition without frequent failures. There have been examples and instances where vendors claim that Having removable fan tray is hot swapable, while it gives an option to replace the damaged fans in the field. As a switch can sustain for few minutes only(depends on the environment and cards installed) without fan tray, the replacement can intrupt the services as switch might reboot or shut.There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. It is better to have a fan tray in redundant fashion. Hence we request it to change as "Hot swappable redundant cooling fan tray proposed"	Please refer Reply at Sr No-361
814	85	VII	7.23		The Switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of Providing graceful restart for all IPV4 routing protocols.	Graceful restart is one of the critical features achieved by modular OS.In Modular OS modular processes are instantiated on demand, each in a separate protected memory space. Thus, processes are started and system resources allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps to ensure the timely processing of critical functions too. Request the clause to be changed to " Switch should have Full Modular OS with support of protective mempory space for all critical processes and should support Hitless software upgrades to reduce downtime during software upgrades "	Please refer Reply at Sr No-347

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
815	86	VII	7.23	24	IP & IPX , RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing, Netflow and support of 100000+ route entries	IPX is a legacy network layer protocol (layer 3 of the OSI Model) because IP is a more mature and extensively used IPX usage has declined. Despite the protocols' association with NetWare, it is neither required for NetWare communication nor exclusively used on NetWare networks. NetWare communication requires an NCP implementation, which can use IPX/SPX, TCP/IP, or both, as a transport. Hence we request you to remove IPX and it should be read as "IP, RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing, Netflow and support of 100000+ route entries."	Please refer Reply at Sr No-351
816	87	VII	7.23	35	Cooling FANS:Hot swapable cooling fans proposed	Key infrsastructre compnents such as core Switch should be provisioned with appropriate level of redundnacy and high availability features. Fan tray plays a critical role in keeping networking equipments run in good condition without frequent failures. There have been examples and instances where vendors claim that Having removable fan tray is hot swapable, while it gives an option to replace the damaged fans in the field. As a switch can sustain for few minutes only(depends on the environment and cards installed) without fan tray, the replacement can intrupt the services as switch might reboot or shut.There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. It is better to have a fan tray in redundant fashion. Hence we request it to change as "Hot swappable redundant cooling fan tray proposed"	Please refer Reply at Sr No-361
817	88	VII	7.24	13	Support consolidating IP, Storage, FC and traditional Ethernet protocols into single media	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713
818	88	VII	7.24	13	Support consolidating IP, Storage, FC and traditional Ethernet protocols into single media	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713
819	88	VII	7.24	13	Support consolidating IP, Storage, FC and traditional Ethernet protocols into single media	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
820	89	VII	7.24	15	Datacenter bridgining exchange, ieee 802.1Qbb and ieee802.1Qaz	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713
821	89	VII	7.24	15	Datacenter bridgining exchange, ieee 802.1Qbb and ieee802.1Qaz	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713
822	89	VII	7.24	15	Datacenter bridgining exchange, ieee 802.1Qbb and ieee802.1Qaz	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional. Please remove or make it optional.	Please refer to revised Annexure 7.24 under revised Section VII of the bid document released alongwith the response to prebid queries.
823	89	VII	7.24	15	Datacenter bridgining exchange, ieee 802.1Qbb and ieee802.1Qaz	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713
824	79	VII	7.24	16	400 Mbps or higher	The required throughput is for IPv4 or IPv6 or for both.Clarity required.	Please refer Reply at Sr No-720
825	79	VII	7.24	21	DRAM - 4 GB or Higher Flash Memory - 1GB or higher or any other storage as needed	Sufficient memory to hold the latest software releases without affecting the performance. Memory requirement is different for each vendor, so request to make it as sufficient memory to hold the latest software releases without affecting the performance.	Please refer Reply at Sr No-721
826	80	VII	7.24	21	802.1X Network Security and Radius/ TACACS+ ,AAA authentication	802.1x is an important security parameter and each port should be capable of handling multiple supplicants for avoid piggybagging and allow only authorized users to access the network. So request to modify the same as "802.1x with min 32 supplicants per port"	Please refer to revised Annexure 7.24 under revised Section VII of the bid document released alongwith the response to prebid queries.
827	75	VII	7.24	24	IP & IPX, RIP V1 & V2,OSPF, BGP, IS-IS, ipv6, Policy based routing, Netflow and support minimum of 100000+ route entries	IPX is old generation technology and would not be used in this network so kindly remove the same. Please remove the same or make it Optional.	Please refer Reply at Sr No-736

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
828	81	VII	7.24	25	Support congestion avoidance using WRED, multi queue threshholds. Support the policing aggregate- Flow, excess-rate policing,micro-flow	This is vendor specific so kindly remove the same	Please refer Reply at Sr No-740
829	75	VII	7.24	26	Advanced protocls like but not limited to GLBP,HSRP, VRRP,PBR	GLBP is OEM specific so kindly remove the same. Please remove the same or make it Optional.	Please refer Reply at Sr No-741
830	82	VII	7.24	27	standards such as ieee802.3.ieee802.3u,ieee803z, 802.3ab,ieee802.3ae,ieee802.3af-POE,ieee802.1D, ieee802.1w,ieee802.1s,ieee802.1p,ieee802.1Q, 802.1x Chassis should support hardware Modules like Network analysis (RMON II), Server Load balancing, Network Intrusion Detection Module, Firewall Module, SSL Load Balancing module, VPN IPSec module, PSTN voice gateway module with support for FXS ports/E1 R2/PRI ports	standards such as ieee802.3.ieee802.3u,ieee803z, 802.3ab,ieee802.3ae,ieee802.3af-POE,ieee802.1D, ieee802.1w,ieee802.1s,ieee802.1p,ieee802.1Q, 802.1x Chassis should support hardware Modules like Network analysis (RMON II), Server Load balancing, Network Intrusion Detection Module, Firewall Module, SSL Load Balancing module, VPN IPSec module. This is vendor specific so kindly remove the same. The LAN switch will be never used as PSTN gateway.	Please refer Reply at Sr No-771
831	89	VII	7.24		Support for various ACLs like port based /time based, vlan based and Standard/extended Acls L2- L4	Each of the type of acls like port based and time based have its own requirement and significance in DC environment.Hence we request it should be changed to "Support for various ACLs like port based ,time based, vlan based and Standard,extended Acls L2- L4"	Accepted. This is now a minimum requirement.
832	89	VII	7.24	16	Support for various ACLs like port based /time based, vlan based and Standard/extended Acls L2- L4	Each of the type of acls like port based and time based have its own requirement and significance in DC environment.Hence we request it should be changed to "Support for various ACLs like port based ,time based, vlan based and Standard,extended Acls L2- L4"	Please refer Reply at Sr No-831

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
833	89	VII	7.24	20	ieee802.3af-POE	POE is not relevant for DC access switches as the end boxes points are Servers. The power requirement for these end points are much more than what can be delivered over Ethernet. Moreover the DC access switches are separate class of networking devices specificaly designed for DC access such as High bandwidth ports, Unified fabric etc and does not support non relvant features such as POE. Hence we request this feature to be removed.	Please refer Reply at Sr No-808
834	89	VII	7.24		SNMP V1,V2 c/ V3	SNMPv3 primarily added security and remote configuration enhancements to SNMP. Security has been the biggest weakness of SNMP since the beginning.SNMPv3 provides important security features: Confidentiality - Encryption of packets to prevent snooping by an unauthorized source. Integrity - Message integrity to ensure that a packet has not been tampered with in transit. Authentication - to verify that the message is from a valid source. Hence we request this feature to be changed to "SNMP V1,V2 &V3 "	Please refer Reply at Sr No-809
835	90	VII	7.24	35	Hot swapable cooling fans proposed	Having removable fan tray gives an option to replace the damaged fans in the field, as a switch can sustain for few minute (depends on the environment and cards installed) without fan tray. There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. which some people called hotswapable. It is better to have a fan module/tray in redundant fashion. Hence we request this to be changed to "Hot swappable cooling fan tray proposed"	Please refer Reply at Sr No-361
836	88	VII	7.24		It should have modular OS with stateful process restart.	This is a data center access switch that should be of data center class means high availability required on hardware and software both .Stateful process restart is required feature on software level that can be achived with modular OS	No clarification sought
837	88	VII	7.24		Layer 3 support	We request you to include the support of layer 3 feature in the switch and when required by UID	The required Switch is itself a Layer 3 Switch.
838	88	VII	7.24		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
839	89	VII	7.24		IMPORTANT FEATURE MISSING	No Layer 3 features has been defined for this switch, Request to add Layer 3 routing features like RIP, OSPF, BGP, IS-IS for IPv4 and IPv6.	The required Switch is itself a Layer 3 Switch. The features incorporated in revised Annexure 7.24

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
840	89	VII	7.24		IMPORTANT FEATURE MISSING	No Layer 3 features has been defined for this switch, Request to add Layer 3 routing features like RIP, OSPF, BGP, IS-IS for IPv4 and IPv6.	Please refer Reply at Sr No-839
841	89	VII	7.24	16	Support for various ACLs like port based /time based, vlan based and Standard/extended Acls L2- L4	Each of the type of acls like port based and time based have its own requirement and significance in DC environment.Hence we request it should be changed to "Support for various ACLs like port based ,time based, vlan based and Standard,extended Acls L2- L4"	Please refer Reply at Sr No-831
842	90	VII	7.24	35	Hot swapable cooling fans proposed	Having removable fan tray gives an option to replace the damaged fans in the field, as a switch can sustain for few minute (depends on the environment and cards installed) without fan tray. There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. which some people called hotswapable. It is better to have a fan module/tray in redundant fashion. Hence we request this to be changed to "Hot swappable cooling fan tray proposed"	Please refer Reply at Sr No-361
843	89	VII	7.24	20	ieee802.3af-POE	POE is not relevant for DC access switches as the end boxes points are Servers. The power requirement for these end points are much more than what can be delivered over Ethernet. Moreover the DC access switches are separate class of networking devices specificaly designed for DC access such as High bandwidth ports, Unified fabric etc and does not support non relvant features such as POE. Hence we request this feature to be removed.	Please refer Reply at Sr No-808
844	89	VII	7.24		SNMP V1,V2 c/ V3	SNMPv3 primarily added security and remote configuration enhancements to SNMP. Security has been the biggest weakness of SNMP since the beginning.SNMPv3 provides important security features: Confidentiality - Encryption of packets to prevent snooping by an unauthorized source. Integrity - Message integrity to ensure that a packet has not been tampered with in transit. Authentication - to verify that the message is from a valid source. Hence we request this feature to be changed to "SNMP V1,V2 &V3 "	Please refer Reply at Sr No-809

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
845	75	VII	7.24	24	IP & IPX , RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing,Netflow and support of 100000+ route enteries.	IPX is a legacy network layer protocol (layer 3 of the OSI Model) because IP is a more mature and extensively used and over the time IPX usage has declined. Despite the protocols' association with NetWare, it is neither required for NetWare communication nor exclusively used on NetWare networks. NetWare communication requires an NCP implementation, which can use IPX/SPX, TCP/IP, or both, as a transport. Hence we request you to remove IPX and modified as "IP, RIP V1 & V2, OSPF,BGP,IS-IS,IPV6,Policy based routing,Netflow and suppport of 100000+ route enteries."	Please refer Reply at Sr No-736
846	77	VII	7.24	35	Cooling FANS:Hot swapable cooling fans proposed	Key infrsastructre compnents such as core Switch should be provisioned with appropriate level of redundnacy and high availability features. Fan tray plays a critical role in keeping networking equipments run in good condition without frequent failures. There have been examples and instances where vendors claim that Having removable fan tray is hot swapable, while it gives an option to replace the damaged fans in the field. As a switch can sustain for few minutes only(depends on the environment and cards installed) without fan tray, the replacement can intrupt the services as switch might reboot or shut.There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. It is better to have a fan tray in redundant fashion. Hence we request it to be changed to "Hot swappable redundant cooling fan tray proposed"	Please refer Reply at Sr No-361
847	89	VII	7.24	16	Support for various ACLs like port based /time based, vlan based and Standard/extended Acls L2- L4	Each of the type of acls like port based and time based have its own requirement and significance in DC environment.Hence we request it should be changed to "Support for various ACLs like port based ,time based, vlan based and Standard,extended Acls L2- L4"	Please refer Reply at Sr No-831
848	89	VII	7.24	20	ieee802.3af-POE	POE is not relevant for DC access switches as the end boxes points are Servers. The power requirement for these end points are much more than what can be delivered over Ethernet. Moreover the DC access switches are separate class of networking devices specificaly designed for DC access such as High bandwidth ports, Unified fabric etc and does not support non relvant features such as POE. Hence we request this feature to be removed.	Please refer Reply at Sr No-808

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
849	89	VII	7.24		SNMP V1,V2 c/ V3	SNMPv3 primarily added security and remote configuration enhancements to SNMP. Security has been the biggest weakness of SNMP since the beginning.SNMPv3 provides important security features: Confidentiality - Encryption of packets to prevent snooping by an unauthorized source. Integrity - Message integrity to ensure that a packet has not been tampered with in transit. Authentication - to verify that the message is from a valid source. Hence we request this feature to be changed to "SNMP V1,V2 &V3 "	Please refer Reply at Sr No-809
850	90	VII	7.24	35	Hot swapable cooling fans proposed	Having removable fan tray gives an option to replace the damaged fans in the field, as a switch can sustain for few minute (depends on the environment and cards installed) without fan tray. There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. which some people called hotswapable. It is better to have a fan module/tray in redundant fashion. Hence we request this to be changed to "Hot swappable cooling fan tray proposed"	Please refer Reply at Sr No-361
851	89	VII	7.24		IMPORTANT FEATURE MISSING	No Layer 3 features has been defined for this switch, Request to add Layer 3 routing features like RIP, OSPF, BGP, IS-IS for IPv4 and IPv6.	Please refer Reply at Sr No-839
852	89	VII	7.24		IMPORTANT FEATURE MISSING	Request to add "L3 routing protocols needs to be supported on DC switches, like OSPF,BGP."	Please refer Reply at Sr No-839
853	88	VII	7.24		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
854	88	VII	7.24		It should have modular OS with stateful process restart.	This is a data center access switch that should be of data center class means high availability required on hardware and software both .Stateful process restart is required feature on software level that can be achived with modular OS	Please refer Reply at Sr No-836
855	88	VII	7.24		Layer 3 support	We request you to include the support of layer 3 feature in the switch and when required by UID	Please refer Reply at Sr No-837
856	89	VII	7.24	16	Support for various ACLs like port based /time based, vlan based and Standard/extended Acls L2- L4	Each of the type of acls like port based and time based have its own requirement and significance in DC environment.Hence we request it should be changed to "Support for various ACLs like port based ,time based, vlan based and Standard,extended Acls L2- L4"	Please refer Reply at Sr No-831

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
857	89	VII	7.24	20	ieee802.3af-POE	POE is not relevant for DC access switches as the end boxes points are Servers. The power requirement for these end points are much more than what can be delivered over Ethernet. Moreover the DC access switches are separate class of networking devices specificaly designed for DC access such as High bandwidth ports, Unified fabric etc and does not support non relvant features such as POE. Hence we request this feature to be removed.	Please refer Reply at Sr No-808
858	89	VII	7.24		SNMP V1,V2 c/ V3	SNMPv3 primarily added security and remote configuration enhancements to SNMP. Security has been the biggest weakness of SNMP since the beginning.SNMPv3 provides important security features: Confidentiality - Encryption of packets to prevent snooping by an unauthorized source. Integrity - Message integrity to ensure that a packet has not been tampered with in transit. Authentication - to verify that the message is from a valid source. Hence we request this feature to be changed to "SNMP V1,V2 &V3 "	Please refer Reply at Sr No-809
859	90	VII	7.24	35	Hot swapable cooling fans proposed	Having removable fan tray gives an option to replace the damaged fans in the field, as a switch can sustain for few minute (depends on the environment and cards installed) without fan tray. There are multiple fans on any fan tray to cool different portions of the chassis and the entire tray needs to be replaced. which some people called hotswapable. It is better to have a fan module/tray in redundant fashion. Hence we request this to be changed to "Hot swappable cooling fan tray proposed"	Please refer Reply at Sr No-361
860	88	VII	7.24		It should have modular OS with stateful process reatart.	This is a data center access switch that should be of data center class means high availability required on hardware and software both .Stateful process restart is required feature on software level that can be achived with modular OS	Please refer Reply at Sr No-836
861	88	VII	7.24		Layer 3 support	We request you to include the support of layer 3 feature in the switch and when required by UID	Please refer Reply at Sr No-837
862	88	VII	7.24		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
863	88	VII	7.24		It should have modular OS with stateful process reatart.	This is a data center access switch that should be of data center class means high availability required on hardware and software both .Stateful process restart is required feature on software level that can be achived with modular OS	Please refer Reply at Sr No-836

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
864	88	VII	7.24		Layer 3 support	We request you to include the support of layer 3 feature in the switch and when required by UID	Please refer Reply at Sr No-837
865	88	VII	7.24		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
866	91	VII	7.25	13	Support consolidating IP, Storage, FC and traditional Ethernet protocols into single media	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713
867	91	VII	7.25	13	Support consolidating IP, Storage, FC and traditional Ethernet protocols into single media	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713
868	91	VII	7.25	13	Support consolidating IP, Storage, FC and traditional Ethernet protocols into single media	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713
869	91	VII	7.25	13	Support consolidating IP, Storage, FC and traditional Ethernet protocols into single media	Support consolidating IP, and traditional Ethernet protocols into single media. As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional.	Please refer to revised Annexure 7.25 under revised Section VII of the bid document released alongwith the response to prebid queries.
870	92	VII	7.25	15	Datacenter bridgining exchange, ieee 802.1Qbb and ieee802.1Qaz	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713
871	92	VII	7.25	15	Datacenter bridgining exchange, ieee 802.1Qbb and ieee802.1Qaz	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713
872	92	VII	7.25	15	Datacenter bridgining exchange, ieee 802.1Qbb and ieee802.1Qaz	As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional	Please refer Reply at Sr No-713
873	92	VII	7.25	15	Datacenter bridgining exchange, ieee 802.1Qbb and ieee802.1Qaz	Please remove this or made it optional. As dedicated SAN Switches is being deployed in the Data Center so the interfaces and features related to SAN should be made optional.	Please refer to revised Annexure 7.25 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
874	91	VII	7.25	16	Support for various ACLs like port based /time based, vlan based and Standard/extended Acls L2- L4	Each of the type of acls like port based and time based have its own requirement and significance in DC environment.We request UIDAI to change this clause as "Support for various ACLs like port based ,time based, vlan based and Standard,extended Acls L2- L4"	Please refer Reply at Sr No-831
875	91	VII	7.25	16	Support for various ACLs like port based /time based, vlan based and Standard/extended Acls L2- L4	Each of the type of acls like port based and time based have its own requirement and significance in DC environment.We request UIDAI to change this clause as "Support for various ACLs like port based ,time based, vlan based and Standard,extended Acls L2- L4"	Please refer Reply at Sr No-831
876	92	VII	7.25	20	ieee802.3af - POE	POE is not relevant for DC access switches as the end boxes points are Servers. The power requirement for these end points are much more than what can be delivered over Ethernet. Moreover the DC access switches are separate class of networking devices specificaly designed for DC access such as High bandwidth ports, Unified fabric etc and does not support non relvant features such as POE. Hence we request this feature to be removed.	Please refer Reply at Sr No-808
877	92	VII	7.25	21	SNMP V1,V2 c/ V3	SNMPv3 primarily addressed security and remote configuration concerns with specific enhancements to SNMP V2. Security has been the biggest weakness of SNMP V2 since the beginning.SNMPv3 provides additional important security features: Confidentiality - Encryption of packets to prevent snooping by an unauthorized source. Integrity - Message integrity to ensure that a packet has not been tampered with in transit. Authentication - to verify that the message is from a valid source. Hence we request this to be changed to "SNMP V1,V2 & V3 "	Please refer Reply at Sr No-809
878	90	VII	7.25		It should have modular OS with stateful process reatart.	This is a data center access switch that should be of data center class means high availability required on hardware and software both .Stateful process restart is required feature on software level that can be achived with modular OS	Please refer Reply at Sr No-836
879	91	VII	7.25		Layer 3 support	We request you to include the support of layer 3 feature in the switch and when required by UID	Please refer Reply at Sr No-837
880	91	VII	7.25		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
881	92	VII	7.25		IMPORTANT FEATURE MISSING	No Layer 3 features has been defined for this switch, Request to add Layer 3 routing features like RIP, OSPF, BGP, IS-IS for IPv4 and IPv6.	Please refer Reply at Sr No-881
882	92	VII	7.25		IMPORTANT FEATURE MISSING	No Layer 3 features has been defined for this switch, Request to add Layer 3 routing features like RIP, OSPF, BGP, IS-IS for IPv4 and IPv6.	Please refer Reply at Sr No-881

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
883	91	VII	7.25	16	Support for various ACLs like port based /time based, vlan based and Standard/extended Acls L2- L4	Each of the type of acls like port based and time based have its own requirement and significance in DC environment.We request UIDAI to change this clause as "Support for various ACLs like port based ,time based, vlan based and Standard,extended Acls L2- L4"	Please refer Reply at Sr No-831
884	92	VII	7.25	20	ieee802.3af - POE	POE is not relevant for DC access switches as the end boxes points are Servers. The power requirement for these end points are much more than what can be delivered over Ethernet. Moreover the DC access switches are separate class of networking devices specificaly designed for DC access such as High bandwidth ports, Unified fabric etc and does not support non relvant features such as POE. Hence we request this feature to be removed.	Please refer Reply at Sr No-808
885	92	VII	7.25	21	SNMP V1,V2 c/ V3	SNMPv3 primarily addressed security and remote configuration concerns with specific enhancements to SNMP V2. Security has been the biggest weakness of SNMP V2 since the beginning.SNMPv3 provides additional important security features: Confidentiality - Encryption of packets to prevent snooping by an unauthorized source. Integrity - Message integrity to ensure that a packet has not been tampered with in transit. Authentication - to verify that the message is from a valid source. Hence we request this to be changed to "SNMP V1,V2 & V3 "	Please refer Reply at Sr No-809
886	92	VII	7.25	20	ieee802.3af - POE	POE is not relevant for DC access switches as the end boxes points are Servers. The power requirement for these end points are much more than what can be delivered over Ethernet. Moreover the DC access switches are separate class of networking devices specificaly designed for DC access such as High bandwidth ports, Unified fabric etc and does not support non relvant features such as POE. Hence we request this feature to be removed.	Please refer Reply at Sr No-808
887	92	VII	7.25	21	SNMP V1,V2 c/ V3	SNMPv3 primarily addressed security and remote configuration concerns with specific enhancements to SNMP V2. Security has been the biggest weakness of SNMP V2 since the beginning.SNMPv3 provides additional important security features: Confidentiality - Encryption of packets to prevent snooping by an unauthorized source. Integrity - Message integrity to ensure that a packet has not been tampered with in transit. Authentication - to verify that the message is from a valid source. Hence we request this to be changed to "SNMP V1,V2 & V3 "	Please refer Reply at Sr No-809
888	91	VII	7.25	16	Support for various ACLs like port based /time based, vlan based and Standard/extended Acls L2- L4	Each of the type of acls like port based and time based have its own requirement and significance in DC environment.We request UIDAI to change this clause as "Support for various ACLs like port based ,time based, vlan based and Standard,extended Acls L2- L4"	Please refer Reply at Sr No-831

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
889	92	VII	7.25	20	ieee802.3af - POE	POE is not relevant for DC access switches as the end boxes points are Servers. The power requirement for these end points are much more than what can be delivered over Ethernet. Moreover the DC access switches are separate class of networking devices specificaly designed for DC access such as High bandwidth ports, Unified fabric etc and does not support non relvant features such as POE. Hence we request this feature to be removed.	Please refer Reply at Sr No-808
890	92	VII	7.25	21	SNMP V1,V2 c/ V3	SNMPv3 primarily addressed security and remote configuration concerns with specific enhancements to SNMP V2. Security has been the biggest weakness of SNMP V2 since the beginning.SNMPv3 provides additional important security features: Confidentiality - Encryption of packets to prevent snooping by an unauthorized source. Integrity - Message integrity to ensure that a packet has not been tampered with in transit. Authentication - to verify that the message is from a valid source. Hence we request this to be changed to "SNMP V1,V2 & V3 "	Please refer Reply at Sr No-809
891	91	VII	7.25	16	Support for various ACLs like port based /time based, vlan based and Standard/extended Acls L2- L4	Each of the type of acls like port based and time based have its own requirement and significance in DC environment.We request UIDAI to change this clause as "Support for various ACLs like port based ,time based, vlan based and Standard,extended Acls L2- L4"	Please refer Reply at Sr No-831
892	92	VII	7.25	20	ieee802.3af - POE	POE is not relevant for DC access switches as the end boxes points are Servers. The power requirement for these end points are much more than what can be delivered over Ethernet. Moreover the DC access switches are separate class of networking devices specificaly designed for DC access such as High bandwidth ports, Unified fabric etc and does not support non relvant features such as POE. Hence we request this feature to be removed.	Please refer Reply at Sr No-808
893	92	VII	7.25	21	SNMP V1,V2 c/ V3	SNMPv3 primarily addressed security and remote configuration concerns with specific enhancements to SNMP V2. Security has been the biggest weakness of SNMP V2 since the beginning.SNMPv3 provides additional important security features: Confidentiality - Encryption of packets to prevent snooping by an unauthorized source. Integrity - Message integrity to ensure that a packet has not been tampered with in transit. Authentication - to verify that the message is from a valid source. Hence we request this to be changed to "SNMP V1,V2 & V3 "	Please refer Reply at Sr No-809
894	92	VII	7.25		IMPORTANT FEATURE MISSING	No Layer 3 features has been defined for this switch, Request to add Layer 3 routing features like RIP, OSPF, BGP, IS-IS for IPv4 and IPv6.	Please refer Reply at Sr No-881
895	92	VII	7.25		IMPORTANT FEATURE MISSING	L3 routing protocols needs to be added, like OSPF, BGP. Request To add this feature.	Please refer Reply at Sr No-839
896	91	VII	7.25		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
897	91	VII	7.25		It should have modular OS with stateful process reatart.	This is a data center access switch that should be of data center class means high availability required on hardware and software both .Stateful process restart is required feature on software level that can be achived with modular OS	Please refer Reply at Sr No-836
898	91	VII	7.25		Layer 3 support	We request you to include the support of layer 3 feature in the switch and when required by UID	Please refer Reply at Sr No-837
899	91	VII	7.25		L3 Switches - ABIS Lan - Point 13, Ports - 48 x 10G and 1G Gigabit Ethernet ports has been asked.	Kindly specify on how many numbers of 1G & 10G ports are required as the SFPs for 1G and 10G are different.	The minimum requirement stands modified to " 48 ports of 10G and 4 ports of 1G "
900	96	VII	7.26	22	Authentication, Authorization and Accounting Support	How many users are expected to be authenticated on the VPN using hardware tokens to ensure that no remote users use a weak single factor authentication technology to log onto the internal UIDAI network from remote locations	The clarification sought is not relevant .
901	96	VII	7.26	22	Authentication, Authorization and Accounting Support	How many users are expected to be authenticated on the VPN using hardware tokens to ensure that no remote users use a weak single factor authentication technology to log onto the internal UIDAI network from remote locations	Please refer Reply at Sr No-900
902	96	VII	7.26	22	Authentication, Authorization and Accounting Support	How many users are expected to be authenticated on the VPN using hardware tokens to ensure that no remote users use a weak single factor authentication technology to log onto the internal UIDAI network from remote locations	Please refer Reply at Sr No-900
903	96	VII	7.26	22	Authentication, Authorization and Accounting Support	How many users are expected to be authenticated on the VPN using hardware tokens to ensure that no remote users use a weak single factor authentication technology to log onto the internal UIDAI network from remote locations	Please refer Reply at Sr No-900
904	97	VII	7.26	22	Authentication, Authorization and Accounting Support	How many users are expected to be authenticated on the VPN using hardware tokens to ensure that no remote users use a weak single factor authentication technology to log onto the internal UIDAI network from remote locations	Please refer Reply at Sr No-900
905	94	VII	7.26	15	Concurrent Sessions: at least 1500000 and atleast 80000 sessions per second	1.5Million Concurrent connections with 80,000 cps is specific to selective OEM. Please reduce it to 70,000.	Please refer to revised Annexure 7.26 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
906	97	VII	7.26	24	DHCP Relay	DHCP Relay is a Networking Function and has to handle the layer2 & layer-3 Broadcast Packets (DHCP Discover, DHCPOffer, DHCPSupply & DHCPAcknowledge) for every client. This is not a recommended practice as it is security & network hazard for a Main Security Gateway for such a critical datacenter. This is generally taken by UTM solution customers for SOHO (small office & home office) datacenters/offices. We suggest it to be removed as it can not be used in large data centers.	Please refer to revised Annexure 7.26 under revised Section VII of the bid document released alongwith the response to prebid queries.
907	98	VII	7.26	26	IPS Module: X.509 Certificate and CRL support	The X509 Certificate & CRL is mentioned for IPS Module as these are related to authentication engine of Firewall. Please calrify if it is a typo error. If it is a typo error, then please suggest how it should be read?	Please refer to revised Annexure 7.26 under revised Section VII of the bid document released alongwith the response to prebid queries.
908	95	VII	7.26	18	Ports: 6 Nos of 10Gbps ports and expandable	Only selective Vendor supports 6 x 10Gig ports. Please reduce this to "4 x 10Gig ports or As per the Architecture proposed by the bidder"	Please refer to reply at Sr. No. 914
909	94	VII	7.26	15	at least 1500000 and at least 80000 sessions per second	1.5Million Concurrent connections with 80,000 cps is specific to some OEM. As most of the firewall solutions in the deployments at Core Datacenters have reached the scale of 1Million in the current deployments, it is undercapacity for just 1.6 Million coccurrent connections. However for a scale of UID project and for it to sustain at least 7 years from now, it should not be less than 4Million Concurrent Connections which is 50times higher than the connections per second as most solutions should deliver concurrency of up to 50times the new connections rate as per performance planning.	Please refer to reply at Sr. No. 905
910	94	VII	7.26	16	at least 10 Gbps and higher	Is 10Gbps a large packet throughput or IMIX throughput? Please clarify. We suggest it to be IMIX throughput as most common applications and traffic patterns are IMIX in nature	The query is not relevant.
911	97	VII	7.26	24	Forwards DHCP requests from internal devices to an administrator-specified DHCP server, enabling centralized distribution, tracking, and maintenance of IP addresses	DHCP Relay is a Networking Function and has to handle the layer2 & layer-3 Broadcast Packets (DHCP Discover, DHCPOffer, DHCPSupply & DHCPAcknowledge) for every client. This is not a recommended practice as it is security & network hazard for a Main Security Gateway for such a critical datacenter. This is generally taken by UTM solution customers for SOHO (small office & home office) datacenters/offices. We suggest it to be removed as it can not be used in large data centers.	Please refer Reply at Sr No-906
912	97	VII	7.26		Rich dynamic NAT and PAT services, Static NAT and PAT service, Policy-based NAT and PAT services	Most of the points of NAT, PAT & Policy Based NAT are not dependant on DHCP Relay and therefore we propose them to be read as a separate section.	Please refer to revised Annexure 7.26 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
913	98	VII	7.26	26	IPS Module	The X509 Certificate & CRL is mentioned for IPS Module as these are related to authentication engine of Firewall. Please calrify if it is a typo error. If it is a typo error, then please suggest how it should be read?	Please refer Reply at Sr No-907
914	95	VII	7.26		Ports	When the firewall is taken for 10Gbps throughput why there are 6 Interfaces of 10Gigabit? This looks like qualifying a specific vendor. Please reduce it to 4 so that other OEMs can participate	Please refer to revised annexure 7.26 under revised Section VII of the bid document.
915	96	VII	7.26	22	Authentication, Authorization and Accounting Support: Native SecureID authentication(VPN only)	Please clarify that how many users are expected to be authenticated on the VPN using hardware tokens to ensure that no remote users use a weak single factor authentication technology to log onto the internal UIDAI network from remote locations	Please refer Reply at Sr No-900
916	94	VII	7.26	15		1.5Million Concurrent connections with 80,000 cps is specific to some OEM. As most of the firewall solutions in the deployments at Core Datacenters have reached the scale of 1Million in the current deployments, it is undercapacity for just 1.5 Million coccurrent connections. However for a scale of UID project and for it to sustain at least 7 years from now, it should not be less than 4Million Concurrent Connections which is 50times higher than the connections per second as most solutions should deliver concurrency of up to 50times the new connections rate as per performance planning.	Please refer Reply at Sr No-909
917	94	VII	7.26		SSL VPN	Since the firewall already supports IPSEC VPN, adding inbuilt SSL VPN will utilize additional Resource of the Firewall affecting performance. Please remove the clause	Accepted
918	94	VII	7.26		Should support VPN Clustering and load balancing	Please change Laod balancing to Load Balancing/load sharing as vendors use either of these to ahcieve high availability.	The specification stands modified to read as "Should support VPN Clustering, Load balancing and Load sharing"
919	96	VII	7.26		PPTP	Since IP Sec is the defacto standard used for VPN, and Since PPTP is no longer used by most orgnaistaions , hence please remove this clause	Please refer to revised Annexure 7.26 under revised Section VII released alongwith response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
920	96	VII	7.26		AAA TACACS+	Pls. delete this as its proprietary to CISCO	The Minimum Requirement "TACACS+" stands modified to read as " TACACS or equivalent". However, the protocol should permit seggregation of authentication and authorization in a user profile
921	97	VII	7.26	24		DHCP Relay is a Networking Function and has to handle the layer2 & layer-3 Broadcast Packets (DHCP Discover, DHCPOffer, DHCPSupply & DHCPAcknowledge) for every client. This is not a recommended practice as it is security & network hazard for a Main Security Gateway for such a critical datacenter. This is generally taken by UTM solution customers for SOHO (small office & home office) datacenters/offices. We suggest it to be removed as it can not be used in large data centers.	Please refer Reply at Sr No-906
922	94	VII	7.26	16		Is 10Gbps a large packet throughput or IMIX throughput? Please clarify. We suggest it to be IMIX throughput as most common applications and traffic patterns are IMIX in nature	Please refer Reply at Sr No-910
923	97	VII	7.26	24		Most of the points of NAT, PAT & Policy Based NAT are not dependant on DHCP Relay and therefore we propose them to be read as a separate section.	Please refer Reply at Sr No-912
924	98	VII	7.26	26		The X509 Certificate & CRL is mentioned for IPS Module as these are related to authentication engine of Firewall. Please calrify if it is a typo error. If it is a typo error, then please suggest how it should be read?	Please refer Reply at Sr No-907
925	95	VII	7.26	18		When the firewall is taken for 10Gbps throughput why there are 6 Interfaces of 10Gigabit? This looks specific to one OEM. Please reduce it to 4 so that other OEMs can participate	Please refer Reply at Sr No-914
926	101	VII	7.27	4	Support IBM AIX,HP-UX	Pls. delete support for HP UX & IBM AIX in case these are not being procured in this project as only a select few vendors support this.	Please refer to revised Annexure 7.27 under revised Section VII of the bid document released alongwith the response to prebid queries.
927	102	VII	7.27	7	Audit Policy Management	Pls. delete as its propietary to a perticular vendor	Please refer to revised Annexure 7.27 under revised Section VII released alongwith response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
928	102	VII	7.27	9	The Module instantly correlates security data from multiple sources to escalate serious threats such as attack on a vulnerability asset or a covert, multiple set attacks	As a Dedicated Event Correlation tool is asked for in the tender, this features is not required and will creates duplicacy of solution.	Please refer to revised Annexure 7.27 under revised Section VII of the bid document released alongwith the response to prebid queries.
929	101	VII	7.27	4	Support IBM AIX,HP-UX	Pls. delete support for HP UX & IBM AIX in case these are not being procured in this project as only a select few vendors support this.	Please refer Reply at Sr No-926
930	102	VII	7.27	7	Audit Policy Management	Pls. delete as its propietary to a perticular vendor	Please refer to reply at Sr No 927
931	104	VII	7.28	12	Throughput	Pl. specify the throughput of the appliance. Keeping in mind the 10G interfaces & 1 G interfaces being asked you need to look at atleast 5 GBPS (preferably 10GBPS) of throughput to address future scalability needs	10Gbps Throughput and 10 Nos of 10G ports.
932	104	VII	7.28	12	Through put	Psl. specify the throughput of the appliance… Keeping in mind the 10G interfaces & 1 G interfaced being aksed you need to look at atleast 5 GBPS (preferably 10GBPS) of throughput to address future scalability needs	Please refer Reply at Sr No-931
933	107	VII	7.29	4	The appliance should have dedicated 10G interface for management console . None of the monitoring port should be used for this purpose	Management traffic is very less as compared to the network traffic. For IPS management the total traffic will not be more than 1-2 Mbps at any point of time. Hence, provision 10G interface for management of IPS might not be required and is specific to one OEM. Most of the leading IPS vendors have dedicated 1 Gig interface for management console. It is suggested that the clause is amended as " The appliance should have dedicated 1 G interface for management console . None of the monitoring port should be used for this purpose"	Please refer to Reply at Sr No 943
934	107	VII	7.29	4	The appliance should have dedicated 10G interface for management console . None of the monitoring port should be used for this purpose	Management traffic is very less as compared to the network traffic. For IPS management the total traffic will not be more than 1-2 Mbps at any point of time. Hence, provision 10G interface for management of IPS might not be required and is specific to one OEM. Most of the leading IPS vendors have dedicated 1 Gig interface for management console. It is suggested that the clause is amended as " The appliance should have dedicated 1 G interface for management console . None of the monitoring port should be used for this purpose"	Please refer to Reply at Sr No 943
935	107	VII	7.29	4	The appliance should have dedicated 10G interface for management console . None of the monitoring port should be used for this purpose	Management traffic is very less as compared to the network traffic. For IPS management the total traffic will not be more than 1-2 Mbps at any point of time. Hence, provision 10G interface for management of IPS might not be required and is specific to one OEM. Most of the leading IPS vendors have dedicated 1 Gig interface for management console. It is suggested that the clause is amended as " The appliance should have dedicated 1 G interface for management console . None of the monitoring port should be used for this purpose"	Please refer to Reply at Sr No 943

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
936	107	VII	7.29	9	IPS should employ full seven-layer protocol analysis of over 190 internet protocols and data file format	This clause is specific to one OEM. Leading IPS OEM supports full seven-layer protocol analysis of most of the internet protocols and data file format, 190 protocol is vendor specific. Please amend this clause to "IPS should employ full seven-layer protocol analysis of most of the internet protocols and data file format"	Please refer to revised Annexure 7.29 under revised Section VII of the bid document released alongwith the response to prebid queries.
937	107	VII	7.29	9	IPS should employ full seven-layer protocol analysis of over 190 internet protocols and data file format	This clause is specific to one OEM. Leading IPS OEM supports full seven-layer protocol analysis of most of the internet protocols and data file format, 190 protocol is vendor specific. Please amend this clause to "IPS should employ full seven-layer protocol analysis of most of the internet protocols and data file format"	Please refer to the reply at Sr No 936
938	107	VII	7.29	9	IPS should employ full seven-layer protocol analysis of over 190 internet protocols and data file format	This clause is specific to one OEM. Leading IPS OEM supports full seven-layer protocol analysis of most of the internet protocols and data file format, 190 protocol is vendor specific. Please amend this clause to "IPS should employ full seven-layer protocol analysis of most of the known internet protocols and data file format"	Please refer to the reply at Sr No 936
939	110	VII	7.29	37	IPS management console should support high availability	Backup and recovery mechanism for the management console is standard industry practice to ensure higher availability/ failure recovery of IPS management console. This clause is specific to one OEM. Hence, It is suggested that the clause is amended as " IPS management console should support high availability/ backup and restore"	Please refer to revised Annexure 7.29 under revised Section VII of the bid document released alongwith the response to prebid queries.
940	110	VII	7.29	39	IPS centralized management console should manage all products network, host and vulnerability assessment solutions	It is industry practice that IPS centralized management console integrates with other NMS and Event correlation engines, host based IPS and vulnerability assessment solutions also integrated with NMS & Event correlation engines. Hence it is suggested that this clause is amended as " IPS centralized management console should integrate with NMS and event correlation engines for centralized management of all products network, host and vulnerability assessment solutions"	Please refer to revised Annexure 7.29 under revised Section VII of the bid document released alongwith the response to prebid queries.
941	110	VII	7.29	39	IPS centralized management console should manage all products network, host and vulnerability assessment solutions	It is industry practice that management console of NIPS,host based IPS and vulnerability assessment solutions integrates with Centralized NMS. Hence it is suggested that this clause is amended as " IPS centralized management console should integrate with Centralized NMS for all products network, host and vulnerability assessment solutions"	Please refer to the reply at Sr No 940
942	110	VII	7.29	44	IPS product models should have been tested/certified for NSS, tolly tested and ICSA.B15	NSS is the industry standard body to test and certify IPS devices. ICSA certification is applicable to firewalls. It is suggested that this clause is amended as "IPS product models should have been tested/certified for NSS/tolly tested/ ICSA.B15"	The parameter stands modified to "IPS product models should have been tested/certified for NSS/tolly tested/ ICSA.B15".

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
943	107	VII	7.29	4	Should provide a 10G management interface	This should ideally be the throughput of the applaince and not the management port throughput. All vendors support 10/100/1000 management port only. I believe the reference is to the appliance through put of 10 GBPS. Please confirm.	The parameter stands modified to "The appliance should have two separate dedicated 1G interface for management console. None of the monitoring ports should be used for this purpose". Appliance throughput is 10 G. Please refer to revised Annexure 7.29
944	109	VII	7.29	35	Shuld be able to block unwanted PII & sensitive information	These specs are proprietary specs to a perticular vendor. also it's a DLP feature and not a NIPS fucntionality. . You need to instead look at preventing SSL encrypted attacks and should have this fucnitonaliity inbuilt.	The minimum requirement for the specification stands deleted. However, the bidder should fill up information in column "Specifications offered"
945	107	VII	7.29		Perimeter Security Device	Kindly define the No of segments to be provided in the Perimeter Security Device.	Please refer to the reply at Sr No 100
946	107	VII	7.29	4	The appliance should have dedicated 10G interface for management console . None of the monitoring port should be used for this purpose	Management traffic is very less as compared to the network traffic. For IPS management the total traffic will not be more than 1-2 Mbps at any point of time. Hence, provision 10G interface for management of IPS might not be required and is specific to one OEM. Most of the leading IPS vendors have dedicated 1 Gig interface for management console. It is suggested that the clause is amended as " The appliance should have dedicated 1 G interface for management console . None of the monitoring port should be used for this purpose"	Please refer to Reply at Sr No 943
947	107	VII	7.29	9	IPS should employ full seven-layer protocol analysis of over 190 internet protocols and data file format	This clause is specific to one OEM. Leading IPS OEM supports full seven-layer protocol analysis of most of the internet protocols and data file format, 190 protocol is vendor specific. Please amend this clause to "IPS should employ full seven-layer protocol analysis of most of the known internet protocols and data file format"	Please refer to the reply at Sr No 936
948	110	VII	7.29	39	IPS centralized management console should manage all products network, host and vulnerability assessment solutions	It is industry practice that management console of NIPS,host based IPS and vulnerability assessment solutions integrates with Centralized NMS. Hence it is suggested that this clause is amended as " IPS centralized management console should integrate with Centralized NMS for all products network, host and vulnerability assessment solutions"	Please refer to the reply at Sr No 940
949	107	VII	7.29			Layer 7 inspection throughput for IPS device has not been mentioned. It is suggested that IPS device should support minimum 4 Gbps Layer 7 throughput upgradeable to 8 Gbps.Please Clarify.	Please refer to new parameters added at Point No. 46 and 47 of Annex 7.29

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
950	107	VII	7.29			Interface requirement/ number of segments has not been mentioned for the IPS appliance. It is suggested that IPS device should have 4 X 10G interfaces and 4 X 1G interfaces.Please Clarify	Please refer to Reply at Sr No 949
951	110	VII	7.29		IPS management console should support high availability	Backup and recovery mechanism for the management console is standard industry practice to ensure higher availability/ failure recovery of IPS management console. This clause is specific to one OEM. Hence, It is suggested that the clause is amended as " IPS management console should support high availability/ backup and restore"	Please refer to the reply at Sr No 939
952	107	VII	7.29			Interface requirement/ number of segments has not been mentioned for the IPS appliance. Please clarify	Please refer to Reply at Sr No 949
953	110	VII	7.29	39	IPS centralized management console should manage all products network, host and vulnerability assessment solutions	It is industry practice that IPS centralized management console integrates with other NMS and Event correlation engines, host based IPS and vulnerability assessment solutions also integrated with NMS & Event correlation engines. Hence it is suggested that this clause is amended as " IPS centralized management console should integrate with NMS and event correlation engines for centralized management of all products network, host and vulnerability assessment solutions"	Please refer to the reply at Sr No 940
954	107	VII	7.29			Layer 7 inspection throughput for IPS device has not been mentioned.	Please refer to Reply at Sr No 949
955	107	VII	7.29	4	The appliance should have dedicated 10G interface for management console . None of the monitoring port should be used for this purpose	NO IPS solution has 10 G mnagement interface	Please refer to Reply at Sr No 943
956	110	VII	7.29	44	IPS product models should have been tested/certified for NSS, tolly tested and ICSA.B15	NSS is the industry standard body to test and certify IPS devices. ICSA certification is applicable to firewalls. It is suggested that this clause is amended as "IPS product models should have been tested/certified for NSS/tolly tested/ ICSA.B15"	Please refer to the reply at Sr No 942
957	107	VII	7.29	9	IPS should employ full seven-layer protocol analysis of over 190 internet protocols and data file format	This clause is specific to one OEM. Leading IPS OEM supports full seven-layer protocol analysis of most of the internet protocols and data file format, 190 protocol is vendor specific. Please amend this clause to "IPS should employ full seven-layer protocol analysis of most of the internet protocols and data file format"	Please refer to the reply at Sr No 936
958	107	VII	7.29			Interface requirement/ number of segments has not been mentioned for the IPS appliance. It is suggested that IPS device should have 4 X 10G interfaces and 4 X 1G interfaces.Please Clarify	Please refer to Reply at Sr No 949
959	107	VII	7.29			Layer 7 inspection throughput for IPS device has not been mentioned. It is suggested that IPS device should support minimum 4 Gbps Layer 7 throughput upgradeable to 8 Gbps.Please Clarify.	Please refer to Reply at Sr No 949

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
960	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
961	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
962	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90
963	107	VII	7.29			Layer 7 inspection throughput for IPS device has not been mentioned. It is suggested that IPS device should support minimum 4 Gbps Layer 7 throughput upgradeable to 8 Gbps.Please Clarify.	Please refer to Reply at Sr No 949
964	107	VII	7.29			Interface requirement/ number of segments has not been mentioned for the IPS appliance. It is suggested that IPS device should have 4 X 10G interfaces and 4 X 1G interfaces.Please Clarify	Please refer to Reply at Sr No 949
965	110	VII	7.29	37	IPS management console should support high availability	Backup and recovery mechanism for the management console is standard industry practice to ensure higher availability/ failure recovery of IPS management console. This clause is specific to one OEM. Hence, It is suggested that the clause is amended as " IPS management console should support high availability/ backup and restore"	Please refer to the reply at Sr No 939
966	110	VII	7.29	39	IPS centralized management console should manage all products network, host and vulnerability assessment solutions	It is industry practice that IPS centralized management console integrates with other NMS and Event correlation engines, host based IPS and vulnerability assessment solutions also integrated with NMS & Event correlation engines. Hence it is suggested that this clause is amended as " IPS centralized management console should integrate with NMS and event correlation engines for centralized management of all products network, host and vulnerability assessment solutions"	Please refer to the reply at Sr No 940
967	110	VII	7.29	44	IPS product models should have been tested/certified for NSS, tolly tested and ICSA.B15	NSS is the industry standard body to test and certify IPS devices. ICSA certification is applicable to firewalls. It is suggested that this clause is amended as "IPS product models should have been tested/certified for NSS/tolly tested/ ICSA.B15"	Please refer to the reply at Sr No 942
968	8	VII	7.29	20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
969	8	VII	7.29	20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
970	8	VII	7.29	20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
971	107	VII	7.29	4	The appliance should have dedicated 10G interface for management console . None of the monitoring port should be used for this purpose	Management traffic is very less as compared to the network traffic. For IPS management the total traffic will not be more than 1-2 Mbps at any point of time. Hence, provision 10G interface for management of IPS might not be required and practical. Most of the leading IPS vendors have dedicated 1 Gig interface for management console. It is suggested that the clause is amended as " The appliance should have dedicated 1 G interface for management console . None of the monitoring port should be used for this purpose"	Please refer to Reply at Sr No 943
972	107	VII	7.29	9	IPS should employ full seven-layer protocol analysis of over 190 internet protocols and data file format	This clause is specific to one OEM. Leading IPS OEM supports full seven-layer protocol analysis of most of the internet protocols and data file format, 190 protocol is vendor specific. Please amend this clause to "IPS should employ full seven-layer protocol analysis of most of the internet protocols and data file format"	Please refer to the reply at Sr No 936
973	110	VII	7.29	37	IPS management console should support high availability	Backup and recovery mechanism for the management console is standard industry practice to ensure higher availability/ failure recovery of IPS management console. This clause is specific to one OEM. Hence, It is suggested that the clause is amended as " IPS management console should support high availability/ backup and restore"	Please refer to the reply at Sr No 939
974	110	VII	7.29	39	IPS centralized management console should manage all products network, host and vulnerability assessment solutions	It is industry practice that IPS centralized management console integrates with other NMS and Event correlation engines, host based IPS and vulnerability assessment solutions also integrated with NMS & Event correlation engines. Hence it is suggested that this clause is amended as " IPS centralized management console should integrate with NMS and event correlation engines for centralized management of all products network, host and vulnerability assessment solutions"	Please refer to the reply at Sr No 940
975	110	VII	7.29	44	IPS product models should have been tested/certified for NSS, tolly tested and ICSA.B15	NSS is the industry standard body to test and certify IPS devices. ICSA certification is applicable to firewalls. It is suggested that this clause is amended as "IPS product models should have been tested/certified for NSS/tolly tested/ ICSA.B15"	Please refer to the reply at Sr No 942
976	107	VII	7.29			Layer 7 inspection throughput for IPS device has not been mentioned. It is suggested that IPS device should support minimum 4 Gbps Layer 7 throughput upgradeable to 8 Gbps.Please Clarify.	Please refer to Reply at Sr No 949
977	107	VII	7.29			Interface requirement/ number of segments has not been mentioned for the IPS appliance. It is suggested that IPS device should have 4 X 10G interfaces and 4 X 1G interfaces.Please Clarify	Please refer to Reply at Sr No 949
978	8	VII	7.29	20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
979	8	VII	7.29	20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
980	8	VII	7.29	20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90
981	107	VII	7.29	4	Should provide a 10G management interface	This should ideally be the throughput of the applaince and not the management port throughput. All vendors support 10/100/1000 management port only. I believe you are refering to the applaince through put of 10 GBPS.	Please refer to Reply at Sr No 943
982	109	VII	7.29	35	Shuld be able to block unwanted PII & sensitive information	Proprietary specs to a perticular a pertilcuar vendor… also it's a DLP feature and not a NIPS fucntionality. Also most attacks today are encrypted and hence this functionlaity will not work in any case…. You need to instead look at preventing SSL encrypted attacks and should have this fucnitonaliity inbuilt.	Please refer to Reply at Sr No 944
983	107	VII	7.29			Layer 7 inspection throughput for IPS device has not been mentioned. It is suggested that IPS device should support minimum 4 Gbps Layer 7 throughput upgradeable to 8 Gbps.Please Clarify.	Please refer to Reply at Sr No 949
984	107	VII	7.29			Interface requirement/ number of segments has not been mentioned for the IPS appliance. It is suggested that IPS device should have 4 X 10G interfaces and 4 X 1G interfaces.Please Clarify	Please refer to Reply at Sr No 949
985	107	VII	7.29	4	The appliance should have dedicated 10G interface for management console . None of the monitoring port should be used for this purpose	Management traffic is very less as compared to the network traffic. For IPS management the total traffic will not be more than 1-2 Mbps at any point of time. Hence, provision 10G interface for management of IPS might not be required and practical. Most of the leading IPS vendors have dedicated 1 Gig interface for management console. It is suggested that the clause is amended as " The appliance should have dedicated 1 G interface for management console . None of the monitoring port should be used for this purpose"	Please refer to Reply at Sr No 943
986	107	VII	7.29	9	IPS should employ full seven-layer protocol analysis of over 190 internet protocols and data file format	This clause is specific to one OEM. Leading IPS OEM supports full seven-layer protocol analysis of most of the internet protocols and data file format, 190 protocol is vendor specific. Please amend this clause to "IPS should employ full seven-layer protocol analysis of most of the internet protocols and data file format"	Please refer to the reply at Sr No 936
987	110	VII	7.29	37	IPS management console should support high availability	Backup and recovery mechanism for the management console is standard industry practice to ensure higher availability/ failure recovery of IPS management console. This clause is specific to one OEM. Hence, It is suggested that the clause is amended as " IPS management console should support high availability/ backup and restore"	Please refer to the reply at Sr No 939

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
988	110	VII	7.29	39	IPS centralized management console should manage all products network, host and vulnerability assessment solutions	It is industry practice that IPS centralized management console integrates with other NMS and Event correlation engines, host based IPS and vulnerability assessment solutions also integrated with NMS & Event correlation engines. Hence it is suggested that this clause is amended as " IPS centralized management console should integrate with NMS and event correlation engines for centralized management of all products network, host and vulnerability assessment solutions"	Please refer to the reply at Sr No 940
989	110	VII	7.29	44	IPS product models should have been tested/certified for NSS, tolly tested and ICSA.B15	NSS is the industry standard body to test and certify IPS devices. ICSA certification is applicable to firewalls. It is suggested that this clause is amended as "IPS product models should have been tested/certified for NSS/tolly tested/ ICSA.B15"	Please refer to the reply at Sr No 942
990	107	VII	7.29			Layer 7 inspection throughput for IPS device has not been mentioned. It is suggested that IPS device should support minimum 4 Gbps Layer 7 throughput upgradeable to 8 Gbps.Please Clarify.	Please refer to Reply at Sr No 949
991	107	VII	7.29			Interface requirement/ number of segments has not been mentioned for the IPS appliance. It is suggested that IPS device should have 4 X 10G interfaces and 4 X 1G interfaces.Please Clarify	Please refer to Reply at Sr No 949
992	8	VII	7.29	20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
993	8	VII	7.29	20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
994	8	VII	7.29	20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90
995	107	VII	7.29	4	The appliance should have dedicated 10G interface for management console . None of the monitoring port should be used for this purpose	Management traffic is very less as compared to the network traffic. For IPS management the total traffic will not be more than 1-2 Mbps at any point of time. Hence, provision 10G interface for management of IPS might not be required and practical. Most of the leading IPS vendors have dedicated 1 Gig interface for management console. It is suggested that the clause is amended as " The appliance should have dedicated 1 G interface for management console . None of the monitoring port should be used for this purpose"	Please refer to Reply at Sr No 943
996	107	VII	7.29	9	IPS should employ full seven-layer protocol analysis of over 190 internet protocols and data file format	This clause is specific to one OEM. Leading IPS OEM supports full seven-layer protocol analysis of most of the internet protocols and data file format, 190 protocol is vendor specific. Please amend this clause to "IPS should employ full seven-layer protocol analysis of most of the internet protocols and data file format"	Please refer to the reply at Sr No 936

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
997	110	VII	7.29	37	IPS management console should support high availability	Backup and recovery mechanism for the management console is standard industry practice to ensure higher availability/ failure recovery of IPS management console. This clause is specific to one OEM. Hence, It is suggested that the clause is amended as " IPS management console should support high availability/ backup and restore"	Please refer to the reply at Sr No 939
998	110	VII	7.29	39	IPS centralized management console should manage all products network, host and vulnerability assessment solutions	It is industry practice that IPS centralized management console integrates with other NMS and Event correlation engines, host based IPS and vulnerability assessment solutions also integrated with NMS & Event correlation engines. Hence it is suggested that this clause is amended as " IPS centralized management console should integrate with NMS and event correlation engines for centralized management of all products network, host and vulnerability assessment solutions"	Please refer to the reply at Sr No 940
999	110	VII	7.29	44	IPS product models should have been tested/certified for NSS, tolly tested and ICSA.B15	NSS is the industry standard body to test and certify IPS devices. ICSA certification is applicable to firewalls. It is suggested that this clause is amended as "IPS product models should have been tested/certified for NSS/tolly tested/ ICSA.B15"	Please refer to the reply at Sr No 942
1000	107	VII	7.29			Layer 7 inspection throughput for IPS device has not been mentioned. It is suggested that IPS device should support minimum 4 Gbps Layer 7 throughput upgradeable to 8 Gbps.Please Clarify.	Please refer to Reply at Sr No 949
1001	107	VII	7.29			Interface requirement/ number of segments has not been mentioned for the IPS appliance. It is suggested that IPS device should have 4 X 10G interfaces and 4 X 1G interfaces.Please Clarify	Please refer to Reply at Sr No 949
1002	6	VII	7.3	5	DIMM Size : 4GB	Please clarify DIMM size Minimum requirement is 4GB so could we install 8GB DIMM Size	Please refer to reply at Sr.No.251
1003	7	VII	7.3	11	Virtulization support (support for hypervisors like ESXi/ESX, XEN , KVM, HYPER V, Virtual Box	Virtual Box is not supported and request you to please remove the Virtual Box option from the Virtulization Hypervisor support	The wordings "Virtual Box" stand deleted.
1004	7	VII	7.3	14	Others Free Expansion Slots; 2	Server has been asked with Dual 10G Ethernet Adapters as well as Dual 8 Gbps Fiber Channel adapters which will occupy 4 PCI Slots in the server. 2U form factor Servers at the max will have 4 Number of PCI Slots which already are occupied with the 10G Ethernet and Fiber channel Adapters. Request you to please remove off the 2 Free PCI Slots requirement which is not possible in 2U kind of form factor server. In case 2 Free slots is an requirement request you to please give relaxation from 2U to 5U server where this type of configuration is possible	The minimum Requirement of parameter at point no. 8 i.e. "No of 1G Ethernet ports" stands deleted for Rack server-1,Rack server-2 and Rack server3

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1005	7	VII	7.3	15	Estimated rating of server for proposed configuration: tpmC, SPECpower_ssj2008	SPEC CPU benchmarks (SPEC_int2006, SPEC_fp2006, SPECint_rate_base2006, SPECfp_rate_base2006) are done by most of the vendors on these category of servers. tpmC and SPECpower_ssj2208 are not done by us on these category of servers. Since you have already mentioned the complete system configuration (exact configuration to be quoted in terms of number/type of CPU, memory, HDD etc), and we will be providing estimated rating for above mentioned SPEC CPU benchmarks, request you to open the clause by making these two benchmarks (tpmC, SPECpower_ssj2008) as optional.	Please refer Reply at Sr No-268
1006	7	VII	7.3	15	Estimated rating of server for proposed configuration: tpmC, SPECpower_ssj2008	SPEC CPU benchmarks (SPEC_int2006, SPEC_fp2006, SPECint_rate_base2006, SPECfp_rate_base2006) are done by most of the vendors on these category of servers. tpmC and SPECpower_ssj2208 are not done by us on these category of servers. Since you have already mentioned the complete system configuration (exact configuration to be quoted in terms of number/type of CPU, memory, HDD etc), and we will be providing estimated rating for above mentioned SPEC CPU benchmarks, request you to open the clause by making these two benchmarks (tpmC, SPECpower_ssj2008) as optional.	Please refer to the reply at Sr No. 268
1007	7	VII	7.3	16	Support Is the proposed product End of Life or will reach End of life within 24 months from the date of submission of bid or 12 months from the date of acceptance which ever is later	Due to the inherent nature of Intel product line, we see new processors getting introduced typically every 12 months which indeed have an impact on the server models. The proposed servers will reach their end-of-life date within the said timelines. However, we wish to confirm that at the time of supply, if any product has already been declared end-of-life, we will offer a new product in its place, without having any additional hardware cost to UIDAI and also without any performance degradation.	The parameter is modified to read as under : "Is the proposed product End of Life or will reach End of life within 24 months from the date of submission of bid or 12 months from the date of acceptance which ever is earlier"
1008	113	VII	7.30	22	"HSM Cards have to fit into the server slots of offered Blade / Rack Server"	As per the specifications TCP IP based HSM's are required, and can be used with all kinds of servers. Referred statement is not required since it's a part of PCI card based HSM. Therefore request to remove the statement "HSM Cards have to fit into the server slots os offered Blade / Rack Server"	The feature/specification stands deleted. The reference to "Card" in the specification stands changed to "Appliance". Also quantity at Sr.No. 30 of clause 3.1.1 of Section V stands reduced to 3 each for DC & DR from 5 each earlier.
1009	96	VII	7.26	21	AAA TACACS+	Tacacs+ is properitery CISCO protocol, please change it to Radius/Tacacs+.	Please refer Reply at Sr No-920

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1010	7	VII	7.3		No of 10 G ethernet ports proposed-4	This call for 2 nos of dual port 10 Gbps cards. Pls relax it to max 2 ports	Please refer to revised Annexure 7.3 under revised Section VII of the bid document released alongwith the response to prebid queries.
1011	7	VII	7.3	14	14. Others-Free expansion slots-2	We will be left with only 1 free slot if we have to provide 2 x HBA cards and 1 x dual port 10 Gb. Pls relax accordingly so that we are able to bid.	Please refer to reply at Sr.No. 1004
1012	7	VII	7.3		tpmC	Can we submit estimated results	Please refer Reply at Sr No-268
1013	113	VII	7.30	22	HSM Cards have to fit into the server slots of offered Blade / Rack Server	As per the specifications TCP IP based HSM's are required, and can be used with all kinds of servers. Referred statement is not required since it's a part of PCI card based HSM. It is recommended to remove the following clause "HSM Cards have to fit into the server slots os offered Blade / Rack Server"	Please refer to reply at Sr.No. 1008
1014	7	VII	7.3	14	14. Others-Free expansion slots-2	In case the no of 10 G ports are still kept as 4, then to accommodate more OEMs please restrict the no of free slots to 1.	Please refer to reply at Sr.No. 1004
1015	7	VII	7.3		tpmC	Prime x86 vendors do not have published tpmC ratings	Please refer Reply at Sr No-268
1016	7	VII	7.3		No of 10 G ethernet ports prposed-4	This call for 2 nos of dual port 10 Gbps cards. Pls relax it to max 2 ports	Please refer to revised Annexure 7.3 under revised Section VII of the bid document released alongwith the response to prebid queries.
1017	7	VII	7.3		No of 10 G ethernet ports prposed-4	This call for 2 nos of dual port 10 Gbps cards. Pls relax it to max 2 ports	Please refer to revised Annexure 7.3 under revised Section VII of the bid document released alongwith the response to prebid queries.
1018	7	VII	7.3	14	14. Others-Free expansion slots-2	We will be left with only 1 free slot if we have to provide 2 x HBA cards and 1 x dual port 10 Gb. Pls relax accordingly so that we are able to bid.	Please refer to reply at Sr.No. 1004
1019	7	VII	7.3		tpmC		No clarification sought
1020	7	VII	7.3		specpower_ssj2008		No clarification sought

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1021	7	VII	7.3		No of 10 G ethernet ports prposed-4	This call for 2 nos of dual port 10 Gbps cards. Pls relax it to max 2 ports	Please refer to revised Annexure 7.3 under revised Section VII of the bid document released alongwith the response to prebid queries.
1022	7	VII	7.3	14	14. Others-Free expansion slots-2	We will be left with only 1 free slot if we have to provide 2 x HBA cards and 1 x dual port 10 Gb. Pls relax accordingly so that we are able to bid.	Please refer to reply at Sr.No. 1004
1023	7	VII	7.3		tpmC	We do not have published tpmC ratings	Please refer Reply at Sr No-268
1024	6	VII	7.3	6	Disk Controller- Proposed size of battery backed cache: 128 MB	Since the asked RAID config is RAID 1 only thus the cache will not required for building the lost data. Thus request to remove this point.	Please refer to revised Annexure 7.3 under revised Section VII of the bid document released alongwith the response to prebid queries.
1025	113	VII	7.30	22	Point No 22: "HSM Cards have to fit into the server slots of offered Blade / Rack Server"	As per the specifications, TCP IP based HSM's are required, and can be used with all kinds of servers. Referred statement is not required since it's a part of PCI card based HSM. Therefore request to remove the statement "HSM Cards have to fit into the server slots of offered Blade / Rack Server"	Please refer to reply at Sr.No. 1008
1026	113	VII	7.30	22	Point No 22: "HSM Cards have to fit into the server slots of offered Blade / Rack Server"	As per the specifications TCP IP based HSM's are required, and can be used with all kinds of servers. Referred statement is not required since it's a part of PCI card based HSM. Therefore request to remove the statement "HSM Cards have to fit into the server slots offered Blade / Rack Server"	Please refer to reply at Sr.No. 1008
1027	113	VII	7.30	22	Point No 22: "HSM Cards have to fit into the server slots of offered Blade / Rack Server"	As per the specifications TCP IP based HSM's are required, and can be used with all kinds of servers. Referred statement is not required since it's a part of PCI card based HSM. Therefore request to remove the statement "HSM Cards have to fit into the server slots os offered Blade / Rack Server"	Please refer to reply at Sr.No. 1008
1028	115	VII	7.31	10	Operating System Support – RHEL 5.X and CentOS X	In section V, scope of work, clause 10.1 you have asked for Red Hat with proper licenses and support (24x7) from the OEM/bidder. While in Annexure 7 you have given an option of CentOS, which being a community version of operating system, has neither any principal/OEM to back it nor it is certified to run on various hardware/storage product. It is the product of a group of volunteers none of whom have any obligation to continue working on the project. and hence no formal support mechanism, documentation etc. Request you to please remove it else it will lead to ambiguity	The Annexure 7.31 stands deleted

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1029	115	VII	7.31	10	Operating System Support – RHEL 5.X and CentOS X	Section V, scope of work, clause 10.1 you have asked for Red Hat with proper licenses and support (24x7) from the OEM/bidder. While in Annexure 7 you have given an option of CentOS, which being a community version of operating system, has neither any principal/OEM to back it nor it is certified to run on various hardware/storage product. It has no formal support mechanism, documentation etc. Request you to please clarify as it will lead to ambiguity	The Annexure 7.31 stands deleted
1030	115	VII	7.31	10	Operating System Support – RHEL 5.X and CentOS X	In section V, scope of work, clause 10.1 you have asked for Red Hat with proper licenses and support (24x7) from the OEM/bidder. While in Annexure 7 you have given an option of CentOS, which being a community version of operating system, has neither any principal/OEM to back it nor it is certified to run on various hardware/storage product. It is the product of a group of volunteers none of whom have any obligation to continue working on the project. and hence no formal support mechanism, documentation etc. Request you to please remove it else it will lead to ambiguity	The Annexure 7.31 stands deleted
1031	116	VII	7.32	8	Gateway Antivirus	In the endpoint protection you are asking for Gateway level AV. Gateway level AV should always be an appliance based solution and hence should be separated from the endpoint AV solution.	Please refer to revised annexure 7.32 under revised Section VII of the bid document.
1032	116	VII	7.32	8	Gateway Antivirus	In the endpoint protection you are asking for Gateway level AV.. Gateway level AV should always be an appliance based solution and hence should be separated from the endpoint AV solution. Currenlty it favours a perticular vendor	Please refer to reply at Sr No. 1031
1033	8	VII	7.4	2	Processor: Number of CPU -2, Cores per CPU - 8, Clock Speed - 2.93 GHz	These category of processors (x86) do not have 8 core processors with 2.93 GHz. However 6 core processors are available with 2.93 GHz (as required in Blade server, Rack Server-1, Rack Server-3). We understand that the requirement is for 2 CPU, 6 cores per CPU, 2.93 GHz, and this might be a typo error. Kindly clarify.	The minimum requirement of clock speed and SPEC rating are deleted. Please refer to revised Annexure 7.1, 7.3, 7.4 & 7.5 under revised Section VII released alongwith response to prebid queries.
1034	8	VII	7.4	2	Processor: Number of CPU -2, Cores per CPU - 8, Clock Speed - 2.93 GHz	These category of processors (x86) do not have 8 core processors with 2.93 GHz. However 6 core processors are available with 2.93 GHz (as required in Blade server, Rack Server-1, Rack Server-3). We understand that the requirement is for 2 CPU, 6 cores per CPU, 2.93 GHz, and this might be a typo error. Kindly clarify.	Please refer to reply at Sr No 1033
1035	9	VII	7.4	11	Virtulization support (support for hypervisors like ESXi/ESX, XEN , KVM, HYPER V, Virtual Box	Virtual Box is not supported and request you to please remove the Virtual Box option from the Virtulization Hypervisor support	The wordings "Virtual Box" stand deleted.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1036	9	VII	7.4	14	Others Free Expansion Slots; 2	Server has been asked with Dual 10G Ethernet Adapters as well as Dual 8 Gbps Fiber Channel adapters which will occupy 4 PCI Slots in the server. 2U form factor Servers at the max will have 4 Number of PCI Slots which already are occupied with the 10G Ethernet and Fiber channel Adapters. Request you to please remove off the 2 Free PCI Slots requirement which is not possible in 2U kind of form factor server. In case 2 Free slots is an requirement request you to please give relaxation from 2U to 5U server where this type of configuration is possible	Please refer to reply at Sr.No. 1004
1037	9	VII	7.4	15	Estimated rating of server for proposed configuration: tpmC, SPECpower_ssj2008	SPEC CPU benchmarks (SPEC_int2006, SPEC_fp2006, SPECint_rate_base2006, SPECfp_rate_base2006) are done by most of the vendors on these category of servers. tpmC and SPECpower_ssj2208 are not done by us on these category of servers. Since you have already mentioned the complete system configuration (exact configuration to be quoted in terms of number/type of CPU, memory, HDD etc), and we will be providing estimated rating for above mentioned SPEC CPU benchmarks, request you to open the clause by making these two benchmarks (tpmC, SPECpower_ssj2008) as optional.	Please refer Reply at Sr No-268
1038	12	VII	7.4	15	Estimated rating of server for proposed configuration: tpmC, SPECpower_ssj2008	SPEC CPU benchmarks (SPEC_int2006, SPEC_fp2006, SPECint_rate_base2006, SPECfp_rate_base2006) are done by most of the vendors on these category of servers. tpmC and SPECpower_ssj2208 are not done by us on these category of servers. Since you have already mentioned the complete system configuration (exact configuration to be quoted in terms of number/type of CPU, memory, HDD etc), and we will be providing estimated rating for above mentioned SPEC CPU benchmarks, request you to open the clause by making these two benchmarks (tpmC, SPECpower_ssj2008) as optional.	Please refer Reply at Sr No-268
1039	9	VII	7.4	15	Estimated rating of server for proposed configuration: tpmC, SPECpower_ssj2008	SPEC CPU benchmarks (SPEC_int2006, SPEC_fp2006, SPECint_rate_base2006, SPECfp_rate_base2006) are done by most of the vendors on these category of servers. tpmC and SPECpower_ssj2208 are not done by us on these category of servers. Since you have already mentioned the complete system configuration (exact configuration to be quoted in terms of number/type of CPU, memory, HDD etc), and we will be providing estimated rating for above mentioned SPEC CPU benchmarks, request you to open the clause by making these two benchmarks (tpmC, SPECpower_ssj2008) as optional.	Please refer Reply at Sr No-268

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1040	12	VII	7.4	15	Estimated rating of server for proposed configuration: tpmC, SPECpower_ssj2008	SPEC CPU benchmarks (SPEC_int2006, SPEC_fp2006, SPECint_rate_base2006, SPECfp_rate_base2006) are done by most of the vendors on these category of servers. tpmC and SPECpower_ssj2208 are not done by us on these category of servers. Since you have already mentioned the complete system configuration (exact configuration to be quoted in terms of number/type of CPU, memory, HDD etc), and we will be providing estimated rating for above mentioned SPEC CPU benchmarks, request you to open the clause by making these two benchmarks (tpmC, SPECpower_ssj2008) as optional.	Please refer Reply at Sr No-268
1041	10	VII	7.4	16	Support Is the proposed product End of Life or will reach End of life within 24 months from the date of submission of bid or 12 months from the date of acceptance which ever is later	Due to the inherent nature of Intel product line, we see new processors getting introduced typically every 12 months which indeed have an impact on the server models. The proposed servers will reach their end-of-life date within the said timelines. However, we wish to confirm that at the time of supply, if any product has already been declared end-of-life, we will offer a new product in its place, without having any additional hardware cost to UIDAI and also without any performance degradation.	The parameter is modified to read as under : "Is the proposed product End of Life or will reach End of life within 24 months from the date of submission of bid or 12 months from the date of acceptance which ever is earlier"
1042	8	VII	7.4		clock speed	Since non of the CPU OEM is manufacturer is producing 8 Core per CPU with 2.93 GHz. We need to changed to either 6 Core or lesser clock speed to 2.26 GHZ.	Please refer to the reply at Sr No. 1048
1043	8	VII	7.4		2. Processor-Cores-8; clock Speed-2.93 GHz	8 core processor does not have the clock speed mentioned. Pls change this to 2.26 Ghz or higher.	Please refer to the reply at Sr No. 1048
1044	8	VII	7.4		6. RAID Protection type-Proposed size of battery backed cache-128 MB	These days standard battery backed cache is 512 MB cache which will definitely enhance the performance of RAID 5 as it is write back. Request you to pls amend to 512 MB	Please refer to revised Annexure 7.4 under revised Section VII of the bid document released alongwith the response to prebid queries.
1045	9	VII	7.4		8. Network PCI/PCI-X :-No of 10 G ethernet ports prposed-4	This call for 2 nos of dual port 10 Gbps cards. Pls relax it to max 2 ports	Please refer to reply at Sr.No. 1004
1046	9	VII	7.4	14	14. Others-Free expansion slots-2	We will be left with only 1 free slot if we have to provide 2 x HBA cards and 1 x dual port 10 Gb. Pls relax accordingly so that we are able to bid.	Please refer to reply at Sr.No. 1004
1047	9	VII	7.4		tpmC	Can we submit estimated results	Yes

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1048	8	VII	7.4		2. Processor-Cores-8; clock Speed-2.93 GHz	8 core processor does not have the clock speed mentioned by any OEM.	Please refer to reply at Sr No. 1033
1049	9	VII	7.4	14	14. Others-Free expansion slots-2	In case no of cores per processor is to be 6 , majority of vendors will be left with only 1 free slot if we have to provide 2 x HBA cards and 1 x dual port 10 Gb. Pls change the no of free slots to be 1.	Please refer to reply at Sr.No. 1004
1050	8	VII	7.4		6.Disk Controller-No of channels in proposed RAID controller	Pls change channels terminology to ports	Please refer to revised Annexure 7.4 under revised Section VII of the bid document released alongwith the response to prebid queries.
1051	9	VII	7.4		tpmC	Prime x86 vendors do not have published tpmC ratings	Please refer Reply at Sr No-268
1052	8	VII	7.4		6. RAID Protection type-Proposed size of battery backed cache-128 MB	These days standard battery backed cache is 512 MB cache which will definitely enhance the performance of RAID 5 as it is write back. Request you to pls amend to 512 MB	Please refer to revised Annexure 7.4 under revised Section VII of the bid document released alongwith the response to prebid queries.
1053	9	VII	7.4		8. Network PCI/PCI-X :-No of 10 G ethernet ports prposed-4	This call for 2 nos of dual port 10 Gbps cards. In case you want 6 core per processor , then please relax it to max 2 ports	Please refer to reply at Sr.No. 1004
1054	8	VII	7.4		2. Processor-Cores-8; clock Speed-2.93 GHz	Maximum clock speed available is----	Please refer to the reply at Sr No. 1048
1055	8	VII	7.4		6.Disk Controller-No of channels in proposed RAID controller	Pls change channels terminology to ports	The word " channels" may be read as "channels/ports" for disk controllers in Annexure 7.3,7.4 and 7.5
1056	8	VII	7.4		6. RAID Protection type-Proposed size of battery backed cache-128 MB	These days standard battery backed cache is 512 MB cache which will definitely enhance the performance of RAID 5 as it is write back. Request you to pls amend to 512 MB	Please refer to revised Annexure 7.4 under revised Section VII of the bid document released alongwith the response to prebid queries.
1057	9	VII	7.4		8. Network PCI/PCI-X :-No of 10 G ethernet ports prposed-4	This call for 2 nos of dual port 10 Gbps cards. Pls relax it to max 2 ports	Please refer to reply at Sr.No. 1004

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1058	9	VII	7.4	14	14. Others-Free expansion slots-2	We will be left with only 1 free slot if we have to provide 2 x HBA cards and 1 x dual port 10 Gb. Pls relax accordingly so that we are able to bid.	Please refer to reply at Sr.No. 1004
1059	9	VII	7.4		tpmC		No clarification sought
1060	9	VII	7.4		specpower_ssj2008	640TB space in un compressed mode with LTO-5 cartridges. Pls accommodate	Clarification sought is not relevant to the clause.
1061	8	VII	7.4		clock speed	Since non of the CPU OEM is manufacturer is producing 8 Core per CPU with 2.93 GHz. We need to changed to either 6 Core or lesser clock speed to 2.26 GHZ.	Please refer to the reply at Sr No. 1048
1062		VII	7.4		New	ACL on virtual terminal (VTY)	Please refer to revised Annexure 7.4 under revised Section VII of the bid document released alongwith the response to prebid queries.
1063		VII	7.4		New	Transport interconnection	Please refer to revised Annexure 7.4 under revised Section VII of the bid document released alongwith the response to prebid queries.
1064		VII	7.4			VLAN management	Please refer Reply at Sr No-752
1065		VII	7.4		New	Remote port miroring	Please refer to revised Annexure 7.4 under revised Section VII of the bid document released alongwith the response to prebid queries.
1066		VII	7.4			VLAN management	Please refer Reply at Sr No-752
1067		VII	7.4			It should have modular OS with stateful process reatart.	Please refer Reply at Sr No-836
1068		VII	7.4			Layer 3 support	Please refer Reply at Sr No-837
1069		VII	7.4			VLAN management	Please refer Reply at Sr No-752
1070		VII	7.4			It should have modular OS with stateful process reatart.	Please refer Reply at Sr No-836

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1071		VII	7.4			Layer 3 support	Please refer Reply at Sr No-837
1072	8	VII	7.4		2. Processor-Cores-8; clock Speed-2.93 GHz	8 core processor does not have the clock speed mentioned	Please refer to the reply at Sr No. 1048
1073	8	VII	7.4		6.Disk Controller-No of channels in proposed RAID controller	Pls change channels terminology to ports	Please refer to revised Annexure 7.4 under revised Section VII of the bid document released alongwith the response to prebid queries.
1074	8	VII	7.4		6. RAID Protection type-Proposed size of battery backed cache-128 MB	These days standard battery backed cache is 512 MB cache which will definitely enhance the performance of RAID 5 as it is write back. Request you to pls amend to 512 MB	Please refer to revised Annexure 7.4 under revised Section VII of the bid document released alongwith the response to prebid queries.
1075	9	VII	7.4		8. Network PCI/PCI-X :-No of 10 G ethernet ports prposed-4	This call for 2 nos of dual port 10 Gbps cards. Pls relax it to max 2 ports	Please refer to reply at Sr.No. 1004
1076	9	VII	7.4	14	14. Others-Free expansion slots-2	We will be left with only 1 free slot if we have to provide 2 x HBA cards and 1 x dual port 10 Gb. Pls relax accordingly so that we are able to bid.	Please refer to reply at Sr.No. 1004
1077	9	VII	7.4		tpmC	We do not have published tpmC ratings	Please refer Reply at Sr No-268
1078	8	VII	7.4		clock speed	Since non of the CPU OEM is manufacturer is producing 8 Core per CPU with 2.93 GHz. We need to changed to either 6 Core or lesser clock speed to 2.26 GHZ.	Please refer to the reply at Sr No. 1048
1079	75	VII	7.21	23	ACL on virtual terminal (VTY)	This feature allows configuration of access control for the switch for a virtual terminal, regardless of where the connection is established (mgmt0 or an external interface).Hence we request you to consider this feature.	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
1080	75	VII	7.21		Transport interconnection	The switch should have a feature that offers a topology-based Layer 2 routing mechanism that provides an equal-cost multipath (ECMP) forwarding model, that solves the MAC address table scalability problem characteristic of switched Layer 2 networks.This feature can help us to build us for building the private cloude hence we request you to consider it.	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1081	76	VII	7.21		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
1082	76	VII	7.21	30	Remote port miroring	Remote port miroring introduces an additional level of flexibility to the monitoring capability, since it allows the source and destination ports of the monitored data to be in different locations of the routed or switched network. It offers this feature by encapsulating the mirrored traffic within a Layer 3 routable generic routing encapsulation (GRE) tunnel.Hence we request you to cosider this feature.	Please refer to revised Annexure 7.21 under revised Section VII of the bid document released alongwith the response to prebid queries.
1083	82	VII	7.22		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
1084		VII	7.4		It should have modular OS with stateful process reatart.	This is a data center access switch that should be of data center class means high availability required on hardware and software both .Stateful process restart is required feature on software level that can be achived with modular OS	Please refer Reply at Sr No-836
1085		VII	7.4		Layer 3 support	We request you to include the support of layer 3 feature in the switch and when required by UID	Please refer Reply at Sr No-837
1086	88	VII	7.24		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
1087		VII	7.4		It should have modular OS with stateful process reatart.	This is a data center access switch that should be of data center class means high availability required on hardware and software both .Stateful process restart is required feature on software level that can be achived with modular OS	Please refer Reply at Sr No-836
1088		VII	7.4		Layer 3 support	We request you to include the support of layer 3 feature in the switch and when required by UID	Please refer Reply at Sr No-837
1089	91	VII	7.25		VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
1090	11	VII	7.4		Cores per CPU =8	Pls modify, cores per CPU=6 OR Clock speed=2.4GHZ. Core CPU are available at max 2.93 GHz and 8 Core CPU available at max 2.4 Ghz.	Please refer to reply at Sr No. 1033
1091	8	VII	7.4	6,7	RAID type specified as RAID 5 , but number of disks is 2x300 GB	RAID type should be RAID-1	RAID type stands changed to RAID 1
1092	8	VII	7.4	7	Disk Capacity- 2x300 GB	UIDAI has asked RAID 5 with 128MB cache but only two HDD has been asked in the server specs. Raid 5 require min 3 HDD. Pls clarify.	Please refer to reply at Sr. No. 1091
1093	11	VII	7.4		Server category DP, 8-core, 12MB Cache, 2.93GHz 96GB, 2 DIMM slots free after mounting 96GB 281-290 (60% INT + 40% FP)	There is NO 8-core processor in 2 socket category ! , Kindly amend this to 6 core	Please refer to the reply at Sr No. 1048
1094	11	VII	7.5	7	Internal Disks: SAS Disk Supported - YES, Disk capacity - 4*500 GB, Disk Speed - 10000 RPM	Requirement is for 4*500 GB 10000 RPM disk. We do not have 500GB 10000 RPM SAS Disks available in the proposed server. Request you to also consider 8*300 GB, 10000 RPM or 4*1 TB 7200 RPM.	The capacity of each SAS disk stands modified to 450 GB.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1095	11	VII	7.5	7	Internal Disks: SAS Disk Supported - YES, Disk capacity - 4*500 GB, Disk Speed - 10000 RPM	Requirement is for 4*500 GB 10000 RPM disk. We do not have 500GB 10000 RPM SAS Disks available in the proposed server. Request you to also consider 8*300 GB, 10000 RPM or 4*1 TB 7200 RPM.	Please refer to reply at Sr. No. 1094
1096	12	VII	7.5	10	Operating System Support – RHEL 5.X and CentOS X	In section V, scope of work, clause 10.1 you have asked for Red Hat with proper licenses and support (24x7) from the OEM/bidder. While in Annexure 7 you have given an option of CentOS, which being a community version of operating system, has neither any principal/OEM to back it nor it is certified to run on various hardware/storage product. It is the product of a group of volunteers none of whom have any obligation to continue working on the project. and hence no formal support mechanism, documentation etc. Request you to please remove it else it will lead to ambiguity	Words "and CentOS" deleted
1097	12	VII	7.5	10	Operating System Support – RHEL 5.X and CentOS X	Section V, scope of work, clause 10.1 you have asked for Red Hat with proper licenses and support (24x7) from the OEM/bidder. While in Annexure 7 you have given an option of CentOS, which being a community version of operating system, has neither any principal/OEM to back it nor it is certified to run on various hardware/storage product. It has no formal support mechanism, documentation etc. Request you to please clarify as it will lead to ambiguity	Words "and CentOS" deleted
1098	12	VII	7.5	10	Operating System Support – RHEL 5.X and CentOS X	In section V, scope of work, clause 10.1 you have asked for Red Hat with proper licenses and support (24x7) from the OEM/bidder. While in Annexure 7 you have given an option of CentOS, which being a community version of operating system, has neither any principal/OEM to back it nor it is certified to run on various hardware/storage product. It is the product of a group of volunteers none of whom have any obligation to continue working on the project. and hence no formal support mechanism, documentation etc. Request you to please remove it else it will lead to ambiguity	Words "and CentOS" deleted
1099	12	VII	7.5	11	Virtulization support (support for hypervisors like ESXi/ESX, XEN , KVM, HYPER V, Virtual Box	Virtual Box is not supported and request you to please remove the Virtual Box option from the Virtulization Hypervisor support	The wordings "Virtual Box" stand deleted.
1100	12	VII	7.5	14	Others Free Expansion Slots; 2	Server has been asked with Dual 10G Ethernet Adapters as well as Dual 8 Gbps Fiber Channel adapters which will occupy 4 PCI Slots in the server. 2U form factor Servers at the max will have 4 Number of PCI Slots which already are occupied with the 10G Ethernet and Fiber channel Adapters. Request you to please remove off the 2 Free PCI Slots requirement which is not possible in 2U kind of form factor server. In case 2 Free slots is an requirement request you to please give relaxation from 2U to 5U server where this type of configuration is possible	Please refer to reply at Sr.No. 1004

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1101	13	VII	7.5	16	Support Is the proposed product End of Life or will reach End of life within 24 months from the date of submission of bid or 12 months from the date of acceptance which ever is later	Due to the inherent nature of Intel product line, we see new processors getting introduced typically every 12 months which indeed have an impact on the server models. The proposed servers will reach their end-of-life date within the said timelines. However, we wish to confirm that at the time of supply, if any product has already been declared end-of-life, we will offer a new product in its place, without having any additional hardware cost to UIDAI and also without any performance degradation.	The parameter is modified to read as under : "Is the proposed product End of Life or will reach End of life within 24 months from the date of submission of bid or 12 months from the date of acceptance which ever is earlier"
1102	11	VII	7.5		6.Disk Controller-No of channels in proposed RAID controller	Pls change channels terminology to ports	Please refer to revised Annexure 7.5 under revised Section VII of the bid document released alongwith the response to prebid queries.
1103	11	VII	7.5		6. RAID Protection type-Proposed size of battery backed cache-128 MB	These days standard battery backed cache is 512 MB cache which will definitely enhance the performance of RAID 5 as it is write back. Request you to pls amend to 512 MB	Please refer to revised Annexure 7.5 under revised Section VII of the bid document released alongwith the response to prebid queries.
1104	12	VII	7.5		8. Network PCI/PCI-X :-No of 10 G ethernet ports prposed-4	This call for 2 nos of dual port 10 Gbps cards. Pls relax it to max 2 ports	Please refer to reply at Sr.No. 1004
1105	12	VII	7.5	14	14. Others-Free expansion slots-2	We will be left with only 1 free slot if we have to provide 2 x HBA cards and 1 x dual port 10 Gb. Pls relax accordingly so that we are able to bid.	Please refer to reply at Sr.No. 1004
1106	12	VII	7.5		tpmC	Can we submit estimated results	Please refer Reply at Sr No-268
1107	12	VII	7.5		specpower_ssj2008	We do not have published specpower ratings	Please refer Reply at Sr No-268
1108	11	VII	7.5		6.Disk Controller-No of channels in proposed RAID controller	Pls change channels terminology to ports	Please refer to revised Annexure 7.5 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1109	11	VII	7.5		6. RAID Protection type-Proposed size of battery backed cache-128 MB	These days standard battery backed cache is 512 MB cache which will definitely enhance the performance of RAID 5 as it is write back. Request you to pls amend to 512 MB	Please refer to revised Annexure 7.5 under revised Section VII of the bid document released alongwith the response to prebid queries.
1110	12	VII	7.5		8. Network PCI/PCI-X :-No of 10 G ethernet ports prposed-4	This call for 2 nos of dual port 10 Gbps cards. Pls relax it to max 2 ports	Please refer to reply at Sr.No. 1004
1111	12	VII	7.5	14	14. Others-Free expansion slots-2	We will be left with only 1 free slot if we have to provide 2 x HBA cards and 1 x dual port 10 Gb. Pls relax accordingly so that we are able to bid.	Please refer to reply at Sr.No. 1004
1112	12	VII	7.5		tpmC	X 86 servers are generic in nature and once you have specified details like processors / speed / memory , the performance from one OEM to another hardly differs. Ratings like tpmc / specjbb etc may not add any value to UID application vendor. Hence request you to please remove the same.	Please refer Reply at Sr No-268
1113	12	VII	7.5		specpower_ssj2008	X 86 servers are generic in nature and once you have specified details like processors / speed / memory , the performance from one OEM to another hardly differs. Ratings like tpmc / specjbb etc may not add any value to UID application vendor. Hence request you to please remove the same.	Please refer Reply at Sr No-268
1114	11	VII	7.5		6.Disk Controller-No of channels in proposed RAID controller	Pls change channels terminology to ports	Please refer to revised Annexure 7.5 under revised Section VII of the bid document released alongwith the response to prebid queries.
1115	11	VII	7.5		6. RAID Protection type-Proposed size of battery backed cache-128 MB	These days standard battery backed cache is 512 MB cache which will definitely enhance the performance of RAID 5 as it is write back. Request you to pls amend to 512 MB	Please refer to revised Annexure 7.5 under revised Section VII of the bid document released alongwith the response to prebid queries.
1116	12	VII	7.5		8. Network PCI/PCI-X :-No of 10 G ethernet ports prposed-4	This call for 2 nos of dual port 10 Gbps cards. Pls relax it to max 2 ports	Please refer to reply at Sr.No. 1004
1117	12	VII	7.5	14	14. Others-Free expansion slots-2	We will be left with only 1 free slot if we have to provide 2 x HBA cards and 1 x dual port 10 Gb. Pls relax accordingly so that we are able to bid.	Please refer to reply at Sr.No. 1004
1118	12	VII	7.5		tpmC		No clarification sought

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1119	12	VII	7.5		specpower_ssj2008		No clarification sought
1119	12	VII	7.5		specpower_ssj2008		No clarification sought
1121	11	VII	7.5		6.Disk Controller-No of channels in proposed RAID controller	Pls change channels terminology to ports	Please refer to revised Annexure 7.5 under revised Section VII of the bid document released alongwith the response to prebid queries.
1122	11	VII	7.5		6. RAID Protection type-Proposed size of battery backed cache-128 MB	These days standard battery backed cache is 512 MB cache which will definitely enhance the performance of RAID 5 as it is write back. Request you to pls amend to 512 MB	Please refer to revised Annexure 7.5 under revised Section VII of the bid document released alongwith the response to prebid queries.
1123	12	VII	7.5		8. Network PCI/PCI-X :-No of 10 G ethernet ports prposed-4	This call for 2 nos of dual port 10 Gbps cards. Pls relax it to max 2 ports	Please refer to reply at Sr.No. 1004
1124	12	VII	7.5	14	14. Others-Free expansion slots-2	We will be left with only 1 free slot if we have to provide 2 x HBA cards and 1 x dual port 10 Gb. Pls relax accordingly so that we are able to bid.	Please refer to reply at Sr.No. 1004
1125	12	VII	7.5		tpmC	We do not have published tpmC ratings	Please refer Reply at Sr No-268
1126	12	VII	7.5		specpower_ssj2008	We do not have published specpower ratings	Please refer Reply at Sr No-268
1127	15	VII	7.6	28	Event/Log collection storage	To ensure the security and integrity of the logs collected it is necessary that all logs collected should be stored in its original raw format without deleting any logs in a secure and efficient manner. Would log storage in its original format in an encrypted and compressed form be a mandatory requirement for the logs collected as per regulatory, efficiency and forensic analysis requirements ?	The parameter "Support Log Encryption" stands modified to "Support Log Security". It should Support secure storage of log data.
1128	15	VII	7.6	20	number of events minimum 7000 events	Many solutions distinguish between number of collected EPS and correlated EPS, can we assume that the requirement is for minimum sustained EPS of 7000 for both collection of all logs in its original format without any data filtering and correlation of the same with an additional buffer for peak EPS correlation and collection capacity ?	Minimum requiremnt of parameter 20stands modified to "20000 events per second and suitable buffer to handle correlation of events"

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1129	14	VII	7.6	20	number of events minimum 7000 events	Many solutions distinguish between number of collected EPS and correlated EPS, can we assume that the requirement is for minimum sustained EPS of 7000 for both collection of all logs in its original format without any data filtering and correlation of the same with an additional buffer for peak EPS correlation and collection capacity ?	Please refer to reply at Sr.No. 1128
1130	14	VII	7.6	20	number of events minimum 7000 events	Many solutions distinguish between number of collected EPS and correlated EPS, can we assume that the requirement is for minimum sustained EPS of 7000 for both collection of all logs in its original format without any data filtering and correlation of the same with an additional buffer for peak EPS correlation and collection capacity ?	Please refer to reply at Sr.No. 1128
1131	15	VII	7.6	21	minimum 900 devices	Should solution be proposed include the license also for minimum 900 devices ?.	Minimum requirement of Sr No 21 of Annexure 7.6 stands modified to "2000 devices" including licenses"
1132	15	VII	7.6	22	Event/Log collection storage	To ensure the security and integrity of the logs collected it is necessary that all logs collected should be stored in its original raw format without deleting any logs in a secure and efficient manner. Would log storage in its original format in an encrypted and compressed form be a mandatory requirement for the logs collected as per regulatory, efficiency and forensic analysis requirements ?	Please refer to reply at Sr.No. 1127
1133	15	VII	7.6	22	Event/Log collection storage	To ensure the security and integrity of the logs collected it is necessary that all logs collected should be stored in its original raw format without deleting any logs in a secure and efficient manner. Would log storage in its original format in an encrypted and compressed form be a mandatory requirement for the logs collected as per regulatory, efficiency and forensic analysis requirements ?	Please refer to reply at Sr.No. 1127
1134	15	VII	7.6	22	Event/Log collection storage	To ensure the security and integrity of the logs collected it is necessary that all logs collected should be stored in its original raw format without deleting any logs in a secure and efficient manner. Would log storage in its original format in an encrypted and compressed form be a mandatory requirement for the logs collected as per regulatory, efficiency and forensic analysis requirements ?	Please refer to reply at Sr.No. 1127

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1135	15	VII	7.6	23	Support log encryption	1. Event correlation leading vendors like arc sight , IBM and others uses hashing to ensure that event log data is tamper proof while stored which provides higher performance levels also as compared to a vendor specific capability using weak and proprietary encryption technology for doing the same thing i.e. to ensure event data logs are tamper proof. accordingly this clause should be changed to " Support tamper proof storage of event log data " . Vendor specific clause will provide customer the less flexibility to choose the appropriate technology and also will not be commercial viable. 2. More over if encryption of this event data logs are must on the storage then every solution can be integrated with such external storage supporting encryption or WORM (write once read many)devices which are available easily from various vendors like netapp , EMC , IBM , HP etc.	The parameter "Support Log Encryption" stands modified to "Support Log Security". It should Support secure storage of log data.
1136	15	VII	7.6	28	Event/Log collection collection	In the specifications no technical requirements around collection mechanism has not been mentioned, can we assume that agentless collection of logs that require no special hardware/software to be deployed on different systems be preferrably used for collection mechanism ?	Please refer to reply at Sr.No. 1137
1137	15	VII	7.6	28	Event/Log collection collection	In the specifications no technical requirements around collection mechanism has not been mentioned, can we assume that agentless collection of logs that require no special hardware/software to be deployed on different systems be preferrably used for collection mechanism ?	The proposed ECS should collect logs/events from all the existing and supplied devices with suitable hardware/software.
1138	15	VII	7.6	28	Event/Log collection collection	In the specifications no technical requirements around collection mechanism has not been mentioned, can we assume that agentless collection of logs that require no special hardware/software to be deployed on different systems be preferrably used for collection mechanism ?	Please refer to reply at Sr.No. 1137
1139	15	VII	7.6	28	Event/Log collection collection	In the specifications no technical requirements around collection mechanism has not been mentioned, can we assume that agentless collection of logs that require no special hardware/software to be deployed on different systems be preferrably used for collection mechanism ?	Please refer to reply at Sr.No. 1137

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1140	15	VII	7.6	28.4	Security Devices - Support not limiting to Firewalls, IPS,NIDS, NIPS,HIDS, Antivirus Solutions, IPSec gateways	This Correlation of security events in UIDAI environment should not be limited to internal security devices as it can be insufficient and incomplete and will not be able to provide you the clear visibility to the security risks against the Global threats i.e. outside the UIDAI environment . This also needs to be correlated with external global security intelligence database like Botnet IPs , IP watch list , Bad URL database etc along with remediation information for such incidents. Hence Such Global threat intelligence should be the integral part of proposed solution. This Global intelligence network will play a critical role in forensic process also.	Please refer to revised Annexure 7.6 under revised Section VII of the bid document released alongwith the response to prebid queries.
1141	16	VII	7.6	29	Web based ability to monitor and manage devices which are part of solution	Proposed solution should also have capability of Attack Diagramming which will allow to look at the pattern of the attack on the console itself and can be drill down more on the arrow to see what events were being sent to the target. As well you can simply right mouse click and pull up the incidents that are related to a source or target.	Please refer to revised Annexure 7.6 under revised Section VII of the bid document released alongwith the response to prebid queries.
1142	16	VII	7.6	29	Capability to alert via but not limiting to -email, Syslog notifications, SNMP traps, Syslog	Some of the un matured solutions do not provide the notifications if Agent /Collector(which are collecting the events from devices mentioned above) are down or no longer sending/receiving events. This is very critical as security management may be down but UIA is not aware at all. so you are requested to define this clearly in the requirement.	Please refer to reply at Sr.No. 1127
1143	16	VII	7.6	29	Correlation support but not limited to - Rule Based, Behavior Based, Vulnerability based, User defined, Baseline based	The solution proposed should also be based on normalized event correlation which will declare an incident based upon standardized event fields or a common set of attack characteristics including “Effects”, “Mechanisms”, and “Resources” (EMR). Normalized correlation rules will help UID in broadly identifying attacks across product families or technologies. For example, a “denial of service” correlation rule should identify this attack from any firewall or intrusion detection product in our network. Normalized event correlation will enable us to manage fewer yet more powerful rules that are product and vendor agnostic.	Please refer to revised Annexure 7.6 under revised Section VII of the bid document released alongwith the response to prebid queries.
1144	15	VII	7.6	20	number of events minimum 7000 events	Many solutions distinguish between number of collected EPS and correlated EPS, can we assume that the requirement is for minimum sustained EPS of 7000 for both collection of all logs in its original format without any data filtering and correlation of the same with an additional buffer for peak EPS correlation and collection capacity ?	Please refer to reply at Sr.No. 1128
1145	15	VII	7.6	22	Event/Log collection storage	To ensure the security and integrity of the logs collected it is necessary that all logs collected should be stored in its original raw format without deleting any logs in a secure and efficient manner. Would log storage in its original format in an encrypted and compressed form be a mandatory requirement for the logs collected as per regulatory, efficiency and forensic analysis requirements ?	Please refer to reply at Sr.No. 1127

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1146	15	VII	7.6	28	Event/Log collection collection	In the specifications no technical requirements around collection mechanism has not been mentioned, can we assume that agentless collection of logs that require no special hardware/software to be deployed on different systems be preferrably used for collection mechanism ?	Please refer to reply at Sr.No. 1137
1147	14	VII	7.6	20	number of events minimum 7000 events	Many solutions distinguish between number of collected EPS and correlated EPS, can we assume that the requirement is for minimum sustained EPS of 7000 for both collection of all logs in its original format without any data filtering and correlation of the same with an additional buffer for peak EPS correlation and collection capacity ?	Please refer to reply at Sr.No. 1128
1148	15	VII	7.6	22	Event/Log collection storage	To ensure the security and integrity of the logs collected it is necessary that all logs collected should be stored in its original raw format without deleting any logs in a secure and efficient manner. Would log storage in its original format in an encrypted and compressed form be a mandatory requirement for the logs collected as per regulatory, efficiency and forensic analysis requirements ?	Please refer to reply at Sr.No. 1127
1149	15	VII	7.6	28	Event/Log collection collection	In the specifications no technical requirements around collection mechanism has not been mentioned, can we assume that agentless collection of logs that require no special hardware/software to be deployed on different systems be preferrably used for collection mechanism ?	Please refer to reply at Sr.No. 1137
1150	14	VII	7.6	20	number of events minimum 7000 events	Many SIEM solutions distinguish between number of collected EPS and correlated EPS. So it is required to specify/clarify the EPS in a manner so as to remove any ambiguity. Clause may be modified as "Minimum sustained EPS of 7000 for both collection of all logs in its original format without any data filtering and correlation of the same with an additional buffer for peak EPS correlation and collection capacity."	Please refer to reply at Sr.No. 1128
1151	15	VII	7.6	22	Event/Log collection storage	To ensure the security and integrity of the logs collected it is necessary that all logs collected should be stored in its original raw format without deleting any logs in a secure and efficient manner. It is recommended that the log storage in its original format in an encrypted and compressed form be a mandatory requirement for the logs collected as per regulatory, efficiency and forensic analysis requirements.	Please refer to reply at Sr.No. 1127
1152	114	VII	7.6	28	Event/Log collection	In the specifications no technical requirements around collection mechanism has not been mentioned like Agentless collection of logs.Clause may added as "Agentless collection of logs that require no special hardware/software to be deployed on different systems"	Please refer to reply at Sr.No. 1137

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1153	23	VII	7.9	12	L7 Concurrent Connections - 250000	Concurrent sessions are mainly associated with L4 and for which the support for 1 Million has already been asked in the tender. Also connections per second support for L7 has been asked too. Therefore it is requested to remove this clause " L7 concurrent connections - 250000" which wold allow other reputed vendors to quote for their product	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1154	23	VII	7.9	12	SSL Throughput - 2 Gbps	SSL Overhead is normally not more than 10%-15% of the total bandwidth or throughput. Therefore it is requested to reduce the SSL throughput requirment from 2 Gbps to 1 Gbps . This Will also allow other vendors to quote for an optimum solution	Request not accepted. The SSL throughput stands modified to 3 Gbps as per business requirements
1155	24	VII	7.9	12	Hardware Compression Support - 6 to 8 Gbps	Hardware compression throughput is normally the throughput after the data has been compressed. Therefore as requested above to reduce the Traffic throughput from 8 Gbps to 4 Gbps (S.No 1) therefore it is further requested to reduce the compression throughput requirement to 2 Gbps	The minimum requirement of parameter "Hardware Compression Support" stands modified to " 3 Gbps"
1156	24	VII	7.9	12	Virtual Servers - 3000	It is requested to reduce this to 1024 so that other reputed vendors can also quote	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1157	24	VII	7.9	12	Servers Farms - 2500	It is requested to reduce this to 1000 so that other reputed vendors can also quote. Practically so many Server Farms would not be used in UID setup	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1157	24	VII	7.9	12	Servers Farms - 2500	It is requested to reduce this to 1000 so that other reputed vendors can also quote. Practically so many Server Farms would not be used in UID setup	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1159	24	VII	7.9	12	Concurrent SSL Connections - 100000+	Please clarify will it be accepted if a load balancer supports minimum 100000 concurrent SSL connections	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1160	23	VII	7.9	12	Network Connectivity support - 4 x 10/100/1000 , 1Gbps connectivity	Proposed load balancer traffic handling throughput is 8 Gbps which cannnot be achieved with only 4 Gig ports. The firewall and Switch also has 10 Gig interafces so the load balancer should have 10 Gig interfaces for giving conenctivity and performance for the applications. So kindly change to "8* 10/100/1000 with 2 10 Gig interfaces"	Please refer Reply at Sr No-644
1161	23	VII	7.9	12	L4 concurrent connections- 1 Million	The Load balancer has to support load for multiple segments and servers The 1 Million support is low compared to the security networking component infrastructure so kindly change to 4-8 million (scalable) for more sustainable performance for the load balancer.	The technical specification for "L4 concurrent connections" stands modified to "5 Million concurrent connections"
1162	23	VII	7.9	12	Initial TPS support - 35000 Max TPS support - 60000	This seems to be duplicate to SSL TPS 7500 requested for load balancer on page 127 under accleration. This seems to be http request handling capability and should be 100k new CPS for handling peak and traffic surge. So Initial http TPS support should be 100000 cps and scalable to 150000 cps (cps is new conenctions per second)	Technical specifications "Initial TPS support " and "Max TPS support " stand deleted.
1163	24	VII	7.9	12	Concurrent SSL connections - 1,00,000+	1,00,000+ SSL support is too low for suggested system as appliance and is expected to handle load at sustainable performance and reliablity. Hence request to increse to 500k ssl connections	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1164	24	VII	7.9	12	Should have minimum 1 GB flash drive	Flash drive may not be the booting option for all hardware. As NVRAMand better and relaible options are available so request to delete flash memory drive requirement.	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1165	23	VII	7.9	12	Network Connectivity support - 4 x 10/100/1000 , 1Gbps connectivity	Proposed load balancer traffic handling throughput is 8 Gbps which cannnot be achieved with only 4 Gig ports. The firewall and Switch also has 10 Gig interafces so the load balancer should have 10 Gig interfaces for giving conenctivity and performance for the applications. So kindly change to "8* 10/100/1000 with 2 10 Gig interfaces"	Please refer Reply at Sr No-644
1166	23	VII	7.9	12	L4 concurrent connections- 1 Million	The Load balancer has to support load for multiple segments and servers The 1 Million support is low compared to the security networking component infrastructure so kindly change to 4-8 million (scalable) for more sustainable performance for the load balancer.	Please refer to reply at Sr No 1161

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1167	23	VII	7.9	12	Initial TPS support - 35000 Max TPS support - 60000	This seems to be duplicate to SSL TPS 7500 requested for load balancer on page 127 under accleration. This seems to be http request handling capability and should be 100k new CPS for handling peak and traffic surge. So Initial http TPS support should be 100000 cps and scalable to 150000 cps (cps is new conenctions per second)	Please refer to reply at Sr No 1162
1168	24	VII	7.9	12	Concurrent SSL connections - 1,00,000+	1,00,000+ SSL support is too low for suggested system as appliance and is expected to handle load at sustainable performance and reliablity. Hence request to increse to 500k ssl connections	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1169	24	VII	7.9	12	Should have minimum 1 GB flash drive	Flash drive may not be the booting option for all hardware. As NVRAMand better and relaible options are available so request to delete flash memory drive requirement.	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1170	23	VII	7.9	12	Memory on the device 8 Gb	8Gb memory is less to support caching, session table etc. Memory is suggested to be minimum 16 GB	The technical specification for Memory on device stands modified to "8 GB upgradable to 16 GB"
1171	23	VII	7.9	12	traffic throughput 8 Gbps	As per industry practice Server load balancer is sized based on layer7 throughput which already has been asked in the specifications as 4 Gbps. Hence, this clause is contradicting and suggestion is to delete this clause.	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1172	24	VII	7.9	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
1173	23	VII	7.9	12	Network connectivity support 4 X 10/100/1000 BaseT	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have load balancers connected to the core switches on 10Gig interfaces to ensure that Server load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 4 X 10G Interfaces"	Please refer Reply at Sr No-644

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1174	23	VII	7.9	12	L7 connections per second is 35,000	For 4 Gbps L7 throughput appliance L7 connections per second is suggested to be minimum 100,000	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1175	23	VII	7.9	12	L4 connections per second is 100,000	For 4Gbps L7 throughput appliance L4 connections per second is suggested to be minimum 350K	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1176	23	VII	7.9	12	Should support minimum L7 throughput of 4 Gbps	It is a standard industry practice to provision Datacenter scalability on the network and security infrastructure. Hence, it is suggested that the load balancer should support L7 throughput of 4 Gbps upgradeable to 8 Gbps	The Technical specification "Should support minimum L7 throughput " stands modified to "4 Gbps upgradable to 8 Gbps"
1177	24	VII	7.9	12	Hardware compression support 6-8 Gbps	The L7 throughput of load balancer has been asked as 4 Gbps. Hence, hardware compression support of 6-8 Gbps is ambiguous. It is suggested that the load balancer should support 3 Gbps hardware compression throughput.	Please refer to reply at Sr No 1155
1178	23	VII	7.9	12	Memory on the device 8 Gb	8Gb memory is less to support caching, session table etc. Memory is suggested to be minimum 16 GB	Please refer to reply at sr No 1170
1179	23	VII	7.9	12	traffic throughput 8 Gbps	As per industry practice Server load balancer is always sized based on layer7 throughput which already has been asked in the specifications as 4 Gbps. Hence, Please delete this clause.	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1180	24	VII	7.9	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
1181	23	VII	7.9	12	Network connectivity support 4 X 10/100/1000 BaseT	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have load balancers connected to the core switches on 10Gig interfaces to ensure that Server load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 4 X 10G Interfaces"	Please refer Reply at Sr No-644

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1182	23	VII	7.9	12	L7 connections per second is 35,000	For 4 Gbps L7 throughput appliance L7 connections per second is suggested to be minimum 100,000	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1183	23	VII	7.9	12	L4 connections per second is 100,000	For 4Gbps L7 throughput appliance L4 connections per second is suggested to be minimum 350K	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1184	24	VII	7.9	12	Hardware compression support 6-8 Gbps	Hardware compression throughput support of 6-8 Gbps is not relevant in a device with overall Layer7 throughput of 4 Gbps only, as asked in the RFP. It is suggested that the load balancer should support 2 Gbps hardware compression throughput.	Please refer to reply at Sr No 1155
1185	23	VII	7.9	12	Should support minimum L7 throughput of 4 Gbps	It is a standard industry practice to provision Datacenter scalability on the network and security infrastructure. Hence, it is suggested that the load balancer should support L7 throughput of 4 Gbps upgradeable to 8 Gbps	Please refer reply at Sr No 1176
1186	24	VII	7.9	12		OEM should validate all the performance parameters like layer7 throughput, TPS, CPS etc with a publicly available document like performance report/datasheet/brochure etc.	Accepted. The Bidder has to ensure the same and furnish such documents with Technical bid.
1187	23	VII	7.9	12	traffic throughput 8 Gbps	As per industry practice Server load balancer is always sized based on layer7 throughput which already has been asked in the specifications as 4 Gbps. Hence, Please delete this clause.	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1188	23	VII	7.9	12	Network connectivity support 4 X 10/100/1000 BaseT	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have load balancers connected to the core switches on 10Gig interfaces to ensure that Server load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 4 X 10G Interfaces"	Please refer Reply at Sr No-644
1189	23	VII	7.9	12	Should support minimum L7 throughput of 4 Gbps	It is a standard industry practice to provision Datacenter scalability on the network and security infrastructure. Hence, it is suggested that the load balancer should support L7 throughput of 4 Gbps upgradeable to 8 Gbps	Please refer reply at Sr No 1176

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1190	23	VII	7.9	12	Memory on the device 8 Gb	8Gb memory is less to support caching, session table etc. Memory is suggested to be minimum 16 GB	Please refer to reply at sr No 1170
1191	23	VII	7.9	12	L4 connections per second is 100,000	For 4Gbps L7 throughput appliance L4 connections per second is suggested to be minimum 350K	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1192	23	VII	7.9	12	L7 connections per second is 35,000	For 4 Gbps L7 throughput appliance L7 connections per second is suggested to be minimum 100,000	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1193	24	VII	7.9	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
1194	24	VII	7.9	12		OEM should validate all the performance parameters like layer7 throughput, TPS, CPS etc with a publicly available document like performance report/datasheet/brochure etc.	Accepted. The Bidder has to ensure the same and furnish such documents with Technical bid.
1195	23	VII	7.9	12	Traffic Throughput - 8 Gbps	Since 4 x 10/100/1000 Mbps ports have been asked for Network connectivity therefore 8 Gbps throughput in a load balancer is technically not possible. Therefore it is requested to change the traffic throughput from 8 Gbps to 4 Gbps. Moreover, as per industry experiences and deployments in enterprise wide setups , 4 Gbps throughput is more than sufficient for taking care of current & future traffic in UID	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1196	23	VII	7.9	12	L7 Concurrent Connections - 250000	Concurrent sessions are mainly associated with L4 and for which the support for 1 Million has already been asked in the tender. Also connections per second support for L7 has been asked too. Therefore it is requested to remove this clause " L7 concurrent connections - 250000" which wold allow other reputed vendors to quote for their product	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1197	23	VII	7.9	12	SSL Throughput - 2 Gbps	SSL Overhead is normally not more than 10%-15% of the total bandwidth or throughput. Therefore it is requested to reduce the SSL throughput requirment from 2 Gbps to 1 Gbps . This Will also allow other vendors to quote for an optimum solution	Please refer to reply at Sr No. 1154

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1198	23	VII	7.9	12	Initial TPS support - 35000 and Max TPS Support - 60000	As per Industry Practice the calcualtion of requirment of SSL TPS is based on the page size and SSL Overhead alongwith the WAN bandwidth . FOr example for a page size of 20K. That's 20,000 Bytes, or 160,000 bits. If we add about 10% for SSL overhead which means 176,000 bits. Take the example of a T1 line, at 1.5 Megabits per second. Divide 1,500,000 bits by 176,000 bits, and you get about 8.5. So in a T1 line, the maximum number of 8.5 TPS in a T1 line without over-subscribing the line. T1: 8.5 TPS 10 Mbps: 56.8 TPS DS3 (45 Mbps): 255.7 100 Mbps/Fast Ethernet: 568.1 OC3 (155 Mbps): 880.7 Gigabit Ethernet (1,00Mbps): 5681.8 Looking above , even for a gigabit ethernet bandwidth at WAN maximum SSL TPS is required as 6000. Therefore it is requested to reduce the requirement of TPS to 4000 Minimum upgradable to 7000 Maximum if required . Also as part of 'Application Acceleration" requirement on page 28 of 117 , UID has asked for SSL TPS support of 7500.	Please refer to reply at Sr No 1162
1199	24	VII	7.9	12	Hardware Compression Support - 6 to 8 Gbps	Hardware compression throughput is normally the throughput after the data has been compressed. Therefore as requested above to reduce the Traffic throughput from 8 Gbps to 4 Gbps (S.No 1) therefore it is further requested to reduce the compression throughput requirement to 2 Gbps	Please refer to reply at Sr No 1155
1200	24	VII	7.9	12	Virtual Servers - 3000	It is requested to reduce this to 1024 so that other reputed vendors can also quote	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1201	24	VII	7.9	12	Servers Farms - 2500	It is requested to reduce this to 1000 so that other reputed vendors can also quote. Practically so many Server Farms would not be used in UID setup	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1202	24	VII	7.9	12	Should Support Port Mirorring	It is requested that bidder should be allowed to quote for equivalent solution for Port Mirroring as part of their Load Balancer	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1203	24	VII	7.9	12	Concurrent SSL Connections - 100000+	Please clarify will it be accepted if a load balancer supports minimum 100000 concurrent SSL connections	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1204	24	VII	7.9	12	Hardware compression support 6-8 Gbps	The L7 throughput of load balancer has been asked as 4 Gbps. Hence, hardware compression support of 6-8 Gbps is ambiguous. It is suggested that the load balancer should support 3 Gbps hardware compression throughput.	Please refer to reply at Sr No 1155
1205	24	VII	7.9	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
1206	23	VII	7.9	12	traffic throughput 8 Gbps	As per industry practice Server load balancer is sized based on layer7 throughput which already has been asked in the specifications as 4 Gbps. Hence, this clause is contradicting and suggestion is to delete this clause.	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1207	23	VII	7.9	12	Network connectivity support 4 X 10/100/1000 BaseT	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have load balancers connected to the core switches on 10Gig interfaces to ensure that Server load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 4 X 10G Interfaces"	Please refer Reply at Sr No-644
1208	23	VII	7.9	12	Should support minimum L7 throughput of 4 Gbps	It is a standard industry practice to provision Datacenter scalability on the network and security infrastructure. Hence, it is suggested that the load balancer should support L7 throughput of 4 Gbps upgradeable to 8 Gbps	Please refer reply at Sr No 1176
1209	23	VII	7.9	12	Memory on the device 8 Gb	8Gb memory is less to support caching, session table etc. Memory is suggested to be minimum 16 GB	Please refer to reply at sr No 1170
1210	23	VII	7.9	12	L4 connections per second is 100,000	For 4Gbps L7 throughput appliance L4 connections per second is suggested to be minimum 200K	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1211	23	VII	7.9	12	L7 connections per second is 35,000	For 4 Gbps L7 throughput appliance L7 connections per second is suggested to be minimum 150,000	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1212	23	VII	7.9	12	Traffic Throughput - 8 Gbps	Since 4 x 10/100/1000 Mbps ports have been asked for Network connectivity therefore 8 Gbps throughput in a load balancer is technically not possible. Therefore it is requested to change the traffic throughput from 8 Gbps to 4 Gbps. Moreover, as per industry experiences and deployments in enterprise wide setups , 4 Gbps throughput is more than sufficient for taking care of current & future traffic in UID	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1213	23	VII	7.9	12	L7 Concurrent Connections - 250000	Concurrent sessions are mainly associated with L4 and for which the support for 1 Million has already been asked in the tender. Also connections per second support for L7 has been asked too. Therefore it is requested to remove this clause " L7 concurrent connections - 250000" which wold allow other reputed vendors to quote for their product	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1214	23	VII	7.9	12	SSL Throughput - 2 Gbps	SSL Overhead is normally not more than 10%-15% of the total bandwidth or throughput. Therefore it is requested to reduce the SSL throughput requirment from 2 Gbps to 1 Gbps . This Will also allow other vendors to quote for an optimum solution	Please refer to reply at Sr No. 1154
1215	23	VII	7.9	12	Initial TPS support - 35000 and Max TPS Support - 60000	As per Industry Practice the calcualtion of requirment of SSL TPS is based on the page size and SSL Overhead alongwith the WAN bandwidth . FOr example for a page size of 20K. That's 20,000 Bytes, or 160,000 bits. If we add about 10% for SSL overhead which means 176,000 bits. Take the example of a T1 line, at 1.5 Megabits per second. Divide 1,500,000 bits by 176,000 bits, and you get about 8.5. So in a T1 line, the maximum number of 8.5 TPS in a T1 line without over-subscribing the line. T1: 8.5 TPS 10 Mbps: 56.8 TPS DS3 (45 Mbps): 255.7 100 Mbps/Fast Ethernet: 568.1 OC3 (155 Mbps): 880.7 Gigabit Ethernet (1,00Mbps): 5681.8 Looking above , even for a gigabit ethernet bandwidth at WAN maximum SSL TPS is required as 6000. Therefore it is requested to reduce the requirement of TPS to 4000 Minimum upgradable to 7000 Maximum if required . Also as part of 'Application Acceleration" requirement on page 28 of 117 , UID has asked for SSL TPS support of 7500.	Please refer to reply at Sr No 1162

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1216	24	VII	7.9	12	Hardware Compression Support - 6 to 8 Gbps	Hardware compression throughput is normally the throughput after the data has been compressed. Therefore as requested above to reduce the Traffic throughput from 8 Gbps to 4 Gbps (S.No 1) therefore it is further requested to reduce the compression throughput requirement to 2 Gbps	Please refer to reply at Sr No 1155
1217	24	VII	7.9	12	Virtual Servers - 3000	It is requested to reduce this to 1024 so that other reputed vendors can also quote	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1218	24	VII	7.9	12	Servers Farms - 2500	It is requested to reduce this to 1000 so that other reputed vendors can also quote. Practically so many Server Farms would not be used in UID setup	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1219	24	VII	7.9	12	Should Support Port Mirorring	It is requested that bidder should be allowed to quote for equivalent solution for Port Mirroring as part of their Load Balancer	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1220	24	VII	7.9	12	Concurrent SSL Connections - 100000+	Please clarify will it be accepted if a load balancer supports minimum 100000 concurrent SSL connections	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1221	23	VII	7.9	12	Network Connectivity support - 4 x 10/100/1000 , 1Gbps connectivity	Proposed load balancer traffic handling throughput is 8 Gbps which cannot be achieved with only 4 Gig ports. The firewall and Switch also has 10 Gig interfaces so the load balancer should have 10 Gig interfaces for giving connectivity and performance for the applications. So kindly change to "8* 10/100/1000 with 2 10 Gig interfaces"	Please refer Reply at Sr No-644
1222	23	VII	7.9	12	L4 concurrent connections- 1 Million	The Load balancer has to support load for multiple segments and servers The 1 Million support is low compared to the security networking component infrastructure so kindly change to 4-8 million (scalable) for more sustainable performance for the load balancer.	Please refer to reply at Sr No 1161

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1223	23	VII	7.9	12	Initial TPS support - 35000 Max TPS support - 60000	This seems to be duplicate to SSL TPS 7500 requested for load balancer on page 127 under acceleration. This seems to be http request handling capability and should be 100k new CPS for handling peak and traffic surge. So Initial http TPS support should be 100000 cps and scalable to 150000 cps (cps is new connections per second)	Please refer to reply at Sr No 1162
1224	24	VII	7.9	12	Concurrent SSL connections - 1,00,000+	1,00,000+ SSL support is too low for suggested system as appliance and is expected to handle load at sustainable performance and reliability. Hence request to increase to 500k ssl connections	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1225	24	VII	7.9	12	Should have minimum 1 GB flash drive	Flash drive may not be the booting option for all hardware. As NVRAMand better and reliable options are available so request to delete flash memory drive requirement.	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1226	24	VII	7.9	12	Traffic throughput 8 Gbps	Traffic throughput has been asked as 8 Gbps in this clause, where-as Layer 7 throughput has also been specified as 4 Gbps in subsequent clause. However in load balancer terminology, traffic throughput and layer 7 throughput are equivalent. It is suggested to amend this clause as "Traffic throughput 4 Gbps upgradeable to 8 Gbps".	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1227	23	VII	7.9	12	Network connectivity support 4 X 10/100/1000 BaseT	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have load balancers connected to the core switches on 10Gig interfaces to ensure that Server load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 4 X 10G Interfaces"	Please refer Reply at Sr No-644
1228	23	VII	7.9	12	Memory on the device 8 Gb	8Gb memory is less to support caching, session table etc and achieve optimum performance. It is hence suggested that Memory on the device is 8 GB and upgradeable to 16 GB	Please refer to reply at sr No 1170
1229	24	VII	7.9	12	Should support minimum layer7 throughput of 4 Gbps	It is a standard industry practice to provision Datacenter scalability on the network and security infrastructure. Hence, it is suggested that the load balancer should support L7 throughput of 4 Gbps upgradeable to 8 Gbps	Please refer reply at Sr No 1176

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1230	24	VII	7.9	12	Hardware compression support 6-8 Gbps	Hardware compression (Gzip, Deflate) as asked in the RFP is an asymmetric compression technique to compress the Server response only and not the request. Also generally compression ratio of 1:3, 1:4 is achieved depending on the type of page content. Hence, It is suggested that the load balancer should support 3 Gbps hardware compression which will be sufficient to handle 8-12 Gbps overall traffic throughput. Please amend this clause to "Hardware compression support 3 Gbps"	Please refer to reply at Sr No 1155
1231	24	VII	7.9	12	Hardware compression support 6-8 Gbps	The L7 throughput of load balancer has been asked as 4 Gbps. Hence, hardware compression support of 6-8 Gbps is ambiguous. It is suggested that the load balancer should support 3 Gbps hardware compression throughput.	Please refer to reply at Sr No 1155
1232	24	VII	7.9	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
1233	23	VII	7.9	12	traffic throughput 8 Gbps	As per industry practice Server load balancer is sized based on layer7 throughput which already has been asked in the specifications as 4 Gbps. Hence, this clause is contradicting and suggestion is to delete this clause.	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1234	23	VII	7.9	12	Network connectivity support 4 X 10/100/1000 BaseT	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have load balancers connected to the core switches on 10Gig interfaces to ensure that Server load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 4 X 10G Interfaces"	Please refer Reply at Sr No-644
1235	23	VII	7.9	12	Should support minimum L7 throughput of 4 Gbps	It is a standard industry practice to provision Datacenter scalability on the network and security infrastructure. Hence, it is suggested that the load balancer should support L7 throughput of 4 Gbps upgradeable to 8 Gbps	Please refer reply at Sr No 1176
1236	23	VII	7.9	12	Memory on the device 8 Gb	8Gb memory is less to support caching, session table etc. Memory is suggested to be minimum 16 GB	Please refer to reply at sr No 1170
1237	23	VII	7.9	12	L4 connections per second is 100,000	For 4Gbps L7 throughput appliance L4 connections per second is suggested to be minimum 350K	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1238	23	VII	7.9	12	L7 connections per second is 35,000	For 4 Gbps L7 throughput appliance L7 connections per second is suggested to be minimum 100,000	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1239	24	VII	7.9	12	Hardware compression support 6-8 Gbps	The L7 throughput of load balancer has been asked as 4 Gbps. Hence, hardware compression support of 6-8 Gbps is ambiguous. It is suggested that the load balancer should support 3 Gbps hardware compression throughput.	Please refer to reply at Sr No 1155
1240	26	VII	7.9	12	1) Should support minimum and maximum resource allocation per virtual partition 2) should support resource sharing between virtual partitions so in case if the resource is available with another virtual partition it can be borrowed automatically. 3) should keep configuration file separate for each virtual partition or segment	This is proprietary specifications of one OEM. Most of the leading Load balancer OEM support segmentation/virtualization based on VLAN-ID & Port. Hence it is suggested that the clause is amended to " should support segmentation/virtualization per port and VLAN-ID".	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1241	24	VII	7.9	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
1242	23	VII	7.9	12	traffic throughput 8 Gbps	As per industry practice Server load balancer is sized based on layer7 throughput which already has been asked in the specifications as 4 Gbps. Hence, this clause is contradicting and suggestion is to delete this clause.	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1243	23	VII	7.9	12	Network connectivity support 4 X 10/100/1000 BaseT	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have load balancers connected to the core switches on 10Gig interfaces to ensure that Server load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 4 X 10G Interfaces"	Please refer Reply at Sr No-644
1244	23	VII	7.9	12	Should support minimum L7 throughput of 4 Gbps	It is a standard industry practice to provision Datacenter scalability on the network and security infrastructure. Hence, it is suggested that the load balancer should support L7 throughput of 4 Gbps upgradeable to 8 Gbps	Please refer reply at Sr No 1176

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1245	23	VII	7.9	12	Memory on the device 8 Gb	8Gb memory is less to support caching, session table etc. Memory is suggested to be minimum 16 GB	Please refer to reply at sr No 1170
1246	23	VII	7.9	12	L4 connections per second is 100,000	For 4Gbps L7 throughput appliance L4 connections per second is suggested to be minimum 350K	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1247	23	VII	7.9	12	L7 connections per second is 35,000	For 4 Gbps L7 throughput appliance L7 connections per second is suggested to be minimum 100,000	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1248	67	VII	7.19	13	Router support in service software upgrade and downgrade , should be performed without traffic loss	Router should support in service patch upgrade which shall be performed without traffic loss	Please refer to revised Annexure 7.19 under revised Section VII of the bid document released alongwith the response to prebid queries.
1249	68	VII	7.19	14	Router should support graceful restart , modular operating system for high uptime	Router suppporting graceful restart of different routing protocols allows the particular routing process to be independently restarted without affecting other processes of the router hence effective functioning of the router. Kindly remove the modular operating system which is specific to certain OEMs.	Please refer Reply at Sr No-591
1250	26	VII	7.9	15	Should support Min & Max resource allocation per virtual Partition	The resource allocation with min and max may not be the best design as the resources allocation should be shared on need basis dynamically per service to minimse startvation issues and have complete failover architecture. So kindly amend the same as "Should support dynamic Min & Max resource allocation per virtual Partition"	The minimum requirement of technical specification "Should support Min & Max resource allocation per virtual Partition" at point No. 15 stands deleted.
1251	26	VII	7.9	15	Should keep configuration files separately for each virtual partition or segment	The config per service are separte policies with its specfic requiremnsts and does not effect other services however having isolated configuartion may need not give best option for appliance backup, recovery and throubleshooting hence should have a common config for management. So kindly amend the same as "The appliance should have common config for ease of backup and configuation"	The minimum requirement of technical specification "Should keep configuration files separately for each virtual partition or segment" at point No. 15 stands deleted.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1252	67	VII	7.9	15	at least 10 Gbps and upgradeable	throughput in defined in packet per second (pps) and it should be in the range of 15-20 Mpps	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1253	26	VII	7.9	15	Should support Min & Max resource allocation per virtual Partition	The resource allocation with min and max may not be the best design as the resources allocation should be shared on need basis dynamically per service to minimse startvation issues and have complete failover architecture. So kindly amend the same as "Should support dynamic Min & Max resource allocation per virtual Partition"	The minimum requirement of technical specification "Should support Min & Max resource allocation per virtual Partition" at point No. 15 stands deleted.
1254	26	VII	7.9	15	Should keep configuration files separately for each virtual partition or segment	The config per service are separte policies with its specfic requiremnsts and does not effect other services however having isolated configuartion may need not give best option for appliance backup, recovery and throubleshooting hence should have a common config for management. So kindly amend the same as "The appliance should have common config for ease of backup and configuation"	The minimum requirement of technical specification "Should support Min & Max resource allocation per virtual Partition" at point No. 15 stands deleted.
1255	26	VII	7.9	15	1) Should support minimum and maximum resource allocation per virtual partition 2) should support resource sharing between virtual partitions so in case if the resource is available with another virtual partition it can be borrowed automatically. 3) should keep configuration file separate for each virtual partition or segment	This is proprietary specifications of one OEM. Most of the leading Load balancer OEM support segmentation/virtualization based on VLAN-ID & Port. Hence it is suggested that the clause is amended to " should support segmentation/virtualization per port and VLAN-ID".	Please refer to reply at Sr No 1250 and 1251. other specification remains unchanged.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1256	26	VII	7.9	15	1) Should support minimum and maximum resource allocation per virtual partition 2) should support resource sharing between virtual partitions so in case if the resource is available with another virtual partition it can be borrowed automatically. 3) should keep configuration file separate for each virtual partition or segment 4) Should support access control per virual unit so each virtual unit can be managed by different group without able to see config in other virtual unit	These three clause are proprietary specifications of one OEM. Howsoever the same functionlity can be met by segmentation/virtualization. Hence it is suggested that the clause is amended to " should support segmentation/virtualization per port and VLAN-ID".	Please refer to reply at Sr No 1250 and 1251. other specification remains unchanged.
1257	26	VII	7.9	15	1) Should support minimum and maximum resource allocation per virtual partition 2) should support resource sharing between virtual partitions so in case if the resource is available with another virtual partition it can be borrowed automatically. 3) should keep configuration file separate for each virtual partition or segment 4) Should support access control per virual unit so each virtual unit can be managed by different group without able to see config in other virtual unit	These three clause are proprietary specifications of one OEM. Howsoever the same functionlity can be met by segmentation/virtualization. Hence it is suggested that the clause is amended to " should support segmentation/virtualization per port and VLAN-ID".	Please refer to reply at Sr No 1250 and 1251. other specification remains unchanged.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1258	26	VII	7.9	15	1) Should support minimum and maximum resource allocation per virtual partition 2) should support resource sharing between virtual partitions so in case if the resource is available with another virtual partition it can be borrowed automatically. 3) should keep configuration file separate for each virtual partition or segment	This is proprietary specifications of one OEM. Most of the leading Load balancer OEM support segmentation/virtualization based on VLAN-ID & Port. Hence it is suggested that the clause is amended to " should support segmentation/virtualization per port and VLAN-ID".	Please refer to reply at Sr No 1250 and 1251. other specification remains unchanged.
1259	26	VII	7.9	15	Should support Min & Max resource allocation per virtual Partition	The resource allocation with min and max may not be the best design as the resources allocation should be shared on need basis dynamically per service to minimse starvation issues and have complete failover architecture. So kindly amend the same as "Should support dynamic Min & Max resource allocation per virtual Partition"	Please refer to reply at Sr No 1250 .
1260	26	VII	7.9	15	Should keep configuration files separately for each virtual partition or segment	The config per service are separate policies with its specific requirements and does not effect other services however having isolated configuration may need not give best option for appliance backup, recovery and troubleshooting hence should have a common config for management. So kindly amend the same as "The appliance should have common config for ease of backup and configuration"	Please refer to reply at Sr No 1251 .
1261	26	VII	7.9	15	Should support minimum and maximum resource allocation per virtual partition	This clause is proprietary specifications of one OEM. Howsoever the same functionality can be met by segmentation (mentioned in the 1st point under Virtualization section) supported by other leading OEM. It is suggested to delete this clause.	Please refer to reply at Sr No 1250 .
1262	26	VII	7.9	15	Should support resource sharing between virtual partitions so in case if the resource is available with another virtual partition it can be borrowed automatically.	This clause is proprietary specifications of one OEM. Howsoever the same functionality can be met by segmentation (mentioned in the 1st point under Virtualization section) supported by other leading OEM. It is suggested to delete this clause.	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1263	26	VII	7.9	15	Should keep configuration file separate for each virtual partition or segment	This clause is proprietary specifications of one OEM. Howsoever the same functionality can be met by segmentation (mentioned in the 1st point under Virtualization section) supported by other leading OEM. It is suggested to delete this clause.	Please refer to reply at Sr No 1251 .

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1264	26	VII	7.9	15	1) Should support minimum and maximum resource allocation per virtual partition 2) should support resource sharing between virtual partitions so in case if the resource is available with another virtual partition it can be borrowed automatically. 3) should keep configuration file separate for each virtual partition or segment	This is proprietary specifications of one OEM. Most of the leading Load balancer OEM support segmentation/virtualization based on VLAN-ID & Port. Hence it is suggested that the clause is amended to " should support segmentation/virtualization per port and VLAN-ID".	Please refer to reply at Sr No 1250 and 1251. other specification remains unchanged.
1265	28	VII	7.9	19	Support for Image Optimization	All kind of optimizations are normally deployed at the gateway level therefore it is requested to remove this clause from the requirement.	There is no minimum requirement for this specification.
1266	28	VII	7.9	19	SSL certifcates Support - 6000 Nos	It is requested to reduce this requirement to 3500 nos so that other reputed vendors can also quote. Moreover SSL Certificates also depend upon the SSL certifcate size which has not been given in the tender.	The Technical specification for SSL certificates support stands modified to "3000" (including keys support). SSL Certificate size is now specified as 2048 bits
1267	28	VII	7.9	19	Support for TPS - 7500	The specfifed SSL TPS will not be able to handle SSL surge and peak load for the application hence it is proposed to have higher SSL TPS support. So kindly amend the same as" 20k and scalable to to 35 k SSl TPS"	The Technical specification "Support for TPS " stands deleted.
1268	28	VII	7.9	19	Support for TPS - 7500	The specfifed SSL TPS will not be able to handle SSL surge and peak load for the application hence it is proposed to have higher SSL TPS support. So kindly amend the same as" 20k and scalable to to 35 k SSl TPS"	The Technical specification "Support for TPS " stands deleted.
1269	28	VII	7.9	19	SSL Certificate support of 6500	One SSL certificate per application is required in the load balancer/application accelerator. Most of the leading vendors support max 1000 SSL certificates on the application acceleration device. 6500 is impractical to be used as it mean 6500 Different SSL applications behind the load balancer. It is suggested that the clause is amended as "SSL Certificate support of 1000"	Please refer to reply at Sr No 1266

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1270	28	VII	7.9	19	Support for TPS upto 7500	Under the architecture section of the specifications TPS support upto 60,000 is asked. In this clause TPS support upto 7500 is asked. It is contradictory clause. Please clarify	The Technical specification "Support for TPS " stands deleted.
1271	28	VII	7.9	19	SSL Certificate support of 6500	As per industry practice , One SSL certificate is required per application behind the load balancer/application accelerator. As per our understanding detailed in the RFP documnet the number of web based application does not seem to be more than 50. Hence, 500 SSL Certificates support is more than sufficient to fulfill this requirement. Please amend accordingly.	Please refer to reply at Sr No 1266
1272	28	VII	7.9	19	Support for TPS upto 7500	Under the architecture section of the specifications TPS support upto 60,000 is asked. In this clause TPS support upto 7500 is asked. It is contradictory clause. Please clarify	The Technical specification "Support for TPS " stands deleted.
1273	28	VII	7.9	19	Support for Image Optimization	All kind of optimizations are normally deployed at the gateway level therefore it is requested to remove this clause from the requirement.	Please refer to reply at Sr No 1265
1274	28	VII	7.9	19	SSL certifcates Support - 6000 Nos	It is requested to reduce this requirement to 3500 nos so that other reputed vendors can also quote. Moreover SSL Certificates also depend upon the SSL certifcate size which has not been given in the tender.	Please refer to reply at Sr No 1266
1275	28	VII	7.9	19	SSL Certificate support of 6500	One SSL certificate per application is required in the load balancer/application accelerator. Most of the leading vendors support max 1000 SSL certificates on the application acceleration device. 6500 is impractical to be used as it mean 6500 Different SSL applications behind the load balancer. It is suggested that the clause is amended as "SSL Certificate support of 1000"	Please refer to reply at Sr No 1266
1276	28	VII	7.9	19	Support for TPS upto 7500	Under the architecture section of the specifications TPS support upto 60,000 is asked. In this clause TPS support upto 7500 is asked. It is contradictory clause. Please clarify	The Technical specification "Support for TPS " stands deleted.
1277	28	VII	7.9	19	Support for Image Optimization	All kind of optimizations are normally deployed at the gateway level therefore it is requested to remove this clause from the requirement.	Please refer to reply at Sr No 1265
1278	28	VII	7.9	19	SSL certifcates Support - 6000 Nos	It is requested to reduce this requirement to 3500 nos so that other reputed vendors can also quote. Moreover SSL Certificates also depend upon the SSL certifcate size which has not been given in the tender.	Please refer to reply at Sr No 1266

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1279	28	VII	7.9	19	Support for TPS - 7500	The specified SSL TPS will not be able to handle SSL surge and peak load for the application hence it is proposed to have higher SSL TPS support. So kindly amend the same as" 20k and scalable to to 35 k SSl TPS"	The Technical specification "Support for TPS " stands deleted.
1280	28	VII	7.9	19	SSL Certificate support of 6500	SSL certificate is always a combination of certificate and key file pair. Hence, it is relevant to mention both certificate and key support. It is suggested that the clause is amended as " SSL certificate & key file support of 6500"	Please refer to reply at Sr No 1266
1281	28	VII	7.9	19	Support for TPS upto 7500	Under the architecture section of the specifications TPS support upto 60,000 is asked. In this clause TPS support upto 7500 is asked. This is repeated hence, suggestion is to delete this clause	The Technical specification "Support for TPS " stands deleted.
1282	28	VII	7.9	19	SSL Certificate support of 6500	One SSL certificate per application is required in the load balancer/application accelerator. Most of the leading vendors support max 1000 SSL certificates on the application acceleration device. 6500 is impractical to be used as it mean 6500 Different SSL applications behind the load balancer. It is suggested that the clause is amended as "SSL Certificate support of 1000"	Please refer to reply at Sr No 1266
1283	28	VII	7.9	19	Support for TPS upto 7500	Under the architecture section of the specifications TPS support upto 60,000 is asked. In this clause TPS support upto 7500 is asked. It is contradictory clause. Please clarify	The Technical specification "Support for TPS " stands deleted.
1284	28	VII	7.9	19	Support for TPS upto 7500	Under the architecture section of the specifications TPS support upto 60,000 is asked. In this clause TPS support upto 7500 is asked. It is contradictory clause. Please clarify	The Technical specification "Support for TPS " stands deleted.
1285	29	VII	7.9	20	Should support access control per virtual unit can be managed by different group without able to see config in other virtual unit	This clause is proprietary specifications of one OEM. It is suggested to delete this clause.	The technical specification for "Should support access control per virtual unit so each virtual unit can be managed by different group without able to see config in other virtual unit" stands deleted.
1286	23	VII	7.9	12	Traffic throughput - 8Gbps	Server load balancer host business critical applications. Throughput of SLB solution should be in line with other network devices i.e. firewall (10+ gbps) for efficient and optimal sizing of overall solution. We suggest the throughput to be increased to 10Gbps	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1287	23	VII	7.9	12	Network connectivity - 4/10/100/1000 , 1 gig connectivity	Keeping traffic requirement, scalability and overall solution under consideration. SLB solution must have 10Gig interface support. Please change it to "network connectivity - 4/10/100/1000 and 2*10 Gig interfaces"	The technical specification for Network Connectivity support stands modified to "4 x 1Gbps and 4 X 10 Gbps connectivity"
1288	23	VII	7.9	12	Memory on device - 8GB	Advance load balancing features such as compression, proxy caching improves application performance with higher memory ADC can efficiently handle all these requirements. solution should offer 16 Gbps of memory for efficient handling of resources and advance ADC offerings. Please change it to "Memory on device - 16 GB"	Please refer to reply at sr No 1170
1289	23	VII	7.9	12	Layer 4 concurrent connections - 1 Million	From over all solution perspective 1M seems to be very small number. solution should offer 8M concurrent connections. Should be changed to "L4 concurrent connections - 8M"	Please refer to reply at Sr No 1161
1290	23	VII	7.9	12,19	Initial TPS support 35,000, max TP support 60,000 & support for TPS 7500	Duplicate SSL TPS specs on page number 23 and 28. Please clarify number of SSL TPS solution should support	Please refer to reply at Sr No 1162 and 1267.
1291	26	VII	7.9	15	load balancer should support virtualization or segmentation where it should be possible to create virtual partitions from day one. Each of this partition should be completely isolated from each other w.r.t dedicated access control and resource allocation.	This feature is specific to a vendor so we request to make it generic to allow other vendors to compete. Please change it to "load balancer should support segmentation to handle multiple zones or segments of the network"	Please refer to reply at Sr No 1250 and 1251 .
1292	26	VII	7.9	15	Should keep configuration file separately for each virtual partition or segment	This feature is specific to a vendor so we request to delete it generic to allow other vendors to compete. Request you to kindly Delete it.	Please refer to reply at Sr No 1251 .
1293	23	VII	7.9		Suggested Specification /Addition	ADC should support global server load balancing on same appliance for transparent DC & DR failover. Please Add "should support GSLB on same appliance for automated DC & DR failover"	Accepted. The new specification is added accordingly.
1294	23	VII	7.9	12	Network connectivity support 4 X 10/100/1000 BaseT	Envisaging the magnitude of UID network infrastructure at DC and DR it is recommended to have load balancers connected to the core switches on 10Gig interfaces to ensure that Server load balancer does not become bottleneck to application performance. Hence it is required that the appliance should have 10 Gig interfaces and the clause is amended to "Network connectivity support 4 X 10/100/1000 BaseT And 4 X 10G Interfaces"	Please refer Reply at Sr No-644
1295	23	VII	7.9	12	Memory on the device 8 Gb	8Gb memory is less to support caching, session table etc and achieve optimum performance. It is hence suggested that Memory on the device is 8 GB and upgradeable to 16 GB	Please refer to reply at sr No 1170

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1296	24	VII	7.9	12	Should support minimum layer7 throughput of 4 Gbps	It is a standard industry practice to provision Datacenter scalability on the network and security infrastructure. Hence, it is suggested that the load balancer should support L7 throughput of 4 Gbps upgradeable to 8 Gbps	Please refer reply at Sr No 1176
1297	24	VII	7.9	12	Hardware compression support 6-8 Gbps	Hardware compression (Gzip, Deflate) as asked in the RFP is an asymmetric compression technique to compress the Server response only and not the request. Also generally compression ratio of 1:3, 1:4 is achieved depending on the type of page content. Hence, It is suggested that the load balancer should support 3 Gbps hardware compression which will be sufficient to handle 8-12 Gbps overall traffic throughput. Please amend this clause to "Hardware compression support 3 Gbps"	Please refer to reply at Sr No 1155
1298	24	VII	7.9	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
1299	26	VII	7.9	15	Should support minimum and maximum resource allocation per virtual partition	This clause is proprietary specifications of one OEM. Howsoever the same functionality can be met by segmentation (mentioned in the 1st point under Virtualization section) supported by other leading OEM. It is suggested to delete this clause.	Please refer to reply at Sr No 1250 .
1300	26	VII	7.9	15	Should support resource sharing between virtual partitions so in case if the resource is available with another virtual partition it can be borrowed automatically.	This clause is proprietary specifications of one OEM. Howsoever the same functionality can be met by segmentation (mentioned in the 1st point under Virtualization section) supported by other leading OEM. It is suggested to delete this clause.	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1301	26	VII	7.9	15	Should keep configuration file separate for each virtual partition or segment	This clause is proprietary specifications of one OEM. Howsoever the same functionality can be met by segmentation (mentioned in the 1st point under Virtualization section) supported by other leading OEM. It is suggested to delete this clause.	Please refer to reply at Sr No 1251 .
1302	28	VII	7.9	19	SSL Certificate support of 6500	SSL certificate is always a combination of certificate and key file pair. Hence, it is relevant to mention both certificate and key support. It is suggested that the clause is amended as " SSL certificate & key file support of 6500"	Please refer to reply at Sr No 1266
1303	28	VII	7.9	19	Support for TPS upto 7500	Under the architecture section of the specifications TPS support upto 60,000 is asked. In this clause TPS support upto 7500 is asked. This is repeated hence, suggestion is to delete this clause	The Technical specification "Support for TPS " stands deleted.
1304	29	VII	7.9	20	Should support access control per virtual unit can be managed by different group without able to see config in other virtual unit	This clause is proprietary specifications of one OEM. It is suggested to delete this clause.	Please refer to the reply at Sr No 1285

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1305	28	VII	7.9	19	SSL Certificate support of 6500	As per industry practice , One SSL certificate is required per application behind the load balancer/application accelerator. As per our understanding detailed in the RFP documnet the number of web based application does not seem to be more than 50. Hence, 500 SSL Certificates support is more than sufficient to fulfill this requirement. Please amend accordingly.	Please refer to reply at Sr No 1266
1306	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
1307	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
1308	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90
1309	28	VII	7.9	19	Support for TPS upto 7500	Under the architecture section of the specifications TPS support upto 60,000 is asked. In this clause TPS support upto 7500 is asked. It is contradictory clause. Please clarify	The Technical specification "Support for TPS " stands deleted.
1310	24	VII	7.9	12	Hardware compression support 6-8 Gbps	Hardware compression throughput support of 6-8 Gbps is not relevant in a device with overall Layer7 throughput of 4 Gbps only, as asked in the RFP. It is suggested that the load balancer should support 2 Gbps hardware compression throughput.	Please refer to reply at Sr No 1155
1311	24	VII	7.9	12		As per the RFP Switches, Routers, IPS and Firewalls are of IPv6 supported. Since this load balancer is also getting directly connected to Switches and hence must be of IPv6 supported.	Please refer Reply at Sr No-643
1312	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
1313	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
1314	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90
1315	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
1316	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
1317	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 2 years.	Please refer Reply at Sr No-90

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1318	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
1319	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
1320	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90
1321	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have its own TAC center in India to provide support to UID project	Please refer Reply at Sr No-90
1322	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have minimum 10 OEM Engineers to provide deployment and troubleshooting support	Please refer Reply at Sr No-90
1323	8	II		20.1		UID is a very prestigious and mission critical project. Hence it is required that OEM should have proven credentials of deploying similar kind of products in 2 such Datacenter projects and should be present in India for minimum last 5 years.	Please refer Reply at Sr No-90
1324	24	VII	7.9		Traffic throughput 8 Gbps	Traffic throughput has been asked as 8 Gbps in this clause, where-as Layer 7 throughput has also been specified as 4 Gbps in subsequent clause. However in load balancer terminology, traffic throughput and layer 7 throughput are equivalent. It is suggested to amend this clause as "Traffic throughput 4 Gbps upgradeable to 8 Gbps".	Please refer to revised Annexure 7.9 under revised Section VII of the bid document released alongwith the response to prebid queries.
1325	8	VII	7.4		6.Disk Controller-No of channels in proposed RAID controller	Pls change channels terminology to ports	Please refer to revised Annexure 7.4 under revised Section VII of the bid document released alongwith the response to prebid queries.
1326	14	VII	7.6, 7.7, 7.8		Broader Specification Pages 14-22	The asked specifications are open and are subject to multiple intrepretations. Request the same to be changed to the specification of Rack Server 3 (Annexure 7.5)	These servers are hardware appliances. The specifications as amended are exhaustive.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1327	1	VII	7.1		Server category DP, 6-core, 12MB Cache, 2.93GHz Blade 1 64GB, Exp upto 8GB/core, 4GB DIMM size, 4DIMM slots free after mounting 64GB. 281-290 (60% INT + 40% FP)	1. With 4GB DIMMs one requires 16 DIMMS (for 64GB) so leaving 4 DIMM slots empty is not possible (as maximum DIMM slots is 18). We seriously propose the memory size to be 48GB (ilo 64GB) which is balanced interleaved config and offers higher performance (Vs 64GB) – supporting comments below & attached . Recommended DIMM size for 48GB RAM is 8GB-DDR3 DIMM (6 x 8GB) which offers best performance & upto 6 to 12 DIMM slots free for future upgrade depending on OEM design.	Minimum DIMM module size is raised to 8 GB. Total memory expandible to minimum 96 GB. All DIMM modules used should be of same size.
1327.1	6	VII	7.3		Server category DP, 6-core, 12MB Cache, 2.93GHz Blade 1 64GB, Exp upto 8GB/core, 4GB DIMM size, 4DIMM slots free after mounting 64GB. 281-290 (60% INT + 40% FP)	1. With 4GB DIMMs one requires 16 DIMMS (for 64GB) so leaving 4 DIMM slots empty is not possible (as maximum DIMM slots is 18). We seriously propose the memory size to be 48GB (ilo 64GB) which is balanced interleaved config and offers higher performance (Vs 64GB) – supporting comments below & attached . Recommended DIMM size for 48GB RAM is 8GB-DDR3 DIMM (6 x 8GB) which offers best performance & upto 6 to 12 DIMM slots free for future upgrade depending on OEM design.	Suggestion Accepted. Minimum DIMM module size is raised to 8 GB. Total DIMM size expandible to minimum 96 GB. All DIMM modules used should be of same size.
1328	2	VII	7.1		SPEC rating (60% of SPEC interger rating & 40% of SPEC fp rating) - 281 - 290	Since in Clause 2 - Processors, the clock speed, cache is specified, this line item is purely redundant in nature. Request the same to be deleted.	Please refer to revised annexure 7.1,7.3,7.4,7.5 under revised Section VII of the bid document
1328.1	7	VII	7.3		SPEC rating (60% of SPEC interger rating & 40% of SPEC fp rating) - 281 - 290	Since in Clause 2 - Processors, the clock speed, cache is specified, this line item is purely redundant in nature. Request the same to be deleted.	Please refer to revised annexure 7.1,7.3,7.4,7.5 under revised Section VII of the bid document
1328.2	9	VII	7.4		SPEC rating (60% of SPEC interger rating & 40% of SPEC fp rating) - 281 - 290	Since in Clause 2 - Processors, the clock speed, cache is specified, this line item is purely redundant in nature. Request the same to be deleted.	Please refer to revised annexure 7.1,7.3,7.4,7.5 under revised Section VII of the bid document
1328.3	12	VII	7.5		SPEC rating (60% of SPEC interger rating & 40% of SPEC fp rating) - 281 - 290	Since in Clause 2 - Processors, the clock speed, cache is specified, this line item is purely redundant in nature. Request the same to be deleted.	Please refer to revised annexure 7.1,7.3,7.4,7.5 under revised Section VII of the bid document
1329	35	VII	7.11,7.12,7.13	35 etc	No. of FC Loops proposed Pages 35,41,46	Storage Subsystem back end Architecture has been innovated and gone beyond FC_AL loops to SAS Architecture, Recommendation is to include No. of SAS links in addition to FC_AL loops.	Please refer Reply at Sr No-341
1330	33	VII	7.11	19	FC Spindle has been specified	For SAN storage, apart from FC spindle, SAS spindles also should be considered OK.	The disk spindle type is changed to "Dual ported FC"

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1330.1	44	VII	7.13	19	FC Spindle has been specified	For SAN storage, apart from FC spindle, SAS spindles also should be considered OK.	Please refer to revised annexure 7.11,7.12,7.13 under revised Section VII fo the bid document
1331	75	VII	7.21, 7.23	23	ACL on virtual terminal (VTY)	This feature allows configuration of access control for the switch for a virtual terminal, regardless of where the connection is established (mgmt0 or an external interface).Hence we request you to consider this feature.	Please refer to revised Annexure 7.21 & 7.23 under revised Section VII of the bid document released alongwith the response to prebid queries.
1332	76	VII	7.21, 7.23	30	Remote port miroring	Remote port miroring introduces an additional level of flexibility to the monitoring capability, since it allows the source and destination ports of the monitored data to be in different locations of the routed or switched network. It offers this feature by encapsulating the mirrored traffic within a Layer 3 routable generic routing encapsulation (GRE) tunnel.Hence we request you to cosider this feature.	Please refer to revised Annexure 7.21 & 7.23 under revised Section VII of the bid document released alongwith the response to prebid queries.
1333	76	VII	7.21, 7.23	30	VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752
1334	6	VII	7.3		128 MB Battery Backed Cache	Request the same to be changed to 512 MB Battery Backed Cache keeping in mind the future scalability	Please refer to revised Annexure 7.3 under revised Section VII of the bid document released alongwith the response to prebid queries.
1334.1	8	VII	7.4		128 MB Battery Backed Cache	Request the same to be changed to 512 MB Battery Backed Cache keeping in mind the future scalability	Please refer to revised Annexure 7.4 under revised Section VII of the bid document released alongwith the response to prebid queries.
1334.2	11	VII	7.5		128 MB Battery Backed Cache	Request the same to be changed to 512 MB Battery Backed Cache keeping in mind the future scalability	Please refer to revised Annexure 7.5 under revised Section VII of the bid document released alongwith the response to prebid queries.

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1335	6	VII	7.3		10K rpm SAS	Request the same to be changed to 15K rpm drives keeping in mind the performance of the HDD	The Disk speed stands modified to 10000/ 15000 RPM for All Blade and Rack Servers .
1335.1	8	VII	7.4		10K rpm SAS	Request the same to be changed to 15K rpm drives keeping in mind the performance of the HDD	The Disk speed stands modified to 10000/ 15000 RPM for All Blade and Rack Servers .
1335.2	11	VII	7.5		10K rpm SAS	Request the same to be changed to 15K rpm drives keeping in mind the performance of the HDD	The Disk speed stands modified to 10000/ 15000 RPM for All Blade and Rack Servers .
1336	33	VII	7.11,7.12,7.13		New Pages 33 to 49	Specifications for Storage virtualization & Replication to be added in every storage section (DMZ, DFS, ODS)	The specifications are addeed at point No. 20 of Annexure 7.11, 7.12 and 7.13
1345	40	VII	7.12	21	Controllers: Max no. of front-end ports proposed. 64	This clause of Frontend ports needs to be read in conjunction with the one mentioned above for back-end ports. It is recommended that the no. of Front-end ports be equal to Back-end ports for a symmetric configuration to avoid performance bottlenecks. In an end-to-end 4Gbps systems 64 Frontend ports pumping data would choke the 32 backend ports. We request that UID consider this very important point and change the Front-end ports also to 32 to match with back-end ports or alternatively bring up the back-end ports to 64.	Please refer Reply at Sr No-376
1346	75	VII	7.21, 7.23	23	ACL on virtual terminal (VTY)	This feature allows configuration of access control for the switch for a virtual terminal, regardless of where the connection is established (mgmt0 or an external interface).Hence we request you to consider this feature.	Please refer to revised Annexure 7.21 & 7.23 under revised Section VII of the bid document released alongwith the response to prebid queries.
1347	75	VII	7.21, 7.23		Transport interconnection	The switch should have a feature that offers a topology-based Layer 2 routing mechanism that provides an equal-cost multipath (ECMP) forwarding model, that solves the MAC address table scalability problem characteristic of switched Layer 2 networks.This feature can help us to build us for building the private cloude hence we request you to consider it.	Please refer to revised Annexure 7.21 & 7.23 under revised Section VII of the bid document released alongwith the response to prebid queries.
1348	76	VII	7.21, 7.23	30	VLAN management	The switch should support central management of all the VLANs on the switching network.	Please refer Reply at Sr No-752

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1349	76	VII	7.21, 7.23	30	Remote port miroring	Remote port miroring introduces an additional level of flexibility to the monitoring capability, since it allows the source and destination ports of the monitored data to be in different locations of the routed or switched network. It offers this feature by encapsulating the mirrored traffic within a Layer 3 routable generic routing encapsulation (GRE) tunnel.Hence we request you to cosider this feature.	Please refer to revised Annexure 7.21 & 7.23 under revised Section VII of the bid document released alongwith the response to prebid queries.
1350	101	VII	7.27	4	Support IBM AIX,HP-UX	Pls. delete support for HP UX & IBM AIX in case these are not being procured in this project as only a select few vendors support this.	Please refer Reply at Sr No-926
1351	107	VII	7.29	4	Should provide a 10G management interface	This should ideally be the throughput of the applaince and not the management port throughput. All vendors support 10/100/1000 management port only. I believe you are refering to the applaince through put of 10 GBPS.	Please refer to Reply at Sr No 943
1352	102	VII	7.27	7	Audit Policy Management	Pls. delete as its propietary to a perticular vendor	Please refer to reply at Sr No 927
1353	116	VII	7.32	8	Gateway Antivirus	In the endpoint protection you are asking for Gateway level AV.. Gateway level AV should always be an appliance based solution and hence should be separated from the endpoint AV solution. Currenlty it favours a perticular vendor	Please refer to revised annexure 7.32 under revised Section VII of the bid document.
1354	104	VII	7.27	12	Through put	Pls. specify the throughput of the appliance… Keeping in mind the 10G interfaces & 1 G interfaced being aksed you need to look at atleast 5 GBPS (preferably 10GBPS) of throughput to address future scalability needs	Please refer to the revised Annexure 7.27 under revised Section VII for details.
1355	94	VII	7.26	13	SSL VPN	Since the firewall already supports IPSEC VPN, adding inbuilt SSL VPN will utilize additional Resource of the Firewall affecting performance. Please remove the clause	Please refer Reply at Sr No-917
1356	94	VII	7.26	14	Should support VPN Clustering and load balancing	Please change Laod balancing to Load Balancing/load sharing as vendors use either of these to ahcieve high availability.	Please refer Reply at Sr No-918
1357	68	VII	7.19	20	Integrated Firewall support for protocols (HTTP, FTP,SIP, H323, Telnet, TFTP and SMTP) and Unicast RFP.	We understand that this is hardware based firewall module.	The Bidder should offer appropriate harware/software/firmware to meet this specification.
1358	96	VII	7.26	21	PPTP	Since IP Sec is the defacto standard used for VPN, and Since PPTP is no longer used by most orgnaistaions , hence please remove this clause	Please refer to revised Annexure 7.26 under revised Section VII released alongwith response to prebid queries.
1359	96	VII	7.26	21	AAA TACACS+	Pls. delete this as its proprietary to CISCO	Please refer Reply at Sr No-920
1360	109	VII	7.29	35	Shuld be able to block unwanted PII & sensitive information	Proprietary specs to a perticular a pertilcuar vendor… also it's a DLP feature and not a NIPS fucntionality. Also most attacks today are encrypted and hence this functionlaity will not work in any case…. You need to instead look at preventing SSL encrypted attacks and should have this fucnitonaliity inbuilt.	Please refer to Reply at Sr No 944

Sr No	Page No.	Section No.	Annexe/ Annexure No.	Clause/ Point	Existing Provision in the Clause	Clarification Sought	Reply of UIDAI
1361	33	VII	7.11		10GE ports 2	Request to make 10 GE ports on storage system as optional to make it vendor neutral.	Please refer to revised Annexure 7.11 under revised Section VII of the bid document released alongwith the response to prebid queries.

BID NO. T-11011/16/2010-Tech-UIDAI
UNIQUE IDENTIFICATION AUTHORITY OF INDIA,
PLANNING COMMISSION,
GOVERNMENT OF INDIA
NEW DELHI

Supply, Installation and Commissioning of Servers, Storage Systems, Security Systems and Accessories with Incidental Services

ADDENDUM TO BID DOCUMENT

Addendum to Bid Document of Bid No. T-11011/16/2010-Tech-UIDAI

The prospective Bidder are requested to note that following amendments have been made to the Bid Document in respect of **Bid No. T-11011/16/2010-Tech-UIDAI** regarding **"Supply, Installation and Commissioning of Servers, Storage Systems, Security Systems and Accessories with Incidental Services"** in the Data Centres of Unique Identification Authority of India in Bengaluru and Delhi/NCR. **It should be noted that in the event of any conflict in the clarification(s) issued in respect of Section VII, corresponding clause(s) of Section V, the technical specifications indicated in Revised Section VII, enclosed with this Addendum, shall prevail.**

I. Amendments in Section I of the Bid Document

Clause 4(g) of Section I of the Bid Document stands **revised** as under:

Activity	Date
Release/Issue of Bid document	25th Nov 2010
Last date for submission of written queries for clarifications on Bid document	1st Dec 2010
Pre-Bid Conference	11th Dec 2010
Date for reply to written queries of prospective Bidders	4th January' 2011
Last date for submission of Bids	18th January 2011
Opening of Pre-Qualification Bids	18th January 2011

II. Amendments in Section II of the Bid Document

(i) The **Conditions for Pre-Qualification of Bidders** spelt out in **Clause 20.1 of Section II** of the Bid Document stand modified as under:

"20.1 For the purpose of pre-qualification of Bidders, the Bidder should enclose in their **Pre-Qualification Bid (to be submitted in a separate sealed cover)**, statement of qualification on following parameters, **duly supported by necessary documentary evidences**, as applicable:

S. No.	Pre_qualification Condition	Documentary evidence(s) to be submitted in support
(i)	Bid Security (in original) of the prescribed amount and validity pursuant to **Clause 12.**	Bid Security (in original)
(ii)	The Bidder should be either the Original Equipment Manufacturer (OEM) manufacturing the Servers or the authorized agent/distributor/partner of such OEM and should produce	Authorization letter from the OEM of Servers in case the bidder is not an OEM of Servers offered

S. No.	Pre_qualification Condition	Documentary evidence(s) to be submitted in support
	documentary evidence from the OEM in this regard in the form of an authorization letter from the OEM in the **Pre-qualification Bid** as well as in the **Technical Bid** as per **Annexe 4.1.8.**	
(iii)	**The Bidder should submit** authorization letter from the OEM of Storage, Networking Equipment, Security equipment, in case the bidder is not an OEM of such equipment, in the form of an authorization letter from the OEM in the **Technical Bid** as per **Annexe 4.1.8**.	Authorization letter from the OEM of Storage, Networking Equipment, Security equipment, in case the bidder is not an OEM of such equipment offered
(iv)	The Bidder should be a profit making company in the last three financial years ended on 31.03.2010.	The Bidder must submit copy of the Audited Balance Sheets and Profit & Loss Account Statement for the last 3 financial years ended on 31.03.2010 along with the bid. However, in the case of non availability of audited balance sheets, a Certificate from the Statutory Auditor of the Bidder's Company certifying that the Bidder is a profit making company in the last three financial years ended on 31.03.2010.
(v)	The Bidder should have minimum annual turnover of **Rs. 250,00,00,000/- (Rupees Two Hundred Fifty Crores)** from sales of Information Technology(IT) equipment/ IT Systems Integration services during each of the last three financial years ended on 31.03.2010. The minimum annual turnover refers to the minimum annual turnover of the company and not the composite turnover of its subsidiaries/sister concerns etc.	The Bidder must submit a Certificate alongwith documentary evidence from the Statutory Auditor of the Bidder's Company certifying that the Bidder has minimum annual turnover of **Rs. 250,00,00,000/- (Rupees Two Hundred Fifty Crores)** from sales of Information Technology(IT) equipment/ IT Systems Integration services during each of the last three financial years ended on 31.03.2010.
(vi)	The Bidder must have executed at least two (2) purchase orders/contracts **in India** involving supply, installation and commissioning of servers, storage systems, Networking Equipment and IT Security systems in the last three financial years. Each such order/contract should, *interalia,* include the value of at least **Rs. 10,00,00,000/- (Rupees Ten Crores) from** supply, installation and commissioning of servers, storage systems, Networking Equipment and IT Security systems. For each of such orders/contracts, the Bidder should submit the documentary evidence(s) in support.	1. Copy of each such Purchase Order/Contract clearly indicating the total value of the Order/Contract clearly indicating the scope of Goods/Services. 2. A certificate in original from the Statutory Auditor/ Company Secretary/ Director of the Bidder's Company indicating and certifying the value of the components relating to supply, installation and commissioning of servers, storage systems, Networking Equipment and IT Security system. 3. A copy of the client certificate from respective customers for satisfactory execution of such order/contract from the respective customer.
(vii)	The Bidder or the OEMs must have their own maintenance/support infrastructure facilities in India in respect of all goods/services covered in this Bid, so as to serve all over India particularly in the places as listed in **Appendix F.**	List of maintenance/ support infrastructure facilities in India of the Bidder or the OEMs

S. No.	Pre_qualification Condition	Documentary evidence(s) to be submitted in support
(viii)	The bidder should submit valid letter from all the OEMs confirming the following: i. Authorization for bidder ii. Confirm that the products quoted are not "end of life or end of sale products" iii. Undertake that the support including spares, patches for the quoted products shall be available for next 5 years OEMs include, the OEMs of: • Servers • Networking equipments • Storage equipments • Security equipments	Relevant documentary evidences in the form of authorization letters in the format prescribed in Annexe 4.1.8 and Appendix E.
(ix)	(a) The respective OEM must have direct presence in India with at least Twenty (20) nos. of technical manpower direct support in India for the offered technology. (b) In the last three financial years 2007-08, 2008-09,2009-10 - The OEM must have supplied similar kind of enterprise level products. (c)The OEM of offered products must have their own Technical Assistance Center (TAC) support in India (d) The OEM (s) should be an established industry player in its respective domain like servers, security, network, storage etc. and should form a part of the Industry standard leader□s/challenger□s quadrant on the likes of Gartner, Forrester, IDC etc.	(a) An undertaking from the OEM for the requisite number of technical manpower for direct support in India (b) Relevant documentary evidences like PO Copy etc. (c) Relevant documentary evidence (d) Relevant documentary evidence

(ii) In **Clause 32.1**, following wordings are appended at the end:

"Accordingly, the UIDAI reserves the right to place a repeat order (s) of upto 25% of the Contract Value."

III. Amendments in Section III of the Bid Document

(a) Following **Amendments in the provisions of existing clauses in Section III** are hereby made:

(b)

S.No.	Clause No.	Existing Provision in the Clause	Amended Provision in the Existing Clause
1	**5. Patent Right**	5.1 The Vendor shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark or industrial design rights arising from the use	5.1 The Vendor shall indemnify the Purchaser against all third-party claims of infringement of patent for all losses, costs and damages finally awarded by a court or agreed to in a settlement approved in writing by the Vendor, arising from the use of the Goods or any part thereof, provided that the Purchaser:

S.No.	Clause No.	Existing Provision in the Clause	Amended Provision in the Existing Clause
		of the Goods or any part thereof.	(i) promptly notifies the Vendor in writing of the claim; and (ii) allows Vendor to control, and cooperate with the Vendor in, the defense and any related settlement negotiations. 5.2 If such a claim is made or appears likely to be made, Purchaser agrees to permit Vendor to enable the Purchaser to continue to use the Goods, or to modify it, or replace it with one that is better or at least functionally equivalent. If the Vendor determines that none of these alternatives is reasonably available, Purchaser agrees to return the Goods to Vendor on Vendor's written request. Vendor shall then give Purchaser a credit equal to Purchaser's net book value calculated according to generally accepted accounting principles. 5.3 Vendor has no obligation regarding any claim based on any of the following: a. anything provided by Purchaser or a third party on Purchaser's behalf that is incorporated into the Goods or Vendor's compliance with any designs, specifications, or instructions provided by Purchaser or a third party on Purchaser's behalf; b. modification of Goods by Purchaser or a third party on Purchaser's behalf, or use of Vendor software other than in accordance with its applicable licenses and restrictions; c. the combination, operation, or use of Goods with any product, hardware device, program, data, apparatus, method, or process that Vendor did not provide as a system, if the infringement would not have occurred were it not for such combination, operation or use; d. the distribution, operation or use of Goods other than internally; or e. infringement by a non-Vendor product or other Vendor software alone. 5.4 This Clause 5 states Vendor's entire obligation and Purchaser's exclusive remedy regarding any third party patent claims.
2	17. Assignment	**17. Assignment** 17.1 The Vendor shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent. The permission, if any, of the purchaser has to be taken within 15 days of award of the contract.	**17. Assignment** 17.1 The Vendor shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent. The permission, if any, of the purchaser has to be taken within 15 days of award of the contract. 17.2 The Purchaser reserves the right to assign any/ all of its rights and obligations under this contract to any of its representatives during any stage of the contract term. 17.3 The Vendor agrees that the Purchaser has the sole right and may on its own volition assign/transfer to the Managed Service Provider (hereinafter referred to nas "MSP") appointed by the Purchaser this contract whereby any/ all rights obligations/duties etc so specified therein shall get transferred to the MSP. The Vendor shall, as and when required by the Purchaser, enter into a tri-partied assignment Agreement with the Purchaser and the MSP. The Vendor

S.No.	Clause No.	Existing Provision in the Clause	Amended Provision in the Existing Clause
			shall have no objection to the terms of such assignment/ transfer.
3	**18. Subcontracts**	18.1 The Vendor shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in his bid. Such notification, in his original bid or later, shall not relieve the Vendor from any liability or obligation under the Contract.	**The Clause stands deleted.** Accordingly, the wording **"sub-contractor(s)"** appearing anywhere in the Bid Document stands **deleted.**

(c) Following New Clauses are inserted in Section III of the Bid Document (Appendix G attached)

S.No.	New Clause No. inserted	Provision(s) of the New Clause
1	**41. Indemnity**	**41. Indemnity** **41.1** The Vendor shall execute and furnish to the Purchaser, a Deed of Indemnity, as per the format prescribed in **Appendix G** in favour of the Purchaser, indemnifying the Purchaser from and against any costs/ losses/ damages/ expenses/ and/ or claims including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the Contract period.
2	**42. Limitation of Vendor's Liability towards the Purchaser**	**42. Limitation of Vendor's Liability towards the Purchaser** 42.1 Except in case of gross negligence or wilful misconduct on the part of the Vendor or its agents/ sub-contractor(s)/ Team/ representatives/ employees etc. or on the part of any person or company acting on behalf of the Vendor in executing the work or in carrying out its/ their obligations under this contract, the Vendor, with respect to damage caused by the Vendor or its agents/ Team/ representatives/ employees, to the property and/or assets of the Purchaser or of any of Purchaser's vendors, shall not be liable to the Purchaser: (i) for any indirect or consequential loss or damage; and (ii) for any direct loss or damage that exceeds (A) Contract Value, or (B) the proceeds the Vendor may be entitled to receive from any insurance maintained by the Vendor to cover such a liability, whichever of (A) or (B) is higher. 42.2 This limitation of liability shall not affect the Vendor liability, if any, for damage to Third Parties caused by the Vendor or its agents/ Team/ representatives/ employees or any person or firm/company acting on behalf of the Vendor in executing the work or in carrying out the Services/ obligations under the Contract. 42.3 The Vendor's liabilities shall not be limited if the loss/ damage is caused by: (i) Negligence/ gross negligence; (ii) Misconduct/ intentional misconduct; (iii) Breach of essential terms of the Contract; or (iv) Fraud attributable to the Vendor and/ or its agents/ Team/ representatives/ employees. 42.4 The allocation of risk herein is an essential element of the bargain between the parties, without which the parties would not have entered into this agreement.

IV. Amendments in Section IV of the Bid Document

As clarified in the pre-bid conference held on 11.12.2010 at Bengaluru, the Backup, Replication and Anti-Virus Solutions are not required and **therefore stand deleted** from the scope of work. Accordingly, **Annexe 4.1.11, Annexe 4.1.12 and Annexe 4.1.13 in Section IV** of the Bid Document stand deleted. In view of the aforesaid change in the scope of work, the **Revised Annexe 4.2.5** and **Annexe 4.2.10** stand modified as under:

(a) Revised Annexe 4.2.5 – Details of the Cost for Goods Offered – One Time Non-Recurring Costs

S.No.	Item Description	No. of Units	Unit Rate (in Rupees)	Taxes per unit (in Rupees)	Total Unit Cost [(6)=(4)+(5)] (in Rupees)	Total Cost including Taxes (8)=(3)x(6) (in Rupees)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A.	**Blade Servers**					
1	Blade Servers					
2	Blade Chassis					
B.	**Rack Servers**					
3	Rack Servers-1					
4	Rack Servers-2					
5	Rack Servers-3					
C.	**Other Servers**					
6	Event Correlation Server					
7	Radius Server					
8	Terminal Server					
9	Load Balancer					
D.	**Desktops**					
10	Desktops					
E.	**Storage Area Network (SAN) System**					
11	SAN for DMZ (raw images) with SAN Fabric Management Software					
12	Enterprise SAN (Storage for DFS (raw images)) with SAN Fabric Management Software					
13	SAN – ODS (Storage for Operational Data) with SAN Fabric Management Software					
F.	**SAN Switches**					

S.No.	Item Description	No. of Units	Unit Rate (in Rupees)	Taxes per unit (in Rupees)	Total Unit Cost [(6)=(4)+(5)] (in Rupees)	Total Cost including Taxes (8)=(3)x(6) (in Rupees)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
14	BSP SAN Switches (for host to san connectivity - for all servers)					
15	DMZ - SAN Switches					
16	DC Core SAN Switch					
G.	**Network Attached Storage (NAS)**					
17	NAS for Storing web, portal content					
H.	**Tape Backup System**					
18	(a) Tape Library					
	(b) LTO 5 Media (3 TB Raw)					
I.	**Networking Equipment**					
(a)	**Routers**					
19	Internet Router					
20	Link Load Balancer					
(b)	**L3 Switches**					
21	DC-Core LAN					
22	DC-Core Management Security - LAN					
23	DC-Core Backup - LAN					
24	L3 Switches Access					
25	ABIS LAN					
J.	**Security Components**					
(a)	**Firewall**					
26	Firewall with content filtering 3 pairs each of different makes for DC and DR out of which one pair non CISCO for DC.					
(b)	**Security Device**					
27	HIDS					
28	NIDS					
29	Perimeter Security Device					
30	Hardware Security Module (HSM)					
K.	**Anti Virus Server and Anti Virus Software**					

S.No.	Item Description	No. of Units	Unit Rate (in Rupees)	Taxes per unit (in Rupees)	Total Unit Cost [(6)=(4)+(5)] (in Rupees)	Total Cost including Taxes (8)=(3)x(6) (in Rupees)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
31	Anti Virus Server					
32	Anti Virus Software					
	(a) Antivirus Scan Engine					
	(b) Client Licenses					
L.	**Systems Software**					
33	Linux Operating System Enterprise Edition (Red Hat Enterprise License 6.0 or higher)					
34	Microsoft Windows Server 2008 Enterprise Edition					
35	Database Software MySql 5.5 on Linux (64 bit with partitioning/HA support)					
M.	**Backup and Replication Server & Software**					
36	Backup Server					
37	Backup & Recovery Software					
	(a) Linux Agents					
	(b) Windows Agents					
	(c) My Sql Agents					
	(d) Oracle Agents					
38	Replication Server					
39	Replication Software					
	(a) MySql Agents					
	(b) Oracle Agents					
N.	**Network Operation Console (NOC)**					
40	Video Wall Block					
41	Desktops					
42	Graphic Controller Cards					
43	Video Matrix Switcher					
O.	**Accessories**					
44	Racks for Blade Servers, Storage, Networking Equipment					
45	Intra-Rack Cabling and Other Accessories					

S.No.	Item Description	No. of Units	Unit Rate (in Rupees)	Taxes per unit (in Rupees)	Total Unit Cost [(6)=(4)+(5)] (in Rupees)	Total Cost including Taxes (8)=(3)x(6) (in Rupees)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
					Total Costs	

IMPORTANT NOTE: The Bidder should note that all items mentioned above should be quoted failing which the Bid is liable to be rejected.

TOTAL AMOUNT IN RUPEES (in figures)----------
(in words)----------

Signature of witness **Signature of the Bidder**
Date **Date**
Place **Place**

NOTE : **The Bidder shall submit an exact copy of this Annexe with prices blanked off alongwith the Technical Bid.**

(b) Revised Annexe 4.2.10 – Details of the Post Warranty Annual Maintenance Costs - Recurring Costs

S.No.	Item Description	No. of Units	Unit Rate per Annum (in Rupees)	Taxes per unit per annum (in Rupees)	Total Unit Cost per Annum [(6)=(4)+(5)] (in Rupees)	Total Cost per annum including Taxes (7)=(3)x(6) (in Rupees)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A.	**Blade Servers**					
1	Blade Servers					
2	Blade Chassis					
B.	**Rack Servers**					
3	Rack Servers-1					
4	Rack Servers-2					
5	Rack Servers-3					
C.	**Other Servers**					

S.No.	Item Description	No. of Units	Unit Rate per Annum (in Rupees)	Taxes per unit per annum (in Rupees)	Total Unit Cost per Annum [(6)=(4)+(5)] (in Rupees)	Total Cost per annum including Taxes (7)=(3)x(6) (in Rupees)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
6	Event Correlation Server					
7	Radius Server					
8	Terminal Server					
9	Load Balancer					
D.	**Desktops**					
10	Desktops					
E.	**Storage Area Network (SAN) System**					
11	SAN for DMZ (raw images) with SAN Fabric Management Software					
12	Enterprise SAN (Storage for DFS (raw images)) with SAN Fabric Management Software					
13	SAN – ODS (Storage for Operational Data) with SAN Fabric Management Software					
F.	**SAN Switches**					
14	BSP SAN Switches (for host to san connectivity - for all servers)					
15	DMZ - SAN Switches					
16	DC Core SAN Switch					
G.	**Network Attached Storage (NAS)**					
17	NAS for Storing web, portal content					
H.	**Tape Backup System**					
18	(c) Tape Library					
	(d) LTO 5 Media (3 TB Raw)					
I.	**Networking Equipment**					
(a)	**Routers**					
19	Internet Router					
20	Link Load Balancer					
(b)	**L3 Switches**					
21	DC-Core LAN					
22	DC-Core Management Security - LAN					

S.No.	Item Description	No. of Units	Unit Rate per Annum (in Rupees)	Taxes per unit per annum (in Rupees)	Total Unit Cost per Annum [(6)=(4)+(5)] (in Rupees)	Total Cost per annum including Taxes (7)=(3)x(6) (in Rupees)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
23	DC-Core Backup - LAN					
24	L3 Switches Access					
25	ABIS LAN					
J.	**Security Components**					
(a)	**Firewall**					
26	Firewall with content filtering 3 pairs each of different makes for DC and DR out of which one pair non CISCO for DC.					
(b)	**Security Device**					
27	HIDS					
28	NIDS					
29	Perimeter Security Device					
30	Hardware Security Module (HSM)					
K.	**Anti Virus Server and Anti Virus Software**					
31	Anti Virus Server					
32	Anti Virus Software					
	(a) Antivirus Scan Engine					
	(b) Client Licenses					
L.	**Systems Software**					
33	Linux Operating System Enterprise Edition (Red Hat Enterprise License 6.0 or higher)					
34	Microsoft Windows Server 2008 Enterprise Edition					
35	Database Software MySql 5.5 on Linux (64 bit with partitioning/HA support)					
M.	**Backup and Replication Server & Software**					
36	Backup Server					
37	Backup & Recovery Software					
	(a) Linux Agents					
	(b) Windows Agents					
	(c) My Sql Agents					

S.No.	Item Description	No. of Units	Unit Rate per Annum (in Rupees)	Taxes per unit per annum (in Rupees)	Total Unit Cost per Annum [(6)=(4)+(5)] (in Rupees)	Total Cost per annum including Taxes (7)=(3)x(6) (in Rupees)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(d) Oracle Agents					
38	Replication Server					
39	Replication Software					
	(a) MySql Agents					
	(b) Oracle Agents					
N.	**Network Operation Console (NOC)**					
40	Video Wall Block					
41	Desktops					
42	Graphic Controller Cards					
43	Video Matrix Switcher					
O.	**Accessories**					
44	Racks for Blade Servers, Storage, Networking Equipment					
45	Intra-Rack Cabling and Other Accessories					
	Total Post Warranty Annual Maintenance Charges for One Year (X)					
	Total Post Warranty Annual Maintenance Charges for Two Years (Y= 2 x X)					

TOTAL AMOUNT FOR TWO YEARS (Y) (IN RUPEES) (in figures)----------
(in words)----------

Service Tax, Education Cess , Works Contract Tax etc, if applicable, should be shown separately

Signature of witness
Date
Place

Signature of the Bidder
Date
Place

NOTE : **The Bidder shall submit an exact copy of this Annexe with prices blanked off alongwith the Technical Bid.**

(c) Revised Annexe 4.2.11– DETAILS OF COSTS FOR OPTIONAL ITEMS - One Time Non-Recurring Costs

S.No.	Item Description	Product/ Part No., if any (Please specify)	Quantity	Basic Unit Price (in Rs.)	Customs/ Excise Duty (in Rs.)	Sales Tax/ VAT (in Rs.)	Total Unit Cost (in Rs.)	Total Cost (in Rs.)
1	Additional DDR3, ECC Memory Module 8GB (Qty: one) for offered Blade Servers		1					
2	Additional DDR3, ECC Memory Module 16GB (Qty: one) for offered Blade Servers		1					
3	Additional DDR3, ECC Memory Module 8 GB (Qty: one) for offered Rack Servers		1					
4	Additional DDR3, ECC DIMM Memory Module 16GB (Qty: one) for offered Rack Servers		1					
5	Additional Internal Hot Swappable 300 GB SAS Disk, 10000 RPM for offered Blade Servers (Qty:one)		1					
6	Additional Internal Hot Swappable 300 GB SAS Disk, 15000 RPM for offered Rack Servers-1 & 2 (Qty:one)		1					
7	Additional Internal Hot Swappable 450 GB SAS Disk, 15000 RPM for offered Rack Server-3 (Qty:one)		1					
8	Additional 600 GB Hot Swappable Dual ported FC Disks 15000 RPM for offered SAN-ODS and SAN-DMZ including software licenses if any		1333					
9	Additional SSD disks for SAN-ODS along with requisite accessories including software licenses if any		10 TB Usable Capacity					

S.No.	Item Description	Product/ Part No., if any (Please specify)	Quantity	Basic Unit Price (in Rs.)	Customs/ Excise Duty (in Rs.)	Sales Tax/ VAT (in Rs.)	Total Unit Cost (in Rs.)	Total Cost (in Rs.)
10	Additional 2 TB Additional 2 TB Hot Swappable SATA Disks 7200 RPM for offered SAN-DFS including software licenses if any		1					
11	Additional 600 GB Hot Swappable FC Disks 10000 RPM for offered NAS RPM for offered NAS along with requisite accessories (for upgrade from 20 TB to 40 TB usable capacity) including software licenses if any		80					
12	Additional Backend port for offered DMZ SAN		16					
13	Additional Frontend port for offered DMZ SAN		16					
14	Additional Backend port for offered DFS SAN		128					
15	Additional Frontend port for offered DFS SAN		128					
16	Additional Backend port for offered SAN ODS		64					
17	Additional Frontend port for offered SAN ODS		64					
							TOTAL COST FOR OPTIONAL ITEMS	

TOTAL AMOUNT IN RUPEES (in figures)----------
(in words)----------

Signature of witness **Signature of the Bidder**
Date **Date**
Place **Place**

NOTE : **The Bidder shall submit an exact copy of this Annexe with prices blanked off alongwith the Technical Bid.**

V. Amendments in Section V of the Bid Document

(a) It should be noted that the equipments offered by the bidder under the category of 'Servers' ' and 'Storage' should be from same OEM for the respective category.

(b) Clause 3.1.1 - Supply of following Servers, Storage, Networking and Security equipment along with associated Software, Peripherals, Accessories. The table under this Clause stands **revised** as under:

S.No.	Item Description	Quantity Required for Data Centre at Bengaluru		Quantity Required for Disaster Recovery Data Centre at Delhi/NCR		Annex No. of Section VII for Response
		Biometric Solution	Data Centre	Biometric Solution	DR	
A.	**Blade Servers**					
1	Blade Servers	300	12	300	34	7.1
2	Blade Chassis	40	2	40	5	7.2
B.	**Rack Servers**					
3	Rack Servers-1	Nil	4	Nil	4	7.3
4	Rack Servers-2	Nil	8	Nil	8	7.4
5	Rack Servers-3	6	Nil	6	Nil	7.5
C.	**Other Servers**					
6	Event Correlation Server	Nil	2	Nil	2	7.6
7	Radius Server	Nil	2	Nil	2	7.7
8	Terminal Server	3	3	3	3	7.8
9	Load Balancer	Nil	4	Nil	4	7.9
D.	**Desktops**					
10	Desktops	Nil	15	Nil	15	7.10
E.	**Storage Area Network (SAN) System**					
11	SAN for DMZ (raw images) with SAN Fabric Management Software	Nil	1	Nil	1	7.11
12	Enterprise SAN (Storage for DFS (raw images)) with SAN Fabric Management Software	Nil	1	Nil	1	7.12
13	SAN – ODS (Storage for Operational Data) with SAN Fabric Management Software	3	1	3	1	7.13
F.	**SAN Switches**					
14	BSP SAN Switches (for host to san connectivity - for all servers)	8	Nil	8	Nil	7.14
15	DMZ - SAN Switches	Nil	2	Nil	2	7.15

S.No.	Item Description	Quantity Required for Data Centre at Bengaluru		Quantity Required for Disaster Recovery Data Centre at Delhi/NCR		Annex No. of Section VII for Response
		Biometric Solution	Data Centre	Biometric Solution	DR	
16	DC Core SAN Switch	Nil	2	Nil	2	7.16
G.	**Network Attached Storage (NAS)**					
17	NAS for Storing web, portal content	Nil	1	Nil	1	7.17
H.	**Tape Backup System**					
18	(a) Tape Library	Nil	2	Nil	2	7.18
	(b) LTO 5 Media (3 TB Raw)	Nil	1400	Nil	1400	
	(c) Cleaning Tapes	Nil	140	Nil	140	
	(d) Tape labels	Nil	3000	Nil	3000	
I.	**Networking Equipment**					
(a)	**Routers**					
19	Internet Router	Nil	2	Nil	4	7.19
20	Link Load Balancer	Nil	2	Nil	2	7.20
(b)	**L3 Switches**					
21	DC-Core LAN	Nil	2	Nil	2	7.21
22	DC-Core Management Security - LAN	Nil	2	Nil	2	7.22
23	DC-Core Backup - LAN	Nil	2	Nil	2	7.23
24	L3 Switches Access	Nil	5	Nil	5	7.24
25	ABIS LAN	6	Nil	6	Nil	7.25
J.	**Security Components**					
(a)	**Firewall**					
26	Firewall with content filtering 3 pairs each of different makes for DC and DR out of which one pair non CISCO for DC.	Nil	4	Nil	6	7.26
(b)	**Security Device**					
27	HIDS	Nil	6	Nil	6	7.27
28	NIDS	Nil	2	Nil	2	7.28
29	Perimeter Security Device	Nil	2	Nil	6	7.29
30	Hardware Security Module (HSM)	Nil	3	Nil	3	7.30
K.	**Anti Virus Server and Anti Virus Software**					
31	Anti Virus Server	Nil	2	Nil	4	7.5
32	Anti Virus Software					
	(a) Antivirus Scan Engine	Nil	Nil	Nil	2	7.32

S.No.	Item Description	Quantity Required for Data Centre at Bengaluru		Quantity Required for Disaster Recovery Data Centre at Delhi/NCR		Annex No. of Section VII for Response
		Biometric Solution	Data Centre	Biometric Solution	DR	
	(b) Client Licenses	Nil	10000	Nil	Nil	
L.	**Systems Software**					
33	Linux Operating System Enterprise Edition (Red Hat Enterprise License 6.0 or higher)	300	48	300	48	
34	Microsoft Windows Server 2008 Enterprise Edition	Nil	4	Nil	4	
35	Database Software MySql 5.5 on Linux (64 bit with partitioning/HA support)	Nil	8	Nil	8	
M.	**Backup and Replication Server and Software**					
36	Backup Server	Nil	3	Nil	3	7.5
37	Backup & Recovery Software	Nil	3	Nil	3	7.34
	(a) Linux Agents	Nil	428	Nil	344	
	(b) Windows Agents	Nil	4	Nil	4	
	(c) My Sql Agents	Nil	8	Nil	8	
	(d) Oracle Agents	Nil	6	Nil	6	
38	Replication Server	Nil	2	Nil	2	7.5
39	Replication Software	Nil	2	Nil	2	7.35
	(a) MySql Agents	Nil	8	Nil	8	
	(b) Oracle Agents	Nil	6	Nil	6	
N.	**Network Operation Console (NOC)**					
40	Video Wall Block	Nil	12	Nil	12	7.33
41	Desktops	Nil	12	Nil	12	7.10
42	Graphic Controller Cards	Nil	12	Nil	12	7.33
43	Video Matrix Switcher	Nil	1	Nil	1	
O.	**Accessories**					
44	Racks for Blade Servers, Storage, Networking Equipment	Nil	35	Nil	50	
45	Intra-Rack Cabling and Other Accessories	As required	As required	As required	As required	

IMPORTANT NOTE: The Bidder should note that all items mentioned above should be quoted failing which the Bid is liable to be rejected.

(c) **Clause 4.2.** stands **revised** as under:

4.2. The following is a list of categories of components that the Bidder is expected to supply as part of the scope of work of this Bid:

- Blade Servers
- Rack Servers
- Storage Infrastructure
- Network Components
- Security Components
- Anti-Virus Server and Software
- Systems Software
- Backup Servers and Backup & Recovery Software
- Replication Servers and Replication Software
- Network Operation Console (NOC)
- Services and Resident Engineers

Each of the above mentioned categories is elaborated in the **Clauses 5 through 11.**

(d) **Clause 9 – Anti Virus Solution stands revised as under:**

"9. Anti Virus Server and Anti Virus Software

9.1 The Bidder shall provide **Anti Virus Servers** and **Anti Virus Software** in accordance with the formats and as per the detailed specifications provided in the revised **Annex 7.5 and Annex 7.32** respectively **of Section VII."**

(e) **Clause 10.1 - Linux Operating System for Blade/ Rack Servers** stands **revised** to read as under:

"10.1 Linux Operating System for Blade/ Rack Servers

The Operating systems (OS) should be 64-bit **Redhat Enterprise Linux 6.0 or higher with support subscription** and should support .both 32-bit and 64-bit applications. The Selected Bidder shall provide requisite licenses as also support subscription **with online/email/phone support for 36 month**s for this Operating System. However, the UIDAI reserves the right to negotiate the price directly with the OEM/Principal.

(f) Clause 10.3 - MySql 5.5 stands **revised** to read as under:

"10.3 MySql 5.5

The Selected Bidder shall have to provide 16 (Sixteen) Licenses) (8 each for DC and DR) of **MySql 5.5** with subscription support on Linux (64 bit with partitioning/HA support) **alongwith Media. However, the UIDAI reserves the right to negotiate the price directly with the OEM/Principal.** The Selected Bidder shall provide requisite licenses as also **support subscription for MySql 5.5** with online/email/phone support for **12 months** renewable later**.**

(g) Clause 10.4 – Backup Solution stands **revised** to read as under:

"10.4 Backup Servers and Backup & Recovery Software

10.4.1 The Bidder shall provide Backup Servers as per the detailed specifications provided in **Annex 7.5 of Section VII.** The Backup & Recovery Software, in accordance with the format**,** as per the detailed specifications provided in the newly inserted **Annex 7.34 of Section VII."**

Remaining **Clauses 10.4.2 to 10.4.10** stand **deleted**.

(h) Clause 10.5 – Replication Solution stands **revised** to read as under:

"10.5 Replication Servers and Replication Software

10.5.1 The Bidder shall provide Replication Servers as per the detailed specifications provided in **Annex 7.5 of Section VII.** The Replication Software, in accordance with the format**,** as per the detailed specifications provided in the newly inserted **Annex 7.35 of Section VII."**

Remaining **Clauses 10.5.2 to 10.5.3** stand **deleted**.

(i) Clause 13.5.3 stands **revised** to read as under**:**

13.5.5. The Bidder/ OEM (preferably the OEM) shall provision following complement of skilled, qualified and experienced **OEM Certified** Resident Engineers and Support Engineer/Staff who meet the qualification and experience criteria mentioned against each:

S. No.	Resident Engineer / Support Engineer / Staff	For Data Centre, Bengaluru	For DR Data Centre at Delhi/ NCR	Total	Minimum Qualification Experience required	Experience required	Certifications required
1	**Server Engineer**	**5**	**5**	**10**	BE– Computers/ Electronics MCA with minimum experience of 3 years as system administrator	Should have proven expertise in the following areas 1. Installation , Configuration of Linux OS on blade and rack servers supplied 2. Analysis of system resource utilization 3. Capacity, planning and management, performance tuning, system upgrades, bug fixes and implementation of software patches. 4. Installation and configuration of blade servers, blade chassis and associated peripherals. 5. Configuration and implementation of SAN, creation and management of file systems, volume groups. Experience of atleast 1 year in installation, management and administration of proposed blade servers is a must.	Redhat Certified Architect (RHCA)
2	**Network Engineer**	**5**	**5**	**10**	BE – Computers / Electronics MCA with minimum experience of 3 years as Network Engineer	Should have proven expertise in the following areas 1. NMS – Familiarity with SNMP (V1/V2), CIM, JMX standards 2. Configuration, Installation , trouble shooting of routers, switches and firewalls 3. Port configuration 4. Configuration of TCP/IP (V4/V6), RIP/OSPF/BGP/STP protocol parameters. 5. Interface with ISPs for troubleshooting WAN link issues 6. Security protocol (SSL, Kerberos) 7. Proactive management and Preventive maintenance of L2/L3 components 8. Setup, Manage, Configure –HIDS, NIDS, SYSLOG, VPN, RADIUS servers	OEM Certified Network Professional
3	**Storage Engineer**	**5**	**5**	**10**	BE – Computers / Electronics with minimum experience of 3 years as storage administrator	Should have proven expertise in the following areas 1. Monitoring and maintenance of SANS, configuration and monitoring of Fibre Channel Switches/Fabric, installation of disk arrays, patches/upgrades, firmware upgrades, snapshots and backups, standardization and implementation of storage to improve the management of production and test environments, support users by resolving problems with storage. 2. Should be familiar with storage management products (supplied), identifying and resolving storage and i/o bottlenecks. 3. Allocate volumes, create and manage zones, LUN, manage fabric security, analysis of utilization and resources, performance tuning, capacity planning, monitor storage based	OEM Certified Storage Professional

S. No.	Resident Engineer / Support Engineer / Staff	For Data Centre, Bengaluru	For DR Data Centre at Delhi/ NCR	Total	Minimum Qualification Experience required	Experience required	Certifications required
						replication, coordination of system upgrades or fixes with system and database administrators.	
4	**Security Engineer**	**3**	**3**	**6**	BE/B.Tech	1. 10 to 12 years of experience in information technology or security 2. Strong communications skills, both written and oral 3. Organized, responsive and highly thorough problem solver 4. Technical Knowledge: UNIX, AIX, Linux, Cisco Network IDS, Host-based IDS, eTrust Access Control, ESM, and IDS. DES encryption, Digital Certificates, SSL, VPN, IPSec, TCP/IP, DNS and web security architecture, mySQL, subversion, SpamAssassin/other spam tools 5. Exposure to Data security and data protection methodologies 6. OS hardening tools and techniques 7. Analysis of logs pertaining to network, storage, server devices to identify potential threats and weakness 8. Configure Firewalls, IDS, ECS and other supplied security equipment/software	CISSP Certified
5	**Asset Management**	**1**	**1**	**2**	BE/B.Tech		

Note: It should be noted that the initial installation, commissioning, configuration and integration of all equipment shall be done by the Engineers of the respective OEMs who shall be stationed in the Data Centres for a period of 3 months. Thereafter, the responsibility of maintaining the equipment shall be of the OEM Certified Resident Engineers of the Bidder. The Resident engineers of the Bidder shall be distributed in 3 shifts on 24X7 basis in consultation with UIDAI.

(j) Clause 13.5.5 stands **revised** to read as under**:**

"13.5.5 The OEM certified Resident Engineers of the Bidder shall be responsible for troubleshooting issues in the infrastructure, namely, servers, storage equipment, network equipment and security equipment to determine the areas where fixes are required and ensuring resolution of the same. **The OEM certified Resident Engineers of the Bidder and the OEM Engineers shall also be responsible in the transfer of assets of UIDAI and also transitioning of Assets, Documents, Licensing Agreements, License Keys, Knowledge Transfer etc. to the Managed Services Provider (MSP) appointed by UIDAI."**

(k) **Clause 14** stands **revised** as under:

14. TIMELINES

14.1 Delivery Schedule

(i) Racks

All Racks should be delivered **within 4 (Four) weeks** from the Date of issue of Purchase Order.

(ii) Blade Servers

It should be noted that the UIDAI will place the Purchase Order for Blade Servers in a Phased manner. Accordingly**, the deliveries for the Blade Servers shall be made by the selected Bidder in a phased manner after receipt of corresponding Purchase Order(s) for the Blade Servers. Blade Servers** should be delivered **within 6 (Six) weeks** from the Date of issue of each such Purchase Order.

However, the First Purchase order for Blade servers shall be issued for 188 Blade severs (34+60=94 for each site). It should be noted, that, by January, 2011, part delivery of this purchase order (Approximately 50 out of 188) shall be supplied, installed and commissioned by the Bidder, immediately after the issue of Purchase order.

(iii) All other items should be delivered **within 6 (Six) weeks** from the Date of issue of Purchase Order.

14.2 Implementation Schedule

All items should be installed, configured and commissioned **within two weeks from the date of delivery of equipment** at the respective sites.

VI. Amendments in Section VII of the Bid Document

All Annexures under Section VII have been revised. Annexure 7.31 stands deleted. New Annexures 7.34 and 7.35 have been added. All Annexures (both Revised and New) under Section VII are enclosed.

Appendix G

* To be executed on a Non-Judicial Stamp Paper of the denomination of Rs. 100/-

Draft Proforma for Deed of Indemnity

THIS DEED OF INDEMNITY (the "Deed") is made at New Delhi on this the _____ Day of 20___ and amongst:

_____[Name of the Vendor], a company incorporated under the Companies Act, 1956 and having its registered office at _____(hereinafter referred to as the "First Party", which expression shall, unless it be repugnant to the subject or context thereof, include its agents/ successors and permitted assigns) of the **FIRST PART**.

AND

The Unique Identification Authority of India (UIDAI), with its office at _____ (hereinafter referred to as "**Second Party**") of the **SECOND PART**;

Each individually referred to as the "Party" and collectively as "Parties"

NOW WHEREAS, the _____(name of the Vendor) is a company, duly registered under the provisions of the Companies Act 1956, and established, *inter-alia* with the objectives of _____.

AND WHEREAS, the Unique Identification Authority of India (UIDAI) (hereinafter referred to as the "Second Party" and the First Party are entering into a Agreement (hereinafter referred to as "Contract"), whereby The Second Party has granted to the First Party the right to undertake its Project (as defined thereunder), and the First Party has agreed to undertake the Project on the terms and conditions contained therein.

AND WHEREAS this Deed sets forth the detailed mandates, terms and conditions for indemnity under the Contract.

NOW, THEREFORE, in consideration of the premises contained herein, the Parties hereto agree as follows:

1. **Definitions**

For the purposes of this Agreement, unless the context otherwise requires, terms shall have the meaning set forth in the Contract.

1. **"Contract"** means the agreement, between the First Party and the UIDAI and the Appendices / Annexures attached thereto and made a part thereof and include any amendments made thereto.
2. "UIDAI" means the Unique Identification of Authority.

2. **Interpretation**

In this Agreement unless the context otherwise requires:

(i) the headings of the Clause/ Appendices/ Schedules/ Attachments and Annexures in this Agreement are inserted for convenient reference only and shall not effect the meaning and/ or interpretation of this Agreement;

(ii) unless otherwise specified a reference to a clause number is a reference to all of its sub-clauses;

(iii) a reference to the singular includes the plural and vice-versa;

(iv) a reference to a gender shall include any other gender;

(v) the word "include" or "including" shall be deemed to be followed by "without limitation" or "but not limited to" whether or not they are followed by such phrases;

(vi) unless categorically specified, reference to a Section/ Clause/ sub-clause/ Appendix/ Schedule/ Attachment or Annexure shall be to a Section/ Clause/ Sub-clause/ Appendix/ Schedule/ Attachment or Annexure of this Agreement, including any amendments or modifications to the same from time to time;

(vii) Any/ all Appendices/ Schedules/ Annexures and Attachments form an integral part of this Agreement. In an event of conflict between any provision of the Clause and any provision of the Appendix/ Schedule/ Attachment or Annexure, the provision of the Clause shall prevail;

(viii) a reference to a person includes a partnership and a body corporate;

(ix) a reference to any legislation/ regulation having force of law includes legislation/ regulation time to time repealing, replacing, modifying, supplementing or amending that legislation;

(x) Where a word or phrase is given a particular meaning it includes the appropriate grammatical forms of that word or phrase which have corresponding meanings;

(xi) Any reference to time shall, except where the context otherwise requires and specifies, be construed as a reference to the time in India. Any reference to the Calendar shall be construed as reference to the Gregorian Calendar;

(xii) Unless the context otherwise requires, any period of time referred to shall be deemed to expire at the end of the last day of such period;

(xiii) The rule of construction, if any, that a Contract should be interpreted against the parties responsible for drafting and preparation thereof, shall not apply.

3. **Undertaking of the First Party**

3.1 The First Party undertakes to:

(i) indemnify the Second Party from and against any liability, cost, loss, or expense of any kind whatsoever;

(ii) hold the Second Party harmless and save it from any liability, cost, loss, or expense of any kind whatsoever; and

(iii) defend any suit or proceeding against the Second Party, arising out of or based on any claim, demand, or action arising out of any claims whatsoever and including but not restricted to claims under torts, infringement of any Intellectual Property Right conferred by Contract or by common law or by any law in force within the state of India or any State, breach of any licenses owned by the First Party (including licenses for which the Second Party has signed the license agreements, but of which the First Party is the owner), alleged to have occurred because of any product, good, service, data, or Confidential Information provided or work performed by the Indemnifier.

3.2 Provided, however, that this indemnity shall not apply unless the Second Party claiming indemnification notifies the other promptly of any matters in respect of which the foregoing indemnity may apply and of which the notifying Second Party has knowledge and gives the other full opportunity to control the response thereto and defence thereof, including, without limitation any agreement relating to the settlement thereof.

4. The First Party shall pay any/ all costs/ damages/ or awards of settlement, including court costs (including any/ all attorney fees, Court fee), arising out of any claim, demand, or action, provided that the conditions as laid down in **Clause 3** hereinabove are satisfied. The First Party will indemnify if the claim of infringement/ breach of terms/ misuse is caused by:

The First Party's misuse or modification of the Goods and Services; and/ or

(i) any negligence or wrongful act or omission by the First Party or the First Party 's Team or anyone affiliated to First Party or any of their employees or servants or agents in connection with or incidental thereto; or

(ii) failure to take any/ all requisite actions (including registration, payment of all registration and renewal fees) required to maintain any Intellectual Property Right/ General Public Licence/ Open Source Licence etc. in full force and effect.

5. **Undertaking in view of Indemnification:**

5.1 **Intellectual Property Right**

5.1.1 In the event that the First Party or anyone affiliated to/ with the First Party or any of their employees or servants or agents, are held in such a suit or proceeding for infringement of any Intellectual Property Right conferred by Contract or by common law or by any law in force within the state of India alleged to have occurred because of any product, good, service or data, then the First Party shall, at its sole expense:

(i) Procure for the Second Party the right to continue using such product, Good, service or data or information or portion thereof;

(ii) replace the same with non-infringing product, Good, service or data or information of equivalent functions and efficiency, compatible with the existing technology; or

(iii) modify the product, Good, service or data or information such that it no longer infringes the third-Party intellectual property right within the State of India or any State.

5.1.2 In the event the First Party is unable to accomplish any of the three undertakings set forth above in **Clause 5.1.1**, the First Party shall be liable to pay to the Second Party amount as would be calculated by the Second Party keeping in view the damage/ cost/ harm/ injury and/ or harassment caused to it.

5.1.3 **Non-Indian Infringement**

In the event of any claim, demand, or action alleging that the First Party or anyone affiliated to First Party or any of their employees or servants or agents, infringed any Intellectual Property Right conferred by Contract or by common law or by any law in force Outside India because of any product, good, service, data, then the First Party shall cooperate with the Second Party in the Second Party's defence of such claim and, if requested by the Second Party, undertake to replace the allegedly infringing product, Good, service or data or information with non-infringing product, Good, service or data or information of equivalent functions and efficiency or modify the allegedly infringing product, good, service or data or information so that it no longer infringes. The First Party shall be liable to pay to the Second Party amount as would be calculated by the Second Party keeping in view the damage/ costs/ loss/ harm/ injury and/ or harassment caused to it.

5.2 **Licences**

5.2.1 In the event that the First Party or anyone affiliated to/ with the First Party or any of their employees or servants or agents, are held in such a suit or proceeding for breaching the terms of any license (s) conferred by an Agreement/ Contract or by any law in force within the State of India to have occurred because of any non compliance of any terms therein, then the First Party shall, at its sole expense:

(i) Procure for the Second Party the right to continue using such product, Good, service or data or information or portion thereof;

(ii) replace the same with non-infringing product, Good, service or data or information of equivalent functions and efficiency, compatible with the existing technology; or

(iii) take such steps as will be required to ensure that the product, Good, service or data or information no longer infringes the terms of license within the state of India or any state.

5.2.2 In the event the First Party is unable to accomplish any of the three undertakings set forth above in Clause 5.2.1, the First Party shall be liable to pay to the Second Party amount as would be calculated by the Second Party keeping in view the expenses/ damage/ loss/ harm/ injury and/ or harassment caused to it.

5.2.3 **Non-Indian Infringement**

In the event of any claim, demand, or action alleging that the First Party or anyone affiliated to First Party or any of their employees or servants or agents, breach any/ the terms of license (s) conferred by Contract or by any law in force Outside India because of any product, good, service, data, then First Party shall cooperate with the Second Party in the Second Party's defence of such claim and, if requested by the Second Party, take such steps as will be required to ensure that the product, Good, service or data or information no longer infringes the terms of license within the state of India or any state or replace such license products, good, service or data or information with ones having equivalent functions and efficiency. The First Party shall be liable to pay to the Second Party amount as would be calculated by the Second Party keeping in view the expenses/ damage/ harm/ injury and/ or harassment caused to it.

5.3 **General Public Licences/ Open Source Licences**

5.3.1 The First Party shall be at liberty to use any/ all such General Public Licences (GPL)/ Open Source Licences or Software (OSL) provided that the First Party adheres to all the provisions of such GPL/ OSL.

5.3.2 In the event that the First Party or anyone affiliated to/ with the First Party or any of their employees or servants or agents, are held in such a suit or proceeding for breaching the terms of any General Public License (s)/ Open Source Licences or Software conferred by an Agreement/ Contract/ Licence or by common law or by any law in force within the state of India or any State alleged to have occurred because of any non compliance of any terms therein, then the First Party shall, at its sole expense:

(i) Procure for the Second Party the right to continue using such product, good, service or data or information or portion thereof;

(ii) replace the same with non-infringing product, good, service or data or information of equivalent functions and efficiency, compatible with the existing technology; or

(iii) take such steps as will be required to ensure that the product, good, service or data or information no longer infringes the terms of license within the State of India or any State.

5.3.3 In the event the First Party is unable to accomplish any of the three undertakings set forth hereinabove in Clause 5.3.2, the First Party shall be liable to pay to the Second Party amount as would be calculated by the Second Party keeping in view the expenses/ damage/ loss/ harm/ injury and/ or harassment caused to it.

5.4 **The Second Party's Infringement Responsibilities**

To receive the foregoing indemnity, the Second Party must notify the First Party in writing of a claim/ suit or any other proceedings promptly and provide all reasonable cooperation (at the First Party's expense) and full authority to defend and settle the claim/ suit or any other proceedings. The First Party shall not have any obligation to indemnify the Second Party under any settlement made without First Party's consent.

IN WITNESS WHEREOF the First Party has caused its Seal to be affixed hereto and to a duplicate hereof on the date first above written and the *UIDAI* have caused the same to be executed by the hand of an authorised official, in the presence of each other and at the above written date.

Signed, Sealed and Delivered for & on behalf of

_____

Signed :

Name : _____

Designation : _____

Date : :

Place : **New Delhi**

in the presence of :

Signed :

Name : _____

Designation : _____

Date : :

Place : **New Delhi**

Signed, Sealed and Delivered for and on behalf of the M/s President of India acting through the Director General,

Unique Identification Authority of India

Signed :

Name : _____

Designation : _____

Date :

Place : **New Delhi**

in the presence of :

Signed :

Name : _____

Designation : _____

Date :

Place : **New Delhi**

BID NO. T-11011/16/2010-Tech-UIDAI
UNIQUE IDENTIFICATION AUTHORITY OF INDIA,
PLANNING COMMISSION,
GOVERNMENT OF INDIA
NEW DELHI

Supply, Installation and Commissioning of Servers, Storage Systems, Security Systems and Accessories with Incidental Services

REVISED "SECTION VII" of BID DOCUMENT

Revised Annexure 7.1

Blade Servers

S. No.	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
2	**Processors**	No. of Processors	2	No. CPU/Sockets in one server, can have more cpus in a single blade		
		No of cores in each processor	6	No of cores in each physical CPU/socket		
		Processor Type (CISC)	x86	x86		
		Processor Architecture	64-bit	64-bit		
		Type of processor(CPU)	Intel X5670 or AMD Opteron 6174	Intel X5670/ AMD Opteron 6174		
		Native support for 32-bit applications	YES	YES/NO		
		L2 Cache per Core		MB		
		L3 Cache per processor	12	MB		
		Hyper Threading Support				
		Clock Speed		GHZ		
3	**Architecture**	64-bit architecture	YES	YES/NO		
4	**Main Memory**	Size	64	GB		
		Expandibility upto	96	GB		
		Type	DDR3	DDR3		
		DIMM Type	ECC	(ECC / Non ECC)		
		DIMM Size	8 GB	GB		
		Free DIMM slots after populating 64 GB RAM	4	Number		
5	**Disk Controller**	RAID level supported		RAID Levels (0/1/5/6/others)		
		RAID protection type	RAID 1	YES / NO		
		No. of channels in the RAID controller	Dual	Single / Dual / Quad		
6	**Internal Disks**	Type of disk proposed	SAS	SAS		
		Disk capacity	2X300 GB	GB		
		Min RPM	10000	RPM		
		Are Proposed Disks Hot Swappable?	YES	YES / NO		
		Max. no. of Disks supported in the proposed server	2	Number		
	Network-1	Type of Ethernet controller proposed	Full duplex 10 Gbps	YES / NO		
		No. of Ethernet Controllers with dual ethernet ports proposed	1	Units		

Revised Annexure 7.1

Blade Servers

S. No.	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Dual Homing proposed	YES	YES / NO		
		Teaming of Ethernet Controllers proposed	YES	YES / NO		
		Total Throughput of the proposed Ethernet Controller together		Gbps		
		TCP/IP offload engine		YES / NO		
	Network-2	Type of Ethernet controller proposed	Full duplex 10 Gbps	YES / NO		
		No. of Ethernet Controllers with dual ethernet ports proposed	1	Number		
		Dual Homing proposed	YES	YES / NO		
		Teaming of Ethernet Controllers proposed	YES	YES / NO		
		Total Throughput of the proposed Ethernet Controller together		Gbps		
		TCP/IP offload engine		YES / NO		
8	**Host based Adapters**	Type of HBA proposed	Full duplex Fiber channel			
		Throughput of each of the proposed HBA	8 Gbps	Gbps		
		Proposed HBA		PCI / PCI-X		
		I/O Slot used by HBA		PCI / PCI-X		
		No. of HBA required	2	Units		
		No. of ports on each HBA required	Dual	Single / Dual / Quad		
		Total Throughput of all the proposed HBA together		Gbps		
		Capability to dynamically load balance between multiple HBA	YES	YES / NO		
		Support for storage subsystems of leading manufacturers like EMC, Hitachi, HP, IBM, SUN,Net App, Dell	YES	YES / NO		
		LUN Size	10	TB		
		No. of LUNs		Number		
		Max luns supported per server				
9	**Operating System**	Operating system is natively compliant with 32-bit and 64-bit applications	YES	YES / NO		
		Operating System Support - RHEL 6.0	YES	YES / NO		
		Operating System Support Windows 2003/ 2008 (32, 64 bit)				
		Virtualization Support (support for hypervisors like ESXi/ ESX, XEN, KVM, HYPER-V)	YES	YES / NO		
	File System	Maximum file system partition size (file system)	8	TB		
12	**Remote Boot Support**	Network, SAN	Yes	YES / NO		
13	**Estimated Ratings of offered configuration**	SPEC Int2006		Value		

Revised Annexure 7.1

Blade Servers

S. No.	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		SPEC Rating (60% of SPECint_rate_base2006 plus 40% of SPECfp_rate_base2006 scores)		Value		
		SPEC int_rate_2006 (base rate)		Value		
		SPEC fp2006		Value		
		SPECfp_rate_2006 (base rate)		Value		
		tpmC		Value		
		SPECpower_ssj2008		Value		
14	**Support**	Is the proposed product **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product reach **End-of-support** during the next five years	NO	YES / NO		

Revised Annexure 7.2

Blade Servers Chassis

S. No.	Parameter	Technical Specifications	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
2	**Blade Density**	No. of blade servers (which fit into the entreprise class chassis) Full/Half height Blades	2 processor blades capable of accommodating minimum 8 Full/Half height blade servers in the chassis	Number		
3	**Dimensions**	Chassis Height		7U/9U/10U		
		Chassis Dimensions		inches (LxWxH)		
		Chassis Weight when fully loaded (as per the Blade Density Specified)		KG		
4	**Redundancy**	Backplane redundancy/dual backplane bus for high availability	YES	YES/NO		
5	**Power & Cooling**	Power Consumption At Full load		KVA		
		Power Consumption At normal load		KVA		
		Heat Dissipation at full load		BTU/Hr		
		Heat Dissipation at normal load		BTU/Hr		
		No of Cooling Fans Proposed		Number		
		Redundant Cooling Fans	Yes	YES / NO		
		Hot Swappable Power supply proposed	YES	YES / NO		
		Dual AC input proposed	YES	YES / NO		
		Redundant Power Supply Proposed	YES			
6	**Networking & Storage**	Number of 10G Ethernet ports in high availability - from chassis to external network so that end to end connectivity is for 10 Gbps	4	Number		
		10 G Ethernet Manageable Interconnect Switch with high availability (support for VLAN, Bridging/STP etc.), SFP+ Modules	Yes	YES / NO		
		Number of 1G Ethernet ports - from chassis to external network	2	Number		
		Number of Fiberchannel ports (8 Gbps) from chassis to external network	8	Number		
		8G Manageable FC Interconnect Switch (with support for zoning) with high availability	YES	YES / NO		
7	**Management**	Management Module	Yes	YES / NO		

Revised Annexure 7.2

Blade Servers Chassis

S. No.	Parameter	Technical Specifications	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Remote Installation, KVM, Blade Chassis/Server configuration & Management & diagnostics, energy management	Yes	YES / NO		
		Shared DVD/ROM Drive	Yes	YES / NO		
		Shared USB 2.0 Drive	Yes	YES / NO		
8	**Others**	Proposed Number of Blade Chassis (fully loaded) per 42U rack at 7KVA power consumption		Number		
		Max number of Blade Chassis (fully loaded) per 42U rack		Number		
		Operating Temperature and Humidity				
		Acoustic Noise at Full Load (fully loaded blade chassis) as per ISO 9296		LWAd and LpAm		
		Acoustic Noise at Normal Load (fully loaded blade chassis) as per ISO 9296		LWAd and LpAm		
8	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is later?	NO	YES / NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES / NO		

Revised Annexure 7.3

Rack Server - 1

Sr. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
2	**Processor**	Processor Type (CISC)	x86	x86		
		Processor Architecture	64-bit	64-bit		
		Type of processor(CPU)	Intel X5670 or AMD Opteron 6174	Intel X5670/ AMD Opteron 6174		
		Native support for 32-bit applications	YES	YES/NO		
		No. of CPUs	2	Number		
		No. of Cores per CPU	6	Number		
		Hyper Threading Support				
		Clock Speed		GHZ		
		L2 Cache per core		MB		
		L3 Cache per processor	12 MB	MB		
3	**Dimensions**	Chassis Height		1U/2U		
		Chassis Dimensions		inches (LxWxH)		
		Chassis Weight when fully loaded		KG		
4	**Power & Cooling**	Power Consumption At Full load		KVA		
		Power Consumption At normal load		KVA		
		Heat Dissipation at full load		BTU/Hr		
		Heat Dissipation at normal load		BTU/Hr		
		No of Cooling Fans Proposed		Number		
		Redundant Cooling Fans	Yes	YES / NO		
		Hot Swappable Power supply proposed	YES	YES / NO		
		Dual AC input proposed	YES	YES / NO		
		Redundant Power Supply Proposed	YES	YES / NO		
5	**Main Memory**	Main Memory Type	ECC	(ECC / Non ECC)		
		DDR Type	DDR3	DDR3		
		Total Memory populated	64	GB		
		Free DIMM slots after populating 64 GB	4	Number		
6	**Disk Controller**	RAID protection type proposed	RAID 1	YES / NO		
		No. of channels/ports in the proposed RAID controller	Dual	Single / Dual / Quad		
		Proposed size of battery backed cache	128 MB	MB		
7	**Internal Disks**	SAS Disk	YES	YES / NO		
		Disk capacity	2X300 GB	GB		
		Disk Speed	10000 RPM	RPM		
		Are Proposed Disks Hot Swappable?	YES	YES / NO		

Rack Server - 1

Sr. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
8	**Network**	Type of Ethernet controller proposed	Full duplex 10G	Units		
		No. of ports used on each Ethernet controller proposed	2	YES / NO		
		Whether only single port is be used on each controller	Yes	YES / NO		
		Dual Homing proposed	YES	Gbps		
		Teaming of Ethernet Controllers proposed	YES	YES / NO		
		No. of 10 G Ethernet ports	4	Number		
9	**Host based Adapters**	Type of HBA proposed	Full duplex Fiber channel	PCI / PCI-X		
		Throughput of each of the proposed HBA	8 Gbps	PCI / PCI-X		
		No. of HBA proposed	2	YES / NO		
		No. of ports used on each HBA proposed	2	Gbps		
		Capability to dynamically load balance between multiple HBA	YES	YES / NO		
		Support for storage subsystems of leading manufacturers like EMC, Hitachi, HP, IBM, SUN,NetApp, Dell	YES	YES / NO		
10	**Operating System**	Operating system is natively compliant with 32-bit and 64-bit applications	YES	YES / NO		
		Operating System Support - RHEL 6.0 or higher (32,64 bit), Windows 2003/2008 (32, 64 bit)	YES	YES / NO		
11	**Virtualization Support**	Support for hypervisors like a ESXi/ESX, XEN, KVM, HYPER-V	YES	YES / NO		
12	**File System**	Maximum file system partition size (file system)	8	TB		
13	**Remote Boot Support**	Network, SAN	Yes	YES / NO		
14	**Others**	Max no. of fully loaded servers per 42U rack at 7KVA load		Number		
		Free PCI/PCI-X expansion slots	2	Number		
15	**Estimated Ratings of server for proposed configuration**	SPEC Int2006		Value		
		SPEC Rating (60% of SPECint_rate_base2006 plus 40% of SPECfp_rate_base2006 scores)		Value		
		SPEC int_rate_2006 (base rate)		Value		
		SPEC fp2006		Value		
		SPECfp_rate_2006 (base rate)		Value		
		tpmC		Value		
		SPECpower_ssj2008		Value		
16	**Support**	Is the proposed product/solution End-of-life or will reach End-of-life within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach End-of-support during the currency of contract?	NO	YES / NO		

Revised Annexure 7.4

Rack Server - 2

Sr. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
2	**Processor**	Processor Type (CISC)	x86	x86		
		Processor Architecture	64-bit	64-bit		
		Type of processor(CPU)	Intel X7560 or AMD Opteron 6176SE	Intel X7560/ AMD Opteron 6176SE		
		Native support for 32-bit applications	YES	YES/NO		
		No. of CPUs	2	Number		
		Cores per CPU	8	Number		
		Hyper Threading Support		Yes/No		
		Clock Speed		GHZ		
		L2 Cache per core		MB		
		L3 Cache per processor	12 MB	MB		
3	**Dimensions**	Chassis Height		1U/2U/4U		
		Chassis Dimensions		inches (LxWxH)		
		Chassis Weight when fully loaded		KG		
4	**Power & Cooling**	Power Consumption At Full load		KVA		
		Power Consumption At normal load		KVA		
		Heat Dissipation at full load		BTU/Hr		
		Heat Dissipation at normal load		BTU/Hr		
		No. of Cooling Fans Proposed		Number		
		Redundant Cooling Fans	Yes	YES / NO		
		Hot Swappable Power supply proposed	YES	YES / NO		
		Dual AC input proposed	YES	YES / NO		
		Redundant Power Supply Proposed	YES	YES / NO		
5	**Main Memory**	Main Memory Type	ECC	(ECC / Non ECC)		
		DDR Type	DDR3	DDR3		
		Total Memory populated	96	GB		
		Free DIMM slots after populating 96 GB	2	Number		
6	**Disk Controller**	RAID protection type proposed	RAID 1	YES / NO		
		No. of channels/ports in the proposed RAID controller	Dual	Single / Dual / Quad		
		Proposed size of battery backed cache	128 MB	MB		
7	**Internal Disks**	SAS Disk Supported	YES	YES / NO		
		Disk capacity	2X300 GB	GB		
		Disk Speed	10000 RPM	RPM		
		Are Proposed Disks Hot Swappable?	YES	YES / NO		
8	**Network PCI / PCI-X**	Type of Ethernet controller proposed	Full duplex 10G	Units		
		No. of ports used on each Ethernet controller proposed	2	YES / NO		

Revised Annexure 7.4

Rack Server - 2

Sr. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Whether only single port is be used on each controller	Yes	YES / NO		
		Dual Homing proposed	YES	Gbps		
		Teaming of Ethernet Controllers proposed	YES	YES / NO		
		No of 10 G Ethernet ports	4	Number		
9	**Host based Adapters**	Type of HBA proposed	Full duplex Fiber channel	PCI / PCI-X		
		Throughput of each of the proposed HBA	8 Gbps	PCI / PCI-X		
		No. of HBA proposed	2	YES / NO		
		No. of ports used on each HBA proposed	2	Gbps		
		Capability to dynamically load balance between multiple HBA	YES	YES / NO		
		Support for storage subsystems of leading manufacturers like EMC, Hitachi, HP, IBM, SUN,NetApp, Dell	YES	YES / NO		
10	**Operating System**	Operating system is natively compliant with 32-bit and 64-bit applications	YES	YES / NO		
		Operating System Support - RHEL 6.0 or higher (32,64 bit), Windows 2003/2008 (32, 64 bit)	YES	YES / NO		
11	**Virtualization Support**	Support for hypervisors like a ESXi/ESX, XEN, KVM, HYPER-V	YES	YES / NO		
12	**File System**	Maximum file system partition size (file system)	8	TB		
13	**Remote Boot Support**	Network, SAN	Yes	YES / NO		
14	**Others**	Max no. of fully loaded servers per 42U rack at 7KVA load		Number		
		Free PCI/PCI-X expansion slots	2	Number		
15	**Estimated Ratings of server for proposed configuration**	SPEC Int2006		Value		
		SPEC Rating (60% of SPECint_rate_base2006 plus 40% of SPECfp_rate_base2006 scores)		Value		
		SPEC int_rate_2006 (base rate)		Value		
		SPEC fp2006		Value		
		SPECfp_rate_2006 (base rate)		Value		
		tpmC		Value		
		SPECpower_ssj2008		Value		
16	**Support**	Is the proposed product/solution End-of-life or will reach End-of-life within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach End-of-support during the currency of contract?	NO	YES / NO		

Revised Annexure 7.5

Rack Server-3

Sr. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
2	**Processor**	Processor Type (CISC)	x86	x86		
		Processor Architecture	64-bit	64-bit		
		Type of processor(CPU)	Intel X5670 or AMD Opteron 6174	Intel X5670/ AMD Opteron 6174		
		Native support for 32-bit applications	YES	YES/NO		
		No. of CPUs	2	Number		
		Cores per CPU	6	Number		
		Hyper Threading Support		YES/NO		
		Clock Speed		GHZ		
		L2 Cache per core		MB		
		L3 Cache per processor	12 MB	MB		
3	**Dimensions**	Chassis Height		1U/2U/4U		
		Chassis Dimensions		inches (LxWxH)		
		Chassis Weight when fully loaded		KG		
4	**Power & Cooling**	Power Consumption At Full load		KVA		
		Power Consumption At normal load		KVA		
		Heat Dissipation at full load		BTU/Hr		
		Heat Dissipation at normal load		BTU/Hr		
		No. of Cooling Fans Proposed		Number		
		Redundant Cooling Fans	Yes	YES / NO		
		Hot Swappable Power supply proposed	YES	YES / NO		
		Dual AC input proposed	YES	YES / NO		
		Redundant Power Supply Proposed	YES	YES / NO		
5	**Main Memory**	Main Memory Type	ECC	(ECC / Non ECC)		
		DDR Type	DDR3	DDR3		
		Total Memory populated	96	GB		
		Free DIMM slots after populating 96 GB	2	Number		
6	**Disk Controller**	RAID protection type proposed	RAID 5	YES / NO		
		No. of channels/ports in the proposed RAID controller	Dual	Single / Dual / Quad		
		Proposed size of battery backed cache	128 MB	MB		
7	**Internal Disks**	SAS Disk Supported	YES	YES / NO		
		Disk capacity	4*450 GB	GB		
		Disk Speed	10000 RPM	RPM		
		Are Proposed Disks Hot Swappable?	YES	YES / NO		
8	**Network PCI / PCI-X**	Type of Ethernet controller proposed	Full duplex 10G	Units		

Revised Annexure 7.5

Rack Server-3

Sr. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		No. of ports used on each Ethernet controller proposed	2	YES / NO		
		Whether only single port is be used on each controller	Yes	YES / NO		
		Dual Homing proposed	YES	Gbps		
		Teaming of Ethernet Controllers proposed	YES	YES / NO		
		No. of 10 G Ethernet ports	4	Number		
9	**Host based Adapters**	Type of HBA proposed	Full duplex Fiber channel	PCI / PCI-X		
		Throughput of each of the proposed HBA	8 Gbps	PCI / PCI-X		
		No. of HBA proposed	2	YES / NO		
		No. of ports used on each HBA proposed	Single	Gbps		
		Capability to dynamically load balance between multiple HBA	YES	YES / NO		
		Support for storage subsystems of leading manufacturers like EMC, Hitachi, HP, IBM, SUN,NetApp, Dell	YES	YES / NO		
10	**Operating System**	Operating system is natively compliant with 32-bit and 64-bit applications	YES	YES / NO		
		Operating System Support - RHEL 6.0 or higher (32,64 bit), CentOS 5.X ,Windows 2003/2008 (32, 64 bit)	YES	YES / NO		
11	**Virtualization Support**	Virtualalization Support (support for hypervisors like a ESXi/ESX, XEN, KVM, HYPER-V, VirtualBox)	YES	YES / NO		
12	**File System**	Maximum file system partition size (file system)	8	TB		
13	**Remote Boot Support**	Network, SAN	Yes	YES / NO		
14	**Others**	Max no. of fully loaded servers per 42U rack at 7KVA load		Number		
		Free PCI/PCI-X expansion slots	2	Number		
15	**Estimated Ratings of server for proposed configuration**	SPEC Int2006		Value		
		SPEC Rating (60% of SPECint_rate_base2006 plus 40% of SPECfp_rate_base2006 scores)		Value		
		SPEC int_rate_2006 (base rate)		Value		
		SPEC fp2006		Value		
		SPECfp_rate_2006 (base rate)		Value		
		tpmC		Value		
		SPECpower_ssj2008		Value		
16	**Support**	Is the proposed product/solution End-of-life or will reach End-of-life within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach End-of-support during the currency of contract?	NO	YES / NO		

Revised Annexure 7.6

Event Correlation Server

S. No	Form Factor/Dimension	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor/Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Hear Dissipation**			BTU/hr		
6	**Power requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage and Frequency	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Production Certification**					
13	**Product Name**		Enterprise event correlation,security monitoring and management			
14	**Version**		Latest software with all features as required for the solution			
15	**Processors**					
16	**Memory**			GB		
17	**Network Interface**		10G Ethernet	Gbps		
18	**Number of Network Interfaces**		2	Number		
19	**Operating system**			YES/NO		
20	**Number of events and suitable buffer to handle correlation of events**		20000	Events per sec		

Revised Annexure 7.6

Event Correlation Server

S. No	Form Factor/Dimension	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
21	**Number of devices**		2000	Number		
22	**Event/Log ciollection storage**		at least 1TB storage, RAID protected, High Performance disks	YES/NO		
23	**Support Log Security**	**Support secure storage of log data**	Yes	YES/NO		
24	**Support high availability**		Yes	YES/NO		
25	**Log Replication capabilities**		Yes	YES/NO		
26	**Data management tools(copy, purge and move)**		Yes	YES/NO		
27	**Platform should provide entire Information Life cycle management solution for log retention and purging and user customizable**			YES/NO		
28	**Event/Log collection:**	Collect events and logs at real time to a centralized log and Event Management system with secure storage	Yes	YES/NO		
		Regular signature and vulnerability	Yes	YES/NO		
		Should support auto device discovery		YES/NO		
		System Device support Capabilities				
28.1	**Operating system**	support not limiting to MS Windows, Linux, Solaris, HP UX, AIX	Yes	YES/NO		
28.2	**Network Devices**	Support device Support not limiting to Routers, Switches, Wireless Access points	Yes	YES/NO		
28.3	**Database**	Support not limiting to Oracle, MS SQL	Yes	YES/NO		
28.4	**Security Device**	Support not limiting to Firewalls, IPS,NIDS, NIPS,HIDS, Antivirus Solutions, IPSec gateways	Yes	YES/NO		
28.5	**Virtual Environments**	support not limiting to Vmware, Vcenter,Vmware	Yes	YES/NO		
28.6	**Customization capabilities to support home grown applications**		Yes	YES/NO		

Revised Annexure 7.6

Event Correlation Server

S. No	Form Factor/Dimension	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
29	**Alert and Correlation**	Web based ability to monitor and manage devices which are part of solution	Yes	YES/NO		
		Correlation support but not limited to - Rule Based, Behaviour Based, Vulnerability based, User defined, Baseline based	Yes	YES/NO		
		Provide real-time dashboard and global view of all data capatured	Yes			
		Web based tool to create and manage granular Access to dashboard based on role/group		YES/NO		
		Ability to define the network baseline and alerts	Yes	YES/NO		
		Capability to alert via but not limiting to - email, syslog notifications, SNMP traps, syslog	Yes	YES/NO		
30	**Reports**	Standard reports should be available as part of solution and made available as and when vendor release the upgrade at no cost	Yes	YES/NO		
		Ability to schedule standard user defined reports	Yes	YES/NO		
		Solution support ad-hoc queries based on standard syntax and regular expression		YES/NO		
31	**Management**	System should allow multi user access	Yes	YES/NO		
		Audit trail for management activities		YES/NO		
		Ability to create role/group based views		YES/NO		
		GUI/Web based Administration tool		YES/NO		
		Provision for Active Directory support for MS users		YES/NO		
		Log database should not be available directly using SQL tools		YES/NO		
		AAA support for TACACS, RADIUS, Active Directory	Yes	YES/NO		
		Role Based Access to administrator web portal	Yes	YES/NO		

Revised Annexure 7.6

Event Correlation Server

S. No	Form Factor/Dimension	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
32	**Process**	Support ticketing/workflow management capabilities	Yes	YES/NO		
		Allow third party ticketing systems like but not limited to - BMC Remedy, CA Unicenter, Service Desk, etc..	Yes	YES/NO		
		Automatic incident creation based on alerts	Yes	YES/NO		
33	**Mounting**		Standard 42u rack with required hardware			
34	**Compatability with proposed network devices**		Yes	YES/NO		
35	**Compatability with proposed servers**		Yes	YES/NO		
36	**Power Supply**	Hot Swappable Power supply proposed		YES / NO		
		(N+1) redundant power supply proposed	Yes	YES / NO		
		Dual AC input proposed	Yes	YES / NO		
37	**Cooling Fans**	Hot Swappable Cooling Fans proposed	Yes	YES / NO		
		(N+1) redundant Cooling Fans proposed	Yes	YES / NO		
38	**Support**					
	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?		No	YES/NO		
	Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.			YES/NO		
	Will the proposed product/solution reach **End-of-support** during the currency of contract?		No	YES/NO		

Revised Annexure 7.7

Radius Server

S. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Product Name**					
2	**Version**					
3	**No. of Licenses**					
	Server					
	Processor					
	Client					
	Client Access License					
	Other 1					
	Other 2					
4	**Authentication**	PAP,CHAP and MS-CHAP	Yes	YES/NO		
		WPA Compliant wireless LAN authentication for	Yes	YES/NO		
		EAP-SIM	Yes	YES/NO		
5	**Data Sources**	Flat File	Yes	YES/NO		
		linux user Password file	Yes	YES/NO		
		linux via password file	Yes	YES/NO		
		Radius proxy authentication and accounting	Yes	YES/NO		
		RSA Ace Server	Yes	YES/NO		
		LDAP	Yes	YES/NO		
		Active Directory	Yes	YES/NO		
6	**Authorization features**	Simple Radius Policy	Yes	YES/NO		
		Advanced Policy Engine	Yes	YES/NO		
7	**Authorization reply items**	Idle-timeout				
		session time-out limits				
		IP address assignments				
		Attribute Pruning				
		Attribute Mapping				
		QoS				
		IP Filter				
		Compulsory tunnels				
		Wireless VLANs				
8	**Extensibility Features**	VSA Definitions and Radius Dictionary extensiblity				
9	**Radius RFC Compliance**					
10	**Accounting**	Proxy Accounting	Yes	YES/NO		
		Browser View of Accounting Logs	Yes	YES/NO		
		Pre-defined and customizable loggign formats	Yes	YES/NO		
		Accounting on/off packet support	Yes	YES/NO		
11	**Management**	Web based Server Administration	Yes	YES/NO		

Revised Annexure 7.7

Radius Server

S. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Remote Monitoring	Yes	YES/NO		
		Session and Event Logging	Yes	YES/NO		
		Simultaneous Access Control	Yes	YES/NO		
		DHCP Relay Support	Yes	YES/NO		
12	**Protocols Supported**		Yes	YES / NO		
13	**Operational Features**	High Speed Processing Performance	Yes	YES/NO		
		Load Balance and Failover across LDAP	Yes	YES/NO		
		Network Interfaces	1 G/10G	1 G/10G		
		No of devices supported	2000	YES/NO		
14	**Operating system supported for proposed software**					
15	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	No	YES / NO		
		Provide new version upgrades, updates, patches, etc. for all the components / sub-components through the period of contract	Yes	YES / NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	No	YES / NO		

Revised Annexure 7.8

Terminal Server

S. No.	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor / Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Heat Dissipation**			BTU/hr		
6	**Power Requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating Temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Network**	Integration with traditional networks		YES / NO		
		Integration with advanced peer to peer networking		YES / NO		
		Support for VOIP,security and routing features		YES / NO		
		No. ofasynchrnonous ports	64	Number		
		WAN Interfaces	Serial/BRI/PRI/Dial up ,xDSL	YES / NO		
		Ethernet Interfaces (1G/10G)	2	Number		
		Number of slots for WAN interfaces		Number		
		Routing performance in number of packets/second		packets/second		
		Auxiliary and Console ports	Yes	YES / NO		
		Support for Quality of Service		YES / NO		

Revised Annexure 7.8

Terminal Server

S. No.	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Protocol Supported	ssh,telnet, xdmp, rdp			
13	**Power Supply**	Hot Swappable Power supply proposed		YES / NO		
		(N+1) redundant power supply proposed		YES / NO		
		Dual AC input proposed		YES / NO		
14	**Cooling Fans**	Hot Swappable Cooling Fans proposed		YES / NO		
		(N+1) redundant Cooling Fans proposed		YES / NO		
15	**Operating System**	Operating Systems proposed on this server				
		Operating Systems supported on this server				
16	**Any other software proposed (provide details)**					
17	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	No	YES / NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES / NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	No	YES / NO		
18	**Estimated Ratings of server**	SPEC Int2000				
		SPEC int_rate_ base 2000				
		SPEC fp2000				
		SPECfp_rate_base 2000				
		tpmC				

Revised Annexure 7.8

Terminal Server

S. No.	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
19	**Remote Management**		Hardware based, Operating System Independent Remote Management having Integrated Management Log, Support for multiple user accounts with customizable access privileges with SSL level security, SNMP.	YES / NO		
20	**Other**	Rack Mountable		YES / NO		
		Automatic Server Recovery		YES / NO		
		Redundant / adaptive load balancing NIC support		YES / NO		

Revised Annexure 7.9

Load Balancer

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor / Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Heat Dissipation**			BTU/hr		
6	**Power Requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating Temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Architecture**	Should be a multi processor based appliance	Yes	Yes/No		
		Traffic Throughput	8	Gbps		
		Network Connectivity support	4 x 1 Gbps and 4 X 10 Gbps connectivity	No/Gbps		
		Memory on the device	8 GB upgradable to 16 GB	GB		
		L4 concurrent connections	5 Million	Number		
		L4 connections per second	100000	Number		
		L7 concurrent connections	250000	Number		
		Should suport L7 connections per second	35000	Number		
		Should support minimum L7 throughput	4 Gbps upgradable to 8 Gbps	Gbps		
		Should support SSL offloading & HTTP acceleration from day one in same unit without adding another hardware to save rack space, power & cooling requirements	Yes	Yes/No		
		SSL Throughput	3 Gbps	Gbps		
		Hardware Compression Support	3 Gbps	Gbps		
		NAT entries	60000	Number		

Revised Annexure 7.9

Load Balancer

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Concurrent SSL connections	1,00,000+	Number		
		Virtual Local area Network (Vlans)	512	Number		
		Virtual servers	3000	Number		
		Server farms	2500	Number		
		Real servers	8000	Number		
		Support for stickey table entries	100000	Number		
		Should support Port Aggregation IEEE 802.3ad	Yes	Yes/No		
		Should support Vlan Trunk IEEE 802.1Q	Yes	Yes/No		
		Should have minimum 1Gb Flash Drive	Yes	Yes/No		
		Should support Port Mirroring	Yes	Yes/No		
		Should support following deployments	Yes	Yes/No		
		Routing Mode : where client-side and server-side VLANs are on different subnets	Yes	Yes/No		
		Bridge Mode : where client-side and server-side VLANs are on the same subnets.	Yes	Yes/No		
		Direct Server Response : where SLB load balance an initial request from the client to a real server; however, the server directly responds to the client bypassing the SLB.	Yes	Yes/No		
		OEM should validate all the performance parameters like layer7 throughput, TPS, CPS etc with a publicly available document like performance report/datasheet/brochure etc.	Yes	Yes/No		
13	**Load Balancing Features**	Server load balancing based on SNMP parameter like CPU load, Memory utilization etc	Yes	Yes/No		
		Should support Client NAT & Server NAT and PAT and NAT pool for Dynamic NAT	Yes	Yes/No		
		In case of Server / Application failure device should detect it in not more than 30 seconds	Yes	Yes/No		
		In case of Server failure traffic should be diverted to another Server automatically	Yes	Yes/No		
		Should support following content based Load balancing features	Yes	Yes/No		
		Support for protocols namely HTTP, FTP, DNS, Internet Control Message Protocol (ICMP), Session Initiation Protocol (SIP), Real-Time Streaming Protocol (RTSP), Extended RTSP, RADIUS, and Microsoft Remote Desktop Protocol (RDP).	Yes	Yes/No		
		HTTP Header based redirection	Yes	Yes/No		

Revised Annexure 7.9

Load Balancer

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Should Support HTTP Header manupulation on Client requests and server responses	Yes	Yes/No		
		URL-Based Redirection	Yes	Yes/No		
		Browser Type Based Redirection	Yes	Yes/No		
		Preferential Treatment (Cookie-Based)	Yes	Yes/No		
		Should support End-to-End SSL Encryption (Backend Encryption)	Yes	Yes/No		
		Should support SSL initiation (SSL between SLB & Servers)	Yes	Yes/No		
		Predictors		Yes/No		
		Load Balancing algorithm should support following algorithm namely Least loaded, Round-robin,Adaptive response,Least bandwidth,Least connections,Hash address,Hash cookie,Hash header,Hash URL	Yes	Yes/No		
		Probe Support should be available for the protocols HTTP, HTTPS, SMTP, POP3, IMAP, RADIUS, SIP, RTSP, SNMP, Telnet, FTP,KAL-AP, ICMP, TCP, UDP, Echo, Finger, DNS	Yes	Yes/No		
		Support for scripted probes	Yes	Yes/No		
14	**Server Management Features**	Should support Graceful shutdown of Servers	Yes	Yes/No		
		Should support Graceful Activation of Servers	Yes	Yes/No		
		Should able to redirect traffic based on Source IP, Destination IP & TCP PORT	Yes	Yes/No		
15	**Virtualization**	The Load Balancer should support virtualization or segmentation where it should be possible to create virtual partitions from day one. Each of this Partition should be completely isolated from each other wrt dedicated access control and resource allocation	Yes	Yes/No		
		Should support Min & Max resource allocation per virtual Partition		Yes/No		
		Should support resource sharing between virtual Partitions so in case if resource is available with another virtual partition it can be borrowed automatically	Yes	Yes/No		
		Should keep configuration files separately for each virtual partition or segment				
16	**Health Monitoring**	Should provide individual health checks for real servers & farms	Yes	Yes/No		
		Should allow to monitor protocol like HTTP, SMTP, POP, FTP etc	Yes	Yes/No		
		Should allow to configure Customize health probes based on TCP & UDP parameters	Yes	Yes/No		
		Should provide GUI to configure Health Monitoring	Yes	Yes/No		

Revised Annexure 7.9

Load Balancer

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Should provide flexible Script based support for complex environments & advance health monitoring	Yes	Yes/No		
17	**Redundancy**	System and Session redundancy-failover should happen automatically, with no human intervention,Should Provide stateful failover capabilities	Yes	Yes/No		
		Should support Redundancy protocol like VRRP	Yes	Yes/No		
		Should support transparent failover between 2 devices	Yes	Yes/No		
		Should support transparent failover between 2 Virtual Instances configured on 2 different units	Yes	Yes/No		
		Should Supports active-standby and active-active redundancy topologies with automatic configuration synchronization	Yes	Yes/No		
		The failover should be transparent to other networking devices	Yes	Yes/No		
		Support for GSLB for automated failover	Yes	Yes/No		
18	**Security**	Support for Access list	1000+	Number		
		Should support HTTP deep packet inspection (HTTP header, URL, and payload)	Yes	Yes/No		
		Should support bidirectional Network Address Translation (NAT) and Port Address Translation (PAT)	Yes	Yes/No		
		Should support TCP Normalization & TCP connection state tracking	Yes	Yes/No		
		Should support ICMP flood guard	Yes	Yes/No		
		Should support Virtual connection state for UDP	Yes	Yes/No		
		Should support Sequence number randomization	Yes	Yes/No		
		Should support TCP header validation	Yes	Yes/No		
		Should support TCP window size checking	Yes	Yes/No		
		Should able to detect & drop same Source port & destination port traffic	Yes	Yes/No		
		Should able to detect & drop L4 port 0 traffic	Yes	Yes/No		
19	**Application Acceleration**	Should Support SSL Offloading & Acceleration on same hardware to reduce number of equipment in Data center & save power / cooling requirement	Yes	Yes/No		
		SSL certificates and keys support	3000	Number		
		SSL certificates size	2048	Bits		
		Should support HTTP Compression technologies like GZIP & DEFLATE using dedicated hardware chips	Yes	Yes/No		
		Should use dedicated Hardware Card / Module for compression & not software based compression	Yes	Yes/No		

Revised Annexure 7.9

Load Balancer

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Should support dynamic caching technologies	Yes	Yes/No		
		Should store cached content in RAM for faster content delivery	Yes	Yes/No		
		Should provide 1 GB dedicated storage capacity in RAM	Yes	Yes/No		
		Should support image optimization				
		Should support transparent TCP Multiplexing (TCP Offloading)	Yes	Yes/No		
20	**Management**	Role Based administration support namely Admin,Security-admin, Network-Engineer, Network Monitor, Network Manager	Yes	Yes/No		
		Should support following Management and diagnostics ports / Applications				
		Telnet	Yes	Yes/No		
		SSH	Yes	Yes/No		
		HTTPS	Yes	Yes/No		
		RS232 -Console Port	Yes	Yes/No		
		SNMP	Yes	Yes/No		
		Should support GUI for configuration & monitoring	Yes	Yes/No		
21	**Support**	Is the proposed product/solution End-of-life or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	No	Yes/No		
		Will the proposed product/solution reach End-of-life during the currency of contract? If so, specify details.		Yes/No		
		Will the proposed product/solution reach End-of-support during the currency of contract?	No	Yes/No		

Revised Annexure 7.10

Desktop

S. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**		Branded			
2	**Model**					
3	**Form Factor / Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Heat Dissipation**			BTU/hr		
6	**Power Requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating Temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Processor**	No. of Processors proposed	1	No. of units in one desktop		
		No of cores per CPU/Socket	4	No of cores in each cpu		
		Processor Type (intel/amd)	x86	intel/amd		
		Type of processor	64-bit	32-bit / 64-bit		
		Native support for 32-bit applications	YES	YES/NO		
		Clock speed of proposed Processor	3	GHz		
		Max. Clock speed Processor supported on the machine		GHz		
13	**Cache Memory (size in MB)**		8	MB		
14	Architecture	64-bit architecture	YES	YES/NO		
		Motherboard chipset of the proposed desktop				
15	**Main Memory**	Proposed Memory size	4	GB		
		Size of proposed Memory module		GB		
		No. of memory slots populated		Units		

Revised Annexure 7.10

Desktop

S. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Max. size of memory module available for the proposed desktop		GB		
		Total number of memory slots available		Number		
		Max. Memory size supported		GB		
		Proposed Main Memory Type	DDR3	DDR3		
		Main Memory Bus Speed		MHz		
		Main Memory Bandwidth		GB/s		
16	**I/O**	No. of 64-bit PCI Slots proposed	2	Number		
		No. of populated 64-bit PCI slots		Number		
		Max. No. of PCI slots supported on the desktop		Number		
		Bus speed of proposed PCI slot		MHz		
17	**Display/Graphics**	Graphics Card proposed (model/chipset)				
		Graphics adaptor memory	256 MB	MB		
18	**Internal Disks**	Type of disk proposed	SATA/Other	YES / NO		
		Disk capacity	500 GB	GB		
		Disk Speed	7200 RPM	RPM		
		No of disks proposed		Units		
		Max. no. of Disks supported in the proposed desktop				
		Mean Time Between Failures (MTBF) of proposed Disks		Years		
		Average Seek Time of the proposed Disks		ms		
		Average Latency Time of the proposed Disks		ms		
		Support for SSD drives		YES/NO,drive size, capacity		
19	**CD / DVD Drive**	Optical Drive Proposed		CD Drive / DVD Drive		
		Drive Speed Proposed		X		
		No. of drives proposed				
		Is drive writeable / re-writeable?	YES	YES / NO		

Revised Annexure 7.10

Desktop

S. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Controller Type		IDE / SCSI / ATA		
20	**Network**			PCI / PCI-X		
		Type of Ethernet controller proposed	Full duplex 10/100/1000 Mbps	Full duplex 10/100/1000 Mbps		
21	**OS**	Operating Systems supported on this desktop	Windows 7 professional	Windows 7 professional/business/		
		Operating system is natively compliant with 32-bit and 64-bit applications	YES	YES/NO		
		Maximum Physical Memory supported by the OS		GB		
22	**Antivirus proposed on the desktop**		YES			
23	**Display Monitor**	Size	21" wide screen,flat panel LCD/LED	inches-viewable area		
		Resolution	1024*768			
24	**USB Ports**		4	Number		
25	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES / NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES / NO		
		Remote Management	Yes	YES / NO		
26	**Energy Star Compliance**	End-of-life Management including recycling	Yes	YES/NO - explain the procedure		
		Energy star certified	Yes			
		Environment, friendly Products		YES/NO - explain the procedure		

Revised Annexure 7.11

SAN Storage Array - DMZ

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor / Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Heat Dissipation**			BTU/hr		
6	**Power Requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating Temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Raw capacity of offered SAN storage array**			TB		
13	**Usable capacity of offered SAN storage array**		200 TB (90% capacity with RAID 0+1 or equivalent and 10% with RAID 5)	TB		
14	**Max. capacity per cabinet with specification of disks proposed**			TB		
15	**Max. capacity per cabinet**			TB		
16	**Max. number of disk drives supported per cabinet**			Number		
17	**Max. number of cabinets supported per System**			Number		
18	**Overall usable capacity of storage array with full expansion**		400	TB		
19	**Disk Sub-system**	Disk spindle type	Dual ported FC			
		Capacity of each disk drive	600 GB	GB		
		Disk speed	15,000 rpm	RPM		
		Formatted capacity of each disk		GB		
		Total number of disks proposed		Number		
		Support for Global hot spare disks	Yes	Yes/No		

Revised Annexure 7.11

SAN Storage Array - DMZ

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		No. of Global hot spare disks proposed	one hot spare disk for every 15 or less disks	Ratio		
		Mean Time Between Failures (MTBF) of proposed Disks				
		Average Seek Time of the proposed Hard Disks (in Millisecond)		ms		
		Average latency of proposed hard Disks (in Millisecond)		ms		
		Capacity / speed of disks supported on the system		GB @ RPM		
		Are Proposed Disks Hot Swappable?	Yes	Yes/No		
		Capability for Online storage expansion without reboot	Yes	Yes/No		
		Capability of completely automating activities, including but not limited to, defrag routines, scan disks, disk scrubbing, file system checks, consistency checks, etc.	Yes	Yes/No		
20	**Virtualisation**	Ability to virtualize storage system from all leading vendors	Yes	Yes/No		
		Single Management for all virtualized storage system	Yes	Yes/No		
		Ability to migrate data from one storage system to another seemlessly without any downtime.	Yes	Yes/No		
		Abillity to take flash copy from one storage system to another storage system		Yes/No		
	Replication	Support for Synchronous and Asynchronous data replication across heterogeneous storage devices	Yes	Yes/No		
21	**Controllers**	Storage controllers which should cover the frontend and backend requirements as spcified in dual configuration mode	2	Number		
		No. of processors configured in the proposed system				

Revised Annexure 7.11

SAN Storage Array - DMZ

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Max. No. of processors supported on the system		Number		
		Type of processor		MIPS/ RISC/CISC		
		Clock speed of proposed processor				
		No. of backend ports proposed	8	Number		
		Max. no. of backend ports supported on the system	16	Number		
		Are backend ports configured for high-availability		Yes/No		
		No. of processors dedicated for backend processing				
		No. of front-end ports proposed	8	Number		
		Max. no. of front-end ports supported on the system	16	Number		
		Are front-end ports configured for high-availability		Yes/No		
		No. of processors dedicated for front end processing				
		Hardware based storage RAID controller	Yes	Yes/No		
		Hot swappable controller cards?	Yes	Yes/No		
		RAID protection against double failure in the same RAID group		Yes/No		
		Type of RAID protection required	RAID 5 and RAID 1+0	RAID 0, 1, 5, 1+0, 6+1		
		Other type of RAID protection supported		RAID 0, 1, 6, 6+1,DP		
		No. of Concurrent Access Path available from front end ports to disks		Units		
		Throughput of each FC port	4 Gbps	4/8 Gbps		
		Total throughput of the proposed storage system		Gbps		
		Storage system end-to-end bandwidth from FC host port to backend disk	4 Gbps	4/8 Gbps		
22	**FC-AL loop**	No. of FC-AL loops proposed		Number		

Revised Annexure 7.11

SAN Storage Array - DMZ

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Max. no. of FC-AL loops supported per controller		Number		
		No. of disks proposed per FC-AL loop		Number		
		Max. No. of disks per FC-AL loop		Number		
		Bandwidth of FC-AL loop	4 Gbps	4/8 Gbps		
23	**Cache**	Architecture		Bus / Switch		
		Whether Data & Control Cache are separate		Yes/No		
		Type of proposed Control Cache	ECC	ECC / Non-ECC		
		Support for multiple bits error detection and correction capability in proposed Control Cache		Yes/No		
		Type of proposed Data Cache	ECC	ECC / Non-ECC		
		Support for multiple bits error detection and correction capability in proposed Data Cache		Yes/No		
		Proposed Data Cache	64	GB		
		Proposed Control Cache		GB		
		Max. Data Cache supported on system	128	GB		
		Max. Control Cache supported on system		GB		
		Data Cache Bandwidth		GB/s		
		Control Cache Bandwidth		GB/s		
		Is Data Cache board hot swappable?	Yes	Yes/No		
		Is Control Cache board hot swappable?	Yes	Yes/No		
		Is Data Cache redundancy supported?		Yes/No		
		If so, is it mirrored?		Yes/No		
		Is Control Cache redundancy supported?		Yes/No		
		If so, is it mirrored?		Yes/No		
		Is Battery backup available for Data cache?		Yes/No		
		If so, what is the duration for which it is available?		Hrs		
		Is the battery hot swappable?		Yes/No		

Revised Annexure 7.11

SAN Storage Array - DMZ

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Is Battery backup available for Control cache?		Yes/No		
		If so, what is the duration for which it is available?		Hrs		
		Is the battery hot swappable?		Yes/No		
		Size of proposed Data cache that is usable for purposes of Read /Write operations		GB		
		Size of proposed Control cache that is usable for purposes of Read /Write operations		GB		
		Can cache be allocated separately for read and separately for write operations?		Yes/No		
		Can cache be allocated separately for according to volumes?		Yes/No		
		No. of Concurrent Access Paths in for Data Cache		Number		
		No. of Concurrent Access Paths in for Control Cache		Number		
		Support for Cache Vaulting i.e. capability to ensure no data loss during power failure by securely writing data existing in cache to disk spindles		Yes/No		
		Capability for automatic full de-staging of cache in case of power failure		Yes/No		
		Guarantee that there would be no data loss (zero data loss) for data that is committed to cache		Yes/No		
24	**Support for point in time copy of volumes for backup and remote replication of data**		Yes	Yes/No		
		Point in time copy -storage license	1	Units		
25	**Support for storage-to-storage replication in both synchronous and asynchronous modes**		YES	YES / NO		
		Storage to storage replication - storage license	1	Units		

Revised Annexure 7.11

SAN Storage Array - DMZ

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
26	**Is storage system compatible with CNT router**			Yes/No		
27	**Support for on-line backup of databases**			Yes/No		
28	**Support for non-disruptive online upgrade of firmware without reboot**		Yes	Yes/No		
29	**Power Supply**	Hot Swappable Power supply proposed	Yes	Yes/No		
		(N+1) redundant power supply proposed	Yes	Yes/No		
		Dual AC input proposed	Yes	Yes/No		
30	**Cooling Fans**	Hot Swappable Cooling Fans proposed	Yes	Yes/No		
		(N+1) redundant Cooling Fans proposed	Yes	Yes/No		
31	**Hosts Supported**	Linux RHEL 6.0	Yes	Yes/No		
		Windows 2003	Yes	Yes/No		
		Windows 2008	Yes	Yes/No		
		No. of Hosts Supported.	512	Number		
		No. of LUNS	4000	Number		
32	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	No	Yes/No		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details		Yes/No		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	No	Yes/No		
33	**Estimated ratings**	Random IOPS Read (from cache)		IOPS		
		Random IOPS Write (to cache)		IOPS		
		Random IOPS Read (from Disks)		IOPS		
		Sequential IOPS Read (from cache)		IOPS		
		Sequential IOPS Write (to cache)		IOPS		
		Sequential IOPS Read (from disks)		IOPS		
		SPC BENCHMARK 1™		IOPS		
33	**Others**	Noise level (idle-fully loaded)		db		
		Noise level (100% busy-fully loaded)		db		

Revised Annexure 7.11

SAN Storage Array - DMZ

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Weight per rack for the proposed configuration		Kgs		
		No of 42u racks required for the proposed configuration				
		Support for nondisruptive upgrades and expansion with planned downtime	Yes	Yes/No		
34	Fabric Management Software to be Provided		Yes	Yes/No		

Revised Annexure 7.12

Enterprise SAN Storage Array - DFS

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor / Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Heat Dissipation**			BTU/hr		
6	**Power Requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating Temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Raw capacity of offered SAN storage array**			TB		
13	**Usable capacity of offered SAN storage array**		1200	TB		
14	**Max. capacity per cabinet with specification of disks proposed**			TB		
15	**Max. capacity per cabinet**			TB		
16	**Max. number of disk drives supported per cabinet**			Units		
17	**Max. number of cabinets supported per System**			Units		
19	**Disk Sub-system**	Disk spindle type	SATA			
		Capacity of each disk drive	2048	GB		
		Disk speed	7,200	RPM		
		Formatted capacity of each disk		GB		
		Total number of disks proposed		Units		
		Support for Global hot spare disks	YES	YES / NO		
		No. of Global hot spare disks proposed	one hot spare disk for every 15 or less disks	Ratio		
		Mean Time Between Failures (MTBF) of proposed Disks				
		Average Seek Time of the proposed Hard Disks (in Millisecond)		ms		

Revised Annexure 7.12

Enterprise SAN Storage Array - DFS

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Average latency of proposed hard Disks (in Millisecond)		ms		
		Capacity / speed of disks supported on the system		GB @ RPM		
		Are Proposed Disks Hot Swappable?	YES	YES / NO		
		Capability for Online storage expansion without reboot	YES	YES / NO		
		Capability of completely automating activities, including but not limited to, defrag routines, scan disks, disk scrubbing, file system checks, consistency checks, etc.	YES	YES / NO		
20	**Virtualisation**	Ability to virtualize storage system from all leading vendors	YES	YES / NO		
		Single Management for all virtualized storage system	YES	YES / NO		
		Ability to migrate data from one storage system to another seemlessly without any downtime.	YES	YES / NO		
		Abillity to take flash copy from one storage system to another storage system		Yes/No		
	Replication	Support for Synchronous and Asynchronous data replication across heterogeneous storage devices	Yes	Yes/No		
21	**Controllers**	Storage controllers which should cover the frontend and backend requirements as spcified in dual configuration mode	2	Units		
		No. of processors configured in the proposed system				
		Max. No. of processors supported on the system		Units		
		Type of processor		RISC / MIPS/CISC		
		Clock speed of proposed processor				
		No. of backend ports proposed	64	Units		
		Max. no. of backend ports supported on the system	128	Units		
		Are backend ports configured for high-availability		YES / NO		
		No. of processors dedicated for backend processing				
		No. of front-end ports proposed	64	Units		
		Max. no. of front-end ports supported on the system	128	Units		
		Are front-end ports configured for high-availability		YES / NO		
		No. of processors dedicated for front end processing				
		Hardware based storage RAID controller	YES	YES / NO		
		Hot swappable controller cards?	YES	YES / NO		

Revised Annexure 7.12

Enterprise SAN Storage Array - DFS

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		RAID protection against double failure in the same RAID group		YES / NO		
		Type of RAID protection supported	5	RAID 0, 1, 5, 1+0, 6+1		
		No. of Concurrent Access Path available from front end ports to disks		Units		
		Throughput of each FC port	8 Gbps	4/8 Gbps		
		Total throughput of the proposed storage system		Gbps		
		Storage system end-to-end bandwidth from FC host port to backend disk	4 Gbps	4/8 Gbps		
22	**FC-AL loop**	No. of FC-AL loops proposed		Units		
		Max. no. of FC-AL loops supported per controller		Units		
		No. of disks proposed per FC-AL loop		Units		
		Max. No. of disks per FC-AL loop		Units		
		Bandwidth of FC-AL loop	4 Gbps	4/8 Gbps		
23	**Cache**	Architecture		Bus / Switch		
		Whether Data & Control Cache are separate		YES / NO		
		Type of proposed Control Cache	ECC	ECC / Non-ECC		
		Support for multiple bits error detection and correction capability in proposed Control Cache		YES / NO		
		Type of proposed Data Cache	ECC	ECC / Non-ECC		
		Support for multiple bits error detection and correction capability in proposed Data Cache		YES / NO		
		Proposed Data Cache	512	GB		
		Proposed Control Cache		GB		
		Max. Data Cache supported on system	1024	GB		
		Max. Control Cache supported on system		GB		
		Data Cache Bandwidth		GB/s		
		Control Cache Bandwidth		GB/s		
		Is Data Cache board hot swappable?	YES	YES / NO		
		Is Control Cache board hot swappable?	YES	YES / NO		
		Is Data Cache redundancy supported?		YES / NO		
		If so, is it mirrored?		YES / NO		
		Is Control Cache redundancy supported?		YES / NO		
		If so, is it mirrored?		YES / NO		
		Is Battery backup available for Data cache?		YES / NO		
		If so, what is the duration for which it is available?		Hrs		

Revised Annexure 7.12

Enterprise SAN Storage Array - DFS

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Is the battery hot swappable?		YES / NO		
		Is Battery backup available for Control cache?		YES / NO		
		If so, what is the duration for which it is available?		Hrs		
		Is the battery hot swappable?		YES / NO		
		Size of proposed Data cache that is usable for purposes of Read /Write operations		GB		
		Size of proposed Control cache that is usable for purposes of Read /Write operations		GB		
		Can cache be allocated separately for read and separately for write operations?		YES / NO		
		Can cache be allocated separately for according to volumes?		YES / NO		
		No. of Concurrent Access Paths in for Data Cache		Units		
		No. of Concurrent Access Paths in for Control Cache		Units		
		Support for Cache Vaulting i.e. capability to ensure no data loss during power failure by securely writing data existing in cache to disk spindles		YES / NO		
		Capability for automatic full de-staging of cache in case of power failure		YES / NO		
		Guarantee that there would be no data loss (zero data loss) for data that is committed to cache		YES / NO		
24	**Support for point in time copy of volumes for backup and remote replication of data**		YES	YES / NO		
		Point in time copy -storage license	1	Units		
25	**Support for storage-to-storage replication in both synchronous and asynchronous modes**		YES	YES / NO		
26	**Is storage system compatible with CNT router**			YES / NO		
27	**Support for on-line backup of databases**		YES	YES / NO		
28	**Support for non-disruptive online upgrade of firmware without reboot**		YES	YES / NO		
29	**Power Supply**	Hot Swappable Power supply proposed	YES	YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed	YES	YES / NO		
30	**Cooling Fans**	Hot Swappable Cooling Fans proposed	YES	YES / NO		

Revised Annexure 7.12

Enterprise SAN Storage Array - DFS

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		
31	**Hosts Supported**	Linux RHEL 6.0	YES	YES / NO		
		Windows 2003	YES	YES / NO		
		Windows 2008	YES	YES / NO		
		No of Hosts Supported	512	Number		
		No of LUNS	4000	Number		
32	**Protocols Support**	FC	YES	YES / NO		
		FCIP				
		FCOE				
		iSCSI				
33	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES / NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES / NO		
34	**Estimated ratings**	Random IOPS Read (from cache)		IOPS		
		Random IOPS Write (to cache)		IOPS		
		Random IOPS Read (from Disks)		IOPS		
		Sequential IOPS Read (from cache)		IOPS		
		Sequential IOPS Write (to cache)		IOPS		
		Sequential IOPS Read (from disks)		IOPS		
		SPC BENCHMARK 1™		IOPS		
35	**Others**	Noise level (idle-fully loaded)		db		
		Noise level (100% busy-fully loaded)		db		
		Weight per rack for the proposed configuration		Kgs		
		No of 42u racks required for the proposed configuration				
		Support for nondisruptive upgrades and expansion with planned downtime	Yes	YES / NO		
36	**Fabric Management Software to be Provided**		Yes	YES / NO		

Revised Annexure 7.13

SAN Storage Array - ODS

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor / Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Heat Dissipation**			BTU/hr		
6	**Power Requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating Temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Raw capacity of offered SAN storage array**			TB		
13	**Usable capacity of offered SAN storage array**		200 TB FC disks (90% capacity with RAID 0+1 and 10% with RAID 5) and 10 TB of SSD disks	TB		
14	**Max. capacity per cabinet with specification of disks proposed**			TB		
15	**Max. capacity per cabinet**			TB		
16	**Max. number of disk drives supported per cabinet**			Units		
17	**Max. number of cabinets supported per System**			Units		
18	**Overall usable capacity of storage array with full expansion**		400 TB with SSD support	TB		
19	**Disk Sub-system**	Disk spindle type	Dual ported FC	YES / NO - 4/8 Gbps - FC		
		Capacity of each FC disk drive	600 GB	GB		
		Disk speed	15,000 rpm	RPM		
		Formatted capacity of each disk		GB		
		Total number of disks proposed		Units		
		Support for Global hot spare disks	YES	YES / NO		
		No. of Global hot spare disks proposed	one hot spare disk for every 15 or less disks	Percentage		

Revised Annexure 7.13

SAN Storage Array - ODS

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Mean Time Between Failures (MTBF) of proposed Disks				
		Average Seek Time of the proposed Hard Disks (in Millisecond)		ms		
		Average latency of proposed hard Disks (in Millisecond)		ms		
		Capacity / speed of disks supported on the system		GB @ RPM		
		Are Proposed Disks Hot Swappable?	YES	YES / NO		
		Capability for Online storage expansion without reboot	YES	YES / NO		
		Capability of completely automating activities, including but not limited to, defrag routines, scan disks, disk scrubbing, file system checks, consistency checks, etc.	YES	YES / NO		
20	**Virtualisation**	Ability to virtualize storage system from all leading vendors	YES	YES / NO		
		Single Management for all virtualized storage system	YES	YES / NO		
		Ability to migrate data from one storage system to another seemlessly without any downtime.	YES	YES / NO		
		Abillity to take flash copy from one storage system to another storage system		Yes/No		
	Replication	Support for Synchronous and Asynchronous data replication across heterogeneous storage devices	Yes	Yes/No		
21	**Controllers**	Storage controllers which should cover the frontend and backend requirements as spcified in dual configuration mode	2	Units		
		No. of processors configured in the proposed system				
		Max. No. of processors supported on the system		Units		
		Type of processor		MIPS/RISC/CISC		
		Clock speed of proposed processor				
		No. of backend ports proposed	32	Units		

Revised Annexure 7.13

SAN Storage Array - ODS

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Max. no. of backend ports supported on the system	64	Units		
		Are backend ports configured for high-availability		YES / NO		
		No. of processors dedicated for backend processing				
		No. of front-end ports proposed	32	Units		
		Max. no. of front-end ports supported on the system	64	Units		
		Are front-end ports configured for high-availability		YES / NO		
		No. of processors dedicated for front end processing				
		Hardware based storage RAID controller	YES	YES / NO		
		Hot swappable controller cards?	YES	YES / NO		
		RAID protection against double failure in the same RAID group		YES / NO		
		Type of RAID protection Required	RAID 5 and RAID 1+0			
		Other type of RAID protection supported		RAID 0, 1, 6, 6+1,DP		
		No. of Concurrent Access Path available from front end ports to disks		Units		
		Throughput of each FC port	4 Gbps	4/8 Gbps		
		Total throughput of the proposed storage system		Gbps		
		Storage system end-to-end bandwidth from FC host port to backend disk	4 Gbps	4/8 Gbps		
22	**FC-AL loop**	No. of FC-AL loops proposed		Units		
		Max. no. of FC-AL loops supported per controller		Units		
		No. of disks proposed per FC-AL loop		Units		
		Max. No. of disks per FC-AL loop		Units		
		Bandwidth of FC-AL loop	4 Gbps	4/8 Gbps		
23	**Cache**	Architecture		Bus / Switch		
		Whether Data & Control Cache are separate		YES / NO		
		Type of proposed Control Cache	ECC	ECC / Non-ECC		
		Support for multiple bits error detection and correction capability in proposed Control Cache		YES / NO		

Revised Annexure 7.13

SAN Storage Array - ODS

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Type of proposed Data Cache	ECC	ECC / Non-ECC		
		Support for multiple bits error detection and correction capability in proposed Data Cache		YES / NO		
		Proposed Data Cache	128	GB		
		Proposed Control Cache		GB		
		Max. Data Cache supported on system	256	GB		
		Max. Control Cache supported on system		GB		
		Data Cache Bandwidth		GB/s		
		Control Cache Bandwidth		GB/s		
		Is Data Cache board hot swappable?	YES	YES / NO		
		Is Control Cache board hot swappable?	YES	YES / NO		
		Is Data Cache redundancy supported?		YES / NO		
		If so, is it mirrored?		YES / NO		
		Is Control Cache redundancy supported?		YES / NO		
		If so, is it mirrored?		YES / NO		
		Is Battery backup available for Data cache?		YES / NO		
		If so, what is the duration for which it is available?		Hrs		
		Is the battery hot swappable?		YES / NO		
		Is Battery backup available for Control cache?		YES / NO		
		If so, what is the duration for which it is available?		Hrs		
		Is the battery hot swappable?		YES / NO		
		Size of proposed Data cache that is usable for purposes of Read /Write operations		GB		
		Size of proposed Control cache that is usable for purposes of Read /Write operations		GB		
		Can cache be allocated separately for read and separately for write operations?		YES / NO		
		Can cache be allocated separately for according to volumes?		YES / NO		
		No. of Concurrent Access Paths in for Data Cache		Units		

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SAN Storage Array - ODS

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		No. of Concurrent Access Paths in for Control Cache		Units		
		Support for Cache Vaulting i.e. capability to ensure no data loss during power failure by securely writing data existing in cache to disk spindles		YES / NO		
		Capability for automatic full de-staging of cache in case of power failure		YES / NO		
		Guarantee that there would be no data loss (zero data loss) for data that is committed to cache		YES / NO		
24	**Support for point in time copy of volumes for backup and remote replication of data**		YES	YES / NO		
		Point intime copy license	1	Units		
25	**Support for storage-to-storage replication in both synchronous and asynchronous modes**		YES	YES / NO		
		Storage to storage replication license	1	Units		
26	**Is storage system compatible with CNT router**		YES	YES / NO		
27	**Support for on-line backup of databases**		YES	YES / NO		
28	**Support for non-disruptive online upgrade of firmware without reboot**		YES	YES / NO		
29	**Power Supply**	Hot Swappable Power supply proposed	YES	YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed	YES	YES / NO		
30	**Cooling Fans**	Hot Swappable Cooling Fans proposed	YES	YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		
31	**Hosts Supported**	Linux RHEL 6.0	YES	YES / NO		
		Windows 2003	YES	YES / NO		
		Windows 2008	YES	YES / NO		
		No of Hosts Supported in	512	Number		
		No of LUNS	4000	Number		
32	**Protocols Support**	FC	YES	Number		
		FCIP				
		FCOE				
		iSCSI				

Revised Annexure 7.13

SAN Storage Array - ODS

S. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
33	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details		YES / NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES / NO		
34	**Estimated ratings**	Random IOPS Read (from cache)		IOPS		
		Random IOPS Write (to cache)		IOPS		
		Random IOPS Read (from Disks)		IOPS		
		Sequential IOPS Read (from cache)		IOPS		
		Sequential IOPS Write (to cache)		IOPS		
		Sequential IOPS Read (from disks)		IOPS		
		SPC BENCHMARK 1™		IOPS		
35	**Others**	Noise level (idle-fully loaded)		db		
		Noise level (100% busy-fully loaded)		db		
		Weight per rack for the proposed configuration		Kgs		
		No of 42u racks required for the proposed configuration				
		Support for nondisruptive upgrades and expansion with planned downtime	Yes	YES / NO		
36	**Fabric Management Software to be Provided**		Yes	YES / NO		

Revised Annexure 7.14

BSP SAN Switch

SL No	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor/Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Hear Dissipation**			BTU/hr		
6	**Power requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage and Frequency	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	Operating temperature range			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Production Certification**					
13	**Total no. of ports on the proposed switch**		48	Units		
15	**Non blocking architecture in the proposed FC switch**		YES	YES / NO		
16	**Throughput of each FC port**		8 Gbps full duplex	Gbps		
17	**Support for 4/8 Gb/s HBAs**		8 Gbps Fiber Channel	YES / NO		
18	**Fabric Latency with no contention**			µs		
19	**Aggregate backplane Switch bandwidth**			Gbps		
20	**Protocol Supported**	FC	Yes	YES / NO		
		FCP	Yes	YES / NO		
		FC-AL	Yes	YES / NO		
21	**Max Frame Size**			Bytes		
22	**Max. No. of Frame Buffers**			Units		
23	**Designed for high availability with no Single Point of Failure**		YES	YES / NO		
24	**Power Supply**	Hot Swappable Power supply proposed		YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed		YES / NO		
25	**Cooling Fans**	Hot Swappable Cooling Fans proposed		YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		

Revised Annexure 7.14

BSP SAN Switch

SL No	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
26	**Capability for streaming the data in multiple paths with**		YES	YES / NO		
27	**Optimization algorithms for streaming data through shortest available path.**		YES	YES / NO		
28	**Capabilities for cascading of switches**		YES	YES / NO		
29	**Non-disruptive firmware update**		YES	YES / NO		
30	**Proactive threshold monitoring (Yes/No)**			YES / NO		
31	**End to end performance monitoring**		YES	YES / NO		
32	**HBA management with FDMI**			YES / NO		
33	**Support for POST & online diagnostics**			YES / NO		
34	**Capability to interface with host based adapters (HBA) of multiple OEM, supporting multiple Operating System including but not limited to AIX, HP-UX, Linux, Solaris, Windows, etc.**		YES	YES / NO		
35	**Support all leading SAN disk arrays and tape libraries including but not limited to EMC, IBM, Hitachi, HP, NetApp, StorageTek, Sun, etc..**		YES	YES / NO		
36	**Zoning and security**	Support for hardware -enforced zoning	YES	YES / NO		
		Policy based security and centralised fabric management		YES / NO		
		Support for Encrypted password		YES / NO		
		Support for PKI Digital certificates		YES / NO		
		Support for FCAP authentication	YES	YES / NO		
		Support for RADIUS, SSL / HTTPS, SSH, SNMP V3	YES	YES / NO		
		Support for LUN masking	YES	YES / NO		
		Support for port binding	YES	YES / NO		
		Support for port masking	YES	YES / NO		
		Encryption of management data using standard encryption methods via sectelnet or ssh v2		YES / NO		
37	**Support for Hardware based trunking**			YES / NO		
38	**Support for dynamic Load balancing of links with no overhead**			YES / NO		

Revised Annexure 7.14

BSP SAN Switch

SL No	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
39	**Estimated ratings**	Per port performance (IOPS)		IOPS		
		No. of IOPS supported by each Fiber Channel Switch		IOPS		
40	**Compatability**	with network devices	Yes	YES/NO		
		with servers	Yes	YES/NO		
41	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES / NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES / NO		

Revised Annexure 7.15

DMZ SAN Switch

SL No	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor/Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Hear Dissipation**			BTU/hr		
6	**Power requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage and Frequency	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	Operating temperature range			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Production Certification**					
13	**Total no. of ports on the proposed switch**		32	Units		
15	**Non blocking architecture in the proposed FC switch**		YES	YES / NO		
16	**Throughput of each FC port**		8 Gbps full duplex	Gbps		
17	**Support for 4/8 Gb/s HBAs**		8 Gbps Fiber Channel	YES / NO		
18	**Fabric Latency with no contention**			µs		
19	**Aggregate backplane Switch bandwidth**			Gbps		
20	**Protocol Supported**	FC	Yes	YES / NO		
		FCP	Yes	YES / NO		
		FC-AL	Yes	YES / NO		
21	**Max Frame Size**			Bytes		
22	**Max. No. of Frame Buffers**			Units		
23	**Designed for high availability with no Single Point of Failure**		YES	YES / NO		
24	**Power Supply**	Hot Swappable Power supply proposed		YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed		YES / NO		
25	**Cooling Fans**	Hot Swappable Cooling Fans proposed		YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		

Revised Annexure 7.15

DMZ SAN Switch

SL No	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
26	**Capability for streaming the data in multiple paths with**		YES	YES / NO		
27	**Optimization algorithms for streaming data through shortest available path.**		YES	YES / NO		
28	**Capabilities for cascading of switches**		YES	YES / NO		
29	**Non-disruptive firmware update**		YES	YES / NO		
30	**Proactive threshold monitoring (Yes/No)**			YES / NO		
31	**End to end performance monitoring**			YES / NO		
32	**HBA management with FDMI**			YES / NO		
33	**Support for POST & online diagnostics**			YES / NO		
34	**Capability to interface with host based adapters (HBA) of multiple OEM, supporting multiple Operating System including but not limited to AIX, HP-UX, Linux, Solaris, Windows, etc.**			YES / NO		
35	**Support all leading SAN disk arrays and tape libraries including but not limited to EMC, IBM, Hitachi, HP, NetApp, StorageTek, Sun, etc..**			YES / NO		
36	**Zoning and security**	Support for hardware -enforced zoning	YES	YES / NO		
		Policy based security and centralised fabric management		YES / NO		
		Support for Encrypted password		YES / NO		
		Support for PKI Digital certificates		YES / NO		
		Support for FCAP authentication	YES	YES / NO		
		Support for RADIUS, SSL / HTTPS, SSH, SNMP V3		YES / NO		
		Support for LUN masking	YES	YES / NO		
		Support for port binding	YES	YES / NO		
		Support for port masking	YES	YES / NO		
		Encryption of management data using standard encryption methods via sectelnet or ssh v2		YES / NO		
37	**Support for Hardware based trunking**			YES / NO		
38	**Support for dynamic Load balancing of links with no overhead**			YES / NO		

Revised Annexure 7.15

DMZ SAN Switch

SL No	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
39	**Estimated ratings**	Per port performance (IOPS)		IOPS		
		No. of IOPS supported by each Fiber Channel Switch		IOPS		
40	**Compatability**	with network devices	Yes	YES/NO		
		with servers	Yes	YES/NO		
41	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES / NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES / NO		

Revised Annexure 7.16

DC Core SAN Switch

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor/Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Hear Dissipation**			BTU/hr		
6	**Power requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage and Frequency	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Production Certification**					
14	**Architecture**	Chassis based Director class Fiber Channel switch with sufficient modules/line cards to fit required FC ports. Chassis shall have at least 8 payload slots and scalable . The ditrctor class switch should support Logical partitioning. Investment protection by live migration to IO consolidation. Switch based data replication		unit		
15	**Switch Redundancy/High Availability Features**	Redundant Supervisior modules/Switching Fabric	Yes	YES/NO		
		The switch must enable the Control processors/ supervisor modules, line modules, Power Supply, Fans without resetting the switch, or affecting other operational modules	Yes	YES/NO		
16	**Zoning and security**	Support for hardware -enforced zoning and support for alias	Yes	YES / NO		
		Policy based security and centralised fabric management		YES / NO		
		Support for Encrypted password		YES / NO		

Revised Annexure 7.16

DC Core SAN Switch

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
		Support for PKI Digital certificates		YES / NO		
		Support for FCAP/DH-CHAP authentication		YES / NO		
		Support for RADIUS, SSL / HTTPS, SSH, SNMP V3,AAA,SHA1,2 and aslo provide the role access control		YES / NO		
		Support for LUN masking	YES	YES / NO		
		Support for port binding	YES	YES / NO		
		Support for port masking	YES	YES / NO		
		Encryption of management data using standard encryption methods via sectelnet or ssh v2		YES / NO		
		Support Virtual Fabric/Virtual SAN	YES	YES / NO		
17	**System Throughput**		Aggregate switching capacity shall be 2 Tbps or more	unit		
18	**FC port type**		FC port types - E,F,FL,SD,TE and TL with SFP and LC optical interfaces			
19	**Throughput of each FC port**		8 Gbps full duplex	Gbps		
20	**Support for 1/2/4/8 Gbps and 10Gbps HBAs**		8 Gbps autosensing and support for 10Gbps for switch uplinking	YES / NO		
21	**Total no of ports proposed on the switch**	No. of Ports required	450 ports	unit		
		Port Density	48 ports on each module			
22	**FCIP Module**	No of modules	1	unit		
		No of ports required	8 ports	unit		
23	**Port features**		Switch should support port Channel agreegation not limited to within same module			

Revised Annexure 7.16

DC Core SAN Switch

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
24	**Protocol Supported**		Fiber Channel Switch should support some of these protocols and not limited to - Fiber Channel Protocol (FCP), Fiber Channel Over IP (FC-IP), Internet SCSI, FPSF,FC,FC-AL			
25	**Other features supported**		Switches must compatable with either FCOE/CEE. FC protocol for devices on SAN and support FCIP for SAN extension over IP and iSCSI			
26	**Non blocking architecture in the proposed FC switch**		YES	YES / NO		
27	**Fabric Latency with no contention**			µs		
28	**Aggregate backplane Switch bandwidth**			Gbps		
29	**Max Frame Size**			Bytes		
30	**Max. No. of Frame Buffers**			Units		
31	**Designed for high availability with no Single Point of Failure**		YES	YES / NO		
32	**Capability for streaming the data in multiple paths with**		YES	YES / NO		
33	**Optimization algorithms for streaming data through shortest available path.**		YES	YES / NO		
34	**Capabilities for cascading of switches**		YES	YES / NO		

Revised Annexure 7.16

DC Core SAN Switch

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
35	**Non-disruptive firmware/Software update**		YES	YES / NO		
36	**Proactive threshold monitoring (Yes/No)**			YES / NO		
37	**End to end performance monitoring**			YES / NO		
38	**HBA management with FDMI**			YES / NO		
39	**Support for POST & online diagnostics, Port mirring, Syslog, Debug, online system health**			YES / NO		
40	**Capability to interface with host based adapters (HBA) of multiple OEM, supporting multiple Operating System including but not limited to AIX, HP-UX, Linux, Solaris, Windows, etc.**			YES / NO		
41	**Support all leading SAN disk arrays and tape libraries including but not limited to EMC, IBM, Hitachi, HP, NetApp, StorageTek, Sun, etc..**			YES / NO		
42	**Support for Hardware based trunking**			YES / NO		
43	**Support for dynamic Load balancing of links with no overhead**			YES / NO		
	Per port performance (IOPS) supported			IOPS		
44	**Total Number of IOPS supported by each Fiber Channel Switch**			IOPS		
45	**Management**	AAA authentication RADIUS, TACACS	Yes	YES/NO		
		Role based Access,SSH,Telnet,SNMP	Yes	YES/NO		
		Diagnostics -Serial port/Aux port, CLI	Yes	YES/NO		

Revised Annexure 7.16

DC Core SAN Switch

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
46	**Support for QOS (Quality of Service) and COS (Class of Service)**		YES	YES/NO		
47	**Software**		Latest release with all features as required			
48	**Mounting**		Standard 19-in rack with required hardware			
49	**Compatability**	Compatability with proposed network devices	Yes	YES/NO		
		Compatability with proposed servers	Yes	YES/NO		
50	**Power Supply**	Hot Swappable Power supply proposed	YES	YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed		YES / NO		
51	**Cooling Fans**	Hot Swappable Cooling Fans proposed	YES	YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		
52	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES / NO		
		Will the proposed product/solution reach **End-of-support** life during the currency of contract?	NO	YES / NO		

Revised Annexure 7.17

Network Attached Storage

Sr. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Please Mention Deviations if Any
1	**Make**				
2	**Model**				
3	**Form Factor / Dimension**			(U) / HxWxD(mm)	
4	**Weight**			Kg	
5	**Heat Dissipation**			BTU/hr	
6	**Power Requirement**			KVA	
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz	
8	**Current Rating**			Amp	
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type	
10	**Operating Temperature range**			ºC	
11	**Operating Relative Humidity range (non-condensing)**			%	
12	**Proposed raw capacity of NAS**			TB	
13	**Proposed usable capacity of NAS Storage (expandable to 40 TB)**		20	TB	
14	**Max. capacity per cabinet with specification of disks proposed**			TB	
15	**Max. capacity per cabinet**			TB	
16	**Max. number of disk drives supported per cabinet**			Units	
17	**Max. number of cabinets supported per System**			Units	
18	**Overall usable capacity of storage array with full expansion**		40	TB	
19	**Disk Sub-system**	Disk spindle type	SAS	YES / NO - 4/8 Gbps - SAS/FC	
		Capacity of each disk drive	600GB	GB	
		Disk speed	15,000 rpm	RPM	
		Formatted capacity of each disk		GB	
		Total number of disks proposed		Units	
		Support for Global hot spare disks	YES	YES / NO	
		No. of Global hot spare disks proposed		Units	

Revised Annexure 7.17

Network Attached Storage

Sr. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Please Mention Deviations if Any
		Mean Time Between Failures (MTBF) of proposed Disks			
		Average Seek Time of the proposed Hard Disks (in Millisecond)		ms	
		Average latency of proposed hard Disks (in Millisecond)		ms	
		Capacity / speed of disks supported on the system		GB @ RPM	
		Are Proposed Disks Hot Swappable?	YES	YES / NO	
		Capability for Online storage expansion without reboot	YES	YES / NO	
		Capability of completely automating activities, including but not limited to, defrag routines, scan disks, disk scrubbing, file system checks, consistency checks, etc.	YES	YES / NO	
21	**Controllers**	No. of processors configured in the proposed system		Units	
		Max. No. of processors supported on the system		Units	
		Type of processor		MIPS/RISC/CIS	
		Clock speed of proposed processor			
		Hardware based storage RAID controller	YES	YES / NO	
		Hot swappable controller cards?	YES	YES / NO	
		RAID protection against double failure in the same RAID group		YES / NO	
		Type of RAID protection supported	5	RAID 0, 1, 5, 1+0, 6+1,DP	
		No of 1Gbps Host ports supported on the system	2	Units	
		No of 10Gbps Host ports supported on the system	2	Units	
		No of FC ports (4/8Gbps)	2	Units	
23	**Cache Size**		4	GB	
24	**Support for on-line backup of databases**		YES	YES / NO	
25	**Support for non-disruptive online upgrade of firmware without reboot**		YES	YES / NO	
26	**Power Supply**	Hot Swappable Power supply proposed	YES	YES / NO	
		(N+1) redundant power supply proposed	YES	YES / NO	
		Dual AC input proposed	YES	YES / NO	
27	**Cooling Fans**	Hot Swappable Cooling Fans proposed	YES	YES / NO	
		(N+1) redundant Cooling Fans proposed	YES	YES / NO	
28	**Hosts Supported**	Linux RHEL 6.0	YES	YES / NO	
		Windows 2003	YES	YES / NO	
		Windows 2008	YES	YES / NO	
29	**Protocols Supported**		NFS/CIFS//iSCSI/FC/NDMP		
30	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO	

Revised Annexure 7.17

Network Attached Storage

Sr. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Please Mention Deviations if Any
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES / NO	
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES / NO	
31	**Estimated ratings**	Random IOPS Read (from cache)		IOPS	
		Random IOPS Write (to cache)		IOPS	
		Random IOPS Read (from Disks)		IOPS	
		Sequential IOPS Read (from cache)		IOPS	
		Sequential IOPS Write (to cache)		IOPS	
		Sequential IOPS Read (from disks)		IOPS	
32	**Others**	Noise level (idle-fully loaded)		db	
		Noise level (100% busy-fully loaded)		db	
		Weight per rack for the proposed configuration		Kgs	
		No of 42u racks required for the proposed configuration		Number	

Revised Annexure 7.18

Enterprise Tape Library

Sr. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor / Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Heat Dissipation**			BTU/hr		
6	**Power Requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating Temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Tape Drives**	Type of tape drive proposed	LTO Gen 5			
		Type of tape drive interface	Native fiber channel			
		Backward read compatibility of media		YES / NO		
		Sustained Data Transfer Rate (without compression)	120	MB/s		
		Sustained Data Transfer Rate (with compression)	240	MB/s		
		Size of Tape Storage (without compression)	1536	GB		
		Size of Tape Storage (with compression)	3072	GB		
		Hot Swappable Tape drive proposed	YES	YES / NO		
		Hot Swappable Controller cards proposed	YES	YES / NO		
		Average cartridge swap time		sec		
		Tape Load time		sec		
		Average File Access Time		ms		
13	**Tape Library Frame**	No. of drives proposed	36	Units		
		No. drives supported in a single frame without cascading	12	Units		
		Frames supported in proposed Tape Library	3	Units		
		No. of Fibre Channel ports proposed with this library	36	Units		

Revised Annexure 7.18

Enterprise Tape Library

Sr. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Max. No. of Fibre Channel ports supported with this library				
		No. of Media slots proposed in the library	700	Units		
		Support for backup encryption	YES	YES / NO		
		Support for future generation drives	YES	YES / NO		
		Startup Boot Time		min		
		Dual Active-Active Robotic Arm	YES	YES / NO		
		MTBF of robotic arm		years		
		No. of FC ports provisioned		Units		
14	**Protocol Supported**	FC	YES	YES / NO		
		FCP	YES	YES / NO		
		FC-AL		YES / NO		
		FCOE		YES / NO		
15	**Power Supply**	Hot Swappable Power supply proposed	YES	YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed	YES	YES / NO		
16	**Cooling Fans**	Hot Swappable Cooling Fans proposed	YES	YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		
17	**Support for online automatic calibration of robotic arm**		YES	YES / NO		
18	**Performance Parameters**	Average Cartridge Swap Time		ms		
		Tape Load time		ms		
		Average File Access Time		ms		
		Startup Boot Time		min		
		Min tape library throughput		TB/hr		
		Max tape library throughput		TB/hr		
19	**Support for NDMP for taking backup of NAS over LAN**		YES	YES / NO		
20	**Support for Multiple hosts running OS including AIX, HP-UX, Linux, Solaris, Windows and all industry leading Back up software**		YES	YES / NO		

Revised Annexure 7.18

Enterprise Tape Library

Sr. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
21	**Capability for providing end-to-end 4/8 Gbps throughput in full duplex mode.**		YES	YES / NO		
22	**Separate and dedicated control and data paths**			YES / NO		
23	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES / NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES / NO		
24	**Estimated time required for full-backup for all data at end of 5 years**			Hours		
25	**Media & Accessories**	No. of tape media proposed - LTO5 Gen 5 /w Barcode Labels	Required	Units		
		Size of tape media (uncompressed)	1536 GB	Units		
		Size of tape media (compressed)	3072 GB	Units		
		No. of tape labels proposed	Required	Units		
		No of cleaning Tapes	Required	Units		
26	**Provisioning of Bar-Code Reader within the Tape Library & integration with proposed Media Management Software supporting media lifecycle management**		YES	YES / NO		
27	**Energy Savings and Management**		YES	YES / NO		
28	**Remote Monitoring and management Support**		YES	YES / NO		
29	**Support Logical Partitioning of Tape Library**		YES	YES / NO		
30	**High Density of Media Management**		YES	YES / NO		
31	**Support for integration with leading enterprise management applications**		**YES**	**YES / NO**		

Revised Annexure 7.19

Technical Specifications for Internet Router - Enrollment/Verfication

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor/Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**HeatDissipation**			BTU/hr		
6	**Power requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage and Frequency	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Production Certification**					
13	**Architecture**	Chassis based router at least four slots free for expanision		YES / NO		
		Redundant route processor and statefull failover support withour performance degradation and failover less than 50 ms	Yes	YES / NO		
		Router support in-srevice software upgrades and downgrades, should be performed without traffic loss.	Yes	YES / NO		
		Online insertion and removal of line cards without affecting other linecard traffic	Yes	YES / NO		
14	**Fast Convergence/High Availability Features**	Router Redundancy protocol such as VRRP, BFD (Bidirectional Forwarding Detection) protocol.	Yes	YES / NO		
		Support for instant event notification for interface up/down.	Yes	YES / NO		
		Non-stop forwarding for protocols like -OSPF, IS-IS,BGP,Interface dampening capability		YES / NO		
		Support fast computation and recomputation of SPF while providing instability issues with link state routuing protocols such as OSPF, IS-IS and support incremental SPF or equivalent feature for fast convergence		YES / NO		

Revised Annexure 7.19

Technical Specifications for Internet Router - Enrollment/Verfication

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Router support graceful restart, Modular/Network operating system for high uptime	Yes	YES / NO		
15	**System Throughput**		10 Gbps and upgradable to 40 Gbps without forklift upgrade	Gbps		
16	**Memory**		DRAM - 4GB or Higher Flash Memory - 1GB or higher or any other storage if required			
17	**Ports**		8 - 1 Gigabit Ethernet ports, 6 - 10 GE Ports			
18	**Interface types**	Interfaces compatability but not limited to- V.35, E1 G.703, Fast Ethernet, Gig Ethernet (Copper+Fiber), 10Gig Ethernet	Yes	YES / NO		
19	**L2 protocols**	Router shall support Frame Relay, PPP, HDLC and Ethernet encapsulation, MLPPP	Yes	YES / NO		
		PAP and CHAP authentication	Yes	YES / NO		
		ATM UNI, AAL5, IP over ATM encapsulation, IEEE 802.1Q VLAN, IGMPv2, IGMPv3 and IGMP snooping		YES / NO		
20	**Security Features**	SSL/IPSec capability	Yes	YES / NO		
		Support Access Control List to filter traffic based on Source and destination IP subnet, Source and Destination port, Protocol type (IP, UDP,TCP,ICMP etc) and port range,Timebased ACLs and QOS Policy support.	Yes	YES / NO		
		Support for ACL Logging, NAT and PAT	Yes	YES / NO		
		AAA through RADIUS or TACACS.	Yes	YES / NO		
		Integrated Firewall support for protocols (HTTP,FTP, SIP, H323, Telenet, TFTP and SMTP) and Unicast RPF.	Yes	YES / NO		
		MD5 authentication for routing protocols -RIP2, OSPF, IS-IS, BGP, MPLS	Yes	YES / NO		
		Integrated control plane policing and min 4000 ipsec tunnel, support MD5 Authentication anc control plane policing		YES / NO		

Revised Annexure 7.19

Technical Specifications for Internet Router - Enrollment/Verfication

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
21	**Routing and routing features**	Support IPv4 - static route, Default route, RIPv2, OSPFv2, IS-IS, BGP4 protocol with advanced features and necessary licenses if any to enable routing protocols as needed.	Yes	YES / NO		
		Support route redistribution and route filtering, support MPLS features- LDP, L2VPN, traffic engineering with RSVP-TE, Fast reroute Link Node and path protection and Policy Based Routing (PBR), Support MPLS (LDP,L2VPN)and traffic engineering with RSVP-TE, Fast Reroute Link Node, etc,	Yes	YES / NO		
22	**Network Protocols**	DNS,DHCP,TFTP, NTP, GRE tunneling, IP Services, etc	Yes	YES / NO		
23	**Quality Of Service**	Integratedupport Hierarchical QOS policy,cRTP for VoIP, RSVP for voice and video call admission.Router includes the congesion avoidence through WRED and Selective packet discard using WRED through ip presedence and DSCP	Yes	YES / NO		
		Includes traffic policing, traffic shaping and mark traffic using IP Precedence, DSCP and MPLS EXP.router support 30000 hardware queues for deployment of per-user,per-application, per-port QOS	Yes	YES / NO		
		Support for traffic classification using various parameters like source physical interface, Source/destination IP, subnet, protocol types, source/destination ports, 802.1p and some well known application types		YES / NO		
24	**Multicast**	IPv4 and IPv6 Multicasting, IGMP v2,v3, IGMP snooping, PIM-sparse mode and PIM -SSM for ipv4 and ipv6, MLD, PIM-SM, PIM-SSM	yes	YES / NO		
25	**Other features**	Router support all applications like voice, video and data over a converged Infrastructure, support L3VPN, DMVPN, etc Flexible Packet Matching, NBAR	yes	YES / NO		
26	**Network Management**	Router is manageable through local console, Aux Port, Telnet, SSH and web. Support online reconfiguration and configuration roleback feature	Yes	YES / NO		
		SNMPv1,v2c/v3,RMON enabled	Yes	YES / NO		
		Multilevel rolebased ACLs, Controlled SNMP access through SNMP ACLs	Yes	YES / NO		
		Capability to monitor IP SLA in real time parameters like TCP/UDP delay, jitter, application response time, VoIP MOS Score, Packet Loss etc. scripts for real time parameters and statistics and tools like ping and traceroute				

Revised Annexure 7.19

Technical Specifications for Internet Router - Enrollment/Verfication

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
			Yes	YES / NO		
27	**Software**		Latest release with all supported features as required			
28	**Mounting**		Standard 19-in rack with required hardware			
29	**Compatability**	Compatability with proposed network devices	Yes	YES/NO		
		Compatability with proposed wide Area connectivity	Yes	YES/NO		
		Compatability with proposed servers, if any	Yes	YES/NO		
30	**Power Supply**	Hot Swappable Power supply proposed		YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed		YES / NO		
31	**Cooling Fans**	Hot Swappable Cooling Fans proposed		YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		
33	**Support**	**Is the proposed product/solution End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach End-of-life during the currency of contract? If so, specify details.		YES / NO		
		Will the proposed product/solution reach End-of-support during the currency of contract?	NO	YES / NO		

Revised Annexure 7.20

Link Load Balancer

Sr. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor / Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Heat Dissipation**			BTU/hr		
6	**Power Requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating Temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Architecture**	Should be a multi processor based appliance	Yes	YES / NO		
		Traffic Throughput	8 Gbps	Gbps		
		Network Connectivity support	4 X 10/100/1000 BaseT and 10 X 10G Interfaces			
		Memory	8 GB	GB		
		Routing Protocols	OSPF, RIP V1/V2, IPv4, IPv6			
		Application Routing	Yes	YES / NO		
		Integrated DNS	Yes	YES / NO		
		Multiple Links and Multiple IP Addresses Support	Yes	YES / NO		
		Integrated System Management	Yes	YES / NO		
		Automatic ISP Failover	Yes	YES / NO		
		User defined policies for load balancing	Yes	YES / NO		
		The offered Link load balancer should support load balancing of both inbound and outbound traffic.	Yes	YES / NO		

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Link Load Balancer

Sr. No	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		The offered Link load balancer should select the most appropriate link to Direct the incoming and outgoing traffic based on Number of hops and end to end network latency.	Yes	YES / NO		
		The offered Link load balancer should deploy bandwidth management policies like rate shaping, prioritization etc.	Yes	YES / NO		
13	**Support**	Is the proposed product/solution End-of-life or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach End-of-life during the currency of contract? If so, specify details.		YES / NO		
		Will the proposed product/solution reach End-of-support during the currency of contract?	NO	YES / NO		

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DC Core LAN - L3 Switches

Sl No	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor/Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Hear Dissipation**			BTU/hr		
6	**Power requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage and Frequency	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Production Certification**					
13	**Architecture**	Chassis based Multilayer Switch with sufficient modules/line cards to fit required transceivers/UTP ports. Chassis shall have minimum 9 payload slots	Yes	YES/NO		
		Interface modules should have all the resources for switching and routing and provide true local switching both inter and intra module	Yes	YES/NO		
14	**Switch Redundancy/High Availability Features**	Switches should be quoted with redundant Supervisior/CPU/Switching fabric,Support module, System clock, power supplies and fans etc	Yes	YES/NO		
		Components like modules/power supplies/fan tray should be hot swappable.	Yes	YES/NO		

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DC Core LAN - L3 Switches

Sl No	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
		The switch should have redundant CPU's working in an active-active or active-standby mode. There should not be any disruption during the CPU fail-over/change-over and the fail over should be less than 1 sec	Yes	YES/NO		
		Statefull Switchover and Nonstop Forwarding to ensure that in case of active CPU module the redundant CPU shoud start switching L2/L3 traffic in less than 1 sec	Yes	YES/NO		
		The switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of providing graceful restart for all IPV4 routing protocols	Yes	YES/NO		
15	**System Throughput**	The total aggregate switching capacity shall be 6.0 Tbps or more	6.0 Tbps	Units		
17	**Memory**		DRAM - 4 GB or Higher Flash Memory -1 GB or higher or any other storage as needed	GB		
18	**Switching and routering capability**		Support Minimum Switching and routing Performance of 900+ Mbps	units		
19	**Backplane Connect Capacity**		100% passive	Units		
20	**Ports**	No. of 10G Ports with Multimode SFP+	Minimum 300 ports of 10 Gbps and a console port	Number		
		No. of Ports of RJ45 10/100/1000 autosensing	Minimum 48 Ports	Number		
21	**Connectivity**	802.3ad based standad port/link aggregation, Jumbo frames, storm control	Yes	YES/NO		

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DC Core LAN - L3 Switches

Sl No	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
22	**Switching features**	VLAN and MAC addresses (min 4000 VLANs and min 100000 MAC addresses)	Yes	YES/NO		
		Port, subnet based 802.1Q VLANs, IEEE 802.1w RSTP and IEEE 802.1s MSTP		YES/NO		
23	**Security**	802.1X Network Security and Radius/TACACS Authentication	Yes	YES/NO		
		MAC Address filtering based on source and desintination address, Port based security,Various ACLs like port based/time based, Standard/Extended ACLs, switch should provide a mechanisum/policing capability to filter unwanted traffic, support more than 50000 security and QOS ACLs	Yes	YES/NO		
		Integrated with DHCP snooping with option-82, Dynamic arp inspection, IP source guard and unicat reverse path forwarding	Yes	YES/NO		
24	**Routing and routing features**	IP, RIP V1 & V2,OSPF, BGP, IS-IS, ipv6, Policy based routing, Netflow and support minimum of 100000+ route entries	Yes	YES/NO		
25	**Load Balancing**		Equal cost load balancing			
26	**Layer 3 Network Protocols**	Protocols like but not limited to the listed protocols - DNS,DHCP,TFTP, NTP, VRF awareness, GRE tunneling, VRRP protocol or equivalent and IP Services,	Yes	YES/NO		
		Advanced protocols like but not limited to GLBP,HSRP,VRRP,PBR	Yes	YES/NO		
27	**Quality Of Service**	Ingress/Egress queuing, MAC based source/destination traffic limit, IP source/Destination address,TCP/UDP ports,etc	Yes	YES/NO		

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DC Core LAN - L3 Switches

Sl No	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
		QOS scheduling, at least 8 queues per port, TOS based traffic classification, IP precedence mapping, Layer2/3/4 traffic flows, MAC address, VLANs	Yes	YES/NO		
28	**Multicast**	IPv4 and IPv6 Multicasting, IGMP v1,v2,v3, IGMP snooping, PIM-sparse mode and PIM -SSM for ipv4 and ipv6, MSDP	Yes	YES/NO		
29	**Other features supported**		support for standards compliance with ieee802.3, 10BaseT, ieee802.3u, ieee802.3z,ieee802.3ab, ieee802.3ae,ieee802.1D, 802.1S and 1W,ieee802.3x, ieee802.1AE	YES/NO		
30	**Management**	SNMP v1, v2c/v3, RMON enabled, SSH, Telnet,CLI GUI, Web based interface, Serial inteface , Compatability with auto discovery	Yes	YES/NO		
		Switch should be manageable through NMS on per port/switch basis with common interface for all manageable devices on the network	Yes	YES/NO		
		Switch should support mirroring feature for monitoring network traffic of a particular port/VLAN/Group of ports/entireswitch	Yes	YES/NO		
		Switch support the rolebased access control to limit access to switch operations. The switch should support configuration verification and rollback	yes	YES/NO		
		for USB, Flash Card, Compact Flash for Fabric Switch Image and configuration backup		YES/NO		
31	**Software**		Latest release with all supported licenses as reqruied	YES/NO		

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DC Core LAN - L3 Switches

Sl No	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
32	**Mounting**		Standard 19-in rack with required hardware	YES/NO		
33	**Compatability**	**Compatability with proposed network devices**	Yes	YES/NO		
		Compatability with proposed network security devices	Yes	YES/NO		
		Compatability with proposed servers	Yes	YES/NO		
34	**Power Supply**	Hot Swappable Power supply proposed	YES	YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed	YES	YES / NO		
35	**Cooling Fans**	Hot Swappable Cooling Fans proposed	YES	YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		
36	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES/NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES/NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES/NO		

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Technical Specifications for DC Management LAN - L3 Switches

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor/Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Hear Dissipation**			BTU/hr		
6	**Power requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage and Frequency	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating temperature range**			ºC		
11	**Operating Relative Humidity range (non-**			%		
12	**Production Certification**					
13	**Architecture**	Chassis based Multilayer Switch with sufficient modules/line cards to fit required transceivers/UTP ports. Chassis shall have minimum 7 usabla slots and dual switching engines. Non blocking architecture with statfull failover	Yes	YES / NO		
14	**Switch Redundancy/High Availability Features**	Switche should be proposed with redundant supervisior/CPU/Switching fabric,power supplies and fans etc	Yes	YES / NO		

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Technical Specifications for DC Management LAN - L3 Switches

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
		Components like modules/power supplies/fan tray should be hot swappable. The performance of the switch in Gbps and Mbps rating should not reduce upon failure of any one supervisior/CPU/Switching fabric.	yes	YES / NO		
		Primary and redudnant management module with statefull failover and one of the CPU module should not affect the performance of the switch	yes	YES / NO		
15	**Throughput**	For IPv4	400 Mpps	Mpps		
		Support for IPv6	Yes	Yes/No		
16	**Memory**		DRAM - 1GB or Higher Flash Memory -1GB or highr	GB		
17	**Backplane Connect Capacity**		700 Gbps	gbps		
18	**Ports**		160 ports of RJ 45, 10/100/1000 Autosensing 16 ports of 10G	units		
19	**Connectivity**	802.3ad based standad port/link aggregation, Jumbo frames, storm control	Yes	YES / NO		
20	**Switching features**	L2 switch ports and VLAN trunks, no of VLANs at least 4000 and MAC addresses at least 50000.	Yes	YES / NO		
		Auto Negotitation of trunking protocol and VLAN trunking authentication with MD5.		YES / NO		

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Technical Specifications for DC Management LAN - L3 Switches

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
		Auto discovery of Layer 2 network devices and provides the mechanisum to detect connectivity issues both fiber and copper cabling	Yes	YES / NO		
		Support IGMP snooping v1, v2 and v3	Yes	YES / NO		
21	**Security**	802.1X Network Security and Radius/ TACACS or equivalent authentication	Yes	YES / NO		
		MAC Address filtering based on source and desintination address, Port based and policy based security	Yes	YES / NO		
		Integrated with DHCP snooping,per port broadcast, unicast and multicast storm control	Yes	YES / NO		
		support for various ACLs like port based/time based, Standard/Extended ACLs,Virtual CALs, Port based ACLs, Contol plan policing to filter unwanted traffic, support large number of security and QOS ACLs with performance impact.Local Command Accounting and logging	Yes	YES / NO		
		Deep inspection Firewall capability with 4Gig performance and scalable for non-blocking operation for 10Gig interfaces.	Yes	YES / NO		
		Logical/Virtual firewall				
		IPS capability with minimum 500Mbps inline prevention. Access lists to limit telnet and SNMP access		YES / NO		
22	**Routing and routing features**	Supports VRRP/HSRP and provides load balancing over multiple switches, Layer 3 or 4 switching and routing capabilities.	Yes	YES / NO		

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Technical Specifications for DC Management LAN - L3 Switches

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
		Supports static routing, OSPF, IS-IS,RIPv1/v2,BGP4,OSPFv3, RIPng,ICMP, ICMP discovery Support IPv6 in hardware and software RIPng, OSPFv3, IGMPv6,DHCPv6. Support MD5 and Rapid convergence.	Yes	YES / NO		
23	**Firewall module**		Yes	YES / NO		
24	**Network Protocols**	DNS,DHCP,TFTP, NTP, BOOTP relay, etc	Yes	YES / NO		
25	**Quality Of Service**	Support Enterprise QOS Management, Classification of traffic and admission control based on Physical Port, IP Source/Destination address, IP destination/source address/L4 port, rsvp		YES / NO		
		Support congestion avoidance using WRED, multi queue threshholds. Support the policing aggregate-Flow, excess-rate policing,micro-flow		YES / NO		
26	**Multicast**	IPv4 and IPv6 Multicasting, IGMP v1,v2,v3, IGMP filtering, PIM-sparse mode and PIM -Dense Mode,Bi-directional PIM		YES / NO		

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Technical Specifications for DC Management LAN - L3 Switches

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
27	**Other features supported**		standards such as ieee802.3.ieee802.3u,ieee803z,802.3ab, ieee802.3ae, ieee802.3af-POE, ieee802.1D,ieee802.1w,ieee802.1s, ieee802.1p, ieee802.1Q, 802.1x Chassis should support hardware Modules like Network analysis (RMON II), Server Load balancing, Network Intrusion Detection Module, Firewall Module, SSL Load Balancing module, VPN IPSec module, PSTN voice gateway module with support for FXS ports/E1 R2/PRI ports	YES / NO		
28	**Management**	Switch support SNMP v1, v2c/v3, RMON enabled, GUI, Web based interface,Compatability with auto discovery. Telnet and SSH support	Yes	YES / NO		
		Switch should support mirroring feature for monitoring network traffic of a particular port/VLAN/Group of ports or remote port mirroring across switches for remote monitor.	Yes	YES / NO		

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Technical Specifications for DC Management LAN - L3 Switches

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measure	Specification Offered	Whether any deviation, Please Specify
		Switch support the rolebased access control to limit access to switch operations.		YES / NO		
		The switch should support configuration verification and single configuration file for all operations		YES / NO		
29	**Software**		Latest release with all supported features to be proposed			
30	**Mounting**		Standard 19-in rack with required hardware			
31	**Compatability**	Compatability with proposed network devices	Yes	YES/NO		
		Compatability with proposed security devices				
		Compatability with proposed servers	Yes	YES/NO		
32	**Power Supply**	Hot Swappable Power supply proposed	Yes	YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed		YES / NO		
34	**Cooling Fans**	Hot Swappable Cooling Fans proposed	Yes	YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		
35	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES / NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES / NO		

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DC Core BKUP LAN - L3 Switches

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor/Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Hear Dissipation**			BTU/hr		
6	**Power requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage and Frequency	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Production Certification**					
13	**Architecture**	Chassis based Multilayer Switch with sufficient modules/line cards to fit required transceivers/UTP ports. Chassis shall have minimum 9 payload slots	Yes	YES/NO		
		Interface modules should have all the resources for switching and routing and provide true local switching both inter and intra module	Yes	YES/NO		
14	**Switch Redundancy/High Availability Features**	Switches should be quoted with redundant Supervisior/CPU/Switching fabric,Support module, System clock, power supplies and fans etc	Yes	YES/NO		
		Components like modules/power supplies/fan tray should be hot swappable.	Yes	YES/NO		
		The switch should have redundant CPU's working in an active-active or active-standby mode. There should not be any disruption during the CPU fail-over/change-over and the fail over should be less than 1 sec	Yes	YES/NO		

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DC Core BKUP LAN - L3 Switches

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Statefull Switchover and Nonstop Forwarding to ensure that in case of active CPU module the redundant CPU shoud start switching L2/L3 traffic in less than 1 sec	Yes	YES/NO		
		The switch should support Hitless software upgrades to reduce downtime during software upgrades and switch should capable of providing graceful restart for all IPV4 routing protocols	Yes	YES/NO		
15	**System Throughput**	The total aggregate switching capacity shall be 6 Tbps or more	6 Tbps	Units		
17	**Memory**	DRAM - 4GB or Higher Flash Memory -1GB or higher or any other storage as needed	Yes	GB		
18	**Switching and routering capability**		Support Minimum Switching and routing Performance of 900+ Mbps	units		
19	**Backplane Connect Capacity**		100% passive	Units		
20	**Ports**	Minimum 48 ports of 10 Gbps and console port	Yes	Units		
21	**Connectivity**	802.3ad based standad port/link aggregation, Jumbo frames, storm control	Yes	YES/NO		
22	**Switching features**	vlan and MAC address (min 4000vlans and min 100000mac address)	Yes	YES/NO		
		port, subnet based 802.1Q VLANs, IEEE 802.1w RSTP and IEEE 802.1s MSTP		YES/NO		
23	**Security**	802.1X Network Security and Radius/TACACS Authentication	Yes	YES/NO		
		MAC Address filtering based on source and desintination address, Port based security,Various ACLs like port based/time based, Standard/Extended ACLs,switch should provide mechanism to filter unwanted traffic, support more than 50000 security and QOS ACLs	Yes	YES/NO		

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DC Core BKUP LAN - L3 Switches

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Integrated with DHCP snooping with option-82, Dynamic arp inspection, IP source guard and unicat reverse path forwarding	Yes	YES/NO		
24	**Routing and routing features**	IP , RIP V1 & V2,OSPF, BGP, IS-IS, ipv6, Policy based routing, Netflow and support minimum of 100000+ route entries	Yes	YES/NO		
25	**Load Balancing**	Equal cost load balancing				
26	**Network Protocols**	Protocols like but not limited to the listed protocols - DNS,DHCP,TFTP, NTP, VRF awareness, GRE tunneling, VRRP protocol or equivalent and IP Services,	Yes	YES/NO		
		Advanced protocls like but not limited to GLBP,HSRP,VRRP,PBR	Yes	YES/NO		
27	**Quality Of Service**	Ingress/Egress queuing, MAC based source/destination traffic limit, IP source/Destination address,TCP/UDP ports,etc	Yes	YES/NO		
		QOS scheduling, at least 8 queues per port, TOS based traffic classification, IP precedence mapping, Layer2/3/4 traffic flows, MAC address, VLANs	Yes	YES/NO		
28	Multicast					
	IPv4 and IPv6 Multicasting, IGMP v1,v2,v3, IGMP snooping, PIM-sparse mode and PIM - SSM for ipv4 and ipv6, MSDP		Yes	YES/NO		
29	**Other features supported**	support for standards compliance with ieee802.3, 10BaseT, ieee802.3u, ieee802.3z,ieee802.3ab, ieee802.3ae,ieee802.1D, 802.1S and 1W,ieee802.3x, ieee802.1AE		YES/NO		
30	**Management**	SNMP V1,V2 & V3, RMON enabled, SSH, Telnet,CLI GUI, Web based interface, Serial inteface , Compatability with auto discovery	Yes	YES/NO		
		Switch should be manageable through NMS on per port/switch basis with common interface for all manageable devices on the network	Yes	YES/NO		

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DC Core BKUP LAN - L3 Switches

S.No.	Parameters	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Switch should support mirroring feature for monitoring network traffic of a particular port/VLAN/Group of ports/entireswitch	Yes	YES/NO		
		Switch support the rolebased access control to limit access to switch operations. The switch should support configuration verification and rollback	yes	YES/NO		
		for USB, Flash Card, Compact Flash for Fabric Switch Image and configuration backup		YES/NO		
31	**Software**	Latest release with all supported licenses as reqruied	Yes	YES/NO		
32	**Mounting**	Standard 19-in rack with required hardware		YES/NO		
33	**Compatability with proposed network devices**	Compatability with proposed network devices	Yes	YES/NO		
		Compatability with proposed network security devices	Yes	YES/NO		
		Compatability with proposed servers	Yes	YES/NO		
34	**Power Supply**	Hot Swappable Power supply proposed	YES	YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed	YES	YES / NO		
35	**Cooling Fans**	Hot Swappable Cooling Fans proposed	YES	YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		
36	**Support**					
		Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES/NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES/NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES/NO		

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Technical Specifications for L3 Switches - Data Center Access Switches

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor/Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Hear Dissipation**			BTU/hr		
6	**Power requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage and Frequency	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Production Certification**					
13	**Architecture**	Enterprise class rackmountable switch.				
		Switch fabric capacity	900 Gbps	gbps		
		Switch forwarding rates	350 mpps	mpps		
		10G/Gigabit Ethernet port	44 ports of 10 G and 4 ports of 1G	unit		
		Support consolidating IP, Storage, FC and traditional Ethernet protocols into single media	Yes			
		Non-blocking switch architecture	Yes			
14	**Connectivity**	802.3ad based standad port/link aggregation, Jumbo frames, storm control	yes	YES/NO		
15	**Switching features**	Support but not limited to - L2 Fiber/Copper ports and Fiber channel ISL trunks	yes	YES/NO		
		Suppport at least 500 VLAN and 15000 MAC Address	yes	YES/NO		

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Technical Specifications for L3 Switches - Data Center Access Switches

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Datacenter bridgining exchange, ieee 802.1Qbb and ieee802.1Qaz	yes			
		Swich support auto device discovery and storm control	yes	YES/NO		
		DNS,TFTP and NTP protocol	yes	YES/NO		
16	**Security**	802.1X Network Security and Radius/TACACS or equivalent authentication	yes	YES/NO		
		MAC Address filtering based on source and desintination address		YES/NO		
		Support for various ACLs like port based ,time based, VLAN based and Standard,extended ACLs L2- L4	Yes	YES/NO		
17	**Network Protocols**	DNS,DHCP,TFTP, NTP, BOOTP relay, etc	yes	YES/NO		
		Layer 3 Protocols with Layer 3 routing features like RIP, OSPF, BGP, IS-IS for IPv4 and IPv6.	yes	YES/NO		
18	**Quality Of Service**	port-based COS assignment and COS trust	yes	YES/NO		
		minimum 4 number of hardware queues per port	yes			
		Policy based traffic classification based on Layer 2 to Layer 4	yes	YES/NO		
19	**Multicast**	IGMP v1,v2,v3, IGMP snooping		YES/NO		
20	**Other features supported**	standards such as ieee802.3.ieee802.3u,ieee803z,802.3ab, ieee802.3ae, ieee802.3af-POE, ieee802.1D,ieee802.1w,ieee802.1s, ieee802.1p, ieee802.1Q, 802.1x,802.3ad,802.1X,ieee802.3x		YES/NO		
21	**Management**	SNMP v1, v2c/v3, RMON/RMON-II enabled, SSH,telnet,GUI, Web management	Yes	YES/NO		
		Switch should support port mirroring feature for monitoring network traffic of a particular port/VLAN/group of ports/Fiber Channel ports..	Yes	YES/NO		
		Built-in real-time performance monitoring capabilities	Yes	YES/NO		
22	**Software**	Latest release with all supported required features as needed				

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Technical Specifications for L3 Switches - Data Center Access Switches

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
23	**Mounting**	Standard 19-in rack with required hardware				
24	**Compatible**	Compatible with proposed network devices	Yes	YES/NO		
		Compatible with proposed servers	Yes	YES/NO		
25	**Power Supply**	Hot Swappable Power supply proposed		YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed	YES	YES / NO		
26	**Cooling Fans**	Hot Swappable Cooling Fans proposed		YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		
27	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES/NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES/NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES/NO		

Revised Annexure 7.25

Technical Specifications for L3 Switches - ABIS LAN

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor/Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Hear Dissipation**			BTU/hr		
6	**Power requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage and Frequency	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Production Certification**					
13	**Architecture**	Enterprise class rackmountable switch.				
		Switch fabric capacity	900 Gbps	gbps		
		Switch forwarding rates	350 mpps	mpps		
		Ports with Support for 1G and 10G Ethernet	44 ports of 10 G and 4 ports of 1 G	unit		
		Support consolidating IP, Storage, FC and traditional Ethernet protocols into single media	Yes	YES/NO		
		Non-blocking switch architecture	Yes	YES/NO		
14	**Connectivity**	802.3ad based standad port/link aggregation, Jumbo frames, storm control	yes	YES/NO		
15	**Switching features**	Support but not limited to - L2 Fiber/Copper ports and Fiber channel ISL trunks	yes	YES/NO		
		Suppport at least 500 VLAN and 15000 MAC Address	yes	YES/NO		

Revised Annexure 7.25

Technical Specifications for L3 Switches - ABIS LAN

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		Datacenter bridgining exchange, ieee 802.1Qbb and ieee802.1Qaz	yes	YES/NO		
		Swich support auto device discovery and storm control	yes	YES/NO		
		DNS,TFTP and NTP protocol	yes	YES/NO		
16	**Security**	802.1X Network Security and Radius/TACACS ,AAA authentication	yes	YES/NO		
		MAC Address filtering based on source and desintination address		YES/NO		
		support for various ACLs like port based/time based, vlan based and Standard/Extended ACLs L2- L4	yes	YES/NO		
17	**Network Protocols**	DNS,DHCP,TFTP, NTP, BOOTP relay, etc	yes	YES/NO		
		Layer 3 Protocols with Layer 3 routing features like RIP, OSPF, BGP, IS-IS for IPv4 and IPv6.	yes	YES/NO		
18	**Quality Of Service**	port-based COS assignment and COS trust	yes	YES/NO		
		minimum 4 number of hardware queues per port	yes			
		Policy based traffic classification based on Layer 2 to Layer 4	yes	YES/NO		
19	**Multicast**	IGMP v1,v2,v3, IGMP snooping		YES/NO		
20	**Other features supported**	standards such as ieee802.3.ieee802.3u,ieee803z,802.3ab, ieee802.3ae, ieee802.3af-POE, ieee802.1D,ieee802.1w,ieee802.1s, ieee802.1p, ieee802.1Q, 802.1x,802.3ad,802.1X,ieee802.3x		YES/NO		
21	**Management**	SNMP v1, v2 & v3, RMON/RMON-II enabled, SSH,telnet,GUI, Web management	Yes	YES/NO		
		Switch should support port mirroring feature for monitoring network traffic of a particular port/VLAN/group of ports/Fiber Channel ports..	Yes	YES/NO		
		Built-in real-time performance monitoring capabilities	Yes	YES/NO		
22	**Software**	Latest release with all supported required features as needed				

Revised Annexure 7.25

Technical Specifications for L3 Switches - ABIS LAN

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
23	**Mounting**	Standard 19-in rack with required hardware				
24	**Compatible**	Compatible with proposed network devices	Yes	YES/NO		
		Compatible with proposed servers	Yes	YES/NO		
25	**Power Supply**	Hot Swappable Power supply proposed		YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed	YES	YES / NO		
26	**Cooling Fans**	Hot Swappable Cooling Fans proposed		YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		
27	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES/NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		YES/NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES/NO		

Revised Annexure 7.26

Firewall

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor/Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**HeatDissipation**			BTU/hr		
6	**Power requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage and Frequency	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Production Certification**					
13	**Architecture**	The appliance a multiprocessing system Architecture for high performance	Yes	YES/NO		
		System should support Firewall, IPSec, VPN, Unlimited users/nodes	Yes	YES/NO		
14	**High Availability Features**	Capability to detect hardware failure during powerup and before going online	Yes	YES/NO		
		Stateful failover to prevent session losses to minimal. Firewall support rack serviceability with easy access mainboard	Yes	YES/NO		
		Software reconfiguration/ configuration changes are immediate effect	Yes	YES/NO		
		Support active/active and active/standby failover	Yes	YES/NO		
		Should support VPN Clustering, Load balancing and Load sharing	Yes	YES/NO		
		Support in-built environmental monitoring capabilities.	Yes	YES/NO		
15	**Concurrent Sessions**	Minimum 1500000 concurrent connections at the rate of 80000 sessions per second	Yes	YES/NO		
16	**System Throughput**	at least 10 Gbps or higher	Yes	gbps		
		concurrent NAT/PAT translations	500000			
		connection setups at least	100000	per sec		

Revised Annexure 7.26

Firewall

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
17	**Memory**	at least DRAM - 5GB or higher at least Flash Memory 1GB- or higher or any other storage if required	Yes	GB		
18	**Ports**	minimum 12 Nos of 1 Gbps ports and minimum 6 Nos of 10Gbps Ports	Yes	Unit		
19	**Expansion option**	Network interfaces like Fast Ethernet/Gig Ethernet/10G Ethernet modules	Yes	YES/NO		
20	**Application and protocol inspection**	Should integrate with more than 24 specilized inspection engines for protocols such as: (but not limited)	Yes	YES/NO		
		Advanced Web Browsing (HTTP/(s))	Yes	YES/NO		
		File Transfers (FTP/(s))	Yes	YES/NO		
		Electronic mail (SMTP)/eSMTP	Yes	YES/NO		
		Domain Name System (DNS)	Yes	YES/NO		
		Simple Network Management Protocol (SNMP)	Yes	YES/NO		
		Database (SQL*Net)	Yes	YES/NO		
		Network File System (NFS)	Yes	YES/NO		
		IP Telephonu - H.323,SIP	Yes	YES/NO		
		VoIP	Yes	YES/NO		
		Session Initiation Protocol (SIP)	Yes	YES/NO		
		Real-Time Streaming Protocol (RTSP)	Yes	YES/NO		
		Internet Locator Service (ILS)	Yes	YES/NO		
		Provider voice services (MGCP,GTP/GPRS)	Yes	YES/NO		
		Network Information services (NIS+)	Yes	YES/NO		
		Stateful ICMP inspection	Yes	YES/NO		
		IPv6 transparent	Yes	YES/NO		
		Timebound, Out bound ACLs	Yes	YES/NO		
		Inspection engine should support an interface,network or host	Yes	YES/NO		
		Tunneled applications (peer-to-peer file sharing or instant messaging)	Yes	YES/NO		
21	**Support VPN**	Supports:	Yes			
		IKE	Yes	YES/NO		
		IPSec VPN standards	Yes	YES/NO		
		PPTP		YES/NO		
		56-bit DES	Yes	YES/NO		
		168-bit 3DES	Yes	YES/NO		

Revised Annexure 7.26

Firewall

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
		OSPF routing and QOS over VPN	Yes	YES/NO		
		Diffie Hellman Group 7	Yes	YES/NO		
		x.509	Yes	YES/NO		
		Up to 256-bit AES data encryption	Yes	YES/NO		
22	**Authentication, Authorization and Accounting (AAA) support**	Integrates with popular AAA services via	Yes	YES/NO		
		RADIUS	Yes	YES/NO		
		TACACS or equivalent	Yes	YES/NO		
		Acounting for management traffic	Yes	YES/NO		
		Native Active Directory user authentication(VPN only)	Yes	YES/NO		
		Native SecureID authentication (VPN only)	Yes	YES/NO		
23	**Other**	Support for:	Yes			
		Port redirection and TCP intercept	Yes	YES/NO		
		Rack Mountable	Yes	YES/NO		
		ActiveX blocking	Yes	YES/NO		
		URL filtering and Java Security	Yes	YES/NO		
		Support against all network and application level attacks ranging from malformed packet attacks to DoS attacks	Yes	YES/NO		
		Support for ability to customize protocol port numbers	Yes	YES/NO		
		Support upto 1536 bit RSA and Diffie-Hellman, MD-5,SHA-1	Yes	YES/NO		
24	**DHCP relay**	Forwards DHCP requests from internal devices to an administrator-specified DHCP server, enabling centralized distribution, tracking, and maintenance of IP addresses	Yes	YES/NO		
		Provides:	Yes	YES/NO		
		Rich dynamic NAT and PAT services	Yes	YES/NO		
		Static NAT and PAT services	Yes	YES/NO		
		Policy-based NAT and PAT services	Yes	YES/NO		
25	**Perimeter Security module/software feature**	Antivirus/Antispayware/Antispam/Antiphishing/URL blocking and content filtering	Yes	YES/NO		

Revised Annexure 7.26

Firewall

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
26	**IPS Module**	X.509 certificate and CRL support	Supports Simple Certificate Enrollment Protocol (SCEP)-based enrollment with leading X.509 solutions from Baltimore, Entrust, Microsoft, and VeriSign	YES/NO		
			Proposed firewall should be expandable and scalable with IPS as required	YES/NO		
27	Management	Web based management to support for remote monitoring	YES	YES/NO		
		Accessible through variety of methods including : Telnet, Console Port,SSH	YES	YES/NO		
		Dedicated Out-of-Managenet interface	YES	YES/NO		
		Support SNMPv1, v2, v3	YES	YES/NO		
		Support for security event logging	YES	YES/NO		
		Support real time alerting and notification features and syslog	YES	YES/NO		
		Should have the ability to create customizable administrative roles/profiles (monitoring only, read-only access to configuration, VPN administrator, firewall/NAT administrator, etc.)	YES	YES/NO		
28	**End point verification**	Support for end point authorization based on multiple variables of each VPN connection associated with specific tunnel or session	YES	YES/NO		
29	**Software features**	support for RIPv2, OSPF,VLAN, LAN Based failover, DHCP. Support, static&Dynamic NAT/PAT. Support H.323,SIP,FTP,etc. Bidictional NAT, NAT trasparency, Split tunneling VPN,	YES	YES/NO		
30	**Software**	Latest release with all supported features as required	YES			
31	**Broadcast Application**	Support for Microsoft Networking client server communication	YES	YES/NO		
		support for multimedia Real Audio Video Stream Works, Applications based on H.323 standards	YES	YES/NO		
		Support for Oracle SQL and ERP applications	YES	YES/NO		

Revised Annexure 7.26

Firewall

S.No.	Parameters	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
32	**Client VPN**	support and not limited to Internal websites/web enabled applications,	YES	YES/NO		
		Email-POP3S,IMAP4S,SMTPS.	YES	YES/NO		
		Support also telnet,RDP,VNC. MAPI and Application Access support	YES	YES/NO		
33	**Mounting**	Standard 19-in rack with required hardware	YES	YES/NO		
34	**Compatability**	Compatability with proposed network devices	Yes	YES/NO		
		Compatability with proposed security devices	Yes			
		Compatability with proposed servers	Yes	YES/NO		
35	**Power Supply**	Hot Swappable Power supply proposed		YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
		Dual AC input proposed		YES / NO		
36	**Cooling Fans**	Hot Swappable Cooling Fans proposed		YES / NO		
		(N+1) redundant Cooling Fans proposed	YES	YES / NO		
37	Support	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	Yes/No		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so, specify details.		Yes/No		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	Yes/No		

Revised Annexure 7.27

Host based IDS

Sr. No	Parameter/ Features	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Product Name**					
2	**Version**					
3	**No. of Licenses**	Server	The proposed solution should support the Rack servers proposed with 10G Interfaces			
		Processor				
		Client				
		Client Access License				
		Other 1				
		Other 2				
4	**Operating Systems Supported**	The HIDS should have support for the following Operating Systems (32/64 bit):				
		Microsoft Windows Server 2008	YES	YES / NO		
		Microsoft Windows 2003	YES	YES / NO		
		HP-UX		YES / NO		
		Sun Solaris		YES / NO		
		RedHat Linux 6.0	YES	YES / NO		
		IBM AIX		YES / NO		
		Support for virtual environments (VmWare, ESX/ESXI, HYPER-V, XEN, Other	YES			
5	**Advanced Intrusion Prevention/Blocking**	HIDS should provide automated, real-time intrusion detection and protection by analyzing events, operating system logs and inbound/outbound network traffic on enterprise servers.		YES / NO		
		Monitor all inbound and outbound traffic to detect and prevent attacks, both known and unknown.		YES / NO		
		This includes:				
		Buffer overflows		YES / NO		
		Trojans		YES / NO		
		Brute force attacks		YES / NO		
		Unauthorized access and network worms		YES / NO		
		File access control and audit	YES	YES / NO		
		Other types of attacks.		YES / NO		

Revised Annexure 7.27

Host based IDS

Sr. No	Parameter/ Features	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
6	**Local and Network-Based Protection**	Should provide the flexibility to detect and protect from both local and network attacks through log monitoring capabilities		YES / NO		
		Should prevent authorized users from attacking the system, while also preventing brute force attacks and unauthorized access to system resources that would otherwise compromise data confidentiality, integrity and accessibility		YES / NO		
7	**Audit Policy Management**	Centralized management of an OS audit policy ensures that all critical servers have a consistent and effective audit policy that allows for the management of true kernel-level auditing.		YES / NO		
8	**Centralized Management**	The management console should unify the administration servers of enterprise protection across gateways, networks, desktops, significantly reducing demands on staff and other operational resources.		YES / NO		
9	**Event Co-relation**	Should have inbuilt knowledge to dynamically escalate threatening security incidents while reducing false alarms.		YES / NO		
		The module instantly correlates security data from multiple sources to escalate serious threats, such as an attack on a vulnerable asset or a covert, multi-step attack.		YES / NO		
10	**Real time monitoring**	Real-time monitoring and analysis of the operating system, applications and network activity.		YES / NO		
		Guard server environments from misuse and intrusions with little to no impact on the performance of the system.		YES / NO		
11	**Corrective Measures**	The HIDS should be capable of carrying out following activities in event of any incident				
		Block Malicious Traffic		YES / NO		
		Send An E-mail		YES / NO		
		SMS alerts				
		Prevent Access		YES / NO		
12	**Throughput**		10 Gbps	Gbps		

Revised Annexure 7.27

Host based IDS

Sr. No	Parameter/ Features	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
13	**Ports**		2 X 10 G and 1 X 1G			
14	Centralized OS and patch management		YES	YES / NO		
15	Centralized policy enforcement		YES	YES / NO		
16	Support the industry leading network management frameworks like Openview, Tivoli, etc		YES	YES / NO		
17	**Support**	Industry leading Network Management Frameworks like Open view, Tivoli, Unicenter etc.	YES	YES / NO		
		Is the proposed product/solution End-of-life or will reach End-of-life within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Provide new version upgrades, updates, patches, etc. for all the components / sub-components through the period of contract	YES	YES / NO		

Revised Annexure 7.28

Network based IDS

S. No.	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Make**					
2	**Model**					
3	**Form Factor / Dimension**			(U) / HxWxD(mm)		
4	**Weight**			Kg		
5	**Heat Dissipation**			BTU/hr		
6	**Power Requirement**			KVA		
7	**Power Specification**		Indian power specifications in terms of Phase, Voltage, Freq	Ø,V,Hz		
8	**Current Rating**			Amp		
9	**Number, Rating, Type of power points required**			Quantity, Amp, Type		
10	**Operating Temperature range**			ºC		
11	**Operating Relative Humidity range (non-condensing)**			%		
12	**Throughput**		10 Gigabit	Gbps		
13	**No. of 10G Ports**		10	Units		
14	**Rack Mountable**		YES	YES / NO		
15	**No. of segments protected**		6	No. of segments		
16	**Actions**		Notification actions	YES / NO		
17	**Alarms**		Support for Detailed Intrusion Alarms	YES / NO		
18	**Attacks**		Comprehensive Attack Database	YES / NO		
			Detect more than 1500 known attacks	YES / NO		
			Support detection of:			
			TCP hijacking	YES / NO		
			Trinoo	YES / NO		
			TFN	YES / NO		
			SYN Floods	YES / NO		
19	**Event Correlation**		Advanced Event Correlation	YES / NO		
20	**High Availability**		Active-Active, Active-Passive	YES / NO		
21	**Integration with third party tools**		Integration with paging solutions, trouble ticket systems or other event management solutions.	YES / NO		

Revised Annexure 7.28

Network based IDS

S. No.	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
22	**Management**		Support for Centralised Management	YES / NO		
			Secure web-based embedded device management / GUI management	YES / NO		
23	**Performance**		Support for High-speed Performance (including support for gigabit environments)	YES / NO		
24	**Protocols to be monitored**		Extensive Protocol Monitoring			
			TCP/IP	YES / NO		
			ICMP	YES / NO		
			FTP	YES / NO		
			UDP	YES / NO		
			SMTP	YES / NO		
			HTTP	YES / NO		
			DNS	YES / NO		
			RPC	YES / NO		
			NetBIOS	YES / NO		
			NNTP	YES / NO		
			SSL	YES / NO		
			Telnet	YES / NO		
25	**Real time Intrusion Protection**		Support for Accurate Real-time Intrusion Detection	YES / NO		
26	**Real time Response**		Support for Real-time Response to Unauthorized Activity	YES / NO		
27	**Signatures**		Custom User-defined Signatures	YES / NO		
			Automatic Signature Updates	YES / NO		
28	**VLAN**		Ability to Monitor 802.1q (trunked) traffic	YES / NO		
29	**Other**		Support for Pervasive Network-based and Host-based protection	YES / NO		
			Secure Communications	YES / NO		
			Comprehensive IDS Anti-Evasion Techniques	YES / NO		
			Intelligent threat investigation.	YES / NO		
			Flexible Deployment option	YES / NO		

Revised Annexure 7.28

Network based IDS

S. No.	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
			Fault-tolerant Communications	YES / NO		
			Inbuilt SSL Decryption	YES / NO		
30	**Power Supply**	Hot Swappable Power supply proposed		YES / NO		
		(N+1) redundant power supply proposed	YES	YES / NO		
31	**Support**	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?	NO	YES / NO		
		Will the proposed product/solution reach **End-of-life** during the currency of contract? If so,	NO	YES / NO		
		Will the proposed product/solution reach **End-of-support** during the currency of contract?	NO	YES / NO		
32	Support industry leading management freameworks like openview, tivoli, etc		YES	YES / NO		
33	Integrate with proposed Event correlation server/engine		YES	YES / NO		
34	Performance	TCP connections	12000	per sec		
		Http transcations per second	12000	per sec		
		concurrent connections	100000			

Revised Annexure 7.29

Perimeter Security Device

Sr. No	Parameter/ Features	Technical Specification/Feature	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Product Name**					
2	**Version**					
3	**No. of Licenses (Primary Site)**	Server				
		Processor				
		Client				
		Client Access License				
		Other 1				
		Other 2				
4	**The appliance should have two separate dedicated 1G interface for management console. None of the monitoring ports should be used for this purpose.**		YES	Yes/No		
5	**The IPS should be deployable in the following modes: Inline Protection, Inline Simulation**		YES	Yes/No		
6	**IPS vendor should have its own original threat intelligence analysis center and is not overly dependent on information available in the public domain.**		YES	Yes/No		
7	**IPS should detect and block all known, high risk exploits along with their underlying vulnerability (not just one exploit of that vulnerability).**		YES	Yes/No		
8	**IPS should detect and block zero-day attacks without requiring an update.**		YES	Yes/No		
9	**IPS should employ full seven-layer protocol analysis of over 190 internet protocols and data file format.**		YES	Yes/No		
10	**IPS should operate effectively and protect against high risk, high impact malicious traffic via default out of box configuration, should be able to block known attacks by default.**		YES	Yes/No		

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Perimeter Security Device

Sr. No	Parameter/ Features	Technical Specification/Feature	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
11	IPS should perform stateful packet inspection		YES	Yes/No		
12	IPS should detect and block malicious web traffic on any port.		YES	Yes/No		
13	Does TCP stream reassembly.		YES	Yes/No		
14	Does IP defragmentation.		YES	Yes/No		
15	Does Protocol anamoly detection		YES	Yes/No		
16	Does Bi- directional inspection			Yes/No		
17	Detects attacks within protocols independent of port used		YES	Yes/No		
18	Does Heuristics			Yes/No		
19	Does Shell Code Heuristic			Yes/No		
20	Does RFC Compliance			Yes/No		
21	Does Protocol tunneling			Yes/No		
22	IPS should do attack recognition inside IPv6 encapsulated packets			Yes/No		
23	IPS should do active blocking of traffic based on pre-defined rules to thwart attacks before any damage is done.			Yes/No		
24	Accurately detects intrusion attempts and discerns between the various types and risk levels including unauthorized access attempts, pre-attack probes, suspicious activity, DoS, DDoS, vulnerability exploitation, brute force, hybrids, worms, and zero-day attacks.		YES	Yes/No		
25	Allows full policy configuration and IPS sensor control via encrypted communications with remote management system.		YES	Yes/No		
26	Can enable/disable each individual signature.		YES	Yes/No		
27	Each signature should allow granular tuning.			Yes/No		

Revised Annexure 7.29

Perimeter Security Device

Sr. No	Parameter/ Features	Technical Specification/Feature	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
28	Supports assigning of ports to custom applications.			Yes/No		
29	Filters traffic based on IP address or network range, protocol, and service in support of organizational security policy to allow/disallow specific types of activity between hosts.		YES	Yes/No		
30	Should support Active/Passive and Active/Active for the appliance, the HA should be out of the box solution and should not requires any third party or additional software for the same.		YES	Yes/No		
31	HA solution should support High Protection that is should maintain state such that there is no gap in protection during failure of one of the appliances.		YES	Yes/No		
32	IPS should fail open in case of power, software or hardware failure when deployed in stand alone mode.		YES	Yes/No		
33	IPS should notify console of unit interruption. The console should receive alert and/or provide additional notification to administrator should any component become non-operational or experience a communications problem.			Yes/No		
34	IPS should have built in ticketing system.			Yes/No		
35	IPS should inspect and block unwanted PII and sensitive content disclosure across multiple protocols. The IPS should have inbuilt signatures for this purpose			Yes/No		
36	IPS management and reporting solution which shall be available in both options of purpose built appliance and software.			Yes/No		

Revised Annexure 7.29

Perimeter Security Device

Sr. No	Parameter/ Features	Technical Specification/Feature	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
37	**IPS Management console should support high availability.**			Yes/No		
38	**IPS should support granular management. Should allow policy to be assigned per device, port ,VLAN tag, IP address/range**			Yes/No		
39	**IPS centralized management console should manage all the products network, host and Vulnerability Assessment solutions.**		YES	Yes/No		
40	**IPS Management should be able to integrate with industry standard Enterprise Management Products**			Yes/No		
41	**IPS should offer variety of built-in responses including console alerts, database logging, email notifications, SNMP traps, offending packet captures, and packet captures.**		YES	Yes/No		
42	**IPS should offer Includes built-in reports. The console should be capable of producing graphical metrics and time-based comparison reporting.**		YES	Yes/No		
43	**IPS vendor should have 24/7 security service update and should support real time signature update.**		YES	Yes/No		
44	**IPS vendor product models should have been tested/certified for *NSS / Tolly tested / ICSA.B15***		YES	YES / NO		
45	**Prevent Port Scanning**		YES	YES / NO		
46	**System Throughput**		10 Gbps	Gbps		
47	**Network Interface excluding management ports**		10 X 10 Gbps	YES / NO		
48	**Inbuilt SSL Decryption**		Yes	YES / NO		

Revised Annexure 7.30

Hardware Security Module (HSM)

S.No.	Feature/Specification Required	Feature/ Specification Offered	Whether any deviation, Please Specify
1	Should support Windows 2000,2003,2008,Linux,Solaris,HP-UX 11i,VMWARE,AIX 5.3		
2	TCP/IP Network based appliance		
3	Should comply to standards like FIPS 140-2 Level-3, CC EAL4+,ROHS,FCC part 15 Class B		
4	Key Length Supported (1024 to 4096)		
5	Public Key Algorithm RSA encrypt/decrypt, RSA sign/verify, ECC (Electric Curve cryptography)		
6	Keys are always in Hardware and never stored in Software in any form		
7	Key Exchange Mechanism: DES / TripleDES, AES Algorithm		
8	Hash/HMAC algorithm: MD5, SHA 1, SHA 2, SHA 256		
9	Symmetric Algorithm : AES, MD5, SHA 1, SHA 2, SHA-256 , DES, TripleDES		
10	Compatibility: PKCS#11 , CAPI, OpenSSL, JCE/JCA		
11	Scalable Up to more than 15 unique partitions		
12	Private key generation and import: Archival and duplication mechanism to be specified. Give the procedure for key transportation from one HSM Appliance to other HSM Appliance.		
13	Support for various cryptographic algorithms: Asymmetric Key with Diffie-Hellman		
	(1024-4096 bit), RSA (512-4096 bit) and (PKCS#1 v1.5, OAEP PKCS#1		
	v2.0), Digital Signing via RSA (1024-4096-bit), DSA (512-1024-bit),		
	EC Brainpool Curves (named and user-defined), Suite B		
	Algorithm Support and ARIA support		
14	Published API for various above functionalities for integrating with the		
	Application software		
15	Signing speed : 5000 S/S		
16	Remote PED Support for Authentication		
17	Contents can be securely stored on Backup Tokens to simplify backup, cloning, and disaster recovery		
18	Onboard key generation, Digital Signing & Verification process to be done inside the HSM only for better performance and security		
19	Complete hardware based storage of key material for entire Life cycle		
20	Additional / specific software's if any, required to support multiple HSM appliances to be provided		
21	24/7 tel/email support infrastructure based out of India		

Revised Annexure 7.32

Anti-Virus Software

S. No.	Parameter	Technical Specification	Minimum Requirement	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	Product Name	McAfee / Symantec / Trend Micro	YES	YES/No		
2	Version					
	Licenses for components that are prices and sold separately should be indicated as separate licenses					
3	No. of Licenses (Primary Site)					
	Server					
	Processor					
	Client					
	Client Access License					
	Other 1					
	Other 2					
4	Protection for Desktop / Servers		Yes	YES/No		
5	Security for SMTP					
6	Security for Microsoft Exchange/Lotus Domino		Yes	YES/No		
9	Operating system for proposed software	Windows XP/Vista/7/2003/2008	Yes	YES/No		
10	Dedicated Anitvirus Management Console					
12	Support					
	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is later?		NO	YES/No		
	Provide new version upgrades, updates, patches, etc. for all the components / sub-components through the period of contract		YES	YES/No		
	Will the proposed product/solution reach **End-of-support** during the currency of contract?		NO	YES/No		

	Antivirus Engine					
S. No.	**Parameter**	**Technical Specification**	**Minimum Requirement**	**Unit of Measurement**	**Specification Offered**	**Whether any deviation, Please Specify**
1	Product Name	McAfee / Symantec / Trend Micro	YES	YES / NO		
2	Version	Enterprise Edition	YES	YES / NO		
	censes for components that are prices and sold separately should be indicated as separate licens					
3	Protection for Servers		YES	YES / NO		
4	Security for SMTP		YES	YES / NO		
5	Security for Microsoft Exchange/Lotus Domino		YES	YES / NO		
7	Gateway Antivirus		YES	YES / NO		
7	Operating system for proposed software	Linux 64 bit (RHEL 6.0) - x86 platform	YES	YES / NO		
8	Dedicated Anitvirus Management Console		YES	YES / NO		
9	Deep Packet Inspection Engine		YES	YES / NO		
10	Support					
	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is later?		NO	YES / NO		
	Provide new version upgrades, updates, patches, etc. for all the components / sub-components through the period of contract		YES	YES / NO		
	Will the proposed product/solution reach **End-of-support** during the currency of contract?		NO	YES / NO		

Revised Annexure 7.33

Network Operation Console (NOC)

Sl No	Item	Technical Specifications Required	Specification Offered	Whether any deviation, Please Specify
1	**Video Wall Block**	Size – 46 Inches Super Narrow bezel (7.3 mm) including wall mounting brackets		
		Display Type - TFT-LCD		
		Resolution -Min 1366*768 pixels		
		Contrast –Min 5000:1		
		Brightness – Min 700 Nit		
		Response Time - Min 8 milliseconds		
		PIP Support		
		Input Ports – Min 3 HDMI Ports, Min 2 DVI Ports		
		Wall Mount with Accessories		
		220 V AC Input		
		Associated Software Drivers for Windows Vista/7		
		With Remote Control		
		Software Management Program		
2	**Graphic Controller Cards**	PCI Express		
		Small Farm Factor		
		Memory min – 512 DDR3+		
		at least 2 display connectors		
		Digital Display – 2560 X 1600 Minimum		
		Best power consumption		
		DVI links 2 connection		
		The Graphics Controller Card should be compatible with the supplied Desktop and LCD Display		
3	**Video Matrix Switcher**	Video Matrix Switcher with (16 input and 16 output, Composite BNC)		

New Annexure 7.34

Backup and Recovery Software

Sr. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
1	**Product Name**					
2	**Version**					
	Licenses for components that are prices and sold separately should be indicated as separate licenses	Type of processor				
3	**No. of Licenses**					
	Server	This backup application should compatable with backup server hardware proposed	Yes	YES / NO		
	Client	The backup application agents should be compatable with proposed blade/Rack and operating system specified	Yes	YES / NO		
	Architecture	Provide a tiered scalable backup and restore architecture for proposed server and storage systems.	Yes	YES / NO		
4	**Should have capability to support for all major Operating system clients including, but not limited to AIX, HP-UX, Solaris, Microsoft Windows, Linux, etc.**		YES	YES / NO		
5	**Backup application should be compatable with major Operating systems including, but not limited to AIX, HP-UX, Solaris, Microsoft Windows, Linux including, etc.**	**Linux including RHEL 6.0**	Yes	YES / NO		
6	**Support for heterogeneous storage solutions including but not limited to EMC, Hitachi, HP, IBM, Network Appliance, Sun, etc.**		YES	YES / NO		
7	**Support for hetrogeneous Virtualalization solutions and hypervisors like a ESXi/ESX, XEN, KVM, HYPER-V, virtual box)**		Yes	YES / NO		
8	**Support for heterogeneous Data storage Tape Libraries/Auto loader, Virtual Tape Library solutions from IBM, EMC, Netapp, Sun Microsystems, HP, Dell, Spectralogic, etc. (to be integrated with proposed tape library)**		Yes	YES / NO		

New Annexure 7.34

Backup and Recovery Software

Sr. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
9	**Should be flexible and configurable to adapt to organization's backup policy.**		YES	YES / NO		
10	**Should have capability to generate scripts**		YES	YES / NO		
11	**Should have support for Development kits / API for customization of scripts.**		YES	YES / NO		
12	**Capability to configure automated backups with customized frequency based scheduling based on the backup policy.**		YES	YES / NO		
13	**Full fledged Media Library Management, including complete and automated offsite tape management, creation of pickup and drop lists, tracking of tapes, etc.**		YES	YES / NO		
14	Should have application awareness for software like					
	Oracle		YES	YES / NO		
	MS SQL			YES / NO		
	DB2			YES / NO		
	MS Exchange			YES / NO		
	Lotus Notes			YES / NO		
	Document management software					
	MY SQL 5.5		YES	YES / NO		
15	**Should be configurable for incremental backups, Differential or full-backup of the applications, database, files, etc.**		YES	YES / NO		
16	**Capability to leverage Storage Area Networks (SAN), Network Attached Storage (NAS) and 1/10 Gigabit Ethernet (LAN) for backup and recovery**		YES	YES / NO		

New Annexure 7.34

Backup and Recovery Software

Sr. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
17	**Should leverage provisioning of Business Copy/Cloning/Snapshot etc, by various storage vendors for zero-downtime backup.**		YES	YES / NO		
18	**Rich GUI with single screen monitoring for complete backup / restore activities including CLI**		YES	YES / NO		
19	**Capability to retrieve selectively based on search criteria**			YES / NO		
20	**Capability to backup the entire configuration of the server and restore it from scratch the entire system including configuration when in a scenario of hardware failure.**		YES	YES / NO		
21	**Time required for the restoration of the configuration on to the server**			Minutes		
22	**Capability to read and write multiple streams simultaneously to / from one or more tapes and from more than one clients/servers**		YES	YES / NO		
23	**Should allow for a failed backup or recovery job to be resumed from the point of failure rather than restarting the job all over again.**		YES	YES / NO		
24	**Should be configurable for usage of network bandwidth it should provide the administrator the capability to throttle and restrict bandwidth usage on LAN/SAN.**		YES	YES / NO		
25	**Should provide a fully automatic process for creation of full backup from multiple incremental backup of file systems.**			YES / NO		

New Annexure 7.34

Backup and Recovery Software

Sr. No	Parameter	Technical Specification	Minimum Requirements	Unit of Measurement	Specification Offered	Whether any deviation, Please Specify
26	**The process of creating a full backup from multiple incremental backup should also take care of the files deleted during the process of multiple incremental backup.**			YES / NO		
27	**Capability to integrate with the Enterprise Management Software Like Tivoli/OpenView/BMC/Other Leading Management Software**		YES	YES / NO		
28	Backup should provide support NDMP for leading NAS vendor storage solution		YES	YES / NO		
29	**Support**					
	Is the proposed product/solution End-of-life or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?		NO	YES / NO		
	Provide new version upgrades, updates, patches, etc. for all the components / sub-components through the period of contract		YES	YES / NO		
	Will the proposed product/solution reach **End-of-support** during the currency of contract?		NO	YES / NO		

New Annexure 7.35

Replication Software

Sr. No	Parameter/ Features	Technical Specifications	Minimum Requirements	Unit of Measurement	Please mention Deviations if Any
1	Product Name				
2	Version				
3	No. of Licenses				
	Server	This Database replication manager application should compatable with replication server hardware proposed	YES	YES / NO	
	Client	The Replication manager application agents should be compatable with proposed blade/Rack and operating system specified for databases.	YES	YES / NO	
4	Architecture	Provide a tiered scalable hetrogenous data base replication with centralized management.C26	YES	YES / NO	
5	Compatibility with CNT Routers		YES	YES / NO	
6	Capability to load balance between CNT routers				
7	Support for db replication - syn/async with leading vendors	MySQL, Oracle 10g(RAC)	YES	YES / NO -list which databases (and versions) - Oracle /db2/MS SQL/MySQL	
8	Certified by db vendors for Asynchronous replication of database	MySQL, Oracle 10g(RAC)	YES	YES / NO -list which databases (and versions) - Oracle /db2/MS SQL/MySQL	
9	Certified by db vendors for Synchronous replication of database	MySQL, Oracle 10g(RAC)	YES	YES / NO -list which databases (and versions) - Oracle /db2/MS SQL/MySQL	
10	Compatible with leading Operating systems like Microsoft Windows, Linux, HP UX, AIX, etc		YES	YES / NO	
11	Compatible with leading server vendors like IBM, HP,Dell, Cisco, Oracle and other leading vendors		YES	YES / NO	
12	Compatible with storage from vendors like EMC/Hitachi/HP/IBM/NetApps/Sun/ Other leading vendors		YES	YES / NO	
	Support one-to-many replication		YES	YES / NO	
	Support bi-directional replciation		YES	YES / NO	

New Annexure 7.35

Replication Software

Sr. No	Parameter/ Features	Technical Specifications	Minimum Requirements	Unit of Measurement	Please mention Deviations if Any
	Support selectively filtering data for replication		YES	YES / NO	
13	Support				
	Is the proposed product/solution **End-of-life** or will reach **End-of-life** within 24 months from the date of submission of bid or 12 months from the date of acceptance, whichever is earlier?		NO	YES / NO	
	Provide new version upgrades, updates, patches, etc. for all the components / sub-components through the period of contract		YES	YES / NO	
	Will the proposed product/solution reach **End-of-support** during the currency of contract?		NO	YES / NO	
14	The replication manager software to support "pause" and "resume" capabilities which is useful in following scenarios: - Taking a BC (Business Copy) of consistent copy at the BCP site - The BCP storage is down for maintenance			YES / NO	
15	Support for rehearsals. It provides the capability to “rehearse” failover without impacting the availability of the applications or services running in the primary site. The DR Rehearsal detects configuration discrepancies at the BCP site and thereby helps to improve the “DR preparedness”.			YES / NO	

New Annexure 7.35

Replication Software

Sr. No	Parameter/ Features	Technical Specifications	Minimum Requirements	Unit of Measurement	Please mention Deviations if Any
16	In the event of a site failover, the replication manager should provide the capability to reverse the direction of the replication			YES / NO	
17	support for 1 to n replication model			YES / NO	
18	Support for HA deployment		YES	YES / NO	
19	Support for integration with Network Management Tools from leading products like Tivoli/OpenView/BMC/Others		YES	YES / NO	
20	Detailed reports on replication status, realtime reports on replication status, administrative functions for managing replication		YES	YES / NO	
21	Support for wan bandwidth optimization		YES	YES / NO	
22	Support the replication topologies like one source to one target, One source to many, many source to one, many to many, bidirectional cascading		Yes	YES / NO	
23	support data Reliability and data integrity		YES	YES / NO	