

Vendor number:1		
Sl No.	Query raised	UIDAI reply
1	Is there any pre-defined function API?	There is a pre-defined API out of which the SDK will be required to integrate for limited number of function for extraction, verification etc. This API will be shared to the shortlisted vendors.
2	What is the policy for the license of Biometric SDKs? (We can provide two methods for the license check: Mac-address based and Dongle-based.)	License has to be activated in the server.
3	Can we submit Fingerprint SDK on Linux and Iris SDK on MS Windows environment as the present benchmark testing is primarily on fingerprint?	Agreed only for testing and benchmarking purpose.
Vendor number:2		
1	Will this Expression of Interest followed by a RFP, if yes what is the timeline	It will depend on the outcome of testing & benchmarking.
2	Is there a uniform testing methodology to be used among the participants to this Expression of Interest? If yes, when this will be published	Yes, the testing methodology will be communicated only to the shortlisted participant of the EOI
3	The expression of interest refers to "on-field", and we would like to know how many sites involved for on-field support	Two sites will be involved
4	The expression of interest refers to "Vendor has to create test data based on the UIDAI guidelines for test data", and can we have the authentic pointer to the guidelines.	Test data will be provided by UIDAI and vendor SDK will be used for Template Generation.
5	The expression of interest refers to " UIDAI shall appoint a Third Party agency at its own cost to verify and validate the benchmarking environment and certify the results of the benchmarking ", the Third Party agency is it a certified and recognized with neutral credentials	UIDAI reserves the right to appoint a Third Party agency if the need arises and will ensure neutrality.
6	The expression of interest refers to "UIDAI will provide the required hardware infrastructure at UIDAI Greater Noida Data Centre. Biometric SDK/Solution is to be installed on Linux operating system", kindly provide the detailed specification of the hardware infrastructure	The detailed specification will be shared with the shortlisted vendors. However any specific requirements for your solution in terms of hardware may be indicated in your response to the EOI.
Vendor number:3		
1	There is no mention of fingerprint template storage. Will the fingerprint template stored in ISO Formats? If yes in which format?	Yes, ISO 19794-2
2	Kindly specify the security and data protection policies or provide the details of	The security and data protection policies will be taken care during

	relevant documents to be referred at the time of implementation.	implementation of solution for production. Hence it is not relevant at this stage.
3	Will splitting database across nodes to distribute load would be an acceptable load balancing mechanism	Yes, however the required throughput needs to be maintained.
4	Which version of Linux will be provided, kindly specify	RHEL 5.x or RHEL 6.x
5	Kindly specify how long will the testing and benchmarking performed	About a fortnight for one vendor.
6	Kindly specify the testing and benchmarking criteria on the which the SDK would be evaluate	UIDAI has provided the criteria in the paragraph: Load and Performance Requirements.
7	Will it be fine if a Trial version of SDK is provided for the purpose of testing benchmarking during the evaluation period	Clearly given in the EOI document.
8	In case response to Query 7, is No. Will it be fine if the licenses are provided in form of dongles	License has to be activated in the server.
9	Will UIDAI share the comparative test and benchmarking result with all the participants	UIDAI will share the comparative test and benchmarking result with the shortlisted participants
Vendor number:4		
1	Please provide more clarity on cluster server capabilities required from fingerprint SDK	Suggested architecture is an open architecture using Java, Linux, and x86 architecture. This should support commodity hardware on a virtualized/non-virtualized environment without the need for any proprietary hardware or software. Within a virtualized environment, servers will be provisioned dynamically, compute and storage resources will be added dynamically. So, it is important for the biometric verification server to support such environments. Since UIDAI requires support for extreme volumes and high availability and reliability, system should support true horizontal scaling in a dynamic fashion. Due to high availability reasons, upgrades also need to be managed with no/minimal downtime.
2	What is the expected performance numbers for segmentation and template generation	You may indicate your performance numbers for segmentation and template generation of your SDK/solution in the EOI response.
3	Explain “ability to scale dynamically.” Scaling of the system can be a manual task-like adding more MU or any other search	Kindly refer answer of question 1
4	How many member consortium is allowed, as fingerprint and IRIS may not be available with one OEM	Limit is not defined.

Vendor number:5		
1	Is it a tender for End-to-end solution with client application or just a SDK? In the document, in some places it asks for a solution and sometimes just a SDK. End-to-end solution requires a full deployed system while SDK offers just a usable component which must be used from other applications.	UIDAI is looking for a scalable biometric verification SDK server which can be tested independently using an API. No end-to-end application/solution is necessary. Vendor may need to write scripts for integrating Java test suite with their SDK server.
2	Why NFIQ must be used for quality check? Why only NIST implemented quality check while using other vendors algorithm for matching? It will be more reliable if matching algorithm and quality measurement both are implemented by same vendor	UIDAI wishes to allow broad set of devices with various combinations of sensors and extractors on the authentication devices to avoid vendor lock-in within the ecosystem. This requires UIDAI to use standards defined within the industry.
3	Why only FMR (Fingerprint Minutiae Record, ISO 19794-2) templates are only allowed while the system is asking for both verification and identification? For verification the ISO FMR is fine but for identification it's not the solution for a database of 1 billion records. To give the same performance at par with using the proprietary template with 50 servers, If we have to perform 1: n without proprietary data, one needs several thousand servers	Only 1:1 verification (1 to 10 fingers) is required. Identification with large gallery is not part of the requirement.
4	<p>The system is asking for particular type of clustering and architecture. No alternative is accepted. It'll favor few particular firms. This must be corrected.</p> <p>For example, using additional memory "dynamically". This point is not needed for our system as all templates will be loaded into memory from the beginning. There is no need for additional memory after that.</p> <p>Another example, upgradability, our software stack is very compact and all parts are built in house to provide maximum efficiency. We do not use third party software for clustering. So the upgrade process is very straight forward. Reverting back to previous/original configuration is just a matter of unzipping a previous/original copy of the software. A complicated automatic upgrade process is overkill for us. At the end of the day what is need is ACCURACY and speed, and not the type of architecture.</p>	UIDAI is looking for SDK server that can be used for biometric verification at a high volume. Suggested architecture is an open architecture using Java, Linux, and x86 architecture. This should support commodity hardware on a virtualized/non-virtualized environment without the need for any proprietary hardware or software. Within a virtualized environment, servers will be provisioned dynamically, compute and storage resources will be added dynamically. So, it is important for the biometric verification server to support such environments. Since UIDAI requires support for extreme volumes and high availability and reliability, system should support true horizontal scaling in a dynamic fashion. Due to high availability reasons, upgrades also needs to be managed with no/minimal downtime.
5	Accuracy must be the deciding factor, but unfortunately this was not being mentioned clearly in the entire document. Kindly give a thought.	Accuracy is indeed an important factor and UIDAI will be conducting tests which includes accuracy using standard test bed across all vendors.
6	In the 1st page : Vendor SDK should support for Fingerprint as well as Iris Templates extraction	Although UIDAI will be supporting multiple biometric modality for

	<p>and verification, however, this testing& benchmarking will be conducted only for fingerprints.</p> <p>Clarification requested: Why only for Fingerprints, let us do this for Iris as well as Facial also. Because UID is collecting Fingerprint, Iris and Face.</p>	<p>authentication, for the purposes of this Eol, only fingerprint verification server will be tested and benchmarked.</p>
7	<p>Load and performance requirements: Fingerprint template: 10 Lakh (1 Million) requests per hour.</p> <p>Clarification requested: This is OK, but against what size of data base i.e how many records it has to search to tell each request, matched or not matched. Or it's just 1:1 verification?</p>	<p>This Eol is only for verification and not identification across large gallery.</p>
8	<p>We have lot of confidence and high respect for UID and we are sure UID is capable of conducting the test in most neutral way. We understand that, all the UID servers are fully engaged in the de-duplication work, what is your plan to organize the servers required by us to perform 1: n, do you want us to specify the hardware requirements.</p>	<p>Since this is only for testing 1:1 verification (one to 10 fingers), necessary standard x86 blade/rack servers will be provided with 64-bit Linux loaded having 64 GB or above RAM.</p>