Surat Smart City Development Limited

ADDENDUM AND CORRIGENDUM-1

RFP No.: SSCDL-ERP-RFP-01-2018

The Bidders are requested to take note of the following changes made in the RFP document, which are to be taken in to account while submitting the RFP. They shall be presumed to have done so and submitted the RFP accordingly.

- This Addendum and Corrigendum shall be the part of the RFP documents.
- Content specified in this Addendum and Corrigendum supersede relevant content to that effect as provided in the original RFP documents. All other specifications, terms and conditions of the original RFP document shall remain unchanged.
- The queries raised and given by bidders, but the clarifications are not made in this Addendum and Corrigendum shall be considered to remain unchanged as per the terms and conditions mentioned in the original RFP documents.
- Bidders shall read and consider following points, which shall be a part of the RFP documents.

Highlighted Colour	What does it indicate?
No highlight	**Indicates content as per original RFP document**
Highlighted in Blue	**Indicates amendment as per this Addendum and Corrigendum-1**

I. Changes with respect to RFP Schedule

Please note that with respect to tendering schedules, the following changes have been effected. Bidders are requested to take note of the same and adhere to the dates specified hereunder with regards to Price Bid Submission and Technical Bid Submission:

Particular	Current Dates	Proposed Dates
Price Bid Submission	To be submitted online only on https://smc.nprocure.com on or before 11.07.2018 up to 18:00 hrs.	To be submitted online only on https://smc.nprocure.com on or before 20.07.2018 up to 18:00 hrs.
Technical Bid Submission (in Hard Copy) filled-in Technical Bid along with Bid Fee, EMD, Solvency Certificate and other documents.	In sealed envelope strictly by RPAD/Postal Speed Post on or before 17.07.2018 up to 18:00 hrs. to the Chief Accounts, Surat Municipal Corporation, Muglisara, Surat – 395003	In sealed envelope strictly by RPAD/Postal Speed Post on or before 25.07.2018 up to 18:00 hrs. to the Chief Accounts, Surat Municipal Corporation, Muglisara, Surat – 395003

II. Other Changes

<table>
<tr><th>#</th><th>Tender Reference</th><th>Existing Clause</th><th>Amended / New Clause</th></tr>
<tr><td>1.</td><td>2.1 To-Be Scenario Envisaged for SMC</td><td>2.1.2 Workflow/ BPM based E-office applications using DMS

Business Process Management/ Workflow based E-office automates and transforms a wide range of administrative processes. It transforms day-to-day government operations like managing end-to-end correspondences, handling queries/RTI, building consolidated knowledge repository, from scheduling meetings to facilitating audits. Government workflows exhibit some unique characteristics; they require high collaboration, adherence to SOPs and routing of documents for approvals. To realize such needs, choosing BPM based E-office should provide Adaptive workflows, Seamless integration with document management system, Real-time monitoring and file tracking. Concurrent users are estimated to be 500 which are distributed across sub-modules with total number of users 2000.</td><td>2.1.2 Workflow/ BPM based E-office applications using DMS

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<table><tr><th>Modules</th><th>Estimated number of users</th></tr><tr><td>Financial Management, Asset accounting, Grants & Investments</td><td>100</td></tr><tr><td>Human Resource & Payroll</td><td>100</td></tr><tr><td>Procurement, Material Management & Vendor Management</td><td>75</td></tr><tr><td>Project & Portfolio Management</td><td>75</td></tr><tr><td>Enterprise Asset Management with Planned Maintenance</td><td>50</td></tr><tr><td>Employee self-service</td><td>1000</td></tr><tr><td>Field Inspection & reporting</td><td>200</td></tr><tr><td>Integrated audit management system</td><td>50</td></tr></table></td><td>2.1.3 Estimated number of users

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</table>

		Vigilance work assignment & reporting	30
		Court case management	25
		Inter-departmental file movement (Inward-Outward)	500
		Meeting Management	50
		RTI Application Management	100
		IT Service Support Management (ITSSM)	100
		Email & Collaboration Tool	1000
		Revenue & Expense of SMC – Available on following link https://www.suratmunicipal.gov.in/Departments/Accounts/BalanceSheet Number of citizens availing services on portal – Estimated 1 lakh	

		Court case management	25
		Inter-departmental file movement (Inward-Outward)	500
		Meeting Management	50
		RTI Application Management	100
		IT Service Support Management (ITSSM)	10 concurrent users + 50 named users
		Email & Collaboration Tool	1000
		Revenue & Expense of SMC – Available on following link https://www.suratmunicipal.gov.in/Departments/Accounts/BalanceSheet Number of citizens availing services on portal – Estimated 1 lakh	

3.	2.2 Module Wise Functional Requirements	**14. Technical Requirements**		
			#	**Specifications**
		14.2 Document Management Requirements		
			1.	The proposed DMS shall support separate Document/Image server for better management of documents and store only metadata information in database.
			2.	The system should comply with the latest Manual of Office Procedure (MOP), published by the Department of Administrative Reforms and Public Grievances (DARPG).
			3.	The systems must seamlessly integrate with any or all of the Core applications and shall support interface with other open-standard systems. It should provide required api for integration with external systems for document creation, indexing or categorization, retrieval and archival.
			4.	The system should be format agnostic and should allow storage of any digital data like images, Office Files, engineering drawings, PDF, PDF/A, photographs, video & audio files etc.
			5.	System should allow exporting documents from scanner, email & Microsoft Office documents directly to DMS.

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			5.	System should allow exporting documents from scanner, email & Microsoft Office documents directly to DMS.

			6.	System should allow creation of custom indexing field/tags for different documents at Folder & File level		6.	System should allow creation of custom indexing field/tags for different documents at Folder & File level
			7.	The departmental officials should be able to index folders, files, letters and documents on user-defined indexes like department, Letter No, file no, year, project Id etc.		7.	The departmental officials should be able to index folders, files, letters and documents on user-defined indexes like department, Letter No, file no, year, project Id etc.
			8.	System should have an integrated Scanning module from same OEM as DMS, so that the scanned documents can be directly exported into the repository		8.	System should have an integrated Scanning module from same OEM as DMS, so that the scanned documents can be directly exported into the repository
			9.	The Scanning Module should allow officers to scan single document as well as document in bulk with facility of segregation of scanned images as different document types like letter, circular, GR, DPR etc.		9.	The Scanning Module should allow officers to scan single document as well as document in bulk with facility of segregation of scanned images as different document types like letter, circular, GR, DPR etc.
			10.	The solution should provide support for automatic document quality analysis so that any bad quality document doesn't get uploaded to the Document Management System. The solution should audit scanned documents for resolution, format/ compression, orientation etc.		10.	The solution should provide support for automatic document quality analysis so that any bad quality document doesn't get uploaded to the Document Management System. The solution should audit scanned documents for resolution, format/ compression, orientation etc.
			11.	The solution should have the capability to capture the document through mobile devices along with indexing. Using mobile app, the users should be able to upload letters, circulars directly to the document management system.		11.	The solution should have the capability to capture the document through mobile devices along with indexing. Using mobile app, the users should be able to upload letters, circulars directly to the document management system.
			12.	The scanning system should support Web-based Scanning & Desktop scanning Module which should allow scanning of documents when not connected to Server.		12.	The scanning system should support Web-based Scanning & Desktop scanning Module which should allow scanning of documents when not connected to Server.
			13.	The mobile app should have built in security so that the document captured cannot be tampered with. The copy of the document should be automatically deleted from the capturing mobile, once the document is transferred to DMS., as well as, compression features to compress the large size files to a smaller size file.		13.	The mobile app should have built in security so that the document captured cannot be tampered with. The copy of the document should be automatically deleted from the capturing mobile, once the document is transferred to DMS., as well as, compression features to compress the large size files to a smaller size file.
			14.	The mobile capture app should have the facility to function both online and offline. Also, the solution should have facility to compress the image to a small size file.		14.	The mobile capture app should have the facility to function both online and offline. Also, the solution should have facility to compress the image to a small size file.

			15.	System shall provide the standard file hierarchy structure of folders and sub-folders to allow users and groups of users to manage and organize their documents.		15.	System shall provide the standard file hierarchy structure of folders and sub-folders to allow users and groups of users to manage and organize their documents.
			16.	System should allow version controlling of the documents with both minor (1.1, 1.2 etc.) and major version (1, 2 etc.). System should show only the latest version of documents by default. All other version of the document will be visible to authorized users on need basis.		16.	System should allow version controlling of the documents with both minor (1.1, 1.2 etc.) and major version (1, 2 etc.). System should show only the latest version of documents by default. All other version of the document will be visible to authorized users on need basis.
			17.	System should allow search based on different parameters like file name, folder name, project name, index fields, Full text & Wild card search		17.	System should allow search based on different parameters like file name, folder name, project name, index fields, Full text & Wild card search
			18.	The system should have the capability to save the search queries or search results.		18.	The system should have the capability to save the search queries or search results.
			19.	The proposed DMS should have an inbuilt viewer for viewing the images. The rendering of multi-page images should be page by page for quick viewing and saving bandwidth.		19.	The proposed DMS should have an inbuilt viewer for viewing the images. The rendering of multi-page images should be page by page for quick viewing and saving bandwidth.
			20.	The system's in-built viewer should have the capability to perform annotations such as highlight, sticky note, underline, hide certain text etc. on the documents image with user name, date and time of putting annotations.		20.	The system's in-built viewer should have the capability to perform annotations such as highlight, sticky note, underline, hide certain text etc. on the documents image with user name, date and time of putting annotations.
			21.	The system can be accessed from mobile devices. The users can search and view the documents in DMS from mobile devices.		21.	The system can be accessed from mobile devices. The users can search and view the documents in DMS from mobile devices.
			22.	System should have facility to set notifications (eg. Notifying change of version of a file to all stakeholders) & Alarms (eg. Delay in Approval) by email.		22.	System should have facility to set notifications (eg. Notifying change of version of a file to all stakeholders) & Alarms (eg. Delay in Approval) by email.
			23.	System should have comprehensive & easy to set access rights controls at Folders & File level as well as Groups and users with inheritance		23.	System should have comprehensive & easy to set access rights controls at Folders & File level as well as Groups and users with inheritance
			24.	The system should allow defining multiple levels of access rights (Delete/ Edit/ View/ Print/ Copy or Download) to officers based on their profile.		24.	The system should allow defining multiple levels of access rights (Delete/ Edit/ View/ Print/ Copy or Download) to officers based on their profile.
			25.	The System should maintain audit-trail of all activities being done in the system, documents etc. by users as well as administrators.		25.	The System should maintain audit-trail of all activities being done in the system, documents etc. by users as well as administrators.

		26. The system should manage lifecycle of content through retention, storage, retrieval, and destruction policies along with tracking and managing of physical location of the content using Records Management System	26. The system should manage lifecycle of content through retention, storage, retrieval, and destruction policies along with tracking and managing of physical location of the content using Records Management System
		27. It should be possible to extract the information from scanned documents like party code, project id, approver name etc. which can then be used in business processes of ERP	27. It should be possible to extract the information from scanned documents through OCR which can be used to extract information like party code, project id, approver name etc. which can then be used in business processes of ERP
			28. The system shall have capability to attach any type of file like Images, PDF files, Office files like word, Excel, PowerPoint presentations, AutoCAD drawings, audio, video, etc. to the electronic file in the Correspondence side. The built-in viewer shall have capability to display images, pdf file, office files like word, Excel, PowerPoint presentations, AutoCAD drawings and play audio and video files.
			29. The system should store the data in non-proprietary format to enable switchover /migration to other solution.
4.	2.7 Deliverables & Payment	**2.7.2 Project phases and deliverables** **2.7.2.1 Application Implementation Milestones**	**2.7.2 Project phases and deliverables** **2.7.2.1 Application Implementation Milestones**

Milestone #	Project Phase	Exit Criteria	Release 0 (in days)	Release 1 (in days)
Milestone 0	Initiation & Team mobilization	Project Kickoff at project site with all key personnel and other resources as per resource deployment plan.	T+20	T+220
Milestone 1	Project Preparation	All deliverables signoff as per section 2.4.1	T+50	T+250
Milestone 2	Business Blueprint	All deliverables signoff as per section 2.4.2	T+110	T+310
Milestone 3	Realisation	All deliverables signoff as per section 2.4.3	T+200	T+400

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Milestone 3	Realisation	All deliverables signoff as per section 2.5.3	T+200	T+400

		Milestone 4	Final Preparation	All deliverables signoff as per section 2.4.4	T+230	T+430	Milestone 4	Final Preparation	All deliverables signoff as per section 2.5.4	T+230	T+430
		Milestone 5	Go Live	Solution Go Live & Deployment Document	**T+230**	**T+430**	Milestone 5	Go Live	Solution Go Live & Deployment Document	**T+230**	**T+430**
		Milestone 6	Hyper-Care & Transition to Support team	All deliverables signoff as per section 2.5.5	T+320	T+520	Milestone 6	Hyper-Care & Transition to Support team	All deliverables signoff as per section 2.5.5	T+320	T+520
5.	2.7 Deliverable & Payment	**2.7.4 Payment Schedule for Support, ATS and AMC** The payment to the Selected Bidder shall start on a quarterly basis based on SLAs in the Support phase. This would also include any Annual technical support and AMC charges of the products.					**2.7.4 Payment Schedule for Support, ATS and AMC** The payment to the Selected Bidder shall start on a quarterly basis based on SLAs in the Support phase. However, the payment for ATS charge for Software licenses will be paid in advance on an annual basis.				
6.	3.11 Terms of Contract	3.11.47 **Ownership and Licenses:** The ownership of all software developed/ customized/ configured/ procured as part of the project and related documentation for the project would always lie with the SMC. All licenses for software procured related to project have to be in the name of Surat Municipal Corporation. The bidder will be required to produce the Licenses/ATS/Warranty and other documents from the respective OEMs clearly mentioning the product name, quantity, duration, type of support, etc. The payment for the respective item will be subject to submission of the aforesaid documents to SMC.					3.11.47 **Ownership and Licenses:** The ownership of all hardware/software developed/ customized/ configured/ procured as part of the project and related documentation for the project would always lie with the SMC. All licenses for software procured related to project have to be in the name of Surat Municipal Corporation. The bidder will be required to produce the Licenses/ATS/Warranty and other documents from the respective OEMs clearly mentioning the product name, quantity, duration, type of support, etc. The payment for the respective item will be subject to submission of the aforesaid documents to SMC.		
1.	5.3 Format and Signing of Proposal	**5.3 FORMAT AND SIGNING OF PROPOSAL** C) The Proposal must be properly signed by the authorized signatory (the "Authorized Signatory") as the Bidder holding the power of Attorney. If possible, such Power of Attorney shall be supported by a Board Resolution in favour of the person vesting power to the person signing the Bid.					**5.3 FORMAT AND SIGNING OF PROPOSAL** C) The Proposal must be properly signed by "the authorized signatory" of the Bidder to commit the bidder. In this regard, the copy of Board Resolution authorizing the signatory is to be attached **OR** power of attorney as per the "Form –1.2 A: Format for Power of Attorney for Signing of the Proposal" is to be submitted by the		

<table>
<tr><td></td><td></td><td></td><td>bidder. Such Power of Attorney shall be supported by a Board Resolution in favour of the person vesting power to the person signing the Bid.</td></tr>
<tr><td>2.</td><td>6.1 Pre-Qualification Criteria / Basic Eligibility Criteria</td><td>
6.1.3 Pre-Qualification Criteria – Workflow/ BPM based E-office applications (if not part of COTS ERP)
<table>
<tr><th>#</th><th>Requirement</th><th>Details</th><th>Documents Required</th></tr>
<tr><td>1</td><td>Implementation Partners</td><td>The OEM should have at least 3 Implementation Partners in India</td><td>OEM self-certification as Section-9 Form 1.12A</td></tr>
<tr><td>2</td><td>Implementations</td><td>The product must have been implemented in at least 3 projects in Government (State or Central) / Public Sector Units/ ULB government organizations/ public sector undertakings in India in the last 10 financial years.</td><td>OEM self-certification as Section-9 Form 1.12D</td></tr>
<tr><td>3</td><td>Product Acceptability</td><td>The product must be listed in the latest Gartner Magic Quadrant (2016 or later) of Enterprise Content Management and Intelligent Business Process & Management</td><td>Supporting reports</td></tr>
<tr><td>4</td><td>Support</td><td>The OEM should also have SLA based 24/7 x 365 days support center located in India</td><td>OEM Self-certificate as per Section-9 Form –1.12B</td></tr>
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The product must have appeared in the Gartner Magic Quadrant of Enterprise Content Management and Intelligent Business Process &</td><td>Supporting reports</td></tr>
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</td></tr>
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		5	Source Code	Proposed solution to come with complete transparency including the Source Code for Customization	OEM Self-certificate as per Section-9 Form –1.12C			Management in last 5 years as on date of issuance of bid.	
		6	Integration with proposed ERP solution	The proposed solution should support integration with proposed ERP solution.	OEM Self-Certificate	4	Support	The OEM should also have SLA based 24/7 x 365 days support center.	OEM Self-certificate as per Section-9 Form –1.12B
		7	Integration	The proposed solution should support integration with third party applications like Open Standard based GIS software, payment gateway, email gateway.	OEM Self-certificate as per Section-9 Form –1.12C	5	Source Code	Proposed solution to come with complete transparency including the Source Code for Customization	OEM Self-certificate as per Section-9 Form –1.12C
		8	Commitment to Support	The OEM should commit to support the software for which license is provided in the scope of this RFP at least for 7 years. End of support date should not have been announced for the product proposed. OEM will abide by the same SLA during annual maintenance support period as System Integrator in case of any product bug raised on their service portal by the SI based on the priority matrix.	OEM self-certification as per Section-9 Form –1.12B indicating the commitment to support along with product roadmap	6	Integration with proposed ERP solution	The proposed solution should support integration with proposed ERP solution.	OEM Self-Certificate
						7	Integration	The proposed solution should support integration with third party applications like Open Standard based GIS software, payment gateway, email gateway.	OEM Self-certificate as per Section-9 Form –1.12C
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					product bug raised on their service portal by the SI based on the priority matrix.	
3.	Appendix – 1, Form 1.12 B	Form –1.12B: Format for Self-declaration by OEM *(This form has to be provided by each OEMs of the software solutions proposed on its letter head. This letter of authority should be on the letterhead of the manufacturer and should be signed by a person competent and having the power of attorney to bind the OEM.)* Date: dd/mm/yyyy To, **Chief Executive Officer,** **Surat Smart City Development Limited (SSCDL)** 115, Smart City Cell, Surat Municipal Corporation - Head Quarter, Muglisara, Main Road, Surat - 395003, Gujarat Subject: OEM's Authorization Form Ref: **RFP No. SSCDL-ERP-RFP-01-2018** Dear Sir, We_____ (Name of the OEM) who are the official producer / Original Equipment Manufacturer of _____ (product proposed) having product development centers at the locations _____ or as per list attached, with more than 1000 employees involved in product development. We would be providing our warranty maintenance or support services for proposed product in accordance with terms of standard product License	Form –1.12B: Format for Self-declaration by OEM *(This form has to be provided by each OEMs of the software solutions proposed on its letter head. This letter of authority should be on the letterhead of the manufacturer and should be signed by a person competent and having the power of attorney to bind the OEM.)* Date: dd/mm/yyyy To, **Chief Executive Officer,** **Surat Smart City Development Limited (SSCDL)** 115, Smart City Cell, Surat Municipal Corporation - Head Quarter, Muglisara, Main Road, Surat - 395003, Gujarat Subject: OEM's Authorization Form Ref: **RFP No. SSCDL-ERP-RFP-01-2018** Dear Sir, **<<format for ERP OEM>>** We_____ (Name of the OEM) who are the official producer / Original Equipment Manufacturer of _____ (product proposed) having product development centers at the locations _____ or as per list attached, with more than 1000 employees involved in product development. We would be providing our warranty maintenance or support services for proposed product in accordance with terms of standard product License			

		agreement for next 7 years. End of support date have not been announced for the product proposed and product roadmap is attached for your reference. We have SLA based 24/7 x 365 days support. Total support members deployed are more than 200. We have Support Center located in _____ in India. _____ Thanking you, Yours faithfully, (Signature) For and on behalf of: _____ (Name of the OEM) Authorised Signatory Name: Designation: Place: Date:	agreement for next 7 years. End of support date have not been announced for the product proposed and product roadmap is attached for your reference. We have SLA based 24/7 x 365 days support. Total support members deployed are more than 200. We have Support Center located in _____ in India. **<<format for Workflow/ BPM based E-office applications OEM>>** We_____ (Name of the OEM) who are the official producer / Original Equipment Manufacturer of _____ (product proposed) have SLA based 24/7 x 365 days support center. We would be providing our warranty maintenance or support services for proposed product in accordance with terms of standard product License agreement for next 7 years. End of support date have not been announced for the product proposed and product roadmap is attached for your reference. _____ Thanking you, Yours faithfully, (Signature) For and on behalf of: _____ (Name of the OEM) Authorised Signatory Name: Designation:

			Place: Date:
4.	Appendix 3: Data Migration Details	**Appendix 3: DATA MIGRATION DETAILS** **<u>Portal & Mobile App</u>** This section has been added to bring more clarity in terms of scope of bidder in Portal and Mobile App and should be considered along with the requirements specified in detail in other sections of RFP **<u>i. Citizen Facing Functionalities:</u>** SMC current website and mobile app will remain the interface for citizens. The virtual civic center application is currently catered through e-pay services of Surat Municipal Corporation (https://www.suratmunicipal.gov.in/epay/). Within e-pay services there are links to different user interfaces for different services, which could be property tax, professional tax etc. Once the backend services of property tax, water utility, professional tax, Shops and establishment and grievance redressal (complaint management) or any other services are ready for Go-Live these links and FAQs should start referring to the new web based interfaces of ERP which would probably be Citizen Relationship Management module of the ERP through which all citizens will avail their services, which is in scope of the bidder. Necessary interface for online transaction shall also be provided on this platform giving a single view for each registered citizen for the services in scope of the RFP. For the Surat Municipal Corporation existing citizen mobile application, ERP SI will provide the necessary APIs to consume the services of citizen relationship management, property tax, professional tax, water utility, shops and establishment and grievance redressal (complaint management) or any other module. The actual development changes on the existing mobile app will be taken care by SMC existing	**Appendix 3: DATA MIGRATION DETAILS** **<u>Portal & Mobile App</u>** This section has been added to bring more clarity in terms of scope of bidder in Portal and Mobile App and should be considered along with the requirements specified in detail in other sections of RFP **<u>i. Citizen Facing Functionalities:</u>** SMC current website and mobile app will remain the interface for citizens. The website provides various useful information related to budget, RTI, projects, grants, etc. The successful bidder will be required to provide necessary API/interfaces to make the information and service available through portal and mobile app.

<table>
<tr><td></td><td></td><td>development team. SI and SMC will work jointly to enable such services through mobile app. The current number of accounts for various citizen services are below:
• Shops & Establishment: Total registrations - 238791
• Property Tax : Total properties – 1756615
• Water Meter : Total metered connections - 23839
• Professional Tax : Total registrations – 315455

A citizen might be registered for one or more services. The services are rendered through various physical and electronic channels like City Civic Center, Website (Virtual Civic Center), Mobile App, Mobile Tax Collection Van, etc.</td><td></td></tr>
<tr><td>5.</td><td>11. IT Infrastructure Requirements</td><td><u>11.2 Minimum Technical Specification of Item-V: 10 G LAN SWITCH</u>
<table>
<tr><th>#</th><th>Item</th><th></th><th>Matched [Yes/No]</th><th>Deviation from Specification / Remarks if Any</th><th>Specify Make, Model & Technology Name</th></tr>
<tr><td>(A)</td><td colspan="2">(B)</td><td>(C)</td><td>(D)</td><td>(E)</td></tr>
<tr><td colspan="6"><u>V. 10 G LAN SWITCH</u></td></tr>
<tr><td>1</td><td>MAKE</td><td>Any [Specify]</td><td></td><td></td><td></td></tr>
<tr><td>2</td><td>MODEL</td><td>Any [Specify]</td><td></td><td></td><td></td></tr>
<tr><td>3</td><td>Device Type:</td><td>Full managed stackable Layer 3 switch with 24 ports</td><td></td><td></td><td></td></tr>
<tr><td>4</td><td>Ports Qty:</td><td>24 x 10 Gigabit Ethernet SFP +</td><td></td><td></td><td></td></tr>
<tr><td>5</td><td>RAM:</td><td>Minimum 4GB DRAM</td><td></td><td></td><td></td></tr>
</table></td><td><u>11.2 Minimum Technical Specification Item-V: 10 G LAN SWITCH</u>
<table>
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<tr><td colspan="6">I. <u>10 G LAN SWITCH</u></td></tr>
<tr><td>1</td><td>MAKE</td><td>Any [Specify]</td><td></td><td></td><td></td></tr>
<tr><td>2</td><td>MODEL</td><td>Any [Specify]</td><td></td><td></td><td></td></tr>
<tr><td>3</td><td>Device Type:</td><td>Managed Layer 3 switch with fully populated/all activated ports along with all Transceivers /modules /software /support from day 1</td><td></td><td></td><td></td></tr>
<tr><td>4</td><td>Ports Qty:</td><td>24 x 10G SFP + Ports with all 10G SFP+ Transceivers required</td><td></td><td></td><td></td></tr>
</table></td></tr>
</table>

		6	Flash Memory:	Minimum 2GB Memory						should be provided/ included with product from day 1			
		7	Switching Capacity	Minimum 600 Gbps						Minimum 2 x 40G BASE-QSFP+ ports with 2 x 40G QSFP+ Transceivers required should be provided/included with product from day 1			
		8	Switching Throughput	Minimum 150 million pps				5	RAM:	Minimum 4GB DRAM			
		9	MAC Address Table Size	32000 MAC addresses				6	Flash Memory:	Minimum 2GB Memory			
		10	Routing Protocol:	Static routing, RIP V1/V2, Ospf V1/V2/V3, CIDR, IDRP, VRRP				7	Switching Capacity	Minimum 640 Gbps			
				PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIMSSM) for IPv4 and IPv6 multicast applications				8	Switching Throughput	Minimum 150 million pps			
		11	Communication Mode:	Half-duplex, full-duplex				9	MAC Address Table Size	32000 MAC addresses			
		12	Switching Protocol:	Ethernet				10	Routing Protocol:	Static routing, RIP V1/V2, OSPF V1/V2/V3, CIDR, IDRP, VRRP, PBR			
		13	Status Indicators:	Link activity, port transmission speed, port duplex mode, power, link OK, system, temprature LED, Diagnostic LED,rest button						PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIMSSM) for IPv4 and IPv6 multicast applications			
		14	Vlans	Should support Port, Voice, QinQ, Protocol, GVRP				11	IPv6	IPv6 Host Management, IPv6 L3 Routing with Dual IP stack support			
		15	DHCP and BOOTP relay	Should support DHCP (udp helper), BootP, DHCP Relay, DHCP Snooping				12	Switching Protocol:	Ethernet			
								13	Status Indicators:	Link activity, port transmission speed, port duplex mode, power, link OK, system,			

		16	Redundancy Protocols	Should support STP, RSTP, MSTP, STP Root Guard, BPDU Guard, MLAG						16	Redundancy Protocols	Should support STP, RSTP, MSTP, STP Root Guard, BPDU Guard, MLAG			
		17	Qos	Flow based Qos service, port based qos service, ACL Qos, MAC based cos assignment, rate limiting and metering						17	QoS	Flow based QoS service, port based QoS service, ACL QoS, MAC based cos assignment, rate limiting and metering			
		18		Should support MAC based port security by number of MAC						18		Should support MAC based port security by number of MAC			
		19		Should support Packet filtering at L2/L4 with flow based classification based on source MAC address, destination MAC address, source IP (IPv4/IPv6) address, destination IP (IPv4/IPv6) address, port, protocol, and VLAN. Malicious Code Detection						19		Should support Packet filtering at L2/L4 with flow based classification based on source MAC address, destination MAC address, source IP (IPv4/IPv6) address, destination IP (IPv4/ IPv6) address, port, protocol, and VLAN. Malicious Code Detection			
		20		Should support Standard, Extended ACL's						20		Should support Standard, Extended ACL's			
		21	OpenFlow	Should support Open Flow 1.x						21	OpenFlow	Should support Open Flow 1.x			
		22	Configuration	Should support CLI, WEB based, and SNMP v1/v2/v3 based managements											
				Should support Sflow or equivalent technologies											
				Should support management vlans and								temprature LED, Diagnostic LED,rest button			
										14	Vlans	Should support Port, Voice, QinQ, Protocol, GVRP			
										15	DHCP and BOOTP relay	Should support DHCP (udp helper), BootP, DHCP Relay, DHCP Snooping			

				Port namings to each interfaces											
				Should support Link Layer Discovery protocols											
				Should support multiple configuration and system files											
				Should support management function like Ping, Telnet, Tracert for both IPv4 and IPv6											
		23	Authentication Method:	Secure Shell (SSH), RADIUS, TACACS+				22	Configuration	Should support management function like Ping, Telnet, Tracert for both IPv4 and IPv6			
		24	Power Device:	Hot Swappable Redundant Power Supply (AC).				23	Authentication Method:	Secure Shell (SSH), RADIUS, TACACS+			
		25	Voltage Required:	AC 110/240 V (50/60 Hz)				24	Power Device:	Device must have 1+1 redundant AC power input supply and must be included with switch from day 1.			
		26	Certifications	Energy Efficient Ethernet (EEE), FCC Class B , FCC Class A, IPv6 USGv6 Certification, IPv6 UNH Certification				25	Voltage Required:	AC 110/240 V (50/60 Hz)			
		27	Warranty	- 24 x 7 Five years on-site comprehensive back-to-back OEM warranty with parts - minimum 7 years OEM's product support guarantee (Vendor has to give the same on OEM letterhead)				26	Certifications	Energy Efficient Ethernet (EEE), FCC Class B , FCC Class A, IPv6 USGv6 Certification, IPv6 UNH Certification			

			27	Warranty	- 24 x 7 Five years on-site comprehensive back-to-back OEM warranty with parts - minimum 7 years OEM's product support guarantee (Vendor has to give the same on OEM letterhead)			

6.	11. IT Infrastructure Requirements	**<<newly added>>**	**11.1 GENERAL INSTRUCTIONS** **22. Digital Signature infrastructure:** The bidder will be required to implement Digital Signature infrastructure in compliance with the Information Technology Act, 2000 and integrate the same as per the requirement of SMC for digitally signing of different documents like invoice, pay slips, etc. The proposed HSM must be compatible with proposed ERP OEM and e-Office BPM/DMS OEM. It should enable signing of the documents digitally and send the same to the recipient through email or can be made available to download through web-browser as well as archived/stored in a centralized DMS system for future reference.
7.	2 Scope of Work, 2.2 Module wise Functional Requirement	**<<newly added>>**	**14. Technical Requirements** **14.3 Document Signer Solution Requirement** 1. Server Side components (API / SDK) with ERP/e-Office/DMS infrastructure to be provided, integrated and configured. 2. Downloading and install a Class 3 Digital Signature type on the HSM modules. 3. Capable of signing on multiple pages of the same document. 4. Capable of signing with multiple signatures on the same page/document. 5. Should be able to incorporate the signature(s) without the need of physically attaching the USB token.

			6. Solution should be capable of supporting multiple signer profiles. Each signer profile should have the capability to be mapped to a particular DSC of the signatory. 7. Solution should support HSM interfacing over PKCS#11. 8. Solution should support SHA 2 family for document Hash creation. 9. Solution should have ability to integrate with multiple applications. 10. Real time signing functionality. 11. Solution should support multiple functionalities for signing: a. Digital Signing facility should be available in Batch (bulk) using scheduler tools in an In-Out folder based structure. b. The solution shall support silent signing directly on server, without any manual intervention. 12. Signing application shall be configured to provide additional level of security such as authentication of signing request originator and password protect keys stored in HSM device. 13. Administrator module to Manage certificates and Signatories. 14. Should be able to support multiple data formats (.pdf/xml/PKCS#7). 15. Application should be able to check the validity of the certificate before signing of the document/data. 16. Trigger Notifications via SMS/Email (Certificate expiry, Signing request etc.)
8.	11. IT Infrastructure Requirements	**<<newly added>>**	**11.2 Minimum Technical Specification Item-VIII: HSM Device** **#** | **Item** | **Matched [Yes/No]** | **Deviation from Specification / Remarks if Any** | **Specify Make, Model & Technology Name** **(A)** | **(B)** | **(C)** | **(D)** | **(E)**

			VIII. HSM Device					
			1.	Should support Windows, Linux, Solaris, VMWARE, AIX (all are required).				
			2.	All keys must be stored in FIPS certified hardware/ device				
			3.	TCP/IP Network based appliance.				
			4.	Should comply to standards like FIPS 140-2 Level-3, ROHS				
			5.	Key Length Supported (1024 to 4096)				
			6.	Public Key Algorithm RSA encrypt/decrypt, RSA sign/verify, ECC (Electric Curve cryptography).				
			7.	Key Exchange Symmetric Algorithm: AES, DES, Triple DES				
			8.	Support for Hash Message Digest HMAC, SHA1 SHA2 (224-512).				
			9.	Support for various cryptographic algorithms: Asymmetric Key RSA (1024-8192 bits), Diffie-Hellman (1024 4096 bits), Elliptic Curve Cryptography DSA (1024-3072).				
			10.	Random Number Generation –FIPS 140-2 approved				
			11.	Support for PKCS#11, CAPI, OpenSSL, JCE/JCA				
			12.	If solution cannot backup CA keys using Smart Card/Crypto Token, bidder should provide appropriate mechanism to prepare backup device				
			13.	Onboard key generation, signing inside the HSM.				
			14.	Provision of delivery of new device on its failure without returning the failed one.				

			15.	Support for multi factor authentication (Remote and Local)				
			16.	HSM should provide the configurability such that HSM operations can be configured for mandatory manual interventions for all kind of operations & access to HSM. The following functionalities should be provided in HSM operations				
				i. Multiple Operators should be required to perform tasks / operations with traceability for each of the role.				
				ii. One operator should be able to perform multiple roles and each operation should be traced to operator's role				
				iii. Audit Trails: Logs generated by HSM should provide the operators signatures / traces.				
			17.	Support for minimum 100 signatures per second at 2048 bits minimum, scalable up to 500 signatures per second.				
			18.	Support for Health checkup, Diagnostic commands such as PING/TRACERT/ NETSTAT for monitoring Ethernet connections and utilization statistics.				
			19.	HSM should have the capabilities of 20 partitions in single appliance				
			20.	HSM should support NMS integration.				
			21.	24x7 Telephonic/email/onsite support from OEM.				
			22.	The appliance shall support High Availability in Active/Passive cluster				

			23.	GUI - Command line interface (CLI)/graphical user interface (GUI)			
			24.	SNMP V1, V2, V2C compatible monitoring			
			25.	Hot Swappable dual power supplies			
			26.	Dual Gigabit Ethernet ports (to service two network segments)			
			27.	Onboard key generation and storage of at least 250 Keys within HSM secure Memory for better security.			
			28.	Availability of published API for integrating with the Application software.			
			29.	Support for document signing using different types / classes of digital signatures.			
			30.	Support for instant real-time signing using an API for integration with Bidder's proposed solution.			
			31.	The bidder should confirm that the proposed hardware solution is capable of integration with Document Management Solution.			
			32.	**Warranty:** - 24 x 7 Five years on-site comprehensive back-to-back OEM warranty with parts - minimum 7 years OEM's product support guarantee (Vendor has to give the same on OEM letterhead)			
			33.	**Quantity:** Specify the quantity of the proposed server as per the solution architecture			

11.2: Minimum Technical Specifications of original bid document shall be read and replaced as under:
***(Note:** The Technical Specifications are to be provided as per the below revised table only.)*

11.2 MINIMUM TECHNICAL SPECIFICATION

- The bidder can quote for each item meeting or exceeding the below mentioned minimum specification. Separate sheet needs to be attached if more than one product is quoted.
- The specification mentioned below are minimum specification. The bidder can quote the products equivalent or higher depending upon the sizing for the entire solution.
- The bidder must clearly specify the features of the offered product vis-à-vis specification and deviation if any in the Column-C and Column-D respectively.
- The exact make and model of the product offered must be specified in the Column-E.
- The technical spec sheet and the product brochure of the product offered should also be submitted along with technical bid.
- In case the space provided is not sufficient then a separate paper as per the format below can be annexed to the bid. The same must be duly signed and stamped.

#	Item		Matched [Yes/No]	Deviation from Specification / Remarks if Any	Specify Make, Model & Technology Name
(A)	(B)		(C)	(D)	(E)
I.	**SERVER FOR ERP SOLUTION**				
1.	**Make**	Must be of HP/Dell/Lenovo make			
2.	**Model**	Specify			
3.	**Form Factor**	2U or Higher Rack Mountable			
4.	**Processor**	- Intel's Latest Generation 8100 series or higher Gold or Platinum category processor - Minimum 2.5 GHz Base frequency			
		Specify Processor Model			
		Specify Processing Speed			
		Specify Cache			
		Specify No. of Cores			
		Specify No. of Processors proposed			
5.	**Memory Technology**	- DIMM Slots must be supporting 2400 MHz/2666MHz memory frequency - Memory DIMM Slots must be supporting 8GB / 16GB / 32GB / 64GB/128GB memory modules. - Minimum 50% DIMM Slots must be supporting Non-Volatile Memory.			

		- As per Application architecture, vendor can propose the memory. Hardware must have a provision to scale up atleast 25% more capacity for future.			
		Specify Maximum RAM supported			
		Specify Total RAM Proposed			
6.	**Chipset**	Compatible latest series of chipset (specify chipset)			
7.	**Hard Disk Drives**	Vendor must propose the SSD hard disks in case of internal storage is offered. Database and Critical application workload must be running from SSD Hard disks. Other supporting workloads can be offered on SAS drives.			
		Specify the No. of HDD Slots supported			
		Specify the HDD Capacity Offered			
		Specify the HDD Composition proposed with capacity of each type of HDD			
8.	**Storage Controllers**	Servers must be equipped with RAID Controller supporting RAID 0,1 , 5, 6, and 10 with 8GB Cache memory			
9.	**Networking features**	4 Nos. of 10G SFP+ Ports with support of TCP/IP, Wake on LAN, Failover, Fault Tolerance must be available from day one. Scalability of 25Gigabit Ethernet Ports in same server.			
10.	**Ports**	2 Front and 2 Rear USB ports, 1 serial port, 2 RJ-45 port, 1 VGA, 1 Management Port (TCP\IP based). Dedicated USB / Micro USB or any type of Server Management port in front to manage the server from BIOS Level.			
11.	**HBA**	Single port 8 Gb OFC HBA X 2 Nos. for redundancy to connect with SAN Storage/SAN Switch			
12.	**Slots**	Minimum four PCIe Slots available from day one and scalable up to minimum 8 PCI Slots.			
13.	**Server Management Features / Technologies / Softwares**	Embedded Agent less Server Management software regardless of operating system or Hypervisor Presence, should be GUI HTML5 based with functionality/features mentioned below: - Alerts for monitoring health of critical components. - Having two factor Authentication support.			

		- Should support automatic check & update of hardware drivers & BIOS Version Control. - Should be able to generate a report on Inventory & automatically track server warranty information. Remote Deployment & Configuration. - Email Alertings on at least, Fan, Power Supply, Memory, CPU, RAID, NIC, Internal HDD, Out of Band Performance. Customizable Settings for Exhaust Temperature			
14.	**Diagnostics Features**	Embedded Diagnostic Tools, Server Configuration Backup & Restoration, System error LEDs on Front Panel in case of component failure			
15.	**Power Supply**	Hot Swappable High Efficiency Redundant Power Supplies (1+1) capable to provide necessary power for fully loaded server with India Power Cord.			
16.	**OS Support**	Microsoft Windows Server 2012R2 or higher, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), Ubuntu, Citrix Xen Server, Vmware ESXi			
17.	**Virtualization Support**	Should support leading virtualization platforms including the one proposed by the bidder (if any)			
18.	**Mounting Kit**	Sliding Rack mounting kit rack server			
19.	**Warranty**	- 24 x 7 Five years on-site comprehensive back-to-back OEM warranty with parts - minimum 7 years OEM's product support guarantee (Vendor has to give the same on OEM letterhead)			
20.	**Use of proposed server**	Specify the type of proposed server (i.e. production server / testing server, etc.) and use of server (data base server, application server, etc.)			
21.	**Quantity**	Specify the quantity of the proposed server as per the solution architecture			
Note: The above table should be used to provide the specifications of the servers to be used for hosting ERP solution.					

#	Item	Matched [Yes/No]	Deviation from Specification / Remarks if Any	Specify Make, Model & Technology Name

(A)	(B)		(C)	(D)	(E)
II.	**SERVER FOR OTHER REQUIREMENTS**				
1.	**Make**	Must be of HP/Dell/Lenovo make			
2.	**Model**	Specify			
3.	**Form Factor**	2U or Higher Rack Mountable			
4.	**Processor**	Minimum 2.5 GHz Base frequency			
		Specify Processor Model			
		Specify Processing Speed			
		Specify Cache			
		Specify No. of Cores			
		Specify No. of Processors proposed			
5.	**Memory Technology**	- DIMM Slots must be supporting 2400 MHz/2666MHz memory frequency - Memory DIMM Slots must be supporting 8GB / 16GB / 32GB / 64GB/128GB memory modules. - As per Application architecture, vendor can propose the memory. Hardware must have a provision to scale up atleast 25% more capacity for future.			
		Specify Maximum RAM supported			
		Specify Total RAM Proposed			
6.	**Chipset**	Compatible latest series of chipset (specify chipset)			
7.	**Hard Disk Drives**	Specify the No. of HDD Slots supported			
		Specify the HDD Capacity Offered			
		Specify the HDD Composition proposed with capacity of each type of HDD			
8.	**Storage Controllers**	Servers must be equipped with RAID Controller supporting RAID 0,1 , 5, 6, and 10 with 1 GB Cache memory			
9.	**Networking features**	2 Nos. of 10G SFP+ Ports with support of TCP/IP, Wake on LAN, Failover, Fault Tolerance must be available from day one. Scalability of 25Gigabit Ethernet Ports in same server.			
10.	**Ports**	2 Front and 2 Rear USB ports, 1 serial port, 2 RJ-45 port, 1 VGA, 1 Management Port (TCP\IP based). Dedicated USB / Micro USB or any type of Server Management port in front to manage the server from BIOS Level.			
11.	**HBA**	Single port 8 Gb OFC HBA X 2 Nos. for redundancy to connect with SAN Storage/SAN Switch			

12.	**Slots**	Minimum four PCIe Slots available from day one and scalable up to minimum 8 PCI Slots.			
13.	**Server Management Features / Technologies / Softwares**	Embedded Agent less Server Management software regardless of operating system or Hypervisor Presence, should be GUI HTML5 based with functionality/features mentioned below: - Alerts for monitoring health of critical components. - Having two factor Authentication support. - Should support automatic check & update of hardware drivers & BIOS Version Control. - Should be able to generate a report on Inventory & automatically track server warranty information. Remote Deployment & Configuration. - Email Alertings on at least, Fan, Power Supply, Memory, CPU, RAID, NIC, Internal HDD, Out of Band Performance. Customizable Settings for Exhaust Temperature			
14.	**Diagnostics Features**	Embedded Diagnostic Tools, Server Configuration Backup & Restoration, System error LEDs on Front Panel in case of component failure			
15.	**Power Supply**	Hot Swappable High Efficiency Redundant Power Supplies (1+1) capable to provide necessary power for fully loaded server with India Power Cord.			
16.	**OS Support**	Microsoft Windows Server 2012R2 or higher, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), Ubuntu, Citrix Xen Server, Vmware ESXi			
17.	**Virtualization Support**	Should support leading virtualization platforms including the one proposed by the bidder (if any)			
18.	**Mounting Kit**	Sliding Rack mounting kit rack server			
19.	**Warranty**	- 24 x 7 Five years on-site comprehensive back-to-back OEM warranty with parts - minimum 7 years OEM's product support guarantee (Vendor has to give the same on OEM letterhead)			

20.	**Use of proposed server**	Specify the type of proposed server (i.e. production server / testing server, etc.) and use of server (data base server, application server, etc.)			
21.	**Quantity**	Specify the quantity of the proposed server as per the solution architecture			
Note: The following table should be used to provide the specifications of the servers to be used for other requirements.					

#	Item		Matched [Yes/No]	Deviation from Specification / Remarks if Any	Specify Make, Model & Technology Name
(A)	**(B)**		**(C)**	**(D)**	**(E)**
III.	**SAN Storage with SAN Switches**				
1.	**MAKE**	Must be of Dell-EMC/Hitachi/HPE/Netapp/IBM make			
2.	**MODEL**	Specify			
3.	**Controllers**	- The Storage system must have at least two hot pluggable controllers running in active-active mode (for all required protocols) with automatic failover to each other in case of one controller failure. - Each storage controller should be with minimum Xeon 8 Core CPU. - Controller must support Multipath I/O Architecture.			
4.	**Storage Operating System**	Storage offered must be with the latest operating system.			
5.	**Cache**	The proposed storage array should be quoted with a minimum of16GB system cache memory - minimum 96GB Cache or higher per controller.			
6.	**Host Interface Ports**	Minimum 4 nos. of 16 Gbps Fibre Channel Ports per Controller shall be available. Ports must be active and populated with SFP from day one.			
7.	**Back and front ports**	The storage should support 8/16 Gbps on FC to connect SAN Switch, 10Gbps on iSCSI (SFP+/Base-T) to			

		Connect on LAN switch within same controller pair.			
8.	**Scalability**	System should support a minimum of 250 drives or more within the same set of controllers.			
9.	**Disk Drive Support**	System should have support for - SSD/Flash drives - 6Gbps SAS drives - 7200 RPM Nearline SAS drives - 7200 RPM SATA II drives			
10.	**Disk Capacity**	- Bidder has to provide minimum 50TB usable capacity across the storage with single or multiple expansion units. - Out of 50TB minimum 40% disk capacity shall be using Enterprise Grade SSD Disks and rest 60% disk capacity shall be on SAS Drives. - Storage system should be configured and offered with required hot-spares for the different type and no. of disks configured, as per the system architecture best practices.			
11.	**RAID Support**	Storage must support RAID 0 / 1 / 5 / 6 / 10 or any combination of RAID level on single Storage system.			
12.	**No Single Point of Failure**	Offered Storage Array shall be configured with No Single Point of Failure including Array Controller card, Cache memory, FAN, Power supply, etc.			
13.	**SAN Switch**	- Storage System must be offered with Industry Standard 24 Port 16Gbps SAN Switches x 2 Nos. - Each SAN switch with minimum 12 Activated ports from day one or if more active ports require as per proposed application architecture, bidder has to provide the same. - Bidder will have to ensure that all the hardware; i.e. servers, storage, backup or any other devices connecting to SAN switch shall be in redundant			

		mode for controllers, ports as well as cables.			
14.	**Performance**	The storage should support all writes to be on RAID10 & all reads from RAID 5/6. The storage should be intelligent enough to move the cold data from RAID10 to RAID 5/6 within single disk type. If this is not supported, then the vendor needs to quote the whole capacity on RAID 10			
15.	**Software to be supplied**	The system should be configured with licenses for FC, iSCSI, File Deduplication, Compression, Thin Provisioning, Virtualization integration. Management software license should be provided for entire system from day one.			
16.	**Remote Replication**	The Array should support remote replication on file and block level in Asyncronous mode.			
17.	**Perpetual Software License**	The software license supplied should be perpetual so that there will be no additional software cost while replacing the storage within the same class.			
18.	**Performance management**	Support a browser based built in management. Should be able to support automated email to vendor support center for proactive maintenance. There should be a dedicated Ethernet port for management and it should not use the iSCSI host ports for management. Performance Monitoring and reporting software should be provided. This should provide details of performance like IOPs, utilization, response time and also provide capacity details like amount of capacity allocated, capacity used and capacity free.			
19.	**Server Operating**	Must be completely supported by the server operating system			

	System Support	offered by the bidder for all the features and technology			
20.	**Virtualization Support**	Storage System must be completely supported by the virtualization technology offered by the bidder for all the features and technology			
21.	**Accessories**	All the necessary tools & tackles licenses, cables/ connectors for Ethernet/ Fibre/USB/ Power etc. required for making the system operational shall be provided by the bidder.			
22.	**Warranty**	- 24 x 7 Five years on-site comprehensive back-to-back OEM warranty with parts - minimum 7 years OEM's product support guarantee (Vendor has to give the same on OEM letterhead)			

#	Item		Matched [Yes/No]	Deviation from Specification / Remarks if Any	Specify Make, Model & Technology Name
(A)	**(B)**		**(C)**	**(D)**	**(E)**
IV.	**LTO7 Tape Library**				
1	**MAKE**	Any [Specify]			
2	**MODEL**	Any [Specify]			
3	**Drive Technology**	LTO 7 Fibre Channel Based			
4	**Number of drives**	2 Fibre Channel drive in built from day one and additional 2 dirve option should be available for future.			
5	**Tape Option**	LTO 5, LTO6 and LTO7 cartridges should be supported			
6	**Number of Cartridge slot**	minimum 24 Catridge slot should available from day one.			
7	**Mounting Kit**	Sliding Rack mounting kit			
8	**Barcode Reader**	Barcode reading functionality should be available			
9	**Partition Support**	Offered Tape Library shall have partition support so that each configured drive can have own partition and allocated slots.			

10	**SAN Connectivity**	Tape Library shall provide native Fiber connectivity to SAN Environment.			
11	**GUI**	Tape Library shall have Front panel.			
12	**Power Supply**	Necessary Power Supply			
13	**Cables &**	All the necessary tools & tackles licenses, cables/ connectors for Ethernet/ Fibre/USB/			
	Accessories	Power etc. required for making the system operational shall be provided by the bidder.			
14	**Data Cartridges**	30 Nos. of LTO Gen 7 shall be supplied from Day one			
15	**Cleaning Cartridges**	4 Nos. of cleaning cartridges shall be supplied from day one.			
16	**Compatibility**	Tape library should be supported with the quoted SAN switch and Data Backup software by vendor. Integration between entire system of server, Storage, Data backup hardware and software, LAN switch and SAN switch should be ensured by bidder for complete functionality of the item.			
17	**OEM Undertaking /Authorisation Letter**	Bidder/SI should have a back end / back-to-back support contract/agreement/arrangement specifically against this tender no. for services including supply of spare parts, expertise requirements etc. with the Original Equipment Manufacturers (OEMs) which includes the post sales support activities to meet the Service Level Agreement (SLA) mentioned for the entire warranty period. The OEM undertaking/Authorisation letter on OEM Letter Head in this regard should be submitted along with the bid mentioning this tender no.			
18	**Warranty**	- 24 x 7 Five years on-site comprehensive back-to-back OEM warranty with parts - minimum 7 years OEM's product support guarantee (Vendor has to give the same on OEM letterhead)			

#	Item		Matched [Yes/No]	Deviation from Specification / Remarks if Any	Specify Make, Model & Technology Name
(A)	(B)		(C)	(D)	(E)
V.	**10 G LAN SWITCH**				
1	**MAKE**	Any [Specify]			
2	**MODEL**	Any [Specify]			
3	**Device Type:**	Managed Layer 3 switch with fully populated/all activated ports along with all Transceivers/modules /software/support from day 1			
4	**Ports Qty:**	24 x 10G SFP + Ports with all 10G SFP+ Transceivers required should be provided/included with product from day 1			
		Minimum 2 x 40G BASE-QSFP+ ports with 2 x 40G QSFP+ Transceivers required should be provided/included with product from day 1			
5	**RAM:**	Minimum 4GB DRAM			
6	**Flash Memory:**	Minimum 2GB Memory			
7	**Switching Capacity**	Minimum 640 Gbps			
8	**Switching Throughput**	Minimum 150 million pps			
9	**MAC Address Table Size**	32000 MAC addresses			
10	**Routing Protocol:**	Static routing, RIP V1/V2, OSPF V1/V2/V3, CIDR, IDRP, VRRP, PBR			
		PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIMSSM) for IPv4 and IPv6 multicast applications			
11	**IPv6**	IPv6 Host Management, IPv6 L3 Routing with Dual IP stack support			
12	**Switching Protocol:**	Ethernet			
13	**Status Indicators:**	Link activity, port transmission speed, port duplex mode, power, link OK, system, temprature LED, Diagnostic LED,rest button			
14	**Vlans**	Should support Port, Voice, QinQ, Protocol, GVRP			
15	**DHCP and BOOTP relay**	Should support DHCP (udp helper), BootP, DHCP Relay, DHCP Snooping			

16	**Redundancy Protocols**	Should support STP, RSTP, MSTP, STP Root Guard, BPDU Guard, MLAG			
17	**QoS**	Flow based QoS service, port based QoS service, ACL QoS, MAC based cos assignment, rate limiting and metering			
18		Should support MAC based port security by number of MAC			
19		Should support Packet filtering at L2/L4 with flow based classification based on source MAC address, destination MAC address, source IP (IPv4/IPv6) address, destination IP			
		(IPv4/IPv6) address, port, protocol, and VLAN. Malicious Code Detection			
20		Should support Standard, Extended ACL's			
21	**OpenFlow**	Should support Open Flow 1.x			
22	**Configuration**	Should support CLI, WEB based, and SNMP v1/v2/v3 based managements			
		Should support Sflow or equivalent technologies			
		Should support management vlans and Port namings to each interfaces			
		Should support Link Layer Discovery protocols			
		Should support multiple configuration and system files			
		Should support management function like Ping, Telnet, Tracert for both IPv4 and IPv6			
23	**Authentication Method:**	Secure Shell (SSH), RADIUS, TACACS+			
24	**Power Device:**	Device must have 1+1 redundant AC power input supply and must be included with switch from day 1.			
25	**Voltage Required:**	AC 110/240 V (50/60 Hz)			
26	**Certifications**	Energy Efficient Ethernet (EEE), FCC Class B , FCC Class A, IPv6 USGv6 Certification, IPv6 UNH Certification			
27	**Warranty**	- 24 x 7 Five years on-site comprehensive back-to-back OEM warranty with parts - minimum 7 years OEM's product support guarantee (Vendor has to give the same on OEM letterhead)			

#	Item	Matched [Yes/No]	Deviation from Specification / Remarks if Any	Specify Make, Model & Technology Name
(A)	(B)	(C)	(D)	(E)
VI.	**Backup Software - supporting Virtual Environment**			
1	Industry's Leading and must be in market since last atleast 15 years			
2	MODEL - ANY [MUST BE SPECIFIED BY BIDDER]			
3	Should be able to backup open files on Windows Environment, and backup of other OS platforms like RHEL, SUSE Linux, OEL			
4	Should support All platforms of Enterprise Linux; i.e. Redhat, SUSE, Microsoft Windows 2008/2012/ 2012 R2 / 2016 servers			
6	Backup Software should support backup for all the standard and commercially available database and applications like MS-SQL, Oracle (both on Windows and Linux), Exchange, Active Directory, Sharepoint Server etc.			
7	Backup Software shall support encryption and all encryption keys shall be stored on to backup server for effective management.			
8	The backup software should support full integration to virtual environment like VMWare, Microsoft HyperV and Redhat KVM for the backup and recovery of full virtual machines and the individual files and folders inside them.			
9	Should support single pass backup for faster backup/recovery			
10	Backup Software Should support Mixed Backup methods . Both the incremental and differential backup methods in the same backup definition.			
11	The backup software must have support for integrated advanced backup technologies like deduplication and archiving. The same can be added in future by just enabling the license for the same.			
12	Backup Software is able to rebuild the Backup Database/Catalog from tapes in the event of catalog loss/corruption.			
13	Backup Software should support the Bare Metal Restore on non-identical Hardware			
14	The proposed Backup Solution Software should have inbuilt GUI for management of backup			
15	Backup Solution shall be able to copy data across firewall.			

16	Backup Software must be enterprise grade of and having an assurance of data restoration for next 9 - 10 years minimum. In case of there will be any upgrade in software the backup taken from proposed version shall be also restored in future with higher version.			
17	- 24 x 7 Five years on-site comprehensive back-to-back OEM warranty with parts - minimum 7 years OEM's product support guarantee (Vendor has to give the same on OEM letterhead)			

#	Item		Matched [Yes/No]	Deviation from Specification / Remarks if Any	Specify Make, Model & Technology Name
(A)	(B)		(C)	(D)	(E)
VII.	**42U Server Rack**				
1.	MAKE	MAKE - APC, RITTAL, HP, Dell, Lenovo			
2.	MODEL	Specify			
3.	Rack Height	42U Server Rack			
4.	Minimum Mounting Depth	7.52 inches (191 mm)			
5.	Maximum Mounting Depth	36.02 inches (915 mm)			
6.	Maximum Width	23.62 inches 600mm			
7.	Mounting Width	Standard 19 inches			
8.	Color	Black			
9.	Units per Pallet	1.00			
10.	Vertical Posts	16 gauge			
11.	Front Door	16 gauge			
12.	Rear Door	18 gauge			
13.	Roof	18 gauge			
14.	Side Panels	18 gauge			
15.	Others	Perforated front and rear doors for ample ventilation for servers and networking equipment. Front door			

		can be moved to the opposite side or interchanged with rear doors. Doors should be easily removable with simple lift-off design.			
16.		The 42U Rack shall have provision for two separate top entries one for power and one for network cables and Bottom Cables Entry.			
17.		2 Nos of PDU/Power strip should be included/provided for high availability from day 1 along with required Male-Female Power cables to interconnect Server/Network Components with PDU.			

#	Item	Matched [Yes/No]	Deviation from Specification / Remarks if Any	Specify Make, Model & Technology Name
(A)	**(B)**	**(C)**	**(D)**	**(E)**
VIII.	**HSM Device**			
34.	Should support Windows, Linux, Solaris, VMWARE, AIX (all are required).			
35.	All keys must be stored in FIPS certified hardware/ device			
36.	TCP/IP Network based appliance.			
37.	Should comply to standards like FIPS 140-2 Level-3, ROHS			
38.	Key Length Supported (1024 to 4096)			
39.	Public Key Algorithm RSA encrypt/decrypt, RSA sign/verify, ECC (Electric Curve cryptography).			
40.	Key Exchange Symmetric Algorithm: AES, DES, Triple DES			
41.	Support for Hash Message Digest HMAC, SHA1 SHA2 (224-512).			
42.	Support for various cryptographic algorithms: Asymmetric Key RSA (1024-8192 bits), Diffie-Hellman (1024 4096 bits), Elliptic Curve Cryptography DSA (1024-3072).			
43.	Random Number Generation –FIPS 140-2 approved			
44.	Support for PKCS#11, CAPI, OpenSSL, JCE/JCA			

45.	If solution cannot backup CA keys using Smart Card/Crypto Token, bidder should provide appropriate mechanism to prepare backup device			
46.	Onboard key generation, signing inside the HSM.			
47.	Provision of delivery of new device on its failure without returning the failed one.			
48.	Support for multi factor authentication (Remote and Local)			
49.	HSM should provide the configurability such that HSM operations can be configured for mandatory manual interventions for all kind of operations & access to HSM. The following functionalities should be provided in HSM operations			
	i. Multiple Operators should be required to perform tasks / operations with traceability for each of the role.			
	ii. One operator should be able to perform multiple roles and each operation should be traced to operator's role			
	iii. Audit Trails: Logs generated by HSM should provide the operators signatures / traces.			
50.	Support for minimum 100 signatures per second at 2048 bits minimum, scalable up to 500 signatures per second.			
51.	Support for Health checkup, Diagnostic commands such as PING/TRACERT/ NETSTAT for monitoring Ethernet connections and utilization statistics.			
52.	HSM should have the capabilities of 20 partitions in single appliance			
53.	HSM should support NMS integration.			
54.	24x7 Telephonic/email/onsite support from OEM.			
55.	The appliance shall support High Availability in Active/Passive cluster			
56.	GUI - Command line interface (CLI)/graphical user interface (GUI)			
57.	SNMP V1, V2, V2C compatible monitoring			
58.	Hot Swappable dual power supplies			
59.	Dual Gigabit Ethernet ports (to service two network segments)			
60.	Onboard key generation and storage of at least 250 Keys within HSM secure Memory for better security.			
61.	Availability of published API for integrating with the Application software.			
62.	Support for document signing using different types / classes of digital signatures.			

63.	Support for instant real-time signing using an API for integration with Bidder's proposed solution.			
64.	The bidder should confirm that the proposed hardware solution is capable of integration with Document Management Solution.			
65.	**Warranty:** - 24 x 7 Five years on-site comprehensive back-to-back OEM warranty with parts - minimum 7 years OEM's product support guarantee (Vendor has to give the same on OEM letterhead)			
66.	**Quantity:** Specify the quantity of the proposed server as per the solution architecture			

11.3 SUMMARY OF PROPOSED IT INFRASTRUCTURE HARDWARE COMPONENT

The bidder must clearly mention the additional hardware components proposed apart from the one mentioned above along with the OEM & Model and units for the same.

Item	Item Description	OEM & Model	No. of units	Measurement Unit
(a)	(b)	(c)	(d)	(e)
Summary of proposed IT Infrastructure Hardware Component				
1	Server for ERP Solution			
2	Server for Other Requirements			
3	SAN Storage with SAN Switches			
4	LTO7 Tape Library			
5	10 G LAN Switch			
6	Backup Software - supporting Virtual Environment			
7	42U Server Rack			
8	HSM Device			
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