



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
 Powai, Mumbai - 400076

7th February 2024

Corrigendum –II

For (PR No. 1000037159) RFX No. 6100001614

New Hardware Procurement for ERP System

Previous Specifications				Changed Specifications			
IITB DC Hardware BOM				IITB DC Hardware BOM			
S/N	Item Description	Unit Qty	Total Qty	S/N	Item Description	Unit Qty	Total Qty
1	DC Server:			1	DC Server:		
	8 Small form factor (SFF) NC Configure-to-order Server	1			Merged with HDD and removed	-	
	CX CTO Mod-X 8SFF	1			Merged with HDD and removed	-	
	Minimum 2.8GHz 24-core 230W Processor (multi threading supported)	2			Minimum 2.8GHz 24-core Processor, multi threading, with heat sink	2	
	32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	16			32GB DDR4-3200 Registered DIMM	16	
	600GB SAS 12G Mission Critical 10K SFF BC 5-years Warranty Multi Vendor HDD	2	3		600GB SAS 12G 10K SFF HDD with minimum 8 Small form factor slots with required cables	2	3
	x8/x16/x8 Primary FIO Riser Kit	1			Pcle Riser Card with Flexible Slot Configuration	1	
	x16 Lanes 4GB Cache NVMe/SAS 12G RAID Controller	1			4GB Cache NVMe/SAS 12G RAID Controller	1	
	32GB 2-port Fibre Channel Host Bus Adapter	1			No change	1	
	Ethernet 10GB 2-port BASE-T Adapter	1			No change	1	
	96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	1			Battery for backing cache and RAM in the event of power failure	1	



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	Ethernet 1Gb 4-port BASE-T OCP3 Adapter	1		Ethernet 1Gb 4-port BASE-T Adapter	1	
	Maximum Performance Fan Kit	1		Cooling fans inside cabinet	1	
	Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	2		Hot-Swappable Power Supply Unit	2	
	ILO (or equivalent Platform Management Architecture) Advanced 1-server License with 5 Years Support on Licensed Features	1		Lights-out management for remote server monitoring and control	1	
	8SFF SAS/SATA Tri-Mode Cable Kit	1		<i>Merged with HDD and removed</i>	-	
	Black Rivets Kit	1		Removed	-	
	2U SFF Easy Install Rail Kit	1		2U SFF Rail Kit	1	
	High Performance Heat Sink Kit	2		<i>Merged with processor and removed</i>	-	
	5 Years Technical Care Critical with Defective Media Retention Service	1		5 Years warranty (24x7) for functioning of all the components of the server (includes hardware and software) with 4-hours response time	1	
	5 Years Technical Support for Server Hardware with replacement (24x7)	1		<i>Merged with warranty and removed</i>	-	
S/N	Item Description	Unit Qty	Total Qty	S/N	Unit Qty	Total Qty
2	DC Switches:			2		
	24 Port 1/10G 6QSFP+ or 2QSFP28 Switch	1		No change	1	
	40G QSFP+ MPO SR4 Transceiver	2		No change	2	
	Front-to-Back Fan Tray	4		No change	4	
	450W Front-to-Back AC Power Supply	2	2	No change	2	2
	450W Front-to-Back AC Power Supply India English	2		<i>Merged with warranty and removed</i>	2	
	5 Years Foundation Care Critical Service	1		5 Years warranty (24x7) for functioning of all the components of the Switch with 4-hours response time	-	
	5 Years 24G Support (24x7)	1			1	
S/N	Item Description	Unit Qty	Total Qty	S/N	Unit Qty	Total Qty
3	DC SANSwitches:			3		
	32Gb 24/8 8-port 32GB Short Wave SFP28 Fibre Channel Switch	1		No change	1	
	LC/LC Multi-mode OM4 2 Fiber 5m Cable	16	2	No change	16	2
	32GB 8-port Short Wave SFP28 Fibre Channel Upgrade license with Transceiver Kit	1		32GB 8-port SFP28 Fibre Channel with Transceiver	1	



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S/N	Item Description	Unit Qty	Total Qty	S/N	Item Description	Unit Qty	Total Qty
	5 Years Technical Care Critical with Defective Media Retention Service	1			5 Years warranty (24x7) for functioning of all the components of the server (includes hardware and software) with 4-hours response time	1	
	5 Years Technical Support for Server Hardware with replacement (24x7)	1			<i>Merged with warranty and removed</i>	-	
5	DC Storage:			5	DC Storage:		
	Block Storage Base Configuration	1			Block Storage Base Configuration and Service	1	
	2U Chassis	1			<i>No change</i>	1	
	256GB 8-core Block Controller Node	2			Controller with Minimum 192GB memory, min. 8-core CPU (min. 2 active-active controllers)	1	
	Minimum of Raider 32/64GB 4-port Fibre Channel Host Bus Adapter	2			32/64 GbE Fibre Channel Port with redundancy with SFP28 shortwave transceiver (minimum 4)	1	
	32GB SFP28 Short Wave 1-pack Pull Tab Optical Transceiver	4			<i>Merged with Fibre Channel Port and removed</i>	-	
	1600W AC Power Supply	2			Power supply with redundancy with necessary C13 power cords	1	
	7.68TB NVMe SFF Encrypted SSD (Minimum 57TB Usable Capacity on RAID6, minimum 100K IOPS 70:30 R:W, minimum 16K block size)	12	1		Minimum 57 TB usable storage on RAID6, expandable atleast up to 100 TB (NVMe SFF Encrypted SSD, minimum 100K IOPS with 16K block size 70:30 R:W)	1	1
	250V 10Amp Black 1.4m WW Power Cord	1			<i>Merged with power supply and removed</i>	-	
	IN1293 250V 16Amp 1N Power Cord	2			<i>Merged with power supply and removed</i>	-	
	250V 10Amp Gray 1.4m WW Power Cord	1			<i>Merged with power supply and removed</i>	-	
	Raider CDM Bluetooth Connectivity Kit	1			<i>Removed</i>	-	
	Block Storage OS 8-core Tier-4, 5-Years Software and Support Saas	92			<i>Included in 5 year technical care service</i>	-	
	FIPS Data Encryption E-LTU (Electronic License to use)	1			Support for FIPS Data Encryption with appropriate license	1	
	E-LTU (Electronic License to use)	1			<i>Included in 5 year technical care service</i>	-	
	Technical Installation Startup Service	1			<i>Included in Installation Charges and removed</i>	-	
	Block Storage OS Startup Service	1			<i>Merged to base configuration and removed</i>	-	
	Block Storage 2N Startup Service	1			<i>Merged to base configuration and removed</i>	-	
	Block Storage Service	1			<i>Merged to base configuration and removed</i>	-	



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	5 Years Technical Care Critical Service	1						
	5 Years 24/8 3p 32G Switch Support (24x7)	1			Merged with warranty and removed			
					5 Years warranty (24x7) for functioning of all the components of the Switch with 4-hours response time	1		
S/N	Item Description	Unit Qty	Total Qty	S/N	Item Description	Unit Qty	Total Qty	
4	DC Backup Server:			4	DC Backup Server:			
	12 Large form factor (LFF) Configure-to-order Server (Commvault and windows server 2012 std operating system)	1			Merged with HDD and removed	-		
	ICX CTO Mod-X 12LFF	1			Merged with HDD and removed	-		
	Minimum 2.4GHz 16-core 135W Processor (multi threading supported)	2			Minimum 2.4GHz 16-core Processor, multi threading, with heat sink	2		
	32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	2			32GB DDR4-3200 Registered DIMM	2		
	4TB SATA 6G Business Critical 7.2K LFF LP 5-Years Warranty Multi Vendor HDD	4			4TB SATA 6G 7.2K LFF LP HDD with minimum 12 LFF slots with required cables	4		
	1TB SATA 6G Business Critical 7.2K LFF LP 5-Years Warranty Multi Vendor HDD	2			1TB SATA 6G 7.2K LFF LP HDD with required cables	2		
	x8/x16/x8 Primary FIO Riser Kit	1	1		PCIe Riser Card with Flexible Slot Configuration	1	1	
	x16 Lanes 4GB Cache NVMe/SAS 12G RAID Controller	1	1		4GB Cache NVMe/SAS 12G RAID Controller	1	1	
	32GB 2-port Fibre Channel Host Bus Adapter	1	1		32 GB Fibre Channel Port with transceiver (minimum 2)	1	1	
	Ethernet 10GB 2-port BASE-T Adapter	1			No change	1		
	96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	1			Battery for backing cache and RAM in the event of power failure	1		
	Ethernet 1GB 4-port BASE-T OCP3 Adapter	1			Ethernet 1GB 4-port BASE-T Adapter	1		
	800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	2			Hot-Swappable Power Supply Unit	2		
	1-server License with 5 Years Support on Licensed Features of Platform Management Architecture	1			Lights-out management for remote server monitoring and control	1		
	4LFF SAS/SATA Tri-Mode Cable Kit	1			Merged with HDD and removed	-		
	LFF SAS/SATA Tri-Mode Cable Kit	1			Merged with HDD and removed	-		
	Black Rivets Kit	1			Removed	-		
	2U LFF Easy Install Rail Kit	1			2U LFF Rail Kit	1		
	Standard Heat Sink Kit	2			Merged with Processor and removed	-		



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	5 Years Technical Care Essential Service (24x7)	1			5 Years warranty (24x7) for functioning of all the components of the storage (includes hardware and software) with 4-hours response time	1	
	Base Configuration Support	1			<i>Included in 5 year technical care service</i>	-	
	2U Chassis Support	1			<i>Included in 5 year technical care service</i>	-	
	8C Switchless Node Support	2			<i>Included in 5 year technical care service</i>	-	
	32/64 4pt FC HBA Support	2			<i>Included in 5 year technical care service</i>	-	
	7.68TB NVMe FIPS SSD Support	12			<i>Included in 5 year technical care service</i>	-	
	Virtual Rack Service	1			<i>Included in 5 year technical care service</i>	-	
	Configurator Defined Build Instruction Option	1			<i>Included in 5 year technical care service</i>	-	
S/N	Item Description	Unit Qty	Total Qty	S/N	Item Description	Unit Qty	Total Qty
6	DC Tape Library:			6	DC Tape Library:		
	Scalable Base/Storage Module	1			<i>No change</i>	1	
	LTO-8 Ultrium 30750 FC Drive Upgrade Kit	2			LTO-8 FC Tape Drive Upgrade Kit	2	
	Upgrade Power Supply Kit	1			<i>No change</i>	1	
	LC/LC Multi-mode OMA 2 Fiber 5m Cable	2			LC/LC Multi-mode OMA 4 Fiber 5m Cable	2	
	Installation Service	1			<i>Merged with Installation and startup service and removed</i>	-	
	Tape Drive Install Service	2			<i>Merged with Installation and startup service and removed</i>	-	
	Universal Cleaning Cartridge	2	1		<i>No change</i>	2	1
	LTO-8 Ultrium 30TB RW Non Custom Labeled Library Pack 20 Data Cartridges with Cases	1			LTO-8 30TB RW Non Custom Labeled Library Pack 20 Data Cartridges with Cases	1	
	Installation and Startup Service	1			<i>No change</i>	1	
	Base/Storage Module Installation and Startup Service	1			<i>Merged with Installation and startup service and removed</i>	-	
	5 Years Technical Care Critical with Defective Media Retention Service	1			5 Years warranty (24x7) for functioning of all the components of the tape library (includes hardware and software) with 4-hours response time	1	
	5 Years Base/Storage Module Support	1			<i>Merged with warranty and removed</i>	-	



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Previous Specifications				Changed Specifications			
IITB Legacy Hardware BOM for Switch				IITB Legacy Hardware BOM for Switch			
S/N	Item Description	Unit Qty	Total Qty	S/N	Item Description	Unit Qty	Total Qty
7 Network Switch							
	48 x 1/10G BaseT with 6x40/100G QSFP28 Copper Switch	1	1	7	No change	1	1
	40G QSFP+ MPO SR4 Transceiver	2			No change	2	
	5 Years Foundation Care Critical Service	1			No change	1	
	5 Years 24G Support (24x7)	1			No change	1	
	A Switch Architecture and Performance:				A No change		
	Switch should have minimum 2.16 Tbps of higher Switching bandwidth & min 1000 Mpps of forwarding rate	1		No change	1		
	Switch should be equipped with minimum 16GB RAM, 128 GB Flash/ssd & 32 MB of packet buffer or more. Must support dual redundant power supplies that are hot swappable (supplied from day1). Must support N+1 redundant fan units with front to back airflow.	1		No change	1		
	Switch should support IPv4 and IPv6 switching and routing in hardware from day 1	1		No change	1		
	Should support 0°C to 45°C operating temperature and 10% to 95% relative humidity	1		No change	1		
	The switch shall be supplied with the latest Modular OS version	1		No change	1		
B Required Port Densities							
	Switch form factor should be 1U /2U or Chassis based to meet the port configuration requirement with full functionalities.	1		No change	1		
	As per solution requirement switch support minimum 48 x 1/10G BaseT and 6x40/100G QSFP28 fiber or higher ports. Vendor should quote the model to suffice the port requirement.	1		No change	1		
	Should support high-speed stacking/cluster with the ability to stack up to eight units & should support minimum 400Gbps stacking bandwidth. Required 1 meter cables for stacking should be provided from day 1.	1		No change	1		



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C	Layer 2 features		C	<i>No change</i>	
	802.1Q VLAN on all ports with support for 4k active concurrent VLANs & 4000 VLAN IDs and 802.1 AK for dynamic VLAN propagation.	1		<i>No change</i>	1
	Must support IEEE standard such as 802.3ab, 802.3ae, 802.3az, 802.1s, 802.1w, 802.1d, 802.1ba, 802.1x, 802.1q, 802.3ad, 802.1ab	1		<i>No change</i>	1
	Support for minimum 290K or more MAC addresses	1		<i>No change</i>	1
	Support for STP, MSTP, PVST+, RSTP	1		<i>No change</i>	1
	Should support Private VLAN, Vlan Aggregation, Translation, 802.1v	1		<i>No change</i>	1
	Should support snmp and syslog Notification for MAC addition, deletion and movement across ports	1		<i>No change</i>	1
D	Layer 3 features		D	<i>No change</i>	
	Support for IP Unicast routing protocols (static, RIPv2, OSPFv2 & v3, VRRP, BGP, PIM-DW/SSM) from day 1	1		<i>No change</i>	1
	Support MVR and PIM-SM, PIM-SSM	1		<i>No change</i>	1
	Switch Should support min 200K IPv4 routes	1		<i>No change</i>	1
	Switch Should support min 150K IPv6 routes	1		<i>No change</i>	1
	Switch Should support 100K or more multicast entries.	1		<i>No change</i>	1
	Switch should support 4K multicast groups or more and	1		<i>No change</i>	1
	Should support policy based traffic redirection	1		<i>No change</i>	1
	Switch should support network virtualization. Must support VXLAN, DCBX, ETS, PFC.	1		<i>No change</i>	1
	The switch should support unicast reverse path forwarding (URPF) check feature	1		<i>No change</i>	1
E	Quality of Service (QoS) Features		E	<i>No change</i>	
	Must support Diffserv Marking	1		<i>No change</i>	1
	Should support standard based protocols to dynamically reserve QoS and ensure lossless delivery of realtime Traffic	1		<i>No change</i>	1
	Switch should support eight hardware queues per port.	1		<i>No change</i>	1
F	Security Features		F	<i>No change</i>	
	Switch Must support minimum 300 ACLs	1		<i>No change</i>	1
	Must support SSH-2, SCP-2 and SFTP with encryption/authentication	1		<i>No change</i>	1



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	Must support Denial of Service (DOS) protection. Please describe the switch capabilities to protect against DoS attacks	1		No change	1
	Must support 802.1x, RADIUS , TACACS+, Role-Base policy, Mac security	1		No change	1
	Must support the ability to authenticate multiple users on a single port via 802.1X, web, or MAC at the same time	1		No change	1
G	Management Features			No change	
	Should support Serial RS232 port ,OOB ethernet management port and USB or External Compact Flash slot	1		No change	1
	Should support scheduled archiving / uploading of configuration and system log to a central server	1		No change	1
	Switch should support ASIC based Flow monitoring like SFLOW/Netflow/IPFIX	1		No change	1
	Should support ability to restart individual CPU process like snmp , ssh , stp etc in case of process crash without the need to reboot the entire switch.	1		No change	1
	Should be manageable by SSH,RMON, SNMP, and HTTP/s	1		No change	1
	Should support Fabric capabilities within same hardware. Must support the ability to automatically connect to the fabric backbone. Licenses for fabric network, Controller/Orchestration tool (including automation, dynamic segmentation etc) or equivalent solution should be supplied from day 1	1		No change	1
	Should support OEM cloud management & Zero touch provisioning either via cloud or on prem NMS solution from day 1	1		Removed	1
	Switch should support TCL or Python based scripting and Application Telemetry for visibility. Analytics licenses should be supplied from day 1 to provide granular insights into who is using what application, when, and where in network	1		No change	1
H	Service Virtualization			No change	
	Virtualizing and Segregating users and services in isolated zones (more secured mechanism than traditional VLANs separation especially for IoT deployments).	1		No change	1



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	The proposed solution needs to provide automated configuration of services end to end with minimal human intervention. configuration automation technologies provided by bidders should expand to be consistent across the access, campus core, the data center	1		No change	1	
	fabric automation should be supported over the WAN to reach remote sites and make them part of the network in future. Bidder to explain how this is achieved.	1		No change	1	
	Solution should be able to build virtualized Layer 2/3 encapsulated tunnels across multiple switches, Data centers to extend servers domains with high-availability and security. Bidder must clearly mention what technology is used to achieve this.	1		No change	1	
	It should support any topology regardless of the number of switches connected and regardless of how they are connected	1		No change	1	
	The switch should support VXLAN or similar overlay technology	1		No change	1	
I	Standards			No change		
	Switch should be compliant to following certifications and Safety Regulation which are currently active: IEC 62368-1, EN 60825-1, FCC CFR 47 Part 15 Class A, RoHS, WEEE, EN 55032, EN55035, IEC/EN 61000-4-2,3,4,5,6,11	1		No change	1	
S/N	Item Description	Unit Qty	Total Qty	S/N	Unit Qty	Total Qty
8	Network Fibre Switch			8	No change	
	48 x 1/10/25G SFP28 with 8x40/100G QSFP28 fiber switch (With 24 No 1G UTP/Copper Transceivers and 24 Nos of 25G MM transceivers)	1			No change	1
	40G QSFP+ MPO SR4 Transceiver	2	1		No change	2
	5 Years Foundation Care Critical Service	1			No change	1
	5 Years 24G Support (24x7)	1			No change	1
A	Switch Architecture and Performance:			A	No change	
	Switch should have minimum 4 Tbps of higher Switching bandwidth & min 1000 Mpps of forwarding rate	1			No change	1



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	Switch should be equipped with minimum 16GB RAM, 128 GB Flash/ssd & 32 MB of packet buffer or more. Must support dual redundant power supplies that are hot swappable (supplied from day1). Must support N+1 redundant fan units with front to back airflow. Switch should be supplied with 24 No 1G UTP/Copper Transceivers and 24 Nos of 25G MM transceivers.	1	No change	1
	Switch should support IPv4 and IPv6 switching and routing in hardware from day 1	1	No change	1
	Should support 0°C to 45°C operating temperature and 10% to 95% relative humidity	1	No change	1
	The switch shall be supplied with the latest Modular OS version	1	No change	1
B	Required Port Densities		No change	
	Switch form factor should be 1U /2U or Chassis based to meet the port configuration requirement with full functionalities.	1	No change	1
	As per solution requirement switch support minimum 48 x 1/10/25G SFP28 and 8x40/100G QSFP28 fiber or higher ports. Vendor should quote the model to suffice the port requirement.	1	No change	1
	Should support high-speed stacking/cluster with the ability to stack up to eight units & should support minimum 400Gbps stacking bandwidth. Required 1 meter cables for stacking should be provided from day 1.	1	No change	1
C	Layer 2 features		No change	
	802.1Q VLAN on all ports with support for 4k active concurrent VLANs & 4000 VLAN IDs and 802.1 AK for dynamic VLAN propagation.	1	No change	1
	Must support IEEE standard such as 802.3ab, 802.3ae, 802.3az, 802.1s, 802.1w, 802.1d, 802.1ba, 802.1x, 802.1q, 802.3ad,802.1ab	1	No change	1
	Support for minimum 290K or more MAC addresses	1	No change	1
	Support for STP, MSTP, PVST+, RSTP	1	No change	1



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	Should support Private VLAN , Vlan Aggregation , Translation , 802.1v	1		No change	1
	Should support snmp and syslog Notification for MAC addition, deletion and movement across ports	1		No change	1
D	Layer 3 features			No change	
	Support for IP Unicast routing protocols (static, RIPv2, OSPFv2 & v3, VRRP, BGP, PIM-DM/SSM) from day 1	1		No change	1
	Support MVR and PIM-SM, PIM-SSM	1		No change	1
	Switch Should support min 200K IPv4 routes	1		No change	1
	Switch Should support min 150K IPv6 routes	1		No change	1
	Switch Should support 100K or more multicast entries.	1		No change	1
	Switch should support 4K multicast groups or more and	1		No change	1
	Should support policy based traffic redirection	1		No change	1
	Switch should support network virtualization. Must support VXLAN, DCBX, ETS, PFC.	1		No change	1
	The switch should support unicast reverse path forwarding (URPF) check feature	1		No change	1
E	Quality of Service (QoS) Features			No change	
	Must support Diffserv Marking	1		No change	1
	Should support standard based protocols to dynamically reserve QoS and ensure lossless delivery of realtime Traffic	1		No change	1
	Switch should support eight hardware queues per port.	1		No change	1
F	Security Features			No change	
	Switch Must support minimum 300 ACLs	1		No change	1
	Must support SSH-2, SCP-2 and SFTP with encryption/authentication	1		No change	1
	Must support Denial of Service (Dos) protection. Please describe the switch capabilities to protect against Dos attacks	1		No change	1
	Must support 802.1x, RADIUS , TACACS+, Role-Base policy, Mac security	1		No change	1
	Must support the ability to authenticate multiple users on a single port via 802.1X, web, or MAC at the same time	1		No change	1
G	Management Features			No change	



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Should support Serial RS232 port ,OOB ethernet management port and USB or External Compact Flash slot	1	No change	1
Should support scheduled archiving / uploading of configuration and system log to a central server	1	No change	1
Switch should support ASIC based Flow monitoring like SFLOW/Netflow/IPFIX	1	No change	1
Should support ability to restart individual CPU process like snmp, ssh, stp etc in case of process crash without the need to reboot the entire switch.	1	No change	1
Should be manageable by SSH, RMON, SNMP, and HTTP/S	1	No change	1
Should support Fabric capabilities within same hardware. Must support the ability to automatically connect to the fabric backbone. Licenses for fabric network, Controller/Orchestration tool (including automation, dynamic segmentation etc) or equivalent solution should be supplied from day 1	1	No change	1
Should support OEM cloud management & Zero touch provisioning either via cloud or on prem NMS solution from day 1	1	Removed	1
Switch should support TCL or Python based scripting and Application Telemetry for visibility. Analytics licenses should be supplied from day 1 to provide granular insights into who is using what application, when, and where in network	1	No change	1
H Service Virtualization		No change	
Virtualizing and Segregating users and services in isolated zones (more secured mechanism than traditional VLANs separation especially for IoT deployments).	1	No change	1
The proposed solution needs to provide automated configuration of services end to end with minimal human intervention. configuration automation technologies provided by bidders should expand to be consistent across the access, campus core, the data center	1	No change	1
Fabric automation should be supported over the WAN to reach remote sites and make them part of the network in future. Bidder to explain how this is achieved.	1	No change	1



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	Solution should be able to build virtualized Layer 2/3 encapsulated tunnels across multiple switches, Data centers to extend servers domains with high-availability and security. Bidder must clearly mention what technology is used to achieve this.	1		No change	1	
	It should support any topology regardless of the number of switches connected and regardless of how they are connected	1		No change	1	
	The switch should support VXLAN or similar overlay technology	1		No change	1	
1	Standards Switch should be compliant to following certifications and Safety Regulation which are currently active: IEC 62368-1, EN 60825-1, FCC CFR 47 Part 15 Class A, RoHS, WEEE, EN 55032, EN55035, IEC/EN 61000-4-2,3,4,5,6,11	1		No change	1	

Previous Specifications			Changed Specifications				
IITB DR Hardware BOM			IITB DR Hardware BOM				
S/N	Item Description	Unit Qty	Total Qty	S/N	Item Description	Unit Qty	Total Qty
1	DR Server:			1	DR Server:		
	8 Small form factor (SFF) NC Configure-to-order Server	1			<i>Merged with HDD and removed</i>	-	-
	CX CTO Mod-X 8SFF	1			<i>Merged with HDD and removed</i>	-	-
	Minimum 2.8GHz 24-core 230W Processor (multi threading supported)	2			Minimum 2.8GHz 24-core Processor, multi threading, with heat sink	2	
	32GB (1x32GB) Dual Rank x4 DDR4-3200 CAS-22-22-22 Registered Smart Memory Kit	16	3		32GB DDR4-3200 Registered DIMM	16	3
	600GB SAS 12G Mission Critical 10K SFF BC 5-years Warranty Multi Vendor HDD	2			600GB SAS 12G 10K SFF HDD with minimum 8 Small form factor slots with required cables	2	
	x8/x16/x8 Primary FIO Riser Kit	1			PCIe Riser Card with Flexible Slot Configuration	1	
	x16 Lanes 4GB Cache NVMe/SAS 12G RAID Controller	1			4GB Cache NVMe/SAS 12G RAID Controller	1	
	32GB 2-port Fibre Channel Host Bus Adapter	1			<i>No change</i>	1	
	Ethernet 10GB 2-port BASE-T Adapter	1			<i>No change</i>	1	



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	96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	1			Battery for backing cache and RAM in the event of power failure	1	
	Ethernet 1Gb 4-port BASE-T OCP3 Adapter	1			Ethernet 1GB 4-port BASE-T Adapter	1	
	Maximum Performance Fan Kit	1			Cooling fans inside cabinet	1	
	Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	2			Hot-Swappable Power Supply Unit	2	
	ILO (or equivalent Platform Management Architecture) Advanced 1-server License with 5 Years Support on Licensed Features	1			Lights-out management for remote server monitoring and control	1	
	8SFF SAS/SATA Tri-Mode Cable Kit	1			<i>Merged with HDD and removed</i>	-	
	Black Rivets Kit	1			<i>Removed</i>	-	
	2U SFF Easy Install Rail Kit	1			2U SFF Rail Kit	1	
	High Performance Heat Sink Kit	2			<i>Merged with processor and removed</i>	-	
	5 Years Technical Care Critical with Defective Media Retention Service	1			5 Years warranty (24x7) for functioning of all the components of the server (includes hardware and software) with 4-hours response time	1	
	5 Years Technical Support for Server Hardware with replacement (24x7)	1			<i>Merged with warranty and removed</i>	-	
S/N	Item Description	Unit Qty	Total Qty	S/N	Item Description	Unit Qty	Total Qty
2	DR Switches:			2	DR Switches:		
	24 Port 1/10G 6QSFP+ or QSFP28 Switch	1			No change	1	
	40G QSFP+ MPO SR4 Transceiver	2			No change	2	
	Front-to-Back Fan Tray	4			No change	4	
	450W Front-to-Back AC Power Supply	2	2		No change	2	2
	450W Front-to-Back AC Power Supply India English	2			No change	2	
	5 Years Foundation Care Critical Service	1			Merged with warranty and removed	-	
	5 Years 24G Support (24x7)	1			5 Years warranty (24x7) for functioning of all the components of the Switch with 4-hours response time	1	
S/N	Item Description	Unit Qty	Total Qty	S/N	Item Description	Unit Qty	Total Qty
3	DR SAN Switches:			3	DR SAN Switches:		
	32Gb 24/8 8-port 32GB Short Wave SFP28 Fibre Channel Switch	1	2		32GB 24-port fiber channel switch with 8 port 32GB SFP28 populated	1	2



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S/N	Item Description	Unit Qty	Total Qty	S/N	Item Description	Unit Qty	Total Qty
	LC/LC Multi-mode OMA 2 Fiber 5m Cable	16			No change	16	
	32GB 8-port Short Wave SFP28 Fibre Channel Upgrade License with Transceiver Kit	1			32GB 8-port SFP28 Fibre Channel with Transceiver	1	
	5 Years Technical Care Critical Service	1			Merged with warranty and removed	-	
	5 Years 24/8 8p 32G Switch Support (24x7)	1			5 Years warranty (24x7) for functioning of all the components of the Switch with 4-hours response time	1	
4	DR Storage:			4	DR Storage:		
	Block Storage Base Configuration	1			Block Storage Base Configuration and Service	1	
	2U Chassis	1			No change	1	
	256GB 8-core Block Controller Node	2			Controller with Minimum 192GB memory, min. 8-core CPU (min. 2 active-active controllers)	1	
	Minimum of Raider 32/64GB 4-port Fibre Channel Host Bus Adapter	2			32/64 GbE Fibre Channel Port with redundancy with SFP28 shortwave transceiver (minimum 4)	1	
	32GB SFP28 Short Wave 1-pack Pull Tab Optical Transceiver	4			Merged with Fibre Channel Port and removed	-	
	1600W AC Power Supply	2			Power supply with redundancy with necessary C13 power cords	1	
	7.68TB NVMe SFF Encrypted SSD (Minimum 57TB Usable Capacity on RAID6, minimum 100K IOPS 70:30 R:W, minimum 16K block size)	12	1		Minimum 57 TB usable storage on RAID6, expandable at least up to 100 TB (NVMe SFF Encrypted SSD, minimum 100K IOPS with 16K block size 70:30 R:W)	1	1
	250V 10Amp Black 1.4m WW Power Cord	1			Merged with power supply and removed	-	
	N1293 250V 16Amp IN Power Cord	2			Merged with power supply and removed	-	
	250V 10Amp Gray 1.4m WW Power Cord	1			Merged with power supply and removed	-	
	Raider CDM Bluetooth Connectivity Kit	1			Removed	-	
	Block Storage OS 8-core Tier-4, 5-Years Software and Support Saas	92			Included in 5 year technical care service	-	
	FIPS Data Encryption E-LTU (Electronic License to use)	1			Support for FIPS Data Encryption with appropriate license	1	
	E-LTU (Electronic License to use)	1			Included in 5 year technical care service	-	
	Technical Installation Startup Service	1			Included in Installation Charges and removed	-	
	Block Storage OS Startup Service	1			Merged to base configuration and removed	-	
	Block Storage 2N Startup Service	1			Merged to base configuration and removed	-	
	Block Storage Service	1			Merged to base configuration and removed	-	



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5 Years Technical Care Essential Service (24x7)	1			5 Years warranty (24x7) for functioning of all the components of the storage (includes hardware and software) with 4-hours response time	1	
Base Configuration Support	1			Included in 5 year technical care service	-	
2U Chassis Support	1			Included in 5 year technical care service	-	
8C Switchless Node Support	2			Included in 5 year technical care service	-	
32/64 4pt FC HBA Support	2			Included in 5 year technical care service	-	
7.68TB NVMe FIPS SSD Support	12			Included in 5 year technical care service	-	
Virtual Rack Service	1			Included in 5 year technical care service	-	
Configurator Defined Build Instruction Option	1			Included in 5 year technical care service	-	

Assistant Registrar (MM)
IIT Bombay

7/2/24