			Corrigend	um – Tender Reference No.: DGR	PG/RackServer_HCI/2023/1
SN	Tender /	Page	Tender / ATC	Tender / ATC clause details /	Revised Clause
	ATC	No.	Clause	specification	
	Clause				
	No.				
1	25	5	Document	Date and time for submission of bids:	Date and time for submission of bids: 25-10-2023 upto
-	2.5	5	control sheet	12-10-2023 upto 11:00 Hrs	11:00 Hrs
				The bidder should have positive net	The bidder should have positive net worth and average
			Eligibility / pre-	worth and average annual turnover of	annual turnover of more than Rs. 20 crores for any
2	5.1.2.3	8	qualification	more than Rs. 35 crores for any three	three of the last five financial years reported i.e. till FY
			criteria	of the last five financial years reported	2022-23.
				i.e. till FY 2022-23.	
3	4.1.4	7	Introduction	Additional Point	The bidding of Rack Server and HCI are independent. In case bidding for either equipment (Rack Server or HCI) does not materalize for whatsover reason, bidding for the other equipment shall not be affected.
4	7.2.1	24	Processor	Processor Turbo Frequency (GHz) - 3.5 or higher	Processor Turbo Frequency (GHz) - 3.1 or higher
				Motherboard - Expansion Slots Gen	Motherboard - Expansion Slots Gen 3 (PCle x16/x8)-
5	7.2.1	24	Rack Server	3 (PCIe x16)-Minimum 4 PCI slots per	Minimum 4 PCI slots per server required
				server required	

				Security Fe	eatures-1	-Secure	Boot	Security	/ Featur	es-1"Sec	ure Boo	ot (Firmware	e and Bios
				(Firmware an	nd Bios L	evel Sec	curity or	Level S	Security of	or same	feature)	, Provision	to lock the
				same feature	e), Provis	sion to le	ock the	system	on brea	ch, Hard	ware roo	ot of trust/D	ual Root of
				system on b	reach, H	lardware	root of	Trust,	Server	should	orovide	policy-base	d security,
				trust/Dual F	Root of	Trust,	Server	Server	should p	provide s	erver int	rusion dete	ction"(to be
6	7.2.1	26	Rack Server	should provid	de policy	-based s	security,	certified	l by OEN	/1)''			
				Server should	d provide	server in	ntrusion						
				detection,	security	/ dasł	nboard,						
				"Malicious C	ode Free	e design'	" (to be						
				certified by 0	OEM)	-							

7	7.2.1	27	Virtualization	Offered servers shall have included virtualization software with Compute virtualization layer that sits directly on the bare metal server hardware with no dependence on a general purpose OS with features like proactive HA , replication, fault tolerance with continuous availability of VMs with zero downtime and zero data loss, hot add of CPU, memory, devices for windows as well as Linux VMs, VM level encryption, secure boot, uninterrupted service delivery within and across datacenter at geographical distance (<100ms latency), distributed virtual switch, kernel embedded network and storage virtualization technology. Live Virtual Machine migration between different generations of CPUs in the same cluster with and without the need for shared storage option. All required licenses for the same shall be included in the offer. Support for Integration of 3rd party endpoint security to secure the virtual machines with offloaded antivirus, antimalware, firewall solutions with/without the need for agents inside the virtual disk without any downtime from one physical host and storage to another with or without shared storage between clusters, across virtual switches and management servers.	Offered servers shall have included virtualization software with Compute virtualization layer that sits directly on the bare metal server hardware with no dependence on a general purpose OS with features like replication, fault tolerance with continuous availability of VMs with zero downtime and zero data loss, hot add of CPU, memory, devices for windows as well as Linux VMs. uninterrupted service delivery within and across datacenter at geographical distance (<100ms latency), Live Virtual Machine migration between different generations of CPUs in the same cluster with and without the need for shared storage option. All required licenses for the same shall be included in the offer. Integration of 3rd party endpoint security to secure the virtual machines with offloaded antivirus, antimalware, firewall solutions with/without the need for agents inside the virtual machines. Live migration of VMs and virtual disk without any downtime from one physical host and storage to another with or without shared storage between clusters, across virtual switches and management servers. Support for proactive HA, VM level encryption, secure boot, distributed virtual switch, kernel embedded network and storage virtualization technology.
8	7.2.2	29	High Availability Features	The proposed solution should be capable of connecting to FC SAN for VM migration and reusing existing Storage natively using FC HBA.	Clause stands deleted.

9	7.2.2	29	Backup Features	The Bidder shall provide the required backup solution (Either in-built) or additional for above backup requirements. Vendor shall ensure that backup engine shall be running on each offered HCI node. If a vendor needs to create a separate VM for backup and recovery operations, Vendor shall ensure that VM shall be created on each offered HCI node in HA. Each VM shall be allocated at-least 128GB memory, 8 physical cores and 2 x 10/25Gbps ethernet ports. Native storage/VM level snapshots or Space efficient full backups with no impact to guest performance or using any additional storage capacity.	Clause stands deleted.
10	7.2.2	30	Storage and Data Protection Features	The solution shall provide hyper- converged software that allows delivery of enterprise-class storage services using the x86 server infrastructures without dependence on a separate Storage Area Network & associated component such as SAN Switches & HBAs. It should be capable of supporting VMware ESXi. / Microsoft Hyper V.	The solution shall provide hyper-converged software that allows delivery of enterprise-class storage services using the x86 server infrastructures without dependence on a separate Storage Area Network & associated component such as SAN Switches & HBAs. It should be capable of supporting VMware ESXi. / Microsoft Hyper V / Nutanix AHV.

				The proposed solution should consist	The proposed solution should consist of 4 nodes, each
				of 4 nodes, each with the following	with the following specifications:
				specifications:	• Processor: 2x Intel Gold processors with 40 cores per
				 Processor: 2x Intel Gold processors 	socket or more
				with 40 cores or more per node	 RAM: 1024GB per node.
				RAM: 1024GB per node.	 Storage: 15TB usable storage per node, designed with
				 Storage: 15TB usable storage per 	SSDs not larger than 4TB
				node, designed with SSDs not larger than	• 4x10GbF SEP+ Ports Uplink 2x10/25Gbps
				4TB.	1GbF management ports
				• 4x10GbE SFP+ Ports, 1GbE	Eault tolerance: able to tolerate one node failure
11	7 7 7	21	Support and	management ports.	without any data loss. To achieve fault tolerance a
	1.2.2	51	Licenses	• Fault tolerance: able to tolerate one	without any data loss. To achieve fault tolerance, a
				node failure without any data loss. To	implemented such as using a distributed file system
				achieve fault tolerance, a suitable	or storage system that replicates data across multiple
				clustering or high availability solution	bi storage system that replicates data across multiple
				should be implemented, such as using	data remaine accessible and no data is lest
				a distributed file system or storage	All the solution software license should be pernetual
				system that replicates data across multiple	• All the solution software license should be perpetual.
				nodes. This will ensure that in case of a	
				and no data is lost	
10	700	04	Devier	Max power consumption - 1200 W	Max power consumption - 1200 W per Node
12	1.2.2	31	Power		
				Per Node configuration for future	Per Node configuration for future upgrade, 2x Intel
				upgrade, 2x Intel Gold 40 Core	Gold 40 Core Processor per socket, 1024 GB
				Processor, 1024 GB RAM,10TB	RAM,15TB Usable capacity on SSD, 4x10GbE SFP+
13	7 2 2	30	Future	Usable capacity on SSD, 4x10GbE	Ports, 1GbE management ports with same features and
15	1.2.2	52	upgrade	SFP+ Ports, 1GbE management ports	required components for the same HCI solutions.
				with same features and required	
				components for the same HCI	
				solutions.	
				The delivery, installation &	The delivery, installation & commissioning of the
11	721	30	Delivery &	commissioning of the equipment	equipment should be completed within 60 days from
14	7.0.1	32	Installation	should be completed within 45 days	the date of issue of work order
				from the date of issue of work order	

				Activity - Preventive Maintenance of	Activity - Preventive Maintenance of the equipment.
				the equipment.	Target/Service Level - Within 2 days after a request
			SLA and	Target/Service Level - At least twice	for the same is raised by DGRPG.
15	8.5	34	Liquidated	a year (in the months of January	
			Damages	and June each year) or within 2	
				days after a request for the same is	
				raised by DGRPG.	
		34	SLA and Liquidated Damages	Activity - Submission of RCA report	Activity - Submission of RCA report for a failure as
16	07			for each failure.	and when requested by DGRPG
10	0.1			Target / Service Level - Within 7 days	Target / Service Level - Within 7 days after a request
				of complaint	for the same is raised by DGRPG.
				Payment to the Service Provider shall	Payment to the Service Provider shall be made in
17	011	35	Payment	be made in Indian Rupees through	Indian Rupees through NEFT / RTGS.
17	9.1.1		Terms	NEFT / RTGS only on quarterly	
				basis.	

	Response to Queries (RTQ) – Tender Reference No.: DGRPG/RackServer_HCI/2023/1										
SN	Tender /	Page	Tender / ATC	Tender / ATC clause	Amendment Sought /	Justification	PSeGS				
	ATC Clause	No.	Clause	details/specification	Suggestion		Response				
	No.						-				
1	No. 5.1.2.3	8	Eligibility / pre- qualification criteria	The bidder should have positive net worth and average annual turnover of more than Rs. 35 crores for any three of the last five financial years reported i.e. till FY 2022-23.	 The bidder should have positive net worth and average annual turnover of more than Rs. 20 crores for any three of the last five financial years reported i.e. till FY 2022-23. 2. Please change turnover to 20 Cr. 3. Kindly change this clause 	1. As every bidder does not have 35 Cr. In last 3 years. so, request you to please change this to 20 cr. 2.Our Company is, MSME registered company with average Annual Financial turnover is Rs.21 Crore in last 3 years and not able to participate in your floated just because asked financial annual turnover is Rs. 35 Crore, we request to please reduce financial annual turnover is upto Rs. 20 Crore instead of Rs. 35 and give us a chance to at least participate in the floated RFP. And as per the policy laid by Govt. of India for MSME & Start-up Policy our request can be considered .It's our humble request to consider. our request to reduce financial annual turnover. 3. As every bidder does not have 35 cr. In last 3 yeras. So, request you to please change this to 20 cr.	Refer Corrigendum				

2	5.1.2.4	8	Eligibility / pre-	Bidders should have successfully	1. Kindly change this clause to 3	1. Split these orders into :-	As per RFP
			qualification	completed "similar work" in	orders of 1Cr. Each	Three similar works each	
			criteria	government (departments/	OR	costing not less than the amount	
				boards/corporations/ PSUs/	Kindly amend the same as	equal to Rs. 1. crore each .	
				Societies) / Large reputed	follows:	because every Partner don't	
				Enterprise during the last ten	Bidders should have successfully	have 2.5 Cr amount 3 orders.	
				years ending 31.03.2023.	completed "similar work" in		
				• One similar work costing not	government (departments/		
				less than the amount equal to	boards/ corporations/ PSUs/		
				Rs. 5 crore. OR	Societies) / Large reputed		
				• Two similar works each costing	Enterprise during the last ten		
				not less than the amount equal to	years ending 31.03.2023. • One		
				Rs. 3.5 crore each. OR	similar work costing not less than		
				Three similar works each costing	the amount equal to Rs. 1 crore.		
				not less than the amount equal to	OR • Two similar works each		
				Rs. 2.5 crore each.	costing not less than the amount		
					equal to Rs. 70 Lacs each. OR		
					Three similar works each costing		
					not less than the amount equal to		
					Rs. 50 Lacs each.		
					Or		
					Kindly consider undertaking / self-		
					declaration form data center		
					vendors who are using their in		
					house data center for commercial		
					use.		
					2.Bidder/OEM should have		
					successfully completed "similar		
					work in government		
					(departments/		
					poards/corporations/ PSUs/		

3	5.1.2	8	Eligibility / pre-		1. Kindly change this clause to	1. Kindly change this clause to	As per RFP
			gualification	-	OEM/Bidder.	OEM/Bidder. Because every	
			criteria		2. Kindly change this	bidder doesn't have Same	
					clause to OEM/Bidder.	eligibility in both components.	
					3. Kindly change	2. Kindly change this clause to	
					Past performance with	OEM/Bidder. So if any bidder	
					OEM/Bidder	doesn't have the same past	
						performance, they can	
						participate with the help of their	
						OEM. Kindly split up the	
						experience criteria as EMD is	
						divided for both components of	
						the tender.	
						3. Because every bidder doesn't	
						have a PO of the same amount.	
						Although we have been working	
						on these solutions from past	
						years , the PO amount is not as	
						per the requested value. Please	
						change this to three POs of one	
						crore or allow bidders / OEMs.	
4			Additional	Consortium	Please Allow Consortium		As per RFP
	_	_	Point				
5	7.2.1	24	Technical	Rack Server	Please share the OEM and		As per RFP
			Specifications		existing details		
6	2.5	5	Document	Date and time for submission of	Please Allow / Extend		Refer
			control sheet	bids:	Submission date 10 more working		Corrigendum
_				12-10-2023 upto 11:00 Hrs	days.		
7	7.1.7	24	Scope of	Installation, commissioning,	Installation & Comissioning would	Regarding 3 day training, Kindly	As per RFP
			Work -	demonstration and 3 days onsite	be done by OEM or its authoried	confirm the scope of training	
			Introduction	training of the equipment would	/Certified engineer.	required & quality of instructor.	
				be done by the OEM or its			
				authorized / certified engineer.			
		1		The Service Provider would do			
1		1		necessary coordination with the			
				OEM for the same.			
1							

8	7.3.1	32	Delivery &	The delivery, installation &	1. The delivery of the equipment	1. Request you to condsider the	Refer
			Installation	commissioning of the equipment	should be completed within 45	same beceause it required	Corrigendum
				should be completed within 45	days from the date of issue of	sufficient time to get the	
				days from the date of issue of	work order and installation &	material installed as per the	
				work order	commissioning will be completed	instruction given by Data Center	
					in 30 days after delivery.	team. 2. As prospective	
					2. We would request	bidder we would request to	
					to conisder delivery period of 70	change the delivery, installation	
					days and post delivery 30 days	& commissioning schedule for	
					for installation & commissioning,	larger participation.	
					since there will be lead time 8	3. Delivery, Installation &	
					weeks from OEM side.	commissioning of the equipment	
					3. The delivery,	in such a short period of 45 days	
					installation & commissioning of	is not possible as it is a time	
					the equipment should be	taking process. Every OEM has	
					completed within 90 days from	their different delivery terms	
					the date of issue of work order.	which are difficult to achieve in	
						this short period. Hence we	
						request you to amend the same	
						as 90 days.	
9	8.1	33	SLA and	Activity - Submission of PBG	30 days from the issue of Letter	Request you to consider the	As per RFP
			Liquidated	and signing of rate contract : 20	of Intent (LoI)	same.	
			Damages	days from the issue of Lol.			
				Target / Service Leve - 20 days			
				from the issue of Letter of Intent			
10	8.4	33	SLA and	Activity - Resolution of the	Liquidated damages Rs 5,000/-	While we stand committed to	As per RFP
			Liquidated	complaints and Service Support	per day incase issue remains	resolve any issue within 24 hrs,	
			Damages	during warranty period (including	unresolved after 48 hrs	Request you to consider	
				the cases where the equipment		liquidated damages clause	
				is required to be replaced)			
				Target/Service Level - Within 10			
		1		+ 24			
		1		nours of lodging of complaint.			
				Liquidated Damages for delays			
				beyond target level - Rs. 5,000/-			
				per day			
L	1	1	1				

11	8.5	34	SLA and	Activity - Preventive	At least once a year (in the month	Request you to consider the	Refer
			Liquidated	Maintenance of the equipment.	of January each year) or within 7-	same. Since Hardware	Corrigendum
			Damages	Target/Service Level - At least	10 days after a request for the	component is replaced	-
			_	twice a year (in the months of	same is raised by DGRPG	immediately on call in case	
				January and June each year) or		found defective.	
				within 2 days after a request for			
				the same is raised by DGRPG.			
12	8.6	34	SLA and	Activity - Repeated occurrence	Please delete this.	Servers have 3-4 components	As per RFP
			Liquidated	of the issues in equipment		only and they can be replaced in	
			Damages	despite resolutions by the		case of any repeated	
				Service Provider		occurrence of any issue.	
				Deliverable - Permanent			
				replacement of the equipment			
				with a new one of equal or higher			
10		<u>.</u>		specification			.
13	8.7	34	SLA and	Activity - Submission of RCA	RCA not possible for all calls.	RCA possible for Repeated	Refer
			Liquidated	report for each failure.		Problems only. Within 30 days	Corrigendum
			Damages	Target / Service Level - Within /		of resolution.	
11	0.1.2	25	Deviment	days of complaint	1 Deverent 200% and delivery and	1. Deguest you to consider the	
14	9.1.2	35	Tarma	Payment: 100% payment on	1. Payment: 80% on delivery and	1. Request you to consider the	As per RFP
			Conorol	commissioning of the equipment	20% OII Installation &	same as these are high value	
			General	commissioning of the equipment	commissioning. 2. we	goods. We are submitting bG	
				shall be released to the vehicor	would request you to release 80%	also.	
				desumente:	balance 20% against installation	2. As prospective bidder we	
				0 1 2 1 Original conv of Invoice	and commissioning of the	novment terms for larger	
				9.1.2.1 Original copy of Invoice	and commissioning of the	payment terms for larger	
				Chellen	the neument off front to our	2 Ao 100% ofter delivery 8	
				Chanan	OFM's and our outflow and inflow	5. As 100% after delivery &	
				9.1.2.3 Original Copy of	will be offected, bence we request	MSME organizations like up	
				report	te release 80% against delivery	Hence to maintain the cash flow	
				0 1 2 4 Tests & acceptance of		of the project we request you to	
					5. We request you to	amond the same	
				0 1 2 5 Training report	as: 00% payment on delivery and		
				9.1.2.3 Training report	linspection of equipments		
					10% payment on installation and		
					commissioning of the equipment		
					shall bereleased to the vender on		
					production of following		
					documente:		

15	7.2.2	28	Hyper Converged Infrastructure (HCI)	Solution Capability - All the components of HCI such as compute nodes, hypervisor OS, storage disks, management software should be factory installed and shipped ready for fast deployment.	All the components of HCI such as compute nodes, hypervisor OS, Software Defined Storage, storage disks, management software should be factory installed and shipped ready for fast deployment.	Software Defined Storage is an integral part of the HCI Appliance and must be included in the factory installed components. Otherwise DGR shall end up in procuring a sub- standard HCI Solution.	Pl refer Solution Capability: HCI Solution, deliver with factory Installed (Pre- installed) with Software Defined Storage
16	7.2.2	29	Cluster Capability	The solution should be expandable to 16 nodes (minimum) in the same cluster and (minimum) 64 nodes in federation; each node shall be able to access cluster storage capacity.	The solution should be expandable to 64 nodes (minimum) in the same cluster and each node shall provide both compute and storage capacity to the HCl cluster. 2. The solution should be expandable to 32 nodes (minimum) in the same cluster and (minimum) 64 nodes in federation; each node shall be able to access cluster storage capacity	 As per section 7.1.4 on Page 23, scalability of upto 64 nodes is envisaged in HCI Cluster. Please note that 16 Nodes scalability favors a particular OEM but could be threat to investments of DGRPG since multiple clusters would require multiple HA & failover nodes, which would require unecessary additional investment and will also limit the application scalability within the cluster as well. Expandability is an important aspect of the solution scalability. Department will like to take the advantage of scalability in near future. So kindly mention the cluster expandability as 32 nodes. 	As per RFP
17	7.2.2	29	High Availability Features	Each node should have a redundant boot/OS drive in RAID 1 configuration for high availability. Boot disks should be in addition to capacity and cache disks.	Each node should have a redundant boot/OS drive (M.2) in RAID 1 configuration with BOSS card for high availability.	In order to avoid performance issues on the OS Drives and to have parity in configuration across OEMs, it is recommended to mention the OS drive type as M.2 with BOSS Card.	As per RFP

18	7.2.2	29	High Availability	RF2 or One Copy of data for high availability in case of node	Erasure Coding or RF2 or One Copy of data for high availability	Each OEM has a different way of data protection. Request to	As per RFP
			Features	failure.	in case of node failure.	kindly allow Erasure coding for	
						functional requirement of One	
						Node failure protection, for	
						better participation from all the	
						OEMs.	
19	7.2.2	29	Backup	The Bidder shall provide the	1. Bidder to provde separate	1. In-built backup within the HCI	Refer
			Features	required backup solution	Backup Server, licenses, software	solution shall have the following	Corrigendum
				(Either in-built) or additional for	and capacity for the backup of the	disadvantages:	
				above backup requirements.	proposed HCI Solution.	a. Not able to restore in case of	
				Vendor shall ensure that	2.	ESXi / HCI failure, since the	
				backup engine shall be running	Resources asked for backup VM	backup will reside on the HCI	
				on each offered HCI node. If a	would be in addition to resources	nodes itself.	
				vendor needs to create a	asked by department or it would	b. Additional performance and	
				separate VM for backup and	be carved out from the asked	resource overhead on the HCI	
				recovery operations, Vendor	resources only. 3. The	solution leading to performance	
				shall ensure that VM shall be	Bidder shall provide the required	degradation of the production	
				created on each offered HCI	backup solution (Either in-built) or	workloads.	
				node in HA. Each VM shall	additional for above backup	c. No agent based backup for	
				be allocated at-least 128GB	requirements. Vendor shall	the workloads like databases etc.	
				memory, 8 physical cores and 2	ensure that backup engine shall	d. no option for Tape out / Tape	
				x 10/25Gbps ethernet ports.	be running on each offered HCI	cloning leading to risk of long	
				Native storage/VM level	node. If a vendor needs to create	term backup unavailability.	
				snapshots or Space efficient full	a separate VM for backup and	2. Clarification requested.	
				backups with no impact to guest	recovery operations, Vendor shall	3. Requesting to amend	
				performance or using any	ensure that VM shall be created	the clause as the backup VM is	
				additional storage capacity	on each offered HCI node in HA.	sized as per	
						recommendations/industry best	
						practices. Department should	
						give the sizing choice to the	
						bidder.	
20	7.2.2	30	Storage and	The solution should support	The solution should support	NFS (file) and iSCSI (block)	As per RFP
			Data	standard industry protocols of	standard industry protocols of	serve different use cases and	
			Protection	ISCSI/NFS.	ISCSI, NFS/SMB natively.	hence both must be requested	
			Features			for investment protection.	
						Otherwise DGRPG may end up	
						in procuring a sub-standard HCI	
						solution.	

21	7.2.2	30	Storage and	The storage architecture needs	The software defined storage as	Architectures requiring separate	As per RFP
			Data	to be integrated within or can be	part of the HCI solution should be	VM for Storage Services tend to	-
			Protection	outside the kernel.	integrated within the hypervisor	use additional CPU and	
			Features		kernel to provide better	Memory. Hence additional CPU	
					performance and resiliency and	and Memory resources need to	
					reduce less memory and CPU	be factored if such architecture	
					overhead. If the HCI solution	is being proposed.	
					need to run any control virtual		
					machine(CVM) for providing		
					storage services then the solution		
					needs to factor in additional		
					CPU, Memory and Storage. OEM		
					to declare how much additional		
					resources have been provided for		
					this additional overhead of		
	7.0.0	0.0			Storage VM		
22	7.2.2	30	Management		Single Click rolling	In order to avoid the	As per RFP
			Features	for all components of	Upgrade/Update for all	compatibility issues across	
				computing (including network	components of computing	different components and to	
				adapter, BIOS), hypervisor and	(Including network adapter,	avoid different roadmaps for	
				SDS.	BIOS), hypervisor and SDS.	different components (like	
					Proposed HCI Solution should be	software, nardware etc.), it is	
					aligned to a single product	recommended to have single	
					roadmap from a single vendor	for the UCL solution	
					and a single support contract	for the HCI solution.	
					authorized to take support calls		
					for both the hardware and		
					software on the appliance.		

23	7.2.2	31	Support and	The proposed solution should	The proposed solution should	a. Kindly mention the Cache	Refer
			Licenses	consist of 4 nodes, each with	consist of 4 nodes (1 RU / 2RU	required per node for	Corrigendum
				the following specifications:	each) each with the following	performance enhancement.	-
				• Processor: 2x Intel Gold	specifications:	b. It is recomended to have dual	
				processors with 40 cores or more	• Processor: 2x Intel Gold	port redundant network cards in	
				per node	processors with 40 cores or more	order to achieve card Network	
				• RAM: 1024GB per node.	per node	card level redundancy as well.	
				• Storage: 15TB usable	RAM: 1024GB per node.	c. Redundant Having storage	
				storage per node, designed with	 Storage: 15TB usable 	system for capacity shall	
				SSDs not larger than 4TB.	storage per node, designed with	dissovle the previously	
				• 4x10GbE SFP+ Ports, 1GbE	SSDs not larger than 4TB, 800GB	mentioned HCI Specifications.	
				management ports.	SSD based Cache or higher per	Futhermore Storage system	
				• Fault tolerance: able to	node. Overall solution must have	shall change HCI architecture to	
				tolerate one node failure without	60TB Usable capacity across the	traditional 3 tier architecture	
				any data loss. To achieve fault	4 Nodes.	which is not the intent of this	
				tolerance, a suitable clustering	• 4x10GbE SFP+ Ports using	RFP.	
				or high availability solution	redundant dual-port network		
				should be implemented, such	cards, 1GbE management ports.		
				as using a distributed file	• Fault tolerance: able to		
				system or storage system that	tolerate one node failure without		
				replicates data across multiple	any data loss. To achieve fault		
				nodes. This will ensure that in	tolerance, a suitable clustering		
				case of a node failure, the data	or high availability solution		
				remains accessible and no data	should be implemented, with		
				is lost.	software defined storage that		
					distributes across multiple nodes.		
					This will ensure that in case of a		
					node failure, the data remains		
					accessible and no data is lost.		
24	7.2.2	31	Support and	Bidder shall provide required	Bidder shall provide required	Each OEM has a different	As per RFP
			Licenses	licenses for replicating unlimited	licenses for replicating unlimited	architecture. Some have	
				VMs per node to another cluster	VMs per node to another cluster	replication capabilities within	
				that needs to be considered. This	that needs to be considered. This	HCI Hypervisor and some have	
				feature needs to be over and	feature should be provided either	separate software tools for the	
				above any replication features	with the Hypervisor of proposed	same.	
				offered by the hypervisor itself.	HCI solution or by additional		
					software.		

25	7.2.2	31	Support Licenses	and	The confi in com be e	solution gured with HA for nunication (tendable for	should required inter as well a or 40 nod	be switches node and shal es HCI	HCI supp supp traffi switc 48 x node redu cooli prov ethel uplin LAN, Gbps conn trans shou prop	Solutior undant In ort Iow c betwee ch should 10 Gbps es conne ndant po ng fans. ide 80Gt rnet Band k conne /Network s links f nectivity) sceivers, ild be ind osed solu	a should terconne latency n HCI N provide optical p ctivity, a wer sup Each Sv ops (2 x bwer sup Each Sv ops (2 x dwidth o ctivity t & redu or ISL . All switche cluded v tion.	d inc ect swi East- lodes. oorts fo along pplies vitch s (40 (r high o ext indant (inters requ s, ca vith o	clude itch to West Each imum or HCI with and should Gbps) her for ternal t 100 switch uired ables, overall	Current clarify it to be a switches addition solution	specifi f the Ne achieved s or I al switc in future	catior etwork d on by c ches t e.	ns do	no bility ame ing HCI	As per RFP
26	7.2.2	31	Power		Max W	power cor	sumption	1200	Max W pe	power c er Node	onsumpt	tion -	1200	Please consum per noo solution	confirm ption m de basi shall co	that nentio is. Th onsun	the po ned is ne ove ne 300	ower for erall 0 W	Refer Corrigendum

27	7.2.2	31	Resiliency	 Proposed solution must be able to support multiple points of failure across multiple nodes, with no loss of function or data. Proposed solution shall be offered with a combination of both Hardware based for disk failure at each node level and node failure shall be protected with at-least RF2 (Replication Factor 2). In case a vendor doesn't support disk failure protection at hardware level within a given node then the vendor shall provide the complete node protection in RF3 (Replication Factor 3). Must be able to compulsorily sustain minimum of simultaneous 1-HDDs failures in each node of a cluster 	 Proposed solution must be able to support multiple points of failure across multiple nodes, with no loss of function or data. Proposed solution shall be offered with a combination of both Hardware based for disk failure at each node level and node failure shall be protected with at-least FTT1 (Erasure Coding) or RF2 (Replication Factor 2). In case a vendor doesn't support disk failure protection at hardware level within a given node then the vendor shall provide the complete node protection in RF3 (Replication Factor 3). Must be able to compulsorily sustain minimum of simultaneous 1-HDDs failures 	RF2 restricts the solution to one particular OEM only. Request to kindly allow FTT1 (erasure Coding) for functional requirement of one node failure for wider participation from all the OEMs. 2. It is recommended to have redundant dual ported NIC cards to ensure VM availability even during NIC Card failure along with port failure.	As per RFP
				failures in each node of a cluster and across all nodes in the cluster without data loss.5. Each offered node should be able to sustain 1 NIC port failure.	of simultaneous 1-HDDs failures in each node of a cluster and across all nodes in the cluster without data loss. 5. Each offered node should be able to sustain 1 NIC card failure.		
28	7.2.2	32	Future upgrade	Per Node configuration for future upgrade, 2x Intel Gold 40 Core Processor, 1024 GB RAM,10TB Usable capacity on SSD, 4x10GbE SFP+ Ports, 1GbE management ports with same features and required components for the same HCI solutions.	Per Node configuration for future upgrade, 2x Intel Gold 20 Core Processor, 1024 GB RAM,10TB Usable capacity on SSD, 4x10GbE SFP+ Ports, 1GbE management ports with same features and required components for the same HCI solutions.	As per the specification mentioned above, 40 Cores per Node are needed which means 20 Core per processor.	Refer Corrigendum

29	7.2.2	30	Security Features	Suggestion	Please include: Native Virtual Machine Encryption also should be provided from day one. The HCI Appliance should be capable of supporting Data at Rest Encryption by software layer for better security, using		As per RFP
30	7.2.2	30	Management Features	Suggestion	Please include: Online portal should provide advanced metrics, capacity planning, Global Visualization, collect and analyze telemetry data based on Machine Learning to detect patterns and behavior and subsequently trigger health events and remediation steps for HCI system. The solution should support Online Analytics on Health of the HCI solution and provide predictive alerts.		As per RFP
31	7.2.2	28	Performance Features	The Bidder shall ensure minimum 40000 IOPs with 60:40 read: write ratio and 8K block size, either with cache or equivalent feature. Documentary proof/Data sheet for the performance needs to be submitted along with the proposal.	The Bidder shall ensure minimum 70000 IOPs with 60:40 read: write ratio and 8K block size per node, either with cache or equivalent feature.Documentary proof/Data sheet for the performance needs to be submitted along with the proposal.	40000 IOPS are very small if department is looking for all flash storage as 40000 IOPS can be achieved even with hybrid config with combination of SSD and HDD and department will be able to save lot of money without compromising on the performance. So kindly mentioned the per node IOPS	As per RFP
32	7.2.2	29	High Availability Features	The proposed solution should be capable of connecting to FC SAN for VM migration and reusing existing Storage natively using FC HBA.	Should be removed.	Data migration is one time activity and the bidder/ OEMs provide migration solution as per industry best practices. Hence requesting the Department to remove this point to participate as major HCI OEM are getting restricted due to this clause	Refer Corrigendum

33	7.2.2	30	Storage and	The solution shall provide hyper-	The solution shall provide hyper-	Hypervisor is one of the core	Refer
			Data	converged software that allows	converged software that allows	component of the HCI.	Corrigendum
			Protection	delivery of enterprise-class	delivery of enterprise-class	Department should evaluate all	
			Features	storage services using the x86	storage services using the x86	the available enterprise grade	
				server infrastructures without	server infrastructures without	hypervisors in the industry.	
				dependence on a separate	dependence on a separate	This is in-line with the	
				Storage Area Network &	Storage Area Network &	Virtualization layer asked in the	
				associated component such as	associated component such as	Rack Servers. This will ensure	
				SAN Switches & HBAs. It should	SAN Switches & HBAs. It should	competition and best techno-	
				be capable of supporting	be capable of supporting VMware	commercial solution to the	
				VMware ESXi. / Microsoft Hyper	ESXi. / Microsoft Hyper V /	bidder.	
				V	Nutanix AHV		
34	7.2.2	30	Storage and	Thin provisioning of both storage	Thin provisioning of both storage	Requesting to amend the clause	As per RFP
			Data	entities and virtual machine	entities.	as this is the industry best	
			Protection	virtual disks		practices.	
			Features				
35	7.2.2	30	Storage and	No Single Point of Failure with	No Single Point of Failure with	Requesting to ammend the	As per RFP
			Data	complete redundancy at all	complete redundancy at all	clause as this is the industry	
			Protection	levels. Nodes should be	levels. Cluster should be	best practice to keep redundant	
			Features	configured to have at least one	configured to have at least two	copies of data within cluster.	
				copy of data available in the	copies of data available in the	Hence on the event of any of	
				cluster, in order to support data &	cluster, in order to support data &	the node failure, the VMs will be	
				cluster availability in the event of	cluster availability in the event of	serviced with the replicated copy	
00	7.0.0	0.1	5	One Node Failure.	One Node Failure.	of date.	
36	7.2.2	31	Power	Max power consumption - 1200	Clarification required.	is this the actual power	Refer
				vv		consumed per node after	Corrigendum
						loading with all the required	
						components as per the	
						specifications. Department may	
						ask for the actual power	
						consumed details from the	
						bidder.	
						OR	
						This is the total power	
						consumed of the cluster. If so,	
						the total power consumed for	
						the asked specification can	
						never be so less for the cluster	

37	7.2.2	31	Resiliency	Proposed solution shall be	Remove clause.	Requesting removal of the	As per RFP
				offered with a combination of		clause as resilency asked is No	
				both Hardware based for disk		Single point of Failure, in the	
				failure at each node level and		entire solution.	
				node failure shall be protected			
				with at-least RF2 (Replication			
				Factor 2).			
				In case a vendor doesn't support			
				disk failure protection at			
				hardware level within a given			
				node then the vendor shall			
				provide the complete node			
				protection in RF3 (Replication			
				Factor 3).			
				Must be able to compulsorily			
				sustain minimum of			
				simultaneous 1-HDDs failures in			
				each node of a cluster and			
				across all nodes in the cluster			
38	722	31	Site	Without data loss Vendor shall do comprehensive	Vendor shall do comprehensive	Requesting to amend the word	As per RFP
00	1.2.2	01	Assessment	Cloud based assessment at-	Cloud based assessment at-least	Vmware with the word HCL This	
				least for VMware environment on	for VMware environment on a	will ensure the entire cluster as	
				a guarterly basis and shall factor	quarterly basis and shall factor	per HyperVisor choice of	
				the required services for it.	the required services for it.	department get the required	
				Assessment shall provide the	Assessment shall provide the	services.	
				detailed analysis of VMware	detailed analysis of VMware		
				Hosts – CPU & Memory	Hosts – CPU & Memory		
				utilization, Storage analysis and	utilization, Storage analysis and		
				relevant findings of contention,	relevant findings of contention,		
				Culprit and Victim VMs in the	Culprit and Victim VMs in the		
				environment attached to offered	environment attached to offered		
				storage. Offered assessment	storage. Offered assessment		
				shall do complete analysis of	shall do complete analysis of		
				licensing as well.	licensing as well.		
		1					

ſ	39	7.2.2	1	Additional Point	1. Solution should provide Virtual Network	Manadatory Clause which is	For enhanced security of the	As per RFP
	00	• •=•=	-		visibility with application-centric protection	misssing to deal with new age cybe	risolution	
			1		from network threats and automation of	attacks. This is the mandatory		
			1		common networking operations.	anacification hance request you t		
			1		2. Solution should integrate with 3rd party	specification hence request you to	5	
			1		physical network & security solutions (or their	include the same for east and wes	it j	
			1		managers) from leading OEMs using	traffic management.		
			1		programmable REST APIs/ OpenFlow/	-		
			1		Netconf/ Device packages to provide			
			1		integration with existing Perimeter devices			
			1		(network & security).			
			1		3. Solution should provide network micro			
			1		segmentation using integration with existing			
			1		stateful virtual firewall. The solution should			
			1		provide micro segmentation management			
			1		using the existing HCI management platform.			
			1		4. Solution should provide creation of security			
			1		groups and security policies/ rules based on			
			1		parameters like virtual			
			1		machine name/ OS type/ IP addresses/			
			1		Security Lags etc.			
			1		5. Solution should provide granular control			
			1		and governance across VIVI to VIVI traffic or			
			1		Vivis pre-defined Group/Department.			
			1		6. Solution must ensure that only permitted			
			1		trailic between application tiers of other logical			
			1		boundaries is allowed and protects against			
			1		advanced inteals propagating within the			
			1		7 Solution should support VM's life evolo			
			1		noticy based firewall rules for east west traffic			
			1		across VM's through one management			
			1		console without any third party software			
			1		8 Solution should integrate with third party			
			1		network function software like virtual load			
			1		balancers virtual firewall etc			
			1		9 Solution should have zero trust policy			
			1		model for connected systems or hosts			
			1		10 Solution should support traffic flows			
			1		visualization with context of end-to-end			
			1		Network Visibility from the VM, to the virtual			
ľ	40	721	24	Processor	Number of Cores per Processor -		Intel does not offer 128 cores	As per RFP
			[⁻ ·		128 or higher	-	nor cocket this is restricting	
			1				per socker, this is resulturing	
			1				Intel to participate here hence	
			l				request you to amend the clause	
			l				to total cores required per server	
			l					
			4	1				1

41	7.2.1	24	Processor	Processor Turbo Frequency (GHz) - 3.5 or higher	 Up to 3.1GHz. Up to 3.1GHz. Required Turbo frequency matches with 64 core processor only so please revise the requirement of number of cores / processor to 64C. Please amend clause as Processor Turbo Frequency (GHz) 3.1 or higher. 	1. 9754 AMD proc mentioned here supports turbo clock frequency of 3.1 GHz only hence change this to 3.1 GHz turbo clock frequency. 2. 9754 AMD proc mentioned here supports turbo clock frequency of 3.1 GHz only hence change this to 3.1 GHz turbo clock frequency. 3. AMD do not have have 128 core processor with turbo freq with 3.5 Ghz so please revise number of cores accordingly. 4. Asked processor 9754 have turbo	Refer Corrigendum
						frequency of 3.1 GHz.	
42	7.2.1	25	SSD Storage	Endurance for SATA SSD (DWPD - Drive Writes Per Day) (X) - 5 years warranty with no restriction of Writes on SSD		DWPD means data writes per drive in case Read intensive drives of 3.84 TB are quoted which have 1 DWPD it means it can max write 3.84 TB of data per day for 5 years hence kindly mention DWPD 1 or 3 or 10 is required from 1 single drive	As per RFP
43	7.2.1	25	Ports & Interfaces	FC HBA Speed (Gbps) - 4 X 32G FC Connectivity for Storage with NVME enabled	Yes Existing NVMe storage with front end FC ports is there, servers to have 2 X 2 Fiber channel ports	Just a clarity required NVMe storage is already deployed and up and running in environment servers would get connected to Nvme storage on Fiber channel, please clarify	As per RFP
44	7.2.1	26	Ports & Interfaces	Length of LC-LC Cable per HBA Port (meter) 15 M - 8	Yes 4 X LC-LC cables for 32G ports	HBA ports should require only 4 cables and not 8 cables, also specify length of cable required	As per RFP

45	Additional 128 GB RAM Module	_	Additional Point	Market position	The OEM for the proposed server must be in Leaders quadrant in the last two Gartner's report of "Magic Quadrant for Modular Servers" & should have been one of the top three server vendors (by market share revenue in IDC or Gartner report) in any of the previous 2 quarters	As per RFP
46	Additional 128 GB RAM Module		Additional Point	Configuration & management	 Real-time out-of-band hardware performance monitoring & alerting Agent-free monitoring, driver updates & configuration, power monitoring & capping, RAID management, external storage management, monitoring of FC, HBA & CNA & system health Out-of-band hardware & firmware inventory Zero-touch auto configuration to auto deploy a baseline server configuration profile Telemetry Streaming Idle Server Detection Real-time power meter, temperature monitoring, customized exhaust temperature and System Airflow Consumption 	As per RFP

128 GB Point Protection, reliable detection & rapid recovery using: - Silicon-based Hardware Root of Trust - Silicon-based Hardware Root of Trust - Silicon-based Hardware Root of Trust - Signed firmware updates - Secure default passwords - Configuration and firmware drift detection - Persistent event logging including user activity - Secure alerting - Persistent event logging - Automatic BIOS recovery - Rapid OS recovery - Rapid OS recovery - System erase - Dynamically enabled USB ports - Versistent event logging including user activity - Secure alerting 49 7.2.1 24 Processor Total Cache (L1+L2+L3) (MB) Yes - Xes 50 7.2.1 25 Memory Number of DIMM Stots populated with DDR SDRAM Maximum 16 Yes 16 X 128 GB LR DIMM Yes 16 X 128 GB LR DIMM As per RFP 51 7.2.1 25 SSD Storage Capacity offered per SATA SSD AG drive Yes 16 X 128 GB LR DIMM As per RFP 52 7.2.1 25 Raid Raid Level 0/1/1+0/5/50/6/60/1 Yes 175 RAID controller Yes 175 RAID controller As per RFP 53 7.2.1 25 Ports & Network Card Supported 10, 10G Yes 1 G in onboard and 10G on PCI <th>47</th> <th>Additional</th> <th></th> <th>Additional</th> <th>Server Security</th> <th>Should provide effective</th> <th></th> <th>As per RFP</th>	47	Additional		Additional	Server Security	Should provide effective		As per RFP
RAM ModuleRAM ModuleRAM ModuleRam GovernmentRam ModuleRam ModuleRam ModuleRam ModuleRam ModuleRam ModuleRam ModuleRam ModuleSecure default passwords - Configuration and firmware updates - Secure default passwords - Configuration and firmware drift detection - Persistent event logging Including user activity - Secure alerting - Automatic BIOS recovery - System erase - Dynamically enabled USB portsAs per RFP487.2.124ProcessorProcessorRagid OS recovery - System erase - Dynamically enabled USB portsYes 2.25 baseAs per RFP497.2.124ProcessorTotal Cache (L1+L2+L3) (MB) - U12 MB or higherYes - 256 MB cacheYes - 266 MB cacheAs per RFP507.2.125Memory - Dynamiced of the DIMM Slots - Maximum 16Yes 16 X 128 GB LR DIMM - Yes 16 X 128 GB LR DIMMAs per RFP517.2.125SSD Storage - Capacity offered per SATA SSD - (GB) 2 x 3.84 (or higher) TB SSD - Add driveYes 1755 RAID controllerYes 1755 RAID controllerAs per RFP527.2.125Ports & - InterfacesNumber of Ports Per Network - Network Card Supported 16,100Yes 1 G in onboard and 10G on - Yes 1 G in onboard and 10G on - As per RFP - PCIYes 2 X Ouad port 10G SFP+ - Cards with 8 X 10G opticsYes 2 X DP 32G FC cardsAs per RFP547.2.125Ports & - InterfacesNumber of Dual ports FC HBA - Network Card Supports 10G, SFP+ - Per - ServerYes 2 X DP 32G FC cardsAs per RFP - PCI </td <td></td> <td>128 GB</td> <td>_</td> <td>Point</td> <td></td> <td>protection, reliable detection &</td> <td></td> <td></td>		128 GB	_	Point		protection, reliable detection &		
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Image: Signed firmware updates - Signed firmware updates - Secure default passwords - Configuration and firmware drift detection - Persistent event logging including user activity - Rapid OS recovery - Rapid OS recovery - Rapid OS recovery - Rapid OS recovery - System erase - Dynamically enabled USB ports As per RFP 48 7.2.1 24 Processor Base Frequency (GHz) 1.9 or higher Yes 2.25 base Yes 2.25 base As per RFP 49 7.2.1 24 Processor Total Cache (L1+L2+L3) (MB) 12 MB or higher Yes 2.25 base Yes 2.25 base As per RFP 50 7.2.1 25 Memory Number of uppulated with DDR SDRAM Yes 16 X 128 GB LR DIMM Yes 16 X 128 GB LR DIMM As per RFP 50 7.2.1 25 SSD Storage Capacity offered per SATA SSD (GB) 2 x 3.84 (or higher) TB SSD AG drive Yes 175 RAID controller Yes 1755 RAID controller As per RFP 51 7.2.1 25 Raid Raid Level 0/1/1+0/5/50/6/0/1 Advanced Data Mirroring/10 Yes 1755 RAID controller Yes 12 X 0uad port 10G SFP+ Cards with 8 X 10G optics As per RFP 52 7.2.1 25 Ports & Interfaces Number of Ports Per Network Interface Card with SFP fully loaded 4x10 Gbps SFP+ per server Yes 2 X Ouad port 10G SFP+ Cards with 8 X 10G optics Yes 2 X DP 32G FC cards						- Silicon-based Hardware Root of		
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- Configuration and firmware drift defection- Configuration and firmware drift - System erase - Dynamically enabled USB ports- Configuration and firmware drift - Automatic BIOS recovery - System erase - Dynamically enabled USB ports487.2.124ProcessorProcessor Total Cache (L1+L2+L3) (MB) Populated with DDR SDRAM Maximum 16YesYes 16 X 128 GB LR DIMM Yes 16 X 128 G						- Secure default passwords		
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Image: Section of the section of th						detection		
1 1						- Persistent event logging		
- Secure alerting - Automatic BIOS recovery - Rapid OS recovery - Rapid OS recovery - Rapid OS recovery - System erase - Dynamically enabled USB ports - Dynamically enabled USB ports 48 7.2.1 24 Processor Processor 7.2.1 24 Processor Total Cache (L1+L2+L3) (MB) Yes 2.25 base Yes 2.25 base As per RFP 50 7.2.1 25 Memory Number of DIMM Slots populated with DDR SDRAM Yes 16 X 128 GB LR DIMM As per RFP 51 7.2.1 25 SSD Storage Capacity offered per SATA SSD Yes 175 RAID controller Yes 16 X 128 GB LR DIMM As per RFP 52 7.2.1 25 Raid Raid Level 0/1/1+0/5/50(6/60/1 Yes 175 RAID controller Yes 175 RAID controller As per RFP 53 7.2.1 25 Ports & Interfaces Number of Ports Per Network Yes 1 G in onboard and 10G on Yes 1 G in onboard and 10G on As per RFP 54 7.2.1 25 Ports & Interfaces Number of Ports Per Network Yes 2 X Quad port 10G SFP+ Yes 2 X Quad port 10G SFP+ cards with 8 X 10G optics As per RFP 54 7.2.1 25						including user activity		
Automatic BIOS recovery - Rapid OS recovery - System erase - Automatic BIOS recovery - System erase 48 7.2.1 24 Processor Processor Base Frequency (GHz) 1.9 or higher Yes 2.25 base Yes 2.25 base As per RFP 49 7.2.1 24 Processor Total Cache (L1+L2+L3) (MB) rotal Cache (L1+L2+L3) (MB) Yes Yes As per RFP 50 7.2.1 25 Memory Number of DIMM Slots populated with DDR SDRAM Maximum 16 Yes 16 X 128 GB LR DIMM Yes 16 X 128 GB LR DIMM As per RFP 50 7.2.1 25 SSD Storage Capacity offered per SATA SSD (GB) 2 x 3.84 (or higher) TB SSD Yes 16 X 128 GB LR DIMM Yes 2 X 3.84 TB RI SATA SSD AG drive Yes 172 K 3.84 TB RI SATA SSD AG drive Yes 175 RAID controller As per RFP 52 7.2.1 25 Ports & Interfaces Network Card Supported 1G,10G PCI Yes 1 G in onboard and 10G on PCI Yes 1 G in onboard and 10G on PCI Yes 2 X Quad port 10G SFP+ cards with 8 X 10G optics As per RFP 54 7.2.1 25 Ports & Interfaces Number of Drots Per Network card 2 Yes 2 X DP 32G FC cards Yes 2 X DP 32G FC cards As per RFP 55 7.2.1 25 Ports & Interfaces Number of LC-L						- Secure alerting		
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Maximum 16 Maximum 16 51 7.2.1 25 SSD Storage Capacity offered per SATA SSD (GB) 2 x 3.84 (or higher) TB SSD Yes 2 X 3.84 TB RI SATA SSD AG drive Yes 2 X 3.84 TB RI SATA SSD AG drive Yes 2 X 3.84 TB RI SATA SSD AG drive Yes 2 X 3.84 TB RI SATA SSD AG drive As per RFP 52 7.2.1 25 Raid Raid Level 0/1/1+0/5/50/6/60/1 Advanced Data Mirroring/10 Yes H755 RAID controller Yes H755 RAID controller As per RFP 53 7.2.1 25 Ports & Interfaces Network Card Supported 1G,10G Yes 1 G in onboard and 10G on PCI Yes 1 G in onboard and 10G on PCI As per RFP 54 7.2.1 25 Ports & Interfaces Number of Ports Per Network Interface Card with SFP fully loaded 4x10 Gbps SFP+ per server Yes 2 X Quad port 10G SFP+ cards with 8 X 10G optics Yes 2 X DP 32G FC cards As per RFP 55 7.2.1 25 Ports & Interfaces Number of Dual ports FC HBA card 2 Yes 2 X DP 32G FC cards Yes 2 X DP 32G FC cards As per RFP 56 7.2.1 26 Ports & Interfaces Length of LC-LC Cable per SFP+ ports Yes 8 X LC-LC cables for 10G Yes 8 X LC-LC cables for 10G As per RFP					populated with DDR SDRAM			
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1 1	51	7.2.1	25	SSD Storage	Capacity offered per SATA SSD	Yes 2 X 3.84 IB RI SATA SSD	Yes 2 X 3.84 IB RI SATA SSD	As per RFP
52 7.2.1 25 Raid Raid Level 0/1/1+0/5/50/6/60/1 Advanced Data Mirroring/10 Yes H755 RAID controller Yes H755 RAID controller As per RFP 53 7.2.1 25 Ports & Interfaces Network Card Supported 1G,10G Yes 1 G in onboard and 10G on PCI Yes 1 G in onboard and 10G on PCI Yes 1 G in onboard and 10G on PCI As per RFP 54 7.2.1 25 Ports & Interfaces Number of Ports Per Network Interface Card with SFP fully loaded 4x10 Gbps SFP+ per server Yes 2 X Quad port 10G SFP+ cards with 8 X 10G optics Yes 2 X Quad port 10G SFP+ cards with 8 X 10G optics As per RFP 55 7.2.1 25 Ports & Interfaces Number of Dual ports FC HBA card 2 Yes 2 X DP 32G FC cards Yes 2 X DP 32G FC cards As per RFP 56 7.2.1 26 Ports & Interfaces Length of LC-LC Cable per SFP+ Port Yes 8 X LC-LC cables for 10G Yes 8 X LC-LC cables for 10G Yes 8 X LC-LC cables for 10G As per RFP					(GB) 2 x 3.84 (or higher) TB SSD	AG drive	AG drive	
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53 7.2.1 25 Ports & linterfaces Network Card Supported 1G,10G Yes 1 G in onboard and 10G on PCI Yes 1 G in onboard and 10G on PCI PCI 54 7.2.1 25 Ports & Interfaces Number of Ports Per Network Yes 2 X Quad port 10G SFP+ As per RFP 54 7.2.1 25 Ports & Interfaces Number of Ports Per Network Yes 2 X Quad port 10G SFP+ Yes 2 X Quad port 10G SFP+ Cards with 8 X 10G optics As per RFP 55 7.2.1 25 Ports & Number of Dual ports FC HBA Yes 2 X DP 32G FC cards Yes 2 X DP 32G FC cards As per RFP 56 7.2.1 26 Ports & Length of LC-LC Cable per SFP+ Yes 8 X LC-LC cables for 10G Yes 8 X LC-LC cables for 10G As per RFP 56 7.2.1 26 Ports & Length of LC-LC Cable per SFP+ Yes 8 X LC-LC cables for 10G Yes 8 X LC-LC cables for 10G As per RFP	50	7.0.4	05	Director 0	Advanced Data Wintoning/10			
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54 7.2.1 25 Ports & Number of Ports Per Network res 2 X Quad port for SPP+ res 2 X Quad port for SP+ res 2 X Quad port for SP+ res	54	7.0.1	25	Internaces	Number of Dorte Der Network	PCI Veg 2 X Qued part 10C SER	PUI	
55 7.2.1 25 Ports & Number of Dual ports FC HBA cards Yes 2 X DP 32G FC cards Yes 2 X DP 32G FC cards As per RFP 56 7.2.1 26 Ports & Length of LC-LC Cable per SFP+ Yes Yes 8 X LC-LC cables for 10G ports Yes 8 X LC-LC cables for 10G ports	54	1.2.1	25	PULS &	Interface Card with SED fully	res 2 X Quad poil 10G SFP+	res 2 X Quad poil TOG SFP+	As per KFP
55 7.2.1 25 Ports & Number of Dual ports FC HBA Yes 2 X DP 32G FC cards Yes 2 X DP 32G FC cards As per RFP 56 7.2.1 26 Ports & Length of LC-LC Cable per SFP+ Yes 8 X LC-LC cables for 10G Yes 8 X LC-LC cables for 10G Yes 8 X LC-LC cables for 10G As per RFP				Interfaces	Interface Card with SFP fully			
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56 7.2.1 26 Ports & Length of LC-LC Cable per SFP+ Yes 8 X LC-LC cables for 10G Yes 8 X LC-LC cables for 10G As per RFP Interfaces Port (meter) 15 M - 8 ports ports ports ports	33	1.2.1	20	Interfaces	card 2			
Interfaces Port (meter) 15 M - 8	56	721	26	Ports &	Length of LC-LC Cable per SEP+	Yes 8 X I C-I C cables for 10G	Yes 8 X I C-I C cables for 10G	As per RFP
				Interfaces	Port (meter) 15 M - 8	norts	norts	

57	7.2.1	26	Features	Management Features-1 Gigabit	Yes iDRAC enterprise, OME	As per RFP
				management port, should have	enetrprise Advanced, CloudIQ is	
				virtual Media support with all	free	
				required licenses., Remote KVM,		
				Server Health Logging, Out of		
58	7.2.1	27	Virtulization	Offered servers shall have	Yes VMware vsphere enterprise	Refer
				included virtualization software	plus	Corrigendum
				with Compute virtualization layer		
				that sits directly on the bare		
				metal server hardware with no		
				dependence on a general		
				purpose OS with features like		
				proactive HA, replication, fault		
				tolerance with continuous		
				availability of VMs with zero		
				downtime and zero data loss, hot		
				add of CPU, memory, devices		
				for windows as well as Linux		
				VMs, VM level encryption,		
				secure boot, uninterrupted		
				service delivery within and		
				across datacenter at		
				geographical distance (<100ms		
				latency), distributed virtual		
				switch, kernel embedded network		
				and storage virtualization		
				technology. Live Virtual Machine		
				migration between different		
				generations of CPUs in the same		
				cluster with and without the need		
				for shared storage option. All		
				required licenses for the same		
				shall be included in the offer.		
				Support for Integration of 3rd		
				party endpoint security to secure		
				the virtual machines with		

59	5.2.1	10	EMD	 Rs. 5,00,000 /- (Rs. Five Lakh Only) for participation in Rack Server only. Rs. 5,00,000 /- (Rs. Five Lakh Only) for participation in HCl only. Rs. 10,00,000 /- (Rs. Ten Lakh Only) for participation in both Rack Server and HCl. 	We would request to consider EMD in form of Bank Guarantee instead of EMD online mode	As prospective bidder we would request to Accept Bank Guarantee instead of EMD online made for larger participation.	As per RFP
60	9.1.1	35	Payment Terms	Payment to the Service Provider shall be made in Indian Rupees through NEFT / RTGS only on quarterly basis.	We are not able to understand the clause 9.1.1, please clarify.		Refer Corrigendum
61	7.2.1	25	Rack Server	SSD Storage=> Endurance for SATA SSD (DWPD - Drive Writes Per Day) (X)=> 5 years warranty with no restriction of writes on SSD		DWPD means data writes per drive in case Read intensive drives of 3.84 TB are quoted which have 1 DWPD it means it can max write 3.84 TB of data per day for 5 years hence kindly mention DWPD 1 or 3 or 10 is required from 1 single drive	As per RFP
62	7.2.1	24	Rack Server	Processor=> Number of Cores per Processor=>128 or higher		Intel does not offer 128 cores per socket , this is restricting Intel to participate here hence request you to amend the clause to total cores required per server	As per RFP
63	7.2.1	25	Rack Server	Ports & Interfaces=> FC HBA Speed (Gbps)=> 4 X 32G FC Connectivity for Storage with NVME enabled	Existing NVMe storage with front end FC ports is there, servers to have 2 X 2 Fiber channel ports	Just a clarity required NVMe storage is already deployed and up and running in environment servers would get connected to Nvme storage on Fiber channel, please clarify	As per RFP
64	7.2.1	25	Rack Server	Ports & Interfaces=>Length of LC-LC Cable per HBA Port (meter) 15 M=> 8	4 X LC-LC cables for 32G ports	HBA ports should require only 4 cables and not 8 cables, also specify length of cable required	As per RFP

65	7.2.1	_	Experience Bifurcation	Experience Bifurcation	Kindly bifurcate Experience criteria as EMD is bifurcated	This will increase the participation of firms.	It is clarified that the bidder may participate for Rack Server or HCI or both. Separate rate contract would be established for rack server and HCI.
66	7.2.1	24	Rack Server	Processor Make-AMD/Intel	please revise as below: "Processor Make-AMD"	Intel do not have any processor which can provide 64 Core per processor so please update the clause accordingly.	As per RFP
67	7.2.1	24	Rack Server	Processor - Number of Cores per Processor -128 or higher	Please revise it to: "Processor - Number of Cores per Processor -64 or higher"	Intel do not have any processor which can provide 64 Core per processor and every OEM Server platform has different architechture so please revise as requested for wider OEM participation	As per RFP
68	7.2.1	24	Rack Server	Processor Description/ Number - AMD EPYC 9754 or intel equivalent	please remove this clause	Every OEM has different architecture so please allow the Bidder/OEM to provide the required processor as per Number of core per processor requirement for wider OEM participation	As per RFP
69	7.2.1	24	Rack Server	Motherboard - Chipset compatible with CPU-AMD EPYC 9754 or intel equivalent	please remove this clause	Every OEM has different architecture so please allow the Bidder/OEM to provide the required processor as per Number of core per processor requirement for wider OEM participation	As per RFP

70	7.2.1	24	Rack Server	Motherboard - Expansion Slots	please revise it to:	Every OEM has different	Refer
				Gen 3 (PCIe x16)-Minimum 4	"Motherboard - Expansion Slots	architecture so please revise as	Corrigendum
				PCI slots per server required	Gen 3 (PCIe x16/x8)-Minimum 4	requested for wider OEM	
					PCI slots per server required	participation	
71	7.2.1	25	Rack Server	Ports & Interfaces-FC HBA	we understand here 4x 32GC FC	please clarify	As per RFP
				Speed (Gbps)-4 X 32G FC	means total 4 - 32G FC ports with		
				Connectivity for Storage with	two dual FC HBA cards		
				NVME enabled			
72	7.2.1	26	Rack Server	Certification-(Virtualization/Cloud	please revise as below:	Every OEM has different	As per RFP
				platform)-Virtualization, Red Hat	"Virtualization, Red Hat	architecture so please revise as	
				Virtualization, Citrix-Xen	Virtualization/Citrix-Xen"	requested for wider OEM	
						participation	
73	7.2.1	26	Rack Server	Security Features-1-Secure Boot	please revise as below:	"Malicious Code Free design"	Refer
				(Firmware and Bios Level	"Secure Boot (Firmware and Bios	is OEM specific , please remove	Corrigendum
				Security or same feature),	Level Security or same feature),	and revise as requested	
				Provision to lock the system on	Provision to lock the system on		
				breach, Hardware root of	breach, Hardware root of		
				trust/Dual Root of Trust, Server	trust/Dual Root of Trust, Server		
				should provide policy-based	should provide policy-based		
				security, Server should provide	security, Server should provide		
				server intrusion detection,	server intrusion detection"		
				security dashboard. "Malicious			
				Code Free design" (to be			
				certified by OEM)			
74	7.2.1	26	Rack Server	Management Features-1	The management software should	Server management software is	As per RFP
					participate in server provisioning,	important for easy	
					device discovery, inventory,	manageability and proactive	
					diagnostics, monitoring, fault	notifications should be there in	
					detection, auditing, statistics	case of any issues so please	
					collection and provide proactive	add the point as suggested.	
					security & software advisory		
					alerts and should outline the fixes		
					required to address the issues.		
75	7.2.1	26	Rack Server	Management Features-1	Server management system	Ease of Hardware configuration	As per RFP
					should provide an alert in case	with OEM hardware	
					the system is not part of OEM	compatibility is needed in end to	
					Hardware Compatibility list &	end to server provisioing so	
					should provide anti counterfeit	please add the point as	
					and Automated hardware	suggested.	
					configuration and Operating		

76	7.2.1	24	Rack Server	Motherboard - Expansion Slots Gen 3 (PCle x16)	Expansion Slots Gen 5 (PCIe x16)	Latest generation server supporting 9754 CPU provide Gen 5 slots	As per RFP
77	7.2.1	25	Rack Server	Ports & Interfaces - Whether Network Interface Card Embedded	We undertsand Network Interface Card should be integrated with in the server. Kindly confirm.	Clarification requested	Yes, the understanding is correct.
78	7.2.1	27	Rack Server	Virtualization	Please clarify if virtualisation manager required for rack server	Clarification requested	Virtualization manager is not required for rack server.
79	7.2.2	32	Future upgrade	Per Node configuration for future upgrade, 2x Intel Gold 40 Core Processor, 1024 GB RAM,10TB Usable capacity on SSD, 4x10GbE SFP+ Ports, 1GbE management ports with same features and required components for the same HCI	Please amend clause as "Per Node configuration for future upgrade, 2x Intel Gold 40 Core Processor, 1024 GB RAM, 15TB Usable capacity on SSD, 4x10GbE SFP+ Ports, 1GbE management ports with same features and required	As base cluster is asked with 15 TB usable capacity upgrade node should also be asked with 15 TB capacity for best performacne and resiliency	Refer Corrigendum
80	7.2.2	31	Support and Licenses	Storage: 15TB usable storage per node, designed with SSDs not larger than 4TB.	We understand 15 TB usable storage capcity is after RF-2. Kindly confirm	Clarification requested	Yes, the understanding is correct.
81	7.2.2	31	Support and Licenses	The proposed solution should consist of 4 nodes, each with the following specifications:	In the asked specification caching capacity is not asked / defined. Request to please ask for caching capacity of min 15% of data capacity (asked) in addition to data capacity	Caching capacity is very important for HCI data operations and very low or no caching capacity impacts HCI performance drastically.	As per RFP
82	7.2.2	31	Support and Licenses	The offered solution should support inline deduplication.	Please amend clause as "The offered solution should support inline deduplication and compression."	Compression also plays important role in data efficiency. Having inline compression would help data efficiency and faster I/O.	As per RFP

83	7.2.2	30	Storage and Data Protection Features	The HCl solution must support multi-site replication (one to one or many to one) and native VM level replication for installed Hypervisor.	Please amend clause as "The HCI solution must support multi- site replication (one to one or many to one) and native VM level replication for installed Hypervisor. Replication should not re-hydrate the data before replication"	As data efficiency features asked in the specification along with replication. For best results and benefits of de-duplication and compression data should not be rehydrated before replication.	As per RFP
84	7.2.2	_	Security	Additional point	Please add data at rest encryption,	Security is key concern for most of IT department. Data at rest encryption saves environment from many of the attacks. Request to please add this as requirement.	As per RFP
85	7.2.2	_	Security	Additional point	Please add all the security features asked for rack server for HCI hardware as well	Security is key concern for most of IT department. Secure HCI hardware saves environment from many of the attacks. Request to please add this as requirement.	As per RFP
86	5.1.5	9	Eligibility/ Prequalificatio n Criteria	Bidder shall submit the undertaking that the bidder: - • Has not been ever under a declaration of ineligibility for corrupt or fraudulent practices and should not be blacklisted by any State Govt. / Central Govt. / Board, Corporations and Government Societies / PSU for any reason.	We request you to kindly amend the clause as: • Has not been under a declaration of ineligibility for corrupt or fraudulent practices and should not be blacklisted by any State Govt. / Central Govt. / Board, Corporations and Government Societies / PSU for any reason as on date of submission of bid.	During the COVID pandemic period, deliveries of most of the projects had been affected resulting in delay in project completion. Whereas the delay was from OEM side. Still one of our client had imposed banning for project delay on us which has been now revoked. Hence we request you to amend the same as on date of submission instead of ever.	In case corrupt or fraudulent practice has been revoked against the bidder then the bidder is eligible.