

Sr.No.	Hyper Converge Solution	IDBI Capital Response
1	The solution shall provide scale-up (by adding SSD/disks) and scale-out (by adding nodes) architecture with no disruption to the workloads already running on the platform	This point broadly enquires about the solutions's capabilities on upwards and horizontal scalability in line with best industry practices. Vendors / OEMs can affirm relevant features.
2	The proposed HCI solution should have ability to hot-add CPU and memory and hot-plug disks and NICs (provided the same is supported by the guest operating system).	kindly consider as hot plug HDD, in case of failure.
3	The software defined storage solution should support the capability of increasing the storage capacity by simply adding another hard drive in the physical node and also adding another physical server in the cluster. Cluster scalability up to minimum 24 Nodes. In case of any of the Hard drive or a cache drive failure in the disk group, the solution should be capable to hotswap the faulty drive and complete the rebuilt process seamlessly without any performance impact and entering affected node/disk group in maintenance mode/offline mode.	This point broadly enquires about the solutions's detailed capabilities on scalability in line with best industry practices. Vendors / OEMs can please detail the necessary capabilities.
4	<p>The proposed solution must be able to provide enhanced functionality by providing the following features without compromising on functionality or performance:</p> <ol style="list-style-type: none"> 1. Global dedupe, compression and optimization with minimum impact on production workloads and guaranteed CPU and RAM availability to user applications. 2. Dedup-Compression must be configured at the VM level, eg: for DB, Compression can be enabled and for other VM Dedupe and Compression both can be enabled and disabled. 3. Dedup Compression feature must not be configured at the cluster level, it should be at the datastore/container level. 	<p>OEM / Vendors to specify if dedup, compression, optimization can be offered simultaneously or only one at a time or simultaneous independent of each other.</p> <p>Details should also be provided as to whether the dedup / compression / optimization is feasible independently / simultaneously on each VM , node, cluster and datastore.</p>
5	Usable storage for each of the cluster should be considered without any Data reduction features like Deduplication , compression and Erasure coding or RAID 5/ RAID 6 equivalent In case vendor wants to propose with Erasure Coding or RAID 5 / Raid 6 then additional 50 % storage needs to provide for each cluster over and above the required storage capacity	No change in wordings.

6	The solution should be able to support different generation of Intel processors and appliance models in the same cluster for investment protection over the life of the proposed solution. The vendor should list types of models i.e. All Flash, Storage nodes with SAS/NL-SAS, Mixed use nodes that they may have within the HCI family and certify by way of response to this RFP the ability to mix and match models and generations of the appliance in single cluster. It should be supported with HCI software licenses.	OEM / Vendors may detail the technical capabilities - this point seeks to understand the flexibility of the solution from the hardware obsolescence and technology changes during the life time of the solution offered.
7	The proposed hypervisor should support standard features like Virtual Machine Migration, upgradation, HA. License must cover all the features like requested in this RFP.	Please read point No. 7
8	Drive replacement should be seamless to virtual machines hosted on the appliance. OEM to provide details of number of disk failure it can sustain along with one node failure at the same time. OEM to provide detailed disk and node failure per cluster that the proposed solution can sustain without affecting data integrity and availability. Must be able to sustain network failure due to physical interface issues.	OEM to provide detailed disk and node failure per cluster
9	Mounting External Storage in HCI	Please read Point No. 37 as , Mounting external storage in HCI/VM
10	Should support scaling with Compute only node without storage software license	This is a desired feature and considered positively in technical evaluation if provided.
11	Replication should support both DC and DR synchronous and asynchronous replication for high availability over low latency TCP/IP Networks. Replication across separate Datacenters should be optimized with minimum additional overheads. Data should not need to be rehydrated before being transferred to target Datacenter. the Backup solution provided should not create a latency on the VMs running in the prod cluster, separate NIC in pair for the Backup solution need to be provided in HA.	Please note that any references to branded or proprietary features / names used in this RFP are deemed to imply references to generic features in the solution which are as close to those offered in "proprietary or branded" features mentioned in the RFP

12	<p>Proposed solution must be able to support the following Data Recovery features Data recovery should be independent of source Virtual Server "Solution should provide a backup catalogue to allow any Virtual Server to be recovered to any specific point-in-time Snapshot Shall be offered with both Snapshot and clone license for the complete capacity supported by the system and shall not warrant any additional license for Snapshot and clone in future due to capacity growth. It shall support more than 256 snapshots for a given volume at Storage layer. It should also be capable of taking application aware snapshots for Linux and Windows." Data recovery process should be simple with an RTO in minutes Storage Licensing- Thin provisioning/ replication /snapshot /auto tiering/ backup license should be provided for the full capacity of the system. Storage performance monitoring software should be included. Future capacity growth shall not warrant any additional software license on the storage landscape</p>	<p>Please note that any references to branded or proprietary features / names used in this RFP are deemed to imply references to generic features in the solution which are as close to those offered in "proprietary or branded" features mentioned in the RFP</p>
13	<p>Native Backup Specification - Proposed solution should support native backup capability for faster restore. VM level restore should be possible. The backup should be independent of original VM and it should be possible to restore the VM in case original VM is corrupt or deleted. Granular file level restored should be possible in case specific files, which are deleted or corrupted, are required to be restored.</p>	<p>Please read as native backup/snapshot Specification</p>
14	<p>Should support scaling with Compute only node without storage software license</p>	<p>The vendor /OEM should provide detailed explanation of scaling compute/storage licensing.</p>
15	<p>Hyper-Converged Appliance should have minimum usable 300 physical cores using third generation processor with Minimum 3.0 Ghz Gold Processor at DC and 100 physical cores using third generation processor with minimum 3.0Ghz Gold Processor at DR. Please Note: Failover node and HCI overheads for all resources need to provide over and above the sizing mentioned in this RFP.</p>	<p>NO second generation processors please. No change</p>
16	<p>Hyper-converged Solution must provide desired storage capacity and performance using ALL FLASH. Proposed solution should meet minimum IOPs requirement of 50000 {60:40 Read/Write) per Cluster at DC and minimum 30000 IOPs for DR set up.</p>	<p>The vendor /OEM should proposed best of required solution.</p>

17	Should support scaling with Compute only node without storage software license	This is a desired feature and considered positively in technical evaluation if provided.
18	The delivery and deployment will be at Mumbai within 4 to 6 weeks from the placement of order.	The delivery time would need to be maintained considering the criticality of the process.
19	40% after migration/configuration, testing and going live with the new setup at location.	Considering the business and compliance requirements, this can be formally discussed at a later point in time.
20	For Hardware AMC & Support Cost for 4th and 5th year: For 4th & 5th Year: Payment will be made on half-yearly advance basis based on satisfactory performance of previous period / year and on submission of invoices.	5 year warranty and 2 year AMC
21	Intel Server Requirement	usable space required with latest available drive & capacity and slot as mentioned. All servers have specific use and will typically be standalone servers.
22	Intel Server Requirement	type error , 5 no missing
23	The proposed HCI solution with its Hypervisor should support all leading OS including Microsoft legacy Operating system and Latest OS, Red Hat and Oracle Linux.	Solution should support OEM (OS Provider) OS matrix . And this matrix should be provided for refrence.
24	Solution must be constituted as a single product consisting of hypervisor, hyper-converged nodes, hardware HCI, storage HCI, network connectivity, centralised management system and support must be delivered in a unified way with a single support contract authorized to take support calls for both the hardware and software on the appliance.	All hardware / firmware / OS or any other component offered by the OEM / vendor as a part of the solution offering, should be provided single point continuous monitoring of health and corrective measures / support to avoid failures, performance degradation. Unless the solution needs specialized switches, the switches are not expected to be provided for by the OEM / vendor.
25	Solution should have the capability to provide, Over provisioned and Under provisioned Virtual Machine, Future Workload Capability.	Solution should have scale up and scale down capability.
26	Proposed hardware must be capable to Deduplicate, Compression & Optimization of all data inline, in real-time, across all storage tiers. Software Defined Compute, Network, Storage and Management Layers.	No change / comment
27	Hyper-Converged Appliance should have minimum usable 300 physical cores using third generation processor with Minimum 3.0 Ghz Gold Processor at DC and 100 physical cores using third generation processor with minimum 3.0 Ghz Gold Processor at DR. Please Note: Failover node and HCI overheads for all resources need to provide over and above the sizing mentioned in this RFP.	1. This number is not definite at this point of time. 2. All deliveries are in MMR. 3. Least number of appliances at each location preferred from hosting space point of view.

28	The solution should have minimum 40 TB usable space without considering Dedup , Compression and Erasure coding after considering one Node Failure , scalable upto 60 TB within node at DC and 25 TB usable space without considering Dedup , Compression and Erasure coding after considering one Node Failure, scalable upto 40 TB within node at DR.	Yes, the storage mentioned is needed across the hardware cluster at each location.
29	Hyper-converged Solution must provide desired storage capacity and performance using ALL FLASH. Proposed solution should meet minimum IOPs requirement of 50000 (60:40 Read/Write) per Cluster at DC and minimum 30000 IOPs for DR set up.	You may please specify the block size that your solution will use while mentioning the IOPs. (We will seek clarifications from each bidder).
30	The solution should be able to support different generation of Intel processors in the same cluster for investment protection over the life of the proposed solution. The VM should get seamlessly Vmotioned to different make CPU without any downtime.	Intel processors only - however this point is aimed mitigating processor absences in the future.
31	The nodes should connect over 10 G IP connectivity. Minimum 4 x 10 Gig ports Ethernet per node in addition to management console (as per best practices from OEM) must be proposed.	1. Copper 2. Unless the solution needs specialized switches, switches are not to be provided.
32	The solution should provide enterprise data services such as de-duplication and compression in software without dependence on any proprietary hardware. These should be delivered in hybrid and/or all flash appliances and in the same cluster. These functionalities should be part of the proposed solution and licensed.	Hybrid storage may reduce the cost - from that angle hybrid storage may be acceptable as long as the total storage and IOPs requirement is met.
33	The proposed HCI solution should provide continuous availability for critical application workloads in the event of server / cluster failures by creating a sync rep. of the VM at the NDR site. (In case the NDR site is available in Future for critical Apps). Proposed HCI must support as low as 0 minute RPO. (Sync replication). OEM Public URL Document need to be provided.	Stretched cluster is not required. Near zero RPO to the best of the abilities of the solution to be provided and details mentioned.
34	The solution must support migration of Virtual machines across multiple disaster recovery sites, so that key virtual machines can be recovered in times of disaster. All software licences for enabling the above must be part of overall solution.	Initially near DR planned. Far DR capabilities should be possible at a later point in time.
35	Simplified, No-SAN Architecture. Simplified, No-LUN Architecture.	Storage should be capable of functioning without external storage..
36	Mounting External Storage in HCI	Some OEMs have indicated capability - you may confirm or indicate capability of the solution offered by you - however this is needed as a capability.

37	Should support scaling with Compute only node without storage software license	This is a desired feature and considered positively in technical evaluation if provided.
38	Replication should support both DC and DR synchronous and asynchronous replication for high availability over low latency TCP/IP Networks.	1. In our case we considering a near DR and the distance may be reasonable - best capabilities may be indicated. 2.Both locations are within MMR.
39	the Backup solution provided should not create a latency on the VMs running in the prod cluster, separate NIC in pair for the Backup solution need to be provided in HA.	1. No 2. No 3. No
40	Data recovery process should be simple with an RTO in minutes Storage Licensing- Thin provisioning/ replication /snapshot /auto tiering/ backup license should be provided for the full capacity of the system.	Kindly mention the details of your solution features. We are keeping the list simple and relatively open for better participation.
40	Future capacity growth shall not warrant any additional software license on the storage landscape	Any incremental licensing requirement will be a drawback - however you may provide relevant details.
42	Usable storage for each of the cluster should be considered without any Data reduction features like Deduplication , compression and Erasure coding or RAID 5/ RAID 6 equivalent In case vendor wants to propose with Erasure Coding or RAID 5 / Raid 6 then additional 50 % storage needs to provide for each cluster over and above the required storage capacity	The data storage is expected to to provide raw capacity as mentioned. Any system overheads and configuration overheads should be accounted for to ensure the mentioned storage capacity is available for use for applications deployed on the solution.
43	The vendor should list types of models i.e. All Flash, Storage nodes with SAS/NL-SAS, Mixed use nodes that they may have within the HCI family and certify by way of response to this RFP the ability to mix and match models and generations of the appliance in single cluster. It should be supported with HCI software licenses.	You may provide the details of your solution offering. Hybrid configuration is expected to reduce costs and hence mentioned accordingly.
44	Replication: Licenses for the same need to be considered for all the VM/nodes as part of the solution .	The number of VM cannot be committed.
45	Proposed Solution must have a license for sync replication, Near Sync and Async replication.	We have mentioned desired features - you may mention the capabilities of your solution offering.
46	Native Backup Specification - Proposed solution should support native backup capability for faster restore.	Please read as native backup/ Snapshot specification
47	The Vendor/Bidder shall provide training at CBD Belapur / IDBI Tower or at a Mumbai MMR location to the personnel identified by IDBI Capital on functional, operational and reporting aspects of Servers.	Training requirements will depend on the complexity (simplicity) of the solution offered and hence cannot be committed.