HC3 SYSTEM HARDWARE

SUPPORT MATRIX

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DEFINITIONS

SUPPORTED

Scale Computing will fully support and troubleshoot the operation of the HyperCore system related to any supported operating systems and configurations. Scale Computing may document environment specific configurations and best practices as well as performance optimizations. Scale Computing may provide certified configurations with the operating system vendor where applicable.

UNSUPPORTED

Scale Computing will support and troubleshoot the operation of the HyperCore HC3 system only. Environment specific configurations and best practices may not be available, including performance optimizations. Scale Computing does not routinely test these configurations and will typically not be able to re-create issues specific to these environments for troubleshooting.

TERMINOLOGY

	Definition
Single Node System (SNS)	A single HC3 node initialized as an individual HC3 entity.
Cluster	A minimum of 3 HC3 nodes initialized as an individual HC3 entity.
Tiering	The HyperCore Operating System's capability to pool different drive types as different levels of storage. All spinning disks are in one tier while all SSD disks are in a separate tier. This enables an administrator to customize access to the separate storage pools at the virtual disk level for each HC3 VM.
Non-Tiered Node	A node model that contains 100% spinning drives and no SSD drives.
Tiered Node	A node model that contains 25% SSD drives and 75% spinning drives.
Flash Node	A node model that contains 100% SSD drives and no spinning drives.
HE100 Series	A small form factor node utilizing NVMe and a single network port for Edge deployments.

TESTED SYSTEM LIMITS

Supported	Unsupported
Single Node System (SNS) 1 Node Minimum (Any Type Within Node Combination Support) 1 Node Maximum (Any Type Within Node Combination Support) The system will notify administrators if there is not enough capacity to sustain a single drive failure; plan for future drive failures when estimating required capacity. A SNS MUST have an HC3 replication target for full support in production. This does not apply if the SNS is the HC3 Edge product line.	**Single Node System (SNS) Without Replication Target** A SNS without an HC3 system replication target if the SNS is being used as a production system due to the lack of high availability in the design, unless it is the HC3 Edge product line.
Cluster 3 Node Minimum (Any Type Within Node Combination Support) 8 Node Maximum (Any Type Within Node Combination Support) The system will notify administrators if there is not enough capacity to sustain a single drive failure; plan for future drive failures when estimating required capacity.	**Cluster** A cluster initialized with All Flash nodes is only compatible with All Flash Nodes. It is not currently possible to decommission Tieried Nodes from a mixed Tiered and All Flash cluster to migrate to an All Flash configuration. Spinning disk nodes (Non-Tiered Nodes) cannot be mixed with All Flash Nodes in any configuration without first adding 3+ tiered nodes. HE150 nodes (NVMe) cannot be mixed with any other node type. A minimum of 3+ HE150 nodes is required in each cluster.

NOTE

See Node Combination Support for the list of supported SNS and Clustered node models. A Cluster configuration is required for full high availability and failover capabilities. SNS configurations have failover and redundancy limitations.

PRODUCT LIFE CYCLE REFERENCE

Scale Computing employs life cycle policies around software and hardware to ensure the latest capabilities and features are made available to customers.

	Detail
End of Life Announcement	**Announcement to customers that the specific product will be entering the end of life cycle.** Initiates the "last time buy" period before the official **End of Sale** date.
End of Sale	**The date when the specific product will no longer be offered on the Scale Computing price list for purchase.** Initiates the "full support" period where customers are given the final chance to renew and/or extend their support contract for full support (hardware and software) before the official **End of Support Renewal** date.
End of Support Renewal	**The date when the specific product's full support option (hardware and software) will no longer be offered on the Scale Computing price list for purchase.** **Customers with full support contracts will be honored to the contract completion date.** Initiates the "limited support" period where software patches and updates may be limited or end completely. Software support will be offered in a "best effort" capacity given this limitation before the official **End of Life / End of Support** date. Hardware will not be supported under the "limited support" contract and will need to be purchased separately in the event of a failure.
End of Life End of Support	**The date when the product will no longer be supported (hardware or software) by Scale Computing.** **Customers with full or limited support contracts will be honored to the contract completion date.**

ACTIVE HARDWARE END OF LIFE CYCLES

	End of Life Announcement	End of Sale	End of Support Renewal	End of Life End of Support
HC1100/1150/1150D(F)	01/15/2019	12/31/2018	12/31/2021	01/01/2024
HC5150D	01/15/2019	12/31/2018	12/31/2021	01/01/2024

SYSTEM CONFIGURATION REFERENCE

	Detail
RAM	**Adding a single node with a larger RAM footprint than the other nodes in the cluster could create some undesirable scenarios for VM failover and rolling software upgrades.**
CPU	When creating a mixed CPU generation cluster (e.g. adding Broadwell to Skylake CPUs), the CPU features presented will utilize the lowest common denominator feature set for workload migration and failover compatibility (i.e the VM workload should be able to run on the lowest feature set CPU). **VMs will require a shut down and restart to recognize different CPU models after node additions in order for failover and live migration features to work correctly.**
Networking	Match the networking capabilities of all nodes in a cluster. 1 GbE and 10 GbE SFP+ nodes should not be combined, but 10GBaseT nodes are compatible with 1GbE nodes. **1 GbE ports are disabled for HC3 system use on all 10 GbE SFP+ node models and cannot be enabled.**
Tiering	**There is a minimum of 3 SSD (tiered) nodes in a cluster.** See the Node Combination Support section for more details.
HC3 Edge	**A minimum of 3 NVMe HE150 nodes is required, and the HE150 line cannot be combined with any other node type.**
HC3 GPU	HC3 nodes with GPU support a single node configuration or a clustered configuration. **GPU node lines cannot be combined with any other node type or any GPU node outside their exact line at this time.**
Capacity	**Each storage pool (SSD and HDD) of a single node addition to a cluster must not be larger than the entire cluster storage pool capacity for SSD and HDD respectively.** Example: A single 12TB HDD / 960GB SSD HC1250 node should not be added to a 3 node cluster of 9TB HDD / 1.4TB SSD HC1250 nodes due to the HDD pool size (even if the SSD pool size meets the recommendation).
Mixing Capacity Storage Pools	**30% of the SSD tier is reserved by default for write bursts (essentially any new system writes).** This should be taken into account when reviewing capacity needs. If undertaking a large data migration, it is possible to contact ScaleCare Support to temporarily disable tiering behavior that may lead to performance issues for the duration of the migration. Certain data sets, such as VM snapshots and VM imports, are sent directly to the HDD tier for capacity and performance purposes.
Performance	**Drive performance for the HDD pool is roughly determined by the capacity and speed of the available drives.** Mixing drives speeds and capacities in a given tier is supported but inadvisable. Performance issues can be compounded if higher capacity (but slower speed) drives are added to a 10K or 15K speed system. Please contact your Sales Engineer with any questions regarding your use case and needs.

HC3 EDGE NODE COMBINATION SUPPORT

		Adding HE150	Adding HE500*			Adding HC1100*				Adding HC1200*				Adding HC2100*		Adding HC4100*		Adding HC3000	Adding HC5100 *	Adding HC5200 *
HC3 Nodes	Single Node System	HE150	HE 500	HE 550	HE 550 F	HC 1100	HC 1150	HC 1150 D	HC 1150 DF	HC 1200	HC 1250	HC 1250 D	HC 1250 DF	HC 2100	HC 2150	HC 4100	HC 4150	HC 3250 DF	HC 5150 D	HC 5250 D
HE150	Yes																			
HE500	Yes			T			T	T		BaseT	T BaseT	T BaseT			T SFP+		T SFP+		T SFP+	T SFP+
HE550	-		T	T	T	T	T	T	T	T BaseT	T BaseT	TN BaseT	T BaseT	T	T SFP+	TSp	T SFP+		T SFP+	T SFP+
HE550 F	Yes												T BaseT							
HE500 T	Yes, SNS Only																			
HE500 TF	Yes, SNS Only																			

Unsupported End of Life / End of Support

T - Minimum of 3+ Tiered Nodes Required **Sp -** Mixing Drive Speeds Inadvisable ***** The lowest feature-set CPU will be used which may limit CPU options in mixed systems.
BaseT - 10GBase-T Option, Compatible with 1GbE; 10GbE SFP+ Models Unsupported **SFP+ -** 10GbE SFP+ Only, 1GbE Ports Disabled

HC3 NODE COMBINATION SUPPORT

		Adding HE150	Adding HE500*			Adding HC1100*				Adding HC1200*				Adding HC2100*		Adding HC4100*		Adding HC3000	Adding HC5100*	Adding HC5200*
HC3 Nodes	Single Node System	HE150	HE 500	HE 550	HE 550 F	HC 1100	HC 1150	HC 1150 D	HC 1150 DF	HC 1200	HC 1250	HC 1250 D	HC 1250 DF	HC 2100	HC 2150	HC 4100	HC 4150	HC 3250 DF	HC 5150 D	HC 5250 D
HC1100	Yes			T			T	T		BaseT	T BaseT	T BaseT			T SFP+		T SFP+		T SFP+	T SFP+
HC1150			T	T	T	T	T	T	T	T BaseT	T BaseT	T BaseT	T BaseT	T	T SFP+	TSp	T SFP+		T SFP+	T SFP+
HC1150 D			T	T	T	T	T	T	T	T BaseT	T BaseT	T BaseT	T BaseT	T	T SFP+	TSp	T SFP+		T SFP+	T SFP+
HC1150 DF	Yes								T				T BaseT							
HC1200	Yes			T			T	T		BaseT	T BaseT	T BaseT			T SFP+		T SFP+		T SFP+	T SFP+
HC1250			T	T	T	T	T	T	T	T BaseT	T BaseT	T BaseT	T BaseT	T	T SFP+	TSp	T SFP+		T SFP+	T SFP+
HC1250 D			T	T	T	T	T	T	T	T BaseT	T BaseT	T BaseT	T BaseT	T	T SFP+	TSp	T SFP+		T SFP+	T SFP+
HC1250 DF	Yes								T				T BaseT							
HC2100	Yes		Sp	T			T	T		BaseT	T BaseT	T BaseT			T SFP+	Sp	T SFP+		T SFP+	T SFP+
HC2150			Sp	T	T	T	T	T	T	T BaseT	T BaseT	T BaseT	T BaseT	T	T	TSp	T		TN	T
HC4100	Yes		Sp	TSp		Sp	TSp	TSp		Sp BaseT	Sp BaseT	Sp BaseT		Sp	TSp SFP+	Sp	TSp SFP+		TSp SFP+	TSp SFP+
HC4150			Sp	TSp	T	T	T	T	T	T BaseT	T BaseT	T BaseT	T BaseT	T	T	TSp	T		T	T
HC3250 DF	Yes																			
HC5150 D	Yes		T	T	T	T	T	T	T	T BaseT	T BaseT	T BaseT	T BaseT	T	T	TSp	T		T	T
HC5250 D	Yes		T	T	T	T	T	T	T	T BaseT	T BaseT	T BaseT	T BaseT	T	T	TSp	T		T	T

Unsupported End of Life / End of Support

T - Minimum of 3+ Tiered Nodes Required **Sp** - Mixing Drive Speeds Inadvisable ***** The lowest feature-set CPU will be used which may limit CPU options in mixed systems.
BaseT - 10GBase-T Option, Compatible with 1GbE; 10GbE SFP+ Models Unsupported **SFP+** - 10GbE SFP+ Only, 1GbE Ports Disabled

HC3 GPU NODE COMBINATION SUPPORT

		Adding HC1200*	Adding HC5200*
HC3 Nodes	**Single Node System**	**HC 1250 DFG**	**HC 5250 DFG**
HC1250DFG	Yes		
HC5250DFG	Yes		

Unsupported **End of Life / End of Support**

T - Minimum of 3+ Tiered Nodes Required **Sp -** Mixing Drive Speeds Inadvisable ***** The lowest feature-set CPU will be used which may limit CPU options in mixed systems.
BaseT - 10GBase-T Option, Compatible with 1GbE; 10GbE SFP+ Models Unsupported **SFP+ -** 10GbE SFP+ Only, 1GbE Ports Disabled

FEEDBACK & SUPPORT

DOCUMENT FEEDBACK

Scale Computing welcomes your suggestions for improving our documentation. Please send your feedback to documentation@scalecomputing.com.

TECHNICAL SUPPORT AND RESOURCES

There are many technical support resources available for use. Access this document, and many others, at http://www.scalecomputing.com/support/login/.

- Partner Portal - Partner and Distributor use only.
- User Community - Customer focused, including our online Forum.
- Software Support Matrix

Online Support	You can submit support cases and view account information online through the Scale Computing Customer and Partner Portals at **http://www.scalecomputing.com/support/login/**. You can also Live Chat with support through **www.scalecomputing.com** during standard hours Monday-Friday from 8-8 local time.
Telephone Support	Support is available for critical issues 24/7 by phone at +1 877-SCALE-59 (+1 877-722-5359) in the US and at +44 (0) 808 234 0699 in Europe. Telephone support is recommended for the fastest response on priority issues, and the only response after standard Support hours.