

COMPUTING

## Scale's S1, S2 and S4 StorageNode with ICS™ technology

Scale Computing's StorageNodes with ICS™ technology are managed with a simple, easy-to-use UI that takes the hassle and cost out of managing your storage.

Create a pool of truly clustered storage by seamlessly adding StorageNodes. Scale's ICS architecture discovers the new node, adds it to the cluster and begins mirroring and managing your data across the entire cluster. Data migration is history and services don't go down. In fact, you can pull drives out, trip over cords and still not suffer services or data access losses.



### Appliance Specifications

HARDWARE	MANAGEMENT
4 Enterprise-grade SATA Drives	Web (SSL) for management
Protocol support: iSCSI, NFS, CIFS/SAMBA	Serial console for initial set-up only
150w start-up, 100w operating power	
(2) GigE ports per appliance	PERFORMANCE
S1 Model capacity: 1TB Usable (2TB Raw)	(4) Enterprise-grade SATA drives @ 7200 RPM
S2 Model capacity: 2TB Usable (4TB Raw)	210 MB/Sec throughput per (3) node clusters
S4 Model capacity: 4TB Usable (8TB Raw)	
Form Factor: 1U	+70 MB/Sec throughput for each additional node
Proven HPC file system	

## Product Configurations

Scale StorageNode	=	1U Rackmount Unit, 2GB Cache, 1 3.4 GHz Processor 2 Gigabit Ethernet Ports (copper)
S1 StorageNode .....		· 4 500GB Drives (7200RPM SATA)
S2 StorageNode .....		· 4 1TB Drives (7200RPM SATA)
S4 StorageNode .....		· 4 2TB Drives (7200RPM SATA)
<b>Storage Capacities</b>		
S1 StorageNode .....		· 1 Usable TB (2 Raw capacity)
S2 StorageNode .....		· 2 Usable TB (4 Raw capacity)
S4 StorageNode .....		· 4 Usable TB (8 Raw capacity)
<b>Minimum Configuration</b>		
		3 Nodes
<b>Technical Highlights</b>		
Data Protection .....		· All data is mirrored and striped across the nodes in the cluster
High Availability .....		· All data is mirrored on at least 2 nodes. This provides continuous uptime if a drive, network port, power supply or even an entire node stops working
Scalability .....		· Up to 512 nodes per cluster, more than 2.2 Pbs per single file system
Compatibility .....		· Nodes of different sizes can all participate in the same cluster and be used at full capacity (Limitation: 1 node can not be bigger than 50% of the total cluster capacity)
<b>Storage Area Network Support</b>		
SAN Protocols .....		· iSCSI
Max LUNs .....		· 255
Hosts Supported .....		· Any standards-compliant iSCSI Initiator
Security .....		· IP based access control, CHAP Authentication, CRC based connection encryption
High Availability .....		· Connections supported to multiple nodes using iSCSI multi-path to connect to the same target/LUN
<b>Network Attached Storage Support</b>		
NAS Protocols .....		· NFS, CIFS
<b>SECURITY</b> / NFS .....		· IP/Host based access control
<b>SECURITY</b> / CIFS .....		· ADS Authentication (Kerberos)
<b>SECURITY</b> / High Availability .....		· Virtual IP Addresses are used to serve NAS protocols. In the case of a node/Ethernet failure another node will pick up the down IP and continue communication with the client without losing connectivity
<b>Snapshots</b>		
System Snapshots .....		· True copy-on-write snapshots—instant security, low overhead Flexible snapshot and replication allocation—no need for dedicated snapshot volumes
Recovery .....		· Any LUN/Share from any historical snapshot can be restored as a working copy
<b>Replication</b>		
Efficiency .....		· Copies changes at a block level (minimizing time and bandwidth)
Consistency .....		· Copies point in time snapshots to target cluster
Recovery .....		· Any LUN/Share from any available historical snapshot can be restored on the target cluster as a working copy
Scheduling .....		· Replication can be scheduled as continuous, or in 5 min, 10 min, 15 min, 30 min, 1 hour, 2 hour, 4 hour, 6 hour, 8 hour, 12 hour or daily intervals
Multi-site .....		· Replication can be scheduled as a target or a source site for up to 15 other sites simultaneously
Management Interface .....		· Serial Console and Flash-based Administrative GUI over https
Notification Methods .....		· Email, Syslog
Support .....		· Administrator controlled access to the cluster by Scale Support via SSH
Upgrades .....		· Upgrades are applied in a rolling fashion to maintain uptime by only removing a single box at a time from the cluster