DELL Technologies

Specification Sheet

Dell PowerScale Accelerator Nodes

The PowerScale performance and backup accelerator nodes deliver incremental performance at a lower cost.

The PowerScale family comprises of PowerScale and Isilon scale-out file storage platforms configured with the PowerScale OneFS operating system. PowerScale OneFS provides the intelligence behind the highly scalable, high–performance modular storage solution that can grow with your business. A OneFS powered cluster can be built with a flexible choice of storage platforms including all-flash, hybrid and archive nodes. These solutions provide the performance, choice, efficiency, flexibility, scalability, security and protection for you to store massive amounts of unstructured data within a cluster.

PowerScale Accelerator Nodes do not contain any local storage and are optimized for CPU/memory configurations.
The PowerScale accelerator nodes co-exist seamlessly in the same cluster with your existing PowerScale or Isilon nodes to drive your traditional and modern applications.

The Accelerator nodes are available in two product lines:

PowerScale P100

PowerScale P100 is a low-cost, value-based node that adds performance to a cluster that is generally composed of nodes that are CPU-bound. They provide additional CPU horsepower for compute bound applications and additional DRAM that can be used as L1 cache. The P100 nodes can also be part of a solution that targets a specific workload to meet specific costs and performance targets. A single P100 node can be added to a cluster and P100 nodes can be added in single node increments. The P100 supports inline compression and deduplication.

PowerScale B100

PowerScale B100 provides the ability to backup OneFS powered clusters via two-way NDMP protocol. The B100 is delivered in a cost-effective form factor to address the SLA targets and tape backup needs of a wide variety of workloads. Each node delivers Fibre Channel ports that can connect directly to a tape subsystem or a Storage Area Network (SAN). The B100 does not contain any local storage. A single B100 node can be added to a cluster and B100 nodes can be added in single node increments. The B100 supports inline compression and deduplication.

PowerScale P100 Accelerator Node Specifications

P100 ATTRIBUTES & OPTIONS	
Operating system	PowerScale OneFS 9.3 or later
ECC memory (per node)	384 GB or 768 GB
Front-end networking (per node)	Dual port 25G NIC supporting 10G or 25G connections (SFP+/SFP28) or Dual port 100G NIC supporting 40G or 100G connections (QSFP+/QSFP28)
Infrastructure networking (per node)	2 InfiniBand connections with QDR links or Dual port 100G NIC supporting 40G or 100G connections (QSFP+/QSFP28) or Dual port 25G NIC supporting 10G or 25G connections (SFP+/SFP28)
Power Supply	Dual redundant 750W 100V-240V 50/60 Hz

PowerScale B100 Accelerator Node Specifications

B100 ATTRIBUTES & OPTIONS	
Operating system	PowerScale OneFS 9.3 or later
ECC memory (per node)	384 GB
Front-end networking (per node)	Dual port 25G NIC supporting 10G or 25G connections (SFP+/SFP28) or Dual port 100G NIC supporting 40G or 100G connections (QSFP+/QSFP28)
Infrastructure networking (per node)	2 InfiniBand connections with QDR links or Dual port 100G NIC supporting 40G or 100G connections (QSFP+/QSFP28) or Dual port 25G NIC supporting 10G or 25G connections (SFP+/SFP28) 2 Fibre Channel 16Gb connections
Max Power Consumption @ 200~240V (per node)1	Dual redundant 750W 100V-240V 50/60 Hz

PowerScale Attributes

PRODUCT ATTRIBUTES	
Scale-out architecture	Distributed fully symmetric clustered architecture that combines modular storage with OneFS operating system in a single volume, single namespace and single filesystem
Modular design	Four self-contained Isilon or PowerScale nodes include server, software, HDDs and SSDs in a 4U rack-mountable chassis. All nodes can be integrated into existing PowerScale and Isilon clusters with backend Ethernet or InfiniBand connectivity
Scalability	A cluster can scale up to 252 nodes. A minimum number of all-flash nodes per cluster is three for PowerScale and four for Isilon. Add nodes to scale performance and capacity. A single cluster can deliver up to 186PB raw capacity.
High availability	No-single-point-of-failure. Self-healing design protects against disk or node failure; includes back-end intra-cluster failover
Operating system	PowerScale OneFS distributed file system creates a cluster with a single file system and single global namespace. It is fully journaled, fully distributed, and has a globally coherent write/read cache
Data protection	FlexProtect file-level striping with support for N+1 through N+4 and mirroring data protection schemes
2-way NDMP	Backup accelerator supports two ports of Fibre Channel (16G) that allows for two-way NDMP connections
Data retention	SmartLock policy-based retention and protection against accidental deletion
Security	File system audit capability to improve security and control of your storage infrastructure and address regulatory compliance requirements
Efficiency	Software-based SmartDedupe data deduplication option. Inline data reduction and compression available on PowerScale nodes
Automated storage tiering	Policy-based automated tiering options including SmartPools and CloudPools software to optimize storage resources and lower costs
Network protocol support	NFSv3, NFSv4, NFS Kerberized sessions (UDP or TCP), SMB1 (CIFS), SMB2, SMB3, SMB3-CA, Multichannel, HTTP, FTP, NDMP, SNMP, LDAP, HDFS, S3, ADS, NIS reads/writes

PRODUCT ATTRIBUTES

Data replication	SyncIQ fast and flexible one-to-many file-based asynchronous replication between clusters

ENVIRONMENTAL SPECIFICATIONS – POWER

OPERATING ENVIRONMENT	Compliant with ASHRAE A3 data center environment guidelines

DIMENSIONS / WEIGHT:
The following specifications apply to P100 and B100

- Height 42.8mm (1.68")
- Width:434mm (17.08")
- Depth: 808.5mm (31.83") (end of the power supply latches)

The following max weights per node:

- P100, B100: 48.28 lbs (21.9 kg)

MINIMUM SERVICE CLEARANCES	Front: 40" (88.9 cm), rear: 42" (106.7 cm)

Safety and EMI Compliance

Statement of Compliance

This Information Technology Equipment is compliant with the electromagnetic compatibility (EMC) and product safety regulations/standards required by the countries in which the product is sold. EMC compliance is based on FCC part 15, CISPR22/CISPR24 and EN55022/EN55024 standards, including applicable international variations. EMC compliant Class A products are marketed for use in business, industrial, and commercial environments. Product Safety compliance is based on IEC 60950-1 and EN 60951-1 standards, including applicable national deviations.

This Information Technology Equipment is in compliance with EU RoHS Directive 2011/65/EU.

The individual devices used in this product are approved under a unique regulatory model identifier that is affixed to each individual device rating label, which may differ from any marketing or product family name in this datasheet.

PowerScale P100 nodes are Energy Star compliant.

For additional information see http://support.dell.com under the Safety & EMI Compliance Information tab.

Take the next step

Contact your Dell sales representative or authorized reseller to learn more about learn more about how PowerScale scale-out NAS storage can benefit your organization.
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