Dell Storage SC7020

Manage your future data requirements with greater flexibility and more capacity with the Dell Storage SC7020 Series. Realize rack space savings with a 3U, 30-drive bay chassis that can expand up to 500 drives with 12Gb SAS expansion enclosures.

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Hardware highlights

- Dual Intel Xeon E5 8-core processors
- 3 PCIe slots per controller
- 6Gb/12Gb SAS back-end
- Multiprotocol front-end support (FC, iSCSI)
- Easy expansion with Dell Storage enclosures
- ENERGY STAR® power efficiency
- Optional NAS support via FS8600

Software highlights

- Live Migrate multi-array federation included
- Live Volume auto-failover and auto-repair
- 100% host-side data protection in Oracle, Microsoft and VMware environments
- Thin snapshots, replication and provisioning
- Manage/replicate with PS Series arrays

World-class services

- Proactive monitoring and integrated support
- Deployment, education and consulting services

Future proof flexibility

Designed to handle a variety of workloads, the SC7020 offers high performance with the flexibility to add more capacity by adding expansion enclosures as your storage needs change. It is powered by dual Intel® Xeon® E5 processors with 8 cores each for enhanced application performance. SC7020's multiprotocol connectivity options allow you to expand your front-end network connectivity and increase capacity with expansion enclosures.

Lifecycle efficiencies

Experience real savings with Dell's low-cost-per-gigabyte flash drives — all-flash or a hybrid combination of drive types — to balance both your workload and performance requirements. With automatic policy-based deduplication and compression true optimization of drive capacity is realized.

Simplify management through a single management console and control cost with minimized rack space and cabling complexities. This single array can reduce required rack space by over 60%[1].

Proven features, like the patented Data Progression auto-tiering, leverages diverse drive types to optimize data placement according to actual use, allowing you to achieve your performance needs at a lower cost. Thin-allocation methods are active by default and RAID levels are dynamically provisioned, adjusting and rebalancing automatically to help you achieve your most aggressive application objectives with the fewest drives possible.

Streamlined storage administration

Managing complex storage tasks like live volume, encryption, replication and capacity planning in a federated environment can be challenging obstacles to overcome. Dell Storage Manager (DSM) simplifies administration with an intuitive interface that automates the most common storage tasks. DSM enables day-to-day management of SC Series, PS Series arrays from a single interface and delivers centralized management of local and remote environments and tight integration with leading technology providers.

With DSM you can streamline administration and reduce operating costs with advanced features like volume-level QoS, VVOLs support and departmental "charge-back" reporting, allowing instant visibility and control of a multi-petabyte, multilocation environment. DSM offers cross-platform replication capabilities between PS Series, SC Series and FS8600 arrays for seamless management. Configure and verify remote replication processes, monitor storage capacity and drive utilization in real-time. Take advantage of intelligent deduplication and compression with capacity savings of over 10:1.[2] Achieve seamless business continuity with Live Volume auto-failover between arrays and generate comprehensive storage usage and performance reports — all from a single pane of glass.

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[1]Based on Dell internal calculation using the rack space required for two SC9000s and two SC420s configuration vs a single SC7020.

Third-party integrations

As a premiere global solutions provider with a huge install base, Dell has the industry touch-points to ensure support for the applications you need. The SC Series has a wide array of integration points with VMware, Microsoft, Oracle, OpenStack and many others. Application Protection Manager Suite, for example, provides application-consistent snapshots in Oracle, VMware and Microsoft environments. Microsoft® Azure Site Recovery support enables VM failover between two private clouds and VMware Metro Stretch Cluster support helps VMs "follow the storage" in the event of an array or site failure.

Additional VMware® integrations, including a vSphere® plug-in, vCenter™ and VAAI support help you manage storage and virtual machines together — and the Microsoft Windows® PowerShell and RESTful APIs streamline system management with intuitive scripting interface options. See the SC Series Management spec sheet for more certified, validated platforms.

FluidFS technology provides data-protection through integration with anti-virus software from Symantec, McAfee and TrendMicro. In addition, for fine-grain data-governance, SC7000 Series integrates with leading auditing software Dell Change Auditor and Varonis DatAdvantage.

Expert services save time and resources

The SC7020 includes ProSupport powered by Copilot offering highly trained storage experts around the clock and around the globe to address your storage needs, minimize disruptions and maintain a high level of productivity. Beyond that, we offer a flexible suite of services including ProSupport Plus powered by Copilot, Optimize and ProDeploy. We ensure deployments go right the first time and resolve issues before they become a problem with proactive services and in-depth analysis.

ProSupport Plus powered by Copilot

Critical systems need more than break-fix support — they need proactive and preventative measures to get ahead of problems before they happen. Dell ProSupport Plus powered by Copilot combines expertise and technology to proactively improve the performance and stability of your Dell Storage SC7020, allowing you to focus on your strategic goals.

Dell Optimize

Dell Optimize provides in-depth, predictive analysis and consultative guidance to keep your SC Series storage arrays optimized and configured for year-round peak performance. Get highly skilled expertise from a dedicated Dell Storage expert who proactively monitors system health and identifies areas for improvement.

ProDeploy Enterprise Suite

Our end-to-end deployment services ensure your Dell Storage installation, configuration and implementation are completed accurately and quickly — anytime, anywhere — with proven processes based on best practices acquired from thousands of deployments by our highly skilled experts.

Specifications

Controller platform	
Processors	Dual 2.5GHz 8-core Intel Xeon processors per controller
Controllers	2 dual-active controllers per array; up to 16 controllers per federated system
Operating system	Dell Storage Center 7.1 or higher
Max system memory	256GB per array (128GB per controller); up to 2TB per federated system
Internal storage	30 x 2.5" drive bays
Expansion capacity	
Max drive count	500 (30 internal, plus 470 external); up to 4000 drives per federated system
Max raw capacity	3PB per array (SSD or HDD); up to 24PB per federated system
Storage media	SAS and NL-SAS drives; different drive types, transfer rates and rotational speeds can be mixed in the same system SSD: write-intensive, read-intensive (SLC, MLC and TLC formats) HDD: 15K, 10K, 7.2K RPM
Expansion enclosures	Dell Storage SC420 (24 x 2.5" drive slots, 12Gb SAS) Dell Storage SC400 (12 x 3.5" drive slots, 12Gb SAS) Dell Storage SC280 (84 x 3.5" drive slots, 6Gb SAS) Dell Storage SC220 (24 x 2.5" drive slots, 6Gb SAS) Dell Storage SC200 (12 x 3.5" drive slots, 6Gb SAS)

Network and expansion I/O	
Network/server (front- end)	8 on-board 10Gb iSCSi ports (SFP+ or Base-T) per array (4 per controller), 64 per federated system
	Optional front-end connectivity: 8Gb/16Gb FC, 1Gb/10Gb iSCSI (SFP+ and Base-T), simultaneous interface support
Maximum front-end ports	24 (Fibre Channel), 12 (1Gb iSCSI), 12 (10Gb iSCSI) per array, 192 (Fibre Channel), 96 (1Gb iSCSI), 96 (10Gb iSCSI) per federated system
Back-end connectivity	SAS (6Gb, 12Gb)
Minimum back-end ports	4 x 12Gb SAS ports per array (2 x 12Gb SAS ports per controller; 4xSAS links per port)
Maximum back-end ports	28 x 12Gb SAS ports per array including on-board ports, 224 x 12Gb SAS ports per federated system including on-board ports
NAS deployment (optional)	FS8600 Gateway support
Data replication	Multiprotocol replication support; supports Fibre Channel and iSCSI replication for SAN volumes
Data optimization	
Auto-tiering method	Policy-based migration based on real-time data usage, customizable 512KB-4MB page size
Auto-tiering structure	Up to 3 primary (media-based) tiers total, up to 2 SSD tiers (write- and read-intensive SSDs)
Tiering customizations	Default and user-defined profiles, option to "pin" volumes to any tier
RAID	Supports RAID 0, 1, 5, 6, RAID 10 and RAID 10 DM (dual mirror). Any combination of RAID levels can exist on a single Storage Center. Multiple RAID levels can exist on the same storage tier within an array.
Thin provisioning	Active by default on all volumes, operates at full performance across all features
Deduplication and compression	Selectable option per volume on SSD and/or HDD tiers
	Compression-only option also available
HDD optimization	FastTrack moves frequently accessed data to outer tracks for quicker response times
Data reduction	Policy-based deduplication and compression of cold files in NAS volumes
Data mobility and migration	
Replication	Synchronous/asynchronous for SAN via FC or iSCSI
	Target/source relationships may be one-to-many or many-to-one
	Supports all SC data services on source and target volumes
	Change replication types and topologies on demand
	Supports cross-platform replication with PS Series/EqualLogic arrays (either direction)
Volume mobility	Live Migrate (included with base product) enables host-transparent data movement between arrays; see also Federation section
	Maintains snapshots/replication relationships
Thin import	Space-efficient, non-disruptive data migration from PS Series (EqualLogic) arrays
Thin clones	Clone standalone volumes with zero duplication of data
	Clones maintain independent snapshots and replication
	Ideal for VDI, test/dev, other applications that require discrete instances of common data
	More efficient than dedupe for database copies

Data protection, disaster recovery, security

Business continuity	Live Volume bi-directional auto-failover, auto-repair
	Continuous operations, disaster recovery, disaster avoidance
	Includes third-site (tertiary) replication options
	Zero RTO/RPO with customizable site failover SLAs per volume
	Does not require identical hardware at each site
	VMware Metro Stretch Cluster support
	Microsoft Azure Site Recovery support
Thin snapshots	Records changes only, snapshots auto-migrate to lower-cost storage
	16,384 maximum snapshots per array, 131,0712 per federated system
Application data protection	Application Protection Manager Suite protects and restores host-side data from array in Oracle, Microsoft or VMware environments

Management

Management interface	Dell Storage Manager (included, server-installable), Storage Center Manager (included, on-board browser-based), Dell Storage Manager Chargeback, Replay Manager, command-line interface; multi-array, multi-site, cross-platform management from single interface
Federation	Create large multi-array systems under unified management, with seamless workload migration between arrays via included Live Migrate feature. Add arrays non-disruptively, efficiently utilizing their combined capacity and performance. Volume Advisor monitors federated arrays to suggest optimal data placement and load balancing. Volume movement does not impact snapshots or replication data protection. Federate like or unlike arrays: SC9000, SC8000, SC7020, SC4020.
Scripting support	Microsoft PowerShell API, RESTful API
Host OS support	Microsoft Windows Server®, Oracle® Solaris, HP®-UX, Oracle Enterprise Linux, IBM® AIX®, Novell® NetWare®, SUSE® Enterprise Linux®, Apple®, HPTru64, VMware, Citrix® XenServer®, RedHat®
Third-party application integration	VMware, Oracle, Microsoft, IBM, OpenStack™, Symantec™, CommVault®, Foglight™, Docker™; see the SC Series Management spec sheet for additional integrations and details; Symantec, TrendMicro, McAfee Anti-virus engines, Dell and Varonis auditing software
Coexistance with PS Series (EqualLogic) arrays	Replication in either direction
	Day-to-day management from a single interface
	Thin import: space-efficient, non-disruptive data migration from PS Series arrays
Certifications	VMware vSphere Metro Storage Cluster, VMware SRM, Veritas Storage Foundations Suite, IBM VIOS Recognized, see Dell Storage Support Matrix for additional certifications and details
Reporting/Alerts	ProSupport powered by CoPilot, remote diagnostics and performance monitoring, automated alerts, reports and notifications

Physical

Power	Power/wattage: 2 hot-swappable 1485W power supplies; 1485W maximum power
	Heat dissipation: 5,067 BTU/hr maximum
	Voltage: 200-240 VAC
	Frequency: 50/60 Hz
Inlet type	NEMA 5-15/CS22.2, n°42
Chassis	Height: 13.33 cm (5.25 in)
	Width: 44.5 cm (17.52 in)
	Depth: 78.5 cm (30.9 in)
	Weight: 24.22 kg (53.4 lb) (maximum configuration), 15.15 kg (33.4 lb) (empty)
Rack support	ReadyRails™ II static rails for tool-less mounting in 4-post racks with square or unthreaded round holes or tooled mounting in 4-post threaded-hole racks
Environmental	Operating temperature: 50 - 95°F (10 - 35°C)
	Non-operating temperature: -40 - 149°F (-40 - 65°C)
	Operating humidity ranges (non-condensing): 10% to 80% with 29°C (84.2°F) maximum dew point
	Non-operating humidity (non-condensing): 5% to 95% with 33°C (91°F) maximum dew point

Services, warranties[1]

Services	Dell ProSupport powered by Copilot support with deployment and consulting services. Optional ProSupport Plus powered by Copilot is available offering proactive and preventative services to improve performance and stability. Dell Optimize is available for additional ongoing strategic counsel and guidance from a highly trained system analyst.
Diagnostics engine	Integrated Dell Remote Access Controller (iDRAC)
System sizing	Dell Performance Analysis Collection Kit (DPACK) tool
Drive warranty	All SSDs and HDDs are warrantied for full lifetime wear-out replacement with valid service agreement. SSD warranty covers all formats: SLC, MLC and TLC

End-to-end technology solutions

Reduce IT complexity, lower costs and eliminate inefficiencies by making IT and business solutions work harder for you. You can count on Dell for end-to-end solutions to maximize your performance and uptime. A proven leader in Servers, Storage and Networking, Dell Enterprise Solutions and Services deliver innovation at any scale. And if you're looking to preserve cash or increase operational efficiency, Dell Financial Services™ has a wide range of options to make technology acquisition easy and affordable. Contact your Dell Sales Representative for more information.

OEM-ready version available

From bezel to BIOS to packaging, your storage arrays can look and feel as if they were designed and built by you. For more information,

visit Dell.com/OEM.[2]

Learn more at Dell.com/dhcs

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[1] Availability and terms of Dell Services vary by region. For more information, visit Dell.com/ServiceDescriptions.

[2] OEM-ready available on certain models.