







Dell ObjectScale

EX-Series Appliances | X-Series Appliances

Dell ObjectScale is an enterprise-grade, cloud-scale object storage platform. With ObjectScale, any organization can deliver scalable public cloud services with the reliability and control of a private-cloud infrastructure. ObjectScale provides S3 and multiprotocol support for object workloads and enables organizations to easily manage globally distributed storage infrastructure under a single global namespace with anywhere access to content. ObjectScale features fully-integrated turnkey appliance options that bundle software and Dell PowerEdge servers into an easily deployed object system.

ObjectScale is currently in its fourth generation of hardware appliances, the X-Series, building on the legacy of the EMC Centera, Atmos and ECS object storage platforms that predated ObjectScale. The X-Series currently is comprised of the X560 appliance and the EX-Series is comprised of three additional hardware products carrying the ECS brand: EX500, EX5000 and the all-flash EXF900.

| ObjectScale X560 | ECS EX500 | ECS EX5000 | ECS EXF900 |
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| <p>The X560 is the first object storage appliance in Dell's next-generation X-series. This modern, general-purpose HDD platform offers the perfect blend of economy and density for AI data lake storage, featuring hardware innovations based on PowerEdge R760XD2.</p> <p>Rack capacity ranges from 60TB to 9.22PB.</p> | <p>The EX500 is a versatile HDD option for midsized enterprises looking to support either modern application or deep archive use cases.</p> <p>It's the ideal sandbox for in-house, cloud-native, mobile and web application storage. Rack capacity ranges from 120TB to 7.68PB.</p> | <p>A high density, hot disk-swappable, object storage system, the EX5000 packs up to 14.0PB per rack and can grow into exabyte-scale with ease.</p> <p>It's an ideal platform for long-term retention, storage consolidation and multi-purpose object storage requirements including S3 and archive workloads.</p> | <p>Built with NVMe-based SSDs on Dell PowerEdge servers, the EXF900 appliance delivers extreme performance at scale for modern workloads such as AI, machine learning and real-time analytics applications.</p> <p>Capacity begins at 230TB and scales up to 23.59PB per rack.</p> |

| Features | ObjectScale X560 | ECS EX500 | ECS EX5000 | ECS EXF900 |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Node architecture | <ul style="list-style-type: none"> Intel x86 servers Integrated storage 6, 12 or 24 disk drives per node | <ul style="list-style-type: none"> Intel x86 servers Integrated storage 12 or 24 disk drives per node | <ul style="list-style-type: none"> Intel x86 servers Integrated storage Up to 100 disk drives per node | <ul style="list-style-type: none"> Intel x86 servers Integrated storage 12 or 24 disk drives per node |
| Network connectivity | <ul style="list-style-type: none"> 25GbE FrontEnd 25GbE BackEnd | <ul style="list-style-type: none"> 25GbE FrontEnd 25GbE BackEnd | <ul style="list-style-type: none"> 25GbE FrontEnd 25GbE BackEnd | <ul style="list-style-type: none"> 25GbE FrontEnd 25GbE BackEnd |
| Rack configurations | <ul style="list-style-type: none"> 1, through 16 node configurations (5 node minimum initial rack) HA power | <ul style="list-style-type: none"> 1, through 16 node configurations (5 node minimum initial rack) HA power | <ul style="list-style-type: none"> EX5000S: 1, through 7 node configurations (5 node minimum initial rack) EX5000D: 2, through 14 node configurations (8 node minimum initial rack) HA power | <ul style="list-style-type: none"> 1, through 16 node configurations (5 node minimum initial rack) HA power |
| Storage configurations | <ul style="list-style-type: none"> Unstructured storage up to 9216TB per rack | <ul style="list-style-type: none"> Unstructured storage up to 7680TB per rack | <ul style="list-style-type: none"> Unstructured storage up to 14,000TB per rack | <ul style="list-style-type: none"> Unstructured storage up to 23,593TB per rack |
| Architecture | <ul style="list-style-type: none"> Titan S standard 42U cabinet 2U node containing server and disks Fully accessible – field serviceable Conventional front to back cooling HA power cabling and cooling | <ul style="list-style-type: none"> Standard 40U cabinet 2U node containing server and disks Fully accessible – field serviceable Conventional front to back cooling HA power cabling and cooling | <ul style="list-style-type: none"> Titan S standard 42U cabinet EX5000S: 5U chassis containing server and disks EX5000D: 5U chassis containing server and disks Fully accessible – field serviceable components Conventional front to back cooling HA power cabling and cooling | <ul style="list-style-type: none"> Standard 40U cabinet 2U node containing server and disks Fully accessible – field serviceable Conventional front to back cooling HA power cabling and cooling |
| Min / max cluster size | <ul style="list-style-type: none"> 5 node minimum No maximum | <ul style="list-style-type: none"> 5 node minimum No maximum | Single: <ul style="list-style-type: none"> 5 node minimum No maximum Dual: <ul style="list-style-type: none"> 8 node minimum No maximum | <ul style="list-style-type: none"> 5 node minimum Maximum:112 nodes |
| Min / max rack configuration | <ul style="list-style-type: none"> Min: 1 node = 1 server with included disks Max: 16 nodes = 16 servers with included disks | <ul style="list-style-type: none"> Min: 1 node = 1 server with included disks Max: 16 nodes = 16 servers with included disks | Single: <ul style="list-style-type: none"> Min: 1 chassis = 1 server with included disks Max: 7 chassis = 7 servers with included disks Dual: <ul style="list-style-type: none"> Min: 1 chassis = 1 server with included disks Max: 7 chassis = 7 servers with included disks (14 nodes per 42U rack) | <ul style="list-style-type: none"> Min: 1 node = 1 server with included disks Max: 16 nodes = 16 servers with included disks |

| Features | ObjectScale X560 | ECS EX500 | ECS EX5000 | ECS EXF900 |
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| Node:disk ratios | 1:6, 1:12, 1:24 | 1:12, 1:24 | EX5000S: 1:25, 1:50, 1:75, 1:100 EX5000D: 1:25, 1:50 | 1:12, 1:24 |
| Disk type (7200rpm, SATA) | 2TB, 4TB, 8TB, 16TB, 20TB, 24TB | 2TB, 4TB, 8TB, 12TB, 16TB, 20TB | 16TB, 20TB | 3.84TB, 7.68TB, 15.36TB, 61.44TB (RI NVMe U.2 SSD) |
| Memory | 256GB | 64GB / 192GB | 192GB | 192GB |
| Cache SSD for improved metadata read/write cache performance | 1.2TB drive (optional) | 960GB drive (optional) | 960GB drive (included) | N/A |
| Raw capacity (per node) | 48TB, 96TB, 192TB, 384TB, 480TB, 576TB | 48TB, 96TB, 192TB, 288TB, 384TB, 480TB | 1600TB, 2000TB | 46TB / 92TB / 184TB / 368TB / 1475TB |
| Max raw capacity (per rack) | Up to 9216TB | Up to 7680TB | Up to 14,000TB | Up to 23,593TB |
| Node dimensions | <ul style="list-style-type: none"> 2U x D (837 mm) Weight (maximum): 40.18 kg/88.6 lb with 24 drives | <ul style="list-style-type: none"> 2U x D (810 mm) Weight (maximum): 43.2kg/95.2lb with 24 drives | <ul style="list-style-type: none"> 5U x D (970.4 mm) with CMA Weight (maximum): 125kg/276lb | <ul style="list-style-type: none"> 2U x D (715.5 mm) Weight (maximum): 21.8kg/48 lb (with 12 drives); 23.8kg/52.5 lb (with 24 drives) |
| Rack dimensions | <ul style="list-style-type: none"> H(78.4") x W(23.6") x D(47.2") – including the front door Weight: 1076kg/2372lb with 4 switches, 16 2U nodes | <ul style="list-style-type: none"> H(75") x W(24") x D(47") + 4" for front door H(1905mm) x W(610mm) x D(1194mm) Weight: 887kg/1955lb with 4 switches, 16 2U nodes | <ul style="list-style-type: none"> H(78.4") x W(23.6") x D(47.2") – including the front door Weight: 1179kg/2600lb with 4 switches, 7 5U nodes | <ul style="list-style-type: none"> H(75") x W(24") x D(47") + 4" for front door H(1905mm) x W(610mm) x D(1194mm) Weight: 887kg/1955lb with 4 switches, 16 2U nodes |
| Max power | .7043 kVA per 2U node with 24 drives | .72 kVA per 2U node | 2.4 kVA per 5U chassis | 1.086 kVA per 2U node |
| Max heatload | 5250 BTU/hr for every 2U node | 2400 BTU/Hr for every 2U node | 8344 BTU/Hr for every 5U chassis | 3706 BTU/Hr for every 2U node |
| Power specifications (server) | 2X1400W power supplies per node (HA) | 2X1100W power supplies per node (HA) | 2X2400W power supplies per node (HA) | <ul style="list-style-type: none"> 2X1100W power supplies per node (HA) 2X1600W power supplies per node |
| Power specifications (rack) | <ul style="list-style-type: none"> Connection: 3 single phase L6-30 (redundant power) <ul style="list-style-type: none"> 30A circuit breaker (A) max. per AC power source 2 three-phase WYE S52.30 (redundant power) <ul style="list-style-type: none"> 32A circuit breaker (A) max. per AC power source 2 three-phase delta CS-8365C (redundant power) <ul style="list-style-type: none"> 50A circuit breaker (A) max. per AC power source Input voltage (VAC): 200-240 Frequency (Hz): 50 - 60 | <ul style="list-style-type: none"> Connection: 4 single phase L6-30 (redundant power) <ul style="list-style-type: none"> 30A circuit breaker (A) max. per AC power source 2 three-phase WYE S52.30 (redundant power) <ul style="list-style-type: none"> 32A circuit breaker (A) max. per AC power source 2 three-phase delta CS-8365C (redundant power) <ul style="list-style-type: none"> 50A circuit breaker (A) max. per AC power source Input voltage (VAC): 200-240 Frequency (Hz): 50 - 60 | <ul style="list-style-type: none"> Connection: 8 single phase L6-30 (redundant power) <ul style="list-style-type: none"> 30A circuit breaker (A) max. per AC power source 2 three-phase WYE S52.30 (redundant power) <ul style="list-style-type: none"> 32A circuit breaker (A) max. per AC power source 2 three-phase delta CS-8365C (redundant power) <ul style="list-style-type: none"> 50A circuit breaker (A) max. per AC power source Input voltage (VAC): 200-240 Frequency (Hz): 50 - 60 | <ul style="list-style-type: none"> Connection: 8 single phase L6-30 (redundant power) <ul style="list-style-type: none"> 30A circuit breaker (A) max. per AC power source 2 three-phase WYE S52.30 (redundant power) <ul style="list-style-type: none"> 32A circuit breaker (A) max. per AC power source 2 three-phase delta CS-8365C (redundant power) <ul style="list-style-type: none"> 50A circuit breaker (A) max. per AC power source Input voltage (VAC): 200-240 Frequency (Hz): 50 - 60 |

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| Connectivity | <ul style="list-style-type: none"> Uplink connectivity: up to 16x10 GbE, 16x25 GbE, 8x40GbE or 8x100GbE uplinks to customer network (800 Gb/s maximum bandwidth), including high availability configuration Network: dual 25 GbE front end switches and dual 25 GbE back end switches (internal traffic) per rack | | | |
| Backend aggregation switches | N/A | N/A | N/A | Yes |
| Environmental specifications | <ul style="list-style-type: none"> Operating temperature (°F/°C): 41 - 90/ 5 - 32 Max. altitude: 7,500 ft/ 2,286 m @ 90°F/32°C Relative humidity: 20 - 80% non-condensing Raised floor: not required | | | |
| Upgrade options | <ul style="list-style-type: none"> Scale out by additional nodes 6 drive capacity upgrade kit | <ul style="list-style-type: none"> Scale out by additional nodes 12 drive capacity upgrade kit | <ul style="list-style-type: none"> Scale out by additional nodes 25 drive capacity upgrade kit | <ul style="list-style-type: none"> Scale out by additional nodes 12 drive capacity upgrade kit |



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