ECS APPLIANCES

This 3rd Generation object storage solution from Dell EMC, ECS is built for accelerating digital transformation by bridging both traditional and next generation applications. With ECS, you can store and manage unstructured data with public cloud like scalability and flexibility while having complete control over your data with reduced security and compliance risks. The new ECS Gen3 EX-Series offer flexible configurations that start small at 60TB with EX300 and pack up to 8.6PB in a single rack with EX3000.

ECS APPLIANCE GEN-3 EX-SERIES

Features	EX300	EX3000S / EX3000D
Node architecture	• Intel x86 servers • Integrated storage • 12 disk drives per node	• Intel x86 servers • Integrated storage • Up to 90 disk drives per node / Up to 45 disk drives per node
Network connectivity	• 10GbE FrontEnd • 10GbE BackEnd	• 25GbE FrontEnd • 25GbE BackEnd
40U Rack configurations	• 5, through 16 node configurations • HA Power	• EX3000 S: 5, 6, 7 and 8 node configurations • EX 3000 D: 6, 8, 10, 12, 14 and 16 nodes configurations • HA Power
Multiple Storage Configurations	Unstructured storage up to 1536TB per rack	Unstructured storage up to 8640TB per rack

ECS Appliance Gen-3 EX-Series Detailed Specifications

Features	EX300	EX3000S / EX3000D
ARCHITECTURE	• Standard 40U cabinet • 2U node containing server and disks • Fully accessible – field serviceable • Conventional front to back cooling • HA Power cabling and cooling	• 40U Extra deep cabinet**** • EX3000S: 4U chassis containing one server and disks • EX3000D: 4U chassis containing two servers and disks • Fully accessible – field serviceable components • Conventional front to back cooling • HA Power cabling and cooling
Minimum – Maximum configuration per rack. No max limit per cluster	Min: 5 Nodes = 5 servers with included disks Max: 16 Nodes = 16 servers with included disks	Single • Min: 5 Chassis = 5 servers + disks, through • Max: 8 Chassis = 8 servers + disks Double • Min: 3 Chassis = 6 servers + disks, through • Max: 8 Chassis = 16 servers + disks
NODE:DISK RATIOS	1:12	EX 3000 S: 1:45, 1:60, 1:90 EX 3000 D: 1:30, 1:45
DISK TYPE (7200RPM, SATA)	1TB, 2TB, 4TB, 8TB	12TB
RAW CAPACITY (per node)	12TB, 24TB, 48TB, 96TB	540TB, 720TB, 1080TB / 360TB, 540TB
MAX RAW CAPACITY (per rack)	192TB, 384TB, 768TB, 1536TB	8640TB
NODE DIMENSIONS	2U x D (715.5 mm) Weight: 33KG (with 12 drives)	4U x D (1098.4 mm) Weight: 134 KG (with 90 drives)
RACK DIMENSIONS	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	H(75") x W(24") x D(53") + 4" for front door H(1903mm) x W(607mm) x D(1334mm) Weight: 1352kg/2980lb with 4 switches, 8 4U chassis
MAX POWER	0.29 kVA per 2U node	1.19 kVA per 4U chassis
MAX HEATLOAD	800 Btu/Hr for every 2U node	4000 Btu/Hr for every 4U chassis

POWER SPECIFICATIONS	• 2X750W per node • Connection: 4 single Phase L6-30 (REDUNDANT POWER) • 2 Three-Phase WYE S52.30 (REDUNDANT POWER) • 2 Three-Phase Delta CS-8365C (REDUNDANT POWER) • Input Voltage (VAC): 200 - 240 • Circuit Breaker (A) max. per AC Power Source: 30A / PDU • Frequency (Hz): 60 (North America), 50 - 60 (International)	• 2x1600W per node / 2X1100W per node • Connection: 4 single Phase L6-30 (REDUNDANT POWER) • 2 Three-Phase WYE S52.30 (REDUNDANT POWER) • 2 Three-Phase Delta CS-8365C (REDUNDANT POWER) • Input Voltage (VAC): 200 - 240 • Circuit Breaker (A) max. per AC Power Source: 30A / PDU • Frequency (Hz): 60 (North America), 50 - 60 (International)
CONNECTIVITY	• Uplink connectivity: up to 16x10 GbE, 16x25 GbE 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	
PROTOCOL	• TCP/IP	
ENVIRONMENTAL SPECIFICATIONS	• 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	
OPTIONS	Scale out by additional nodes only	15 drive Node Upgrade Kit

ECS APPLIANCE GEN-2 U-SERIES

Features	Technical Specification
Node architecture	- Intel x86 servers - JBOD direct attached storage - Up to 60 disk drives per node
10 GbE Node network connectivity	10 GbE HA network connectivity within rack - Up to 80 Gb/s via 10 GbE uplinks to customer network
Dell EMC 40U Rack based solution	5, 6, and 8 node configurations - HA Power
Multiple Storage Configurations	Unstructured storage up to 5,760 TB per rack

ECS Appliance Gen-2 U-Series Detailed Specifications

Features	ECS-U400E	ECS-U480	ECS-U400T
ARCHITECTURE	- Standard 40U deep cabinet 2U 4-node server enclosures - One fully populated and one partially populated enclosures for ECS-U400E and ECS-U480E - Two fully populated enclosures for ECS-U400T 4U 60-disk capacity drawer based disk enclosure - High density disk enclosures holds up to 480 disks per rack - Fully accessible – field serviceable components - Conventional front to back cooling - HA Power cabling and cooling		
CONFIGURATION	5 Nodes = 5 servers + 5 disk enclosures	6 Nodes = 6 servers + 6 disk enclosures	8 Nodes = 8 servers + 8 disk enclosures
MIN NODE:DISK RATIO	1:10		
MAX NODE:DISK RATIO	1:60		
DISK TYPE	8TB 7200 or 12TB 7200	8 TB 7200 or 12TB 7200	8TB 7200 or 12TB 7200
MIN RAW CAPACITY (10 DISKS PER NODE)	400 TB with 8TB drives	480 TB with 8TB drives	640 TB with 8TB drives
MAX RAW CAPACITY (60 DISKS PER NODE)	3600 TB with 12 TB drives	4320 TB with 12 TB drives	5760 TB with 12 TB drives
DIMENSIONS	Height: 75 in/ 190.8 cm Width: 24 in/ 60.96 cm Depth: 44 in/ 111.76 cm Weight: 1050 lbs with 10 disk enclosures	Height: 75 in/ 190.8 cm Width: 24 in/ 60.96 cm Depth: 44 in/ 111.76 cm Weight:1150 lbs with 10 disk enclosures	Height: 75 in/ 190.8 cm Width: 24 in/ 60.96 cm Depth: 44 in/ 111.76 cm Weight: 1360 lbs with 10 disk enclosures
MAX POWER WITH SINGLE 10 DISK ENCLOSURE PER NODE	4.2kVA	4.9kVA	6.3kVA
MAX HEATLOAD WITH SINGLE 10 DISK ENCLOSURE PER NODE	14,175 BTU/hr	16,538 BTU/hr	21,263 BTU/hr
POWER SPECIFICATIONS	- Connection: 4 single Phase L6-30 (REDUNDANT POWER) 2 Three-Phase WYE S52.30 (REDUNDANT POWER) 2 Three-Phase Delta CS-8365C (REDUNDANT POWER) - Input Voltage (VAC): 200 - 240 - Circuit Breaker (A) max. per AC Power Source: 30A / PDU Frequency (Hz): 60 (North America), 50 - 60 (International)		
CONNECTIVITY	- Uplink Connectivity: up to 8x10 GbE uplinks to customer network (80 Gb/s maximum bandwidth), including high availability (HA) configuration - Network: dual 10 GbE data switches (TOR) and single 1 GbE management switch (internal traffic) per rack - Disk: Dual SAS cable connection between servers and disk enclosures		
PROTOCOL	TCP/IP		
ENVIRONMENTAL SPECIFICATIONS	- 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		
OPTIONS	5 Drive Upgrade Kit 10 Drive Upgrade Kit - Node Upgrade Kit (includes disk enclosure)		

10 DRIVE UPGRADE KIT

Features	5-node	6-node	8-node
ADDITIONAL CAPACITY (8TB DRIVES)	400 TB	480 TB	640 TB
ADDITIONAL CAPACITY (12TB DRIVES)	600TB	720TB	960TB
ADDITIONAL WEIGHT	150 lbs	180 lbs	240 lbs
ADDITIONAL POWER	417VA	500VA	667VA
ADDITIONAL HEAT LOAD	1,406 BTU/hr	1,688 BTU/hr	2,250 BTU/hr

5 DRIVE UPGRADE KIT

Features	5-node	6-node	8-node
ADDITIONAL CAPACITY (8TB DRIVES)	200 TB	240 TB	320 TB
ADDITIONAL CAPACITY (12TB DRIVES)	300TB	360 TB	480TB

ECS APPLIANCE GEN-2 D-SERIES

Features	Technical Specification
Node architecture	- Intel x86 servers - JBOD direct attached storage - Up to 98 disk drives per node
10 GbE Node network connectivity	10 GbE HA network connectivity within rack - Up to 80 Gb/s via 10 GbE uplinks to customer network
Dell EMC 40U Rack based solution	8 node configurations - HA Power
Multiple Storage Configurations	Unstructured storage up to 7,840 TB per rack

ECS Appliance Gen-2 D-Series Detailed Specifications

Features	ECS-D5600	ECS-D7800
ARCHITECTURE	- Standard 40U deep cabinet 2U 4-node server enclosure 4U 98-disk drawer based disk enclosure - High density disk enclosure holds up to 784x8TB disks per rack - Conventional front to back cooling - HA Power cabling and cooling	
CONFIGURATION	8 Nodes = 8 servers + 8 disk enclosures	8 Nodes = 8 servers + 8 disk enclosures
NODE:DISK RATIO	1:70	1:98
DISK TYPE	10TB 7200	10 TB 7200
RAW CAPACITY	5,600 TB	7,840 TB
DIMENSIONS	Height: 75 in/ 190.8 cm Width: 24 in/ 60.96 cm Depth: 44 in/ 111.76 cm Weight: 2100 lbs	Height: 75 in/ 190.8 cm Width: 24 in/ 60.96 cm Depth: 44 in/ 111.76 cm Weight: 2750 lbs
MAX POWER	10.0kVA	11.8kVA
MAX HEATLOAD	33,750 BTU/hr	39,825 BTU/hr
POWER SPECIFICATIONS	- Connection: 6 single Phase L6-30 (REDUNDANT POWER) 2 Three-Phase WYE S52.30 (REDUNDANT POWER) 2 Three-Phase Delta CS-8365C (REDUNDANT POWER) - Input Voltage (VAC): 200 - 240 - Frequency (Hz): 60 (North America), 50 - 60 (International)	
CONNECTIVITY	Uplink Connectivity: up to 8x10 GbE uplinks to customer network (80 Gb/s maximum bandwidth), including high availability (HA) configuration	
PROTOCOL	- Network: dual 10 GbE data switches (TOR) and single 1 GbE management switch (internal traffic) per rack - Disk: Dual SAS cable connection between servers and disk enclosures - TCP/IP	
ENVIRONMENTAL SPECIFICATIONS	- 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	
OPTIONS	ES5-112-T8T (112 8TB Drive Upgrade Kit - 896TB)	

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