DELL Technologies

SPECIFICATION SHEET

DELL UNITY XT HFA and AFA STORAGE

Simplify the path to IT transformation and unlock the full potential of your data capital with Dell Unity XT storage arrays that are designed for performance, optimized for efficiency, and built to simplify your multi-cloud journey. Unity XT arrays feature up to 2X more IOPS for both HFAs and AFAs, more memory, and up to 50% more drives than previous Dell Unity models. These cost-efficient storage systems are equipped with dual-active controllers and include a rich set of all-inclusive enterprise-class software. Unity XT AFAs are available with a Future Proof guaranteed 3:1 data reduction rate while the Unity XT HFAs are ideal for workloads that don't require the speed and low latency of NVMe architectures.

Architecture

Unity XT storage systems implement an integrated unified architecture for block, file, and VMware vVols with concurrent support for native NAS, iSCSI, and Fibre Channel protocols. Each system leverages dual-active storage processors, full 12Gb SAS back-end connectivity and Dell's patented multicore architected operating environment to deliver unparalleled performance & efficiency with multicloud interoperability. Additional storage capacity is added via Disk Array Enclosures (DAEs).

Physical Specifications

	380F/380	480F/480	680F/680	880F/880
Min/Max Drive Count	Min. 6 SSDs or 10 HDDs / Max. 500	Min. 6 SSDs or 10 HDDs / Max. 750	Min. 6 SSDs or 10 HDDs / Max. 1000	Min. 6 SSDs or 10 HDDs / Max. 1500
Array Enclosure	A 2U Disk Processor Enclosure (DPE) with twenty-five 2.5" drives			
Drive Enclosure (DAE - Disk Array Enclosure)	All-Flash (F) models support 2.5" drives in the 2U twenty-five drive tray. Hybrid models support 2.5"drives in 2U twenty-five drive and 3.5" drives in 3U fifteen drive trays.			
Standby Power System	Dell Unity systems are powered by 2 power supplies (PS) per DPE/DAE. Each power supply can provide power to the entire module if the peer PS has been removed or is faulted. DPE power during a power failure is provided by a Battery Back Up (BBU) module. BBU is located within the SP enclosure and provides power to a single module (power zone)			
RAID Options	1/0, 5, 6			
CPU per Array	2 x Intel CPUs, 12 cores per Array, 1.7GHz	2 x dual-socket Intel CPUs, 32 cores per Array, 1.8GHz	2 x dual-socket Intel CPUs, 48 cores per Array, 2.1GHz	2 x dual-socket Intel CPUs 64 cores per Array, 2.1GHz
System Memory/Cache per Array	128 GB	192 GB	384 GB	768 GB
Max FAST Cache per Array*	Up to 800 GBs	Up to 1.2 TBs	Up to 3.2 TBs	Up to 6.0TBs
Total Cache[A]	Up to 928 GBs	Up to 1.39 TBs	Up to 3.58 TBs	Up to 6.76 TBs
Max Mezzanine cards per Array[B]	NA	2	2	2
Max IO Modules per Array[C]	4	4	4	4
Embedded SAS IO Ports per Array	4 x 4 lane 12Gb/s SAS ports for BE (back end) Connection	4 x 4 lane 12Gb/s SAS ports for BE Connection	4 x 4 lane 12Gb/s SAS ports for BE Connection	4 x 4 lane 12Gb/s SAS ports for BE Connection

	380F/380	480F/480	680F/680	880F/880
Optional SAS IO ports per Array	NA	8 x 4 lane or 4 x 8 lane 12Gb/s SAS ports (for BE Connection)	8 x 4 lane or 4 x 8 lane 12Gb/s SAS ports (for BE Connection)	8 x 4 lane or 4 x 8 lane 12Gb/s SAS ports (for BE Connection)
Base 12 Gb/s SAS BE Buses per Array	2 x 4 Lane	2 x 4 Lane	2 x 4 Lane	2 x 4 Lane
Max 12 Gb/s SAS BE Buses per Array	2 x 4 Lane	6 x 4 Lane; or 2 x 4 lane and 2 x 8 lane	6 x 4 Lane; or 2 x 4 lane and 2 x 8 lane	6 x 4 Lane; or 2 x 4 lane and 2 x 8 lane
Max FE (front end) Total Ports per Array (all types)	20	24	24	24
Max Initiators / Hosts per Array	512 64 Hosts (Dual SP) 32 Hosts (Single SP)	1,024 64 Hosts (Dual SP) 32 Hosts (Single SP)	1,024 64 Hosts (Dual SP) 32 Hosts (Single SP)	2,048 64 Hosts (Dual SP) 32 Hosts (Single SP)
Max FC Ports per Array	20	16	16	16
Embedded 10GbaseT Ports per Array	NA	NA	NA	NA
Embedded CNA ports per Array	4 ports: 8/16 Gb FC[D], 10Gb IP/iSCSI, or 1Gb RJ45	NA	NA	NA
1 Gbase-T/iSCSI Max Total Ports per Array	20	24	24	24
10/25 GbE/iSCSI Max Total Ports per Array	20 – 10GbE 16 – 25GbE	24	24	24
Max Raw Capacity[E]	2.4 PBs	4.0 PBs	8.0 PBs	16.0 PBs
Max Number of Pools	20	30	40	100
Max Number of LUNs per Array	1,000	1,500	2,000	6,000
Max LUN Size	256 TB	256 TB	256 TB	256 TB
Max File Systems per Array	1000	1500	2000	4000
Max File System Size	256 TB	256 TB	256 TB	256 TB
Max attached snapshots per Array (Block)	1000	1500	2000	6000
IOPS[F] (All Flash Models 380F – 880F)	up to 600K	up to 1.68M	up to 2.36M	up to 2.56M
OS Support	See the Dell Simple Support Matrix on dell.com			

[A] Specific to Hybrid Arrays.
[B] One Mezzanine card per Storage Processor (SP), mirrored.
[C] Two IO Modules per Storage Processor (SP), mirrored.
[D] 16Gb available in both single mode and multimode.
[E] Maximum raw capacity will vary based on drive sizes available at time of purchase.
[F] 100% sequential Reads, 4K block size, thick LUNs. Based on internal testing (June 2019). Your results may vary.

Connectivity

Connectivity options via Mezzanine cards and IO modules for both the file for NFS/SMB connectivity and the block storage for FC and iSCSI host connectivity (see above table for number of modules supported per SP).

Connectivity Options		
Type	**Description**	**Details**
Mezzanine card or IO Module	Four-Port 10Gbase-T Module (File & Block)	Four port 10Gbase-T Ethernet IP/iSCSI module with four 10Gbase-T Ethernet ports with copper connection to Ethernet switch
Mezzanine card or IO Module	Four-Port 10 Gb/s Optical Module (File & Block)	Four port 10GbE IP/iSCSI module with choice of SFP+ optical connection or active/passive twinax copper connection to Ethernet switch
Mezzanine card or IO Module	Four-Port 25 Gb/s Optical Module (File & Block)	Four port 10GbE IP/iSCSI module with choice of SFP+ optical connection or passive twinax copper connection to Ethernet switch
IO Module	Four-Port 32 Gb/s Fibre Channel Module (Block only)	Four port FC module with four ports auto-negotiating to 4/8/16 or 8/16/32 Gbps; uses single mode or multimode optical SFP and OM2/OM3/OM4 cabling to connect directly to host HBA or FC switch
IO Module	Four-Port 12 Gb/s SAS V3.0 Module*	Four port SAS module, used for back-end storage (DAE) connectivity to Storage Processors. Each SAS port has 4 lanes/port @ 12Gbps, delivering 48Gbps nominal throughput. Also available specifically for the 80 drive DAE is 8 lane connectivity utilizing a pair of SAS ports to deliver high bandwidth for added performance.
	* For 480F/480, 680F/680 and 880F/880 models	

Maximum Cable Lengths

Shortwave optical OM4: 125 meters (16 Gb) 190 meters (8 Gb), 400 meters (4 Gb), and 500 meters (2 Gb)

Back-end (Drive) Connectivity

Each storage processor connects to one side of each of two redundant pairs of four-lane x 12 Gb/s Serial Attached SCSI (SAS) buses, providing continuous drive access to hosts in the event of a storage processor or bus fault. All models require four “system” drives and support a platform specific maximum number of disks (see Physical Specifications table above). 107 GBs per system drive on the Dell Unity XT 380 models and 150 GBs on the Dell Unity XT 480, 680, and 880 models is consumed by the operating environment software and data structures.

Disk Array Enclosure (DAE)		
	25 X 2.5” Drive DAE	15 X 3.5” Drive DAE (Hybrid Arrays only)
Drive Types Supported	FLASH & SAS	NL-SAS
Controller Interface	12 Gb SAS	12 Gb SAS

Supported Media

System Category	Type	Usage/ Purpose	Nominal Capacity	Formatted Capacity*	Interface	DPE 25 Drive	25 X 2.5" Drive DAE	15 X 3.5" Drive DAE
All-Flash	SSD (SAS)	All-Flash	800 GB	733.5 GB	12 Gb SAS	✓	✓	
All-Flash	SSD (SAS)	All-Flash	1.92 TB	1751.9 GB	12 Gb SAS	✓	✓	
All-Flash	SSD (SAS)	All-Flash	3.84 TB	3503.9 GB	12 Gb SAS	✓	✓	
All-Flash	SSD (SAS)	All-Flash	7.68 TB	7006.9 GB	12 Gb SAS	✓	✓	
All-Flash	SSD (SAS)	All-Flash	15.36 TB	14014.9 GB	12 Gb SAS	✓	✓	
Hybrid	SSD (SAS)	FAST Cache & Mixed Pool	400 GB	366.7 GB	12 Gb SAS	✓	✓	
Hybrid	SSD (SAS)	Mixed Pool	800 GB	733.5 GB	12 Gb SAS	✓	✓	
Hybrid	SSD (SAS)	Mixed Pool	1.6 TB	1467.45 GB	12 Gb SAS	✓	✓	
Hybrid	SSD (SAS)	Mixed Pool	3.2 TB	2919.9 GB	12 Gb SAS	✓	✓	
Hybrid	SSD (SAS)	All-Flash	7.68 TB	7006.9 GB	12 Gb SAS	✓	✓	
Hybrid	10K HDD (SAS)	Mixed Pool	600 GB	536.7 GB	12 Gb SAS	✓	✓	
Hybrid	10K HDD (SAS)	Mixed Pool	1.2 TB	1100.5 GB	12 Gb SAS	✓	✓	
Hybrid	10K HDD (SAS)	Mixed Pool	1.8 TB	1650.8 GB	12 Gb SAS	✓	✓	
Hybrid	7.2K HDD (NL-SAS)	Mixed Pool	4.0 TB	3668.6 GB	12 Gb SAS			✓
Hybrid	7.2K HDD (NL-SAS)	Mixed Pool	6.0 TB	5505.0 GB	12 Gb SAS			✓
Hybrid	7.2K HDD (NL-SAS)	Mixed Pool	12.0 TB	10948.7 GB	12 Gb SAS			✓

*GB = Base2 GiB (GiB = 1024x1024x1024)
All drives are 520 bytes/sector.
All drives are non-SED. Data at Rest Encryption is done via the storage controller

Dell Unity OE Protocols and Software Facilities

Support is provided for a wide variety of protocols and advanced features available via various software suites, plug-ins, drivers and packs.

Protocols and Facilities Supported		
Access-based Enumeration (ABE) for SMB protocol	Address Resolution Protocol (ARP)	Block Protocols: iSCSI, Fibre Channel (FCP SCSI-3)
Container Storage Interface (CSI) Driver	Controller based Data at Rest Encryption (D@RE), with self-managed keys	DFS Distributed File System (Microsoft) as Leaf node or Standalone Root Server
Direct Host Attach for Fibre Channel and iSCSI	Dynamic Access Control (DAC) with claims support	Fail-Safe Networking (FSN)
Internet Control Message Protocol (ICMP)	Kerberos Authentication	Key Management Interoperability Protocol (KMIP) compliant external key manager for D@RE
LDAP (Lightweight Directory Access Protocol)	LDAP SSL	Link Aggregation for File (IEEE 802.3ad)
Lock Manager (NLM) v1, v2, v3, and v4	Management & Data Ports IPv4 and/or IPv6	NAS Servers Multi-protocol for UNIX and SMB clients (Microsoft, Apple, Samba)
Network Data Management Protocol (NDMP) v1-v4, 2-way & 3-way	Network Information Service (NIS) Client	Network Status Monitor (NSM) v1 Network Status Monitor (NSM) v1
Network Time Protocol (NTP) client	NFS v3/v4/4.2 Secure Support	NT LAN Manager (NTLM)
Portmapper v2	REST API: Open API that uses HTTP requests to provide management	Restriction of Hazardous Substances (RoHS) compliance
RSVD v1 for Microsoft Hyper-V	Simple Home Directory access for SMB protocol	SMI-S v1.6.1 compatible Dell Unity Block & File client
Simple Mail Transfer Protocol (SMTP)	Simple Network Management Protocol v2c & v3 (SNMP)	Virtual LAN (IEEE 802.1q)
VMware® Virtual Volumes (vVols) 2.0	VMware® vRealize™ Orchestrator (vRO) Plug-in	

Security & Compliance (applies to all Dell Unity XT systems, except Dell UnityVSA)
Department of Defense Information Network Approved Products List (DODIN APL): Unity OE5.3 listed or purchased on or before 14-MAR-2024
Common Criteria
Controller based Data at Rest Encryption (D@RE) with self-managed keys
KMIP compliant external key manager for D@RE
FIPS 140-2 Level 1 validation
IPv6 and dual stack (IPv4) modes of operation
Native SHA2 certificate
Security Technical Implementation Guide /Security Requirements Guide (STIG/SRG)
TLS 1.3, 1.2 support and TLS 1.0/1.1 disablement
File-Level Retention: Enterprise FLR-E and Compliance FLR-C with requirements for SEC rule 17a-4(f)

Software	
All Inclusive Base Software	Management Software: • Unisphere: Element Manager • Unisphere Central: Consolidated dashboard and alerting • CloudIQ: Cloud-based storage analytics • Thin Provisioning • Dynamic Pools supported on all Unity XT platforms • Inline Data Reduction: Zero Detect / Deduplication / Compression supported on all Unity XT platforms • Host Groups • Proactive Assist: Configure remote support, online chat, open a service request, etc. • Quality of Service (Block, File, and vVols) • SMB Top Talkers • Dell Storage Analytics Adapter for VMware® vRealize™ • File & Block Tiering / Archiving to Public/Private Clouds (Cloud Tiering Appliance) • File-Level Retention (FLR-E & FLR-C) Unified Protocols: • File • Block • vVols Local Protection: • Controller Based Encryption (optional), with self-managed or external key management • Local Point-In-Time Copies (Snapshots and Thin Clones) • AppSync Basic • Dell Common Event Enabler; AntiVirus Agent, Event Publishing Agent Remote Protection: • Native Asynchronous Block & File Replication • Native Synchronous Block & File Replication • MetroSync Manager (optional software to automate failover of synchronous file replication sessions) • Snapshot Shipping • Dell RecoverPoint Basic Migration: • Native Block & File migration from legacy Dell VNX • SAN Copy Pull: Integrated Block migration from 3rd party arrays Performance and Efficiency Optimization for Hybrid Arrays: • FAST Cache • FAST VP
Interface Protocols	NFSv3, NFSv4, NFSv4.1; CIFS (SMB 1), SMB 2, SMB 3.0, SMB 3.02, and SMB 3.1.1; FTP and SFTP; FC, iSCSI and VMware Virtual Volumes (VVols) 2.0
Optional Solutions	• AppSync Advanced • Connectrix SAN • Dell Data Protection Hardware & Software platforms • Dell RecoverPoint Advanced • Dell RP4VM • PowerPath Migration Enabler • PowerPath Multipathing • Unity XT metro node • VPLEX
Note: For more details on software licensing, please contact your sales representative	

Virtualization Solutions

Dell Unity offers support for a wide variety of protocol and advanced features available via various software suites and packs including but not limited to:

- OpenStack Cinder Driver: For provisioning and managing block volumes within an OpenStack environment
- OpenStack Manila Driver: For managing shared file systems within an OpenStack environment
- Dell Virtual Storage Integrator (VSI) for VMware vSphere™: For provisioning, management, and cloning
- VMware Site Recovery Manager (SRM) Integration: Managing failover and failback making disaster recovery rapid and reliable
- Virtualization API Integration: VMware: VAAI and VASA. Hyper-V: Offloaded Data Transfer (ODX) and Offload Copy for File
- Ansible Module for Unity

Electrical Specifications

All power figures shown represent a worst case product configuration with max normal values operating in an ambient temperature environment of 20°C to 25°C.

The chassis power numbers provided may increase when operating in a higher ambient temperature environment.

Disk Processor Enclosure (DPE)				
	380F/380 DPE 25 2.5" SFF drives and four IO modules	480F/480 DPE 25 2.5" SFF drives and four IO modules	680F/680* DPE 25 2.5" SFF drives and four IO modules	880F/880 DPE 25 2.5" SFF drives and four IO modules
POWER				
AC Line Voltage	100 to 240 VAC ± 10%, single phase, 47 to 63 Hz			
AC Line Current (operating maximum)	10.07 A max at 100 VAC; 5.04 A max at 200VAC	10.6 A max at 100 VAC; 5.3 A max at 200VAC	11.72 A max at 100 VAC; 5.86 A max at 200VAC	14.41 A max at 100 VAC; 7.2 A max at 200VAC
Power Consumption (operating maximum)	1007 VA (970.5 W) max at 100 VAC; 1007 VA (970.5 W) max at 200 VAC	1060 VA (1050 W) max at 100 VAC; 1060 VA (1050 W) max at 200 VAC	1172 VA (1161 W) max at 100 VAC; 1172 VA (1161 W) max at 200 VAC	1440.77 VA (1411.96 W) max at 100 VAC; 1440.77 VA (1411.96 W) max at 200 VAC
Power Factor	0.95 minimum at full load, @ 100/ 200 VAC			
Heat Dissipation (operating maximum)	3.49 x 10^6 J/hr, (3,311 Btu/hr) max at 100 VAC; 3.49 x 10^6 J/hr, (3,311 Btu/hr) max (100V)	3.78 x 10^6 J/hr, (3,581 Btu/hr) max at 100 VAC; 3.78 x 10^6 J/hr, (3,581 Btu/hr) max 200VAC	4.18 x 10^6 J/hr, (3,960 Btu/hr) max at 100 VAC; 4.18 x 10^6 J/hr, (3,960 Btu/hr) max 200VAC	5.08 x 10^6 J/hr, (4,818 Btu/hr) max at 100 VAC; 5.08 x 10^6 J/hr, (4,818 Btu/hr) max 200VAC
In-rush Current	45 Apk "cold" per line cord, at any line voltage			
Startup Surge Current	120 Apk "hot" per line cord, at any line voltage			
AC Protection	15 A fuse on each power supply, single line	20 A fuse on each power supply, single line		
AC Inlet Type (High Line)	IEC320-C14 appliance coupler, per power zone			
AC Inlet Type (Low Line)	IEC320-C20 appliance coupler, per power zone			IEC320-C14 appliance coupler, per power zone**
Ride-through Time	10 ms min			
Current Sharing	± 5 percent of full load, between power supplies			

* Energy Star certification is for the 680F only
** Requires customer supplied step-up transformer

DIMENSIONS				
Weight kgs/lbs	empty 24.60/54.11	empty 25.90/57.10	empty 25.90/57.10	empty 25.90/57.10
Vertical size	2 NEMA units	2 NEMA units	2 NEMA units	2 NEMA units
Height cm/inches	8.88/3.5	8.72/3.43	8.72/3.43	8.72/3.43
Width cm/inches	44.76/17.62	44.72/17.61	44.72/17.61	44.72/17.61
Depth cm/inches	61.39/24.17	79.55/31.32	79.55/31.32	79.55/31.32

Note: Power consumption values for DPEs and DAEs are based on fully populated enclosures (power supplies, drives and I/O modules).

Disk Array Enclosure (DAE)

	25 X 2.5” Drive DAE	15 X 3.5” Drive DAE
POWER		
AC Line Voltage	100 to 240 VAC ± 10%, single phase, 47 to 63 Hz	
AC Line Current (operating maximum)	4.50 A max at 100 VAC, 2.40 A max at 200 VAC	2.90 A max at 100 VAC, 1.60 A max at 200 VAC
Power Consumption (operating maximum)	453.0 VA/ 432.0 W max at 100 VAC 485.0 VA/ 427.0 W max at 200VAC	287.0 VA/ 281.0 W max at 100 VAC 313.0 VA/ 277.0 W max at 200VAC
Power Factor	0.95 minimum at full load, @ 100V/200V	0.90 minimum at full load, @ 100V/200V
Heat Dissipation (operating maximum)	1.56 x 10^6 J/hr, (1,474 Btu/hr) max at 100 VAC 1.54 x 10^6 J/hr, (1,457 Btu/hr) max at 200 VAC	1.01 x 10^6 J/hr, (959 Btu/hr) max at 100 VAC 1.00 x 10^6 J/hr, (945 Btu/hr) max at 200 VAC
In-rush Current	30 Apk “cold” per line cord, at any line voltage	30 A max “cold” for ½ line cycle, per line cord at 240 VAC
Startup Surge Current	40 Apk “cold” per line cord, at any line voltage	25 Amps peak max per line cord, at any line voltage
AC Protection	15 A fuse on each power supply, single line	10 A fuse on each power supply, single line
AC Inlet Type	IEC320-C14 appliance coupler, per power zone	
Ride-through Time	12 ms minimum	30 ms minimum
Current Sharing	± 5 percent of full load, between power supplies	Droop Load Sharing
WEIGHT AND DIMENSIONS		
Weight kg/lbs	Empty: 10.0/22.1 Full: 20.23/44.61	Empty: 14.5/32 Full: 30.8/68
Vertical size	2 NEMA units	3 NEMA units
Height cm/inches	8.46/3.40	13.33/5.25
Width cm/inches	44.45/17.5	44.45/17.5
Depth cm/inches	33.02/13	35.56/14

Note: Power consumption values for DPEs and DAEs are based on fully populated enclosures (power supplies, drives and I/O modules).

Cabinets

	Standard 40U Cabinet
AC Line Voltage	200 to 240 VAC ± 10%, single-phase, 47 to 63 Hz
Power Configuration	One, two, three or four power domains, each redundant
Power Inlet Count	Two, four, six, or eight (two per domain)
Plug Types	NEMA L6-30P or IEC309-332 P6 or IP57 (Australia)
Input Power Capacity	1 Domain: 4,800 VA @ 200 VAC, 5,760 VA @ 240 VAC 2 Domain: 9,600 VA @ 200 VAC, 11,520 VA @ 240 VAC 3 Domain: 14,400 VA @ 200 VAC, 17,280 VA @ 240 VAC 4 Domain: 19,200 VA @ 200 VAC, 20,040 VA @ 240 VAC
AC Protection	30 A site circuit breakers on each power branch
40U Cabinet Dimensions	Height - 75 in (190.8 cm); Width - 24.0 in (61.1 cm); Depth - 39.0 in (99.2 cm); Weight Empty – 380 lb (173 kg)

Operating environment

The Dell Unity XT 480F/480 – 880F/880 models meet ASHRAE Equipment Class A3 and the 380F/380 models meet ASHRAE Equipment Class A4.

	Description	Specification
Recommended Range Operation	The limits under which equipment will operate the most reliably while still achieving reasonably energy-efficient data center operation.	18°C to 27°C (64.4°F to 80.6°F) at 5.5°C (59°F) dew.
Continuous Allowable Range Operation	Data center economization techniques (e.g. free cooling) may be employed to improve overall data center efficiency. These techniques may cause equipment inlet conditions to fall outside the recommended range but still within the continuously allowable range. Equipment may be operated without any hourly limitations in this range.	5°C to 35°C (50°F to 95°F) at 20% to 80% relative humidity with 21°C (69.8°F) maximum dew point (maximum wet bulb temperature). De-rate maximum allowable dry bulb temperature at 1°C per 300m above 950m (1°F per 547 ft above 3117 ft).
Improbable Operation (Excursion Limited)	During certain times of the day or year, equipment inlet conditions may fall outside the continuously allowable range but still within the expanded improbable range. Equipment operation is limited to ≤ 10% of annual operating hours in this range.	35°C to 40°C (with no direct sunlight on the equipment) at -12°C dew point and 8% to 85% relative humidity with 24°C dew point (maximum wet bulb temperature). Outside the continuously allowable range (10°C to 35°C), the system can operate down to 5°C or up to 40°C for a maximum of 10% of its annual operating hours. For temperatures between 35°C and 40°C (95°F to 104°F), de-rate maximum allowable dry bulb temperature by 1°C per 175m above 950m (1°F per 319 ft above 3117 ft).
Exceptional Operation (Excursion Limited) ASHRAE 4 only	During certain times of the day or year, equipment inlet conditions may fall outside the continuously allowable range but still within the expanded exceptional range. Equipment operation is limited to ≤ 1% of annual operating hours in this range.	40°C to 45°C (with no direct sunlight on the equipment) at -12°C dew point and 8% to 90% relative humidity with 24°C dew point (maximum wet bulb temperature). Outside the continuously allowable range (10°C to 35°C), the system can operate down to 5°C or up to 45°C for a maximum of 1% of its annual operating hours. For temperatures between 35°C and 45°C (95°F to 104°F), de-rate maximum allowable dry bulb temperature by 1°C per 125m above 950m (1°F per 228 ft above 3117 ft).
Temperature Gradient		20°C / hour (36°F / hour)
Altitude	Max Operating	3050m (10,000ft)

Statement of Compliance

Dell Information Technology Equipment is compliant with all currently applicable regulatory requirements for Electromagnetic Compatibility, Product Safety, and Environmental Regulations where placed on market.

Detailed regulatory information and verification of compliance is available at the Dell Regulatory Compliance website. http://dell.com/regulatory_compliance

Learn more about Dell Unity XT solutions

Contact a Dell Expert