

# EMC ISILON HD-SERIES



EMC Isilon HD400

The rapid growth of unstructured data combined with increasingly stringent compliance requirements is resulting in a growing need for efficient data archiving solutions that can store and protect data for long-term retention.

EMC® Isilon® HD-Series scale-out storage solutions, featuring the Isilon HD400, address these challenges by providing large-scale high density, deep archiving data storage solutions that offer unmatched efficiency to lower costs and robust data protection options.

**Massive Scalability:** The HD-Series is built for efficient, large-capacity storage. Each Isilon HD node houses 59 hard disk drives with a capacity choice of 6 TB or 8 TB per drive in a 4U chassis, allowing you to scale to 68 PB in a single file system.

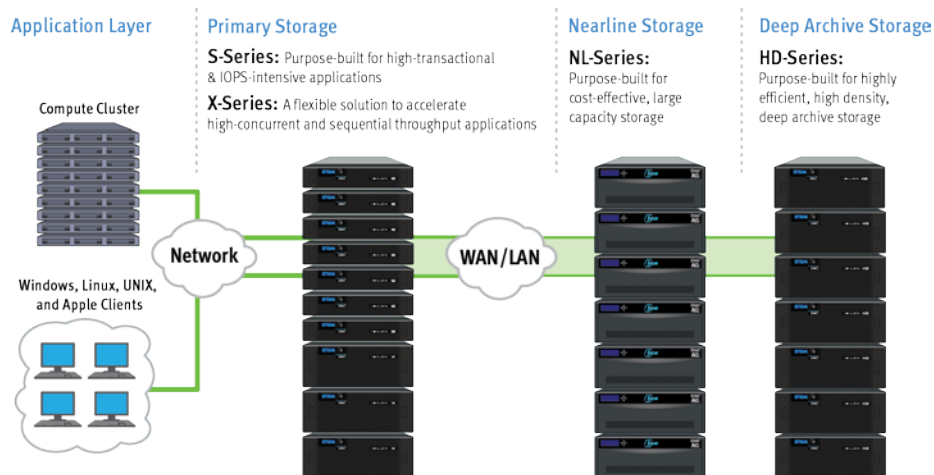
**Simplicity:** You can configure and bring an EMC Isilon HD-Series cluster online in as little as 10 minutes. With a single pool of storage with a global namespace, the HD-Series eliminates the need to manage multiple volumes, thereby greatly simplifying the management of your growing data archive environment.

**Efficiency:** With Isilon, you can achieve highly efficient utilization rates—over 80 percent versus 50 percent for traditional storage. You can further reduce capacity requirements with the Isilon SmartDedupe™ data deduplication option. The high density architecture of the HD-Series also serves to reduce data center space, power and cooling requirements to further lower costs. This translates into greater overall efficiency and lower operating costs.

**Data Protection:** Isilon offers robust security options, including file system auditing, roles-based access control (RBAC) to provide a clear separation between storage administration and file system access, and SEC 17a-4 compliant write once-read many (WORM) data protection to prevent accidental or malicious data alteration or deletion.

## Specifications

### ARCHITECTURE



REDEFINE

SPECIFICATION SHEET

EMC<sup>2</sup>

## EMC ISILON HD-SERIES NODE SPECIFICATIONS

ISILON HD400 NODE ATTRIBUTES & OPTIONS	6 TB HDD	8 TB HDD
CAPACITY	354 TB	472 TB
HARD DRIVES (3.5" 7200 RPM)	59	59
SOLID STATE DRIVES	1 x 800 GB	1 x 1.6 TB
SELF-ENCRYPTING DRIVE (SED) OPTION	Yes	No
ISILON ONEFS OPERATING SYSTEM VERSION REQUIRED	7.2 or higher without SED 8.0 or higher with SED	8.0 or higher
SYSTEM ECC MEMORY	24 GB or 48 GB	24 GB or 48 GB
FRONT-END NETWORKING	2 x Gigabit Ethernet and 2 x 10GE (SFP+ or twin-ax copper)	
NETWORK INTERFACES	Isilon network interfaces support IEEE 802.3 standards for 10Gbps, 1Gbps, and 100Mbps network connectivity	
DRIVE CONTROLLER	SATA-3, 6 Gb/s	SATA-3, 6 Gb/s
CPU TYPE	Intel® Xeon® Processor E5-2407 v2 (10M Cache, 2.40 GHz)	
INFRASTRUCTURE NETWORKING	2 InfiniBand connections with quad data rate (QDR) links	
NON-VOLATILE RAM (NVRAM)	2 GB	2 GB
TYPICAL POWER CONSUMPTION @ 100V	N/A	N/A
TYPICAL POWER CONSUMPTION @ 240V	1100 Watts	1100 Watts
MAXIMUM POWER CONSUMPTION @ 240V	1300 Watts	1300 Watts
TYPICAL THERMAL RATING	2900 to 3750 BTU/hr	2900 to 3750 BTU/hr

## EMC ISILON HD400 CLUSTER ATTRIBUTES

NUMBER OF NODES:	CAPACITY:	MEMORY:	RACK UNITS:
3 to 144	1.06 PB to 68.0 PB	72 GB to 6.9 TB	12 to 576

---

## PRODUCT ATTRIBUTES

---

<b>SCALE-OUT ARCHITECTURE</b>	Truly distributed, fully symmetric clustered architecture that combines modular storage nodes with EMC Isilon data and storage management software
<b>MODULAR DESIGN</b>	Self-contained nodes include server, software, and disks in a 4U rack-mountable node
<b>OPERATING SYSTEM</b>	EMC Isilon OneFS® distributed file system: creates a cluster with a single file system and single global namespace; fully journaled, fully distributed, globally coherent write/read cache
<b>HIGH AVAILABILITY</b>	No single point of failure; self-healing design protects against disk or node failure; includes back-end intra-cluster failover
<b>SCALABILITY</b>	Scales from 3 to 144 nodes in a single cluster with to 68 PB capacity; add a node to scale performance and capacity in 60 seconds
<b>DATA PROTECTION</b>	FlexProtect™ file-level striping with support for N+1 through N+4 and mirroring data protection schemes
<b>DATA REPLICATION</b>	Replicate and distribute large data sets to multiple shared storage systems in multiple sites for resilient disaster recovery capability with Isilon SyncIQ®
<b>DATA RETENTION</b>	Protect data against accidental, premature, or malicious alteration or deletion with EMC Isilon SmartLock® software-based approach to write once read many (WORM)
<b>DATA ENCRYPTION OPTION</b>	FIPS 140-2 level 2 validated self-encrypting drives (SEDs) with unique AES-256 bit strength keys assigned to each drive
<b>SECURITY</b>	File system audit capability to improve security and control of your storage infrastructure and address regulatory compliance requirements
<b>EFFICIENCY</b>	SmartDedupe data deduplication option, which can reduce storage requirements by up to 35 percent
<b>PROTOCOL SUPPORT</b>	NFSv3, NFSv4, NFS Kerberized sessions (UDP or TCP), SMB1 (CIFS), SMB2, SMB3 Multichannel, HTTP, FTP, NDMP, SNMP, LDAP, HDFS, ADS, NIS reads/writes

---

## ENVIRONMENTAL SPECIFICATIONS

---

<b>POWER SUPPLY</b>	Dual-redundant, hot-swappable 1450W power supplies with power factor correction (PFC) Note: HD400 supports 220V only
<b>OPERATING ENVIRONMENT</b>	50° F to 95° F (10° C to 35° C), 5% to 95% relative humidity, non-condensing
<b>DIMENSIONS/WEIGHT</b>	Height: 6.96" (17.7 cm), width: 18.9" (48 cm), depth: 35" ( 88.9 cm), weight: 220 lbs (100 kg)
<b>MINIMUM SERVICE CLEARANCES</b>	Front: 40" (88.9 cm), rear: 30" (76.2 cm)

---

## HD400 CABINET SPECIFICATIONS

	TITAN P (STANDARD NORMAL DEPTH 40U CABINET)	TITAN D (DEEP 40U CABINET)	
		SINGLE PHASE OPTION	THREE PHASE OPTION
<b>AC LINE VOLTAGE</b>	200 to 240 Vac $\pm$ 10%, single phase, 47 to 63 Hz	200 to 240 Vac $\pm$ 10%, single phase, 47 to 63 Hz	Vin: 200-240Vac; Iin: 40A; Fr: 50/60 Hz; 3-Phase: 3W+PE
<b>POWER CONFIGURATION</b>	Two power domains (base and extended), each redundant	One, two, three or four power domains, each redundant	Two power domains (base and extended), each redundant
<b>POWER INLET COUNT</b>	Either two (for redundant base configuration) or four (for redundant extended configuration)	Two, four, six, or eight (two per domain)	Two
<b>PLUG TYPES</b>	NEMA L6-30P or IEC309-332 P6 or IP57 (Australia)	NEMA L6-30P or IEC309-332 P6 or IP57 (Australia)	Anderson 2xSBS50 connector assembly for Inlet Power; C13 Outlets
<b>INPUT POWER CAPACITY</b>	4,800 VA @ 200 Vac, 5,760 VA @240 Vac (base configuration) 9,600 VA @ 200 Vac, 11,520 VA @240 Vac (extended configuration)	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 @200Vac, 17,280 VA @240 Vac 4 Domain: 19,200 VA @200 Vac, 23,040 VA @ 240 Vac	See "HD400 Cabinet Power Cord and Connector Specifications" below
<b>AC PROTECTION</b>	30 A site circuit breakers on each power branch	30 A site circuit breakers on each power branch (8 max)	20A site circuit breakers on each branch (8 total)
<b>40U CABINET DIMENSIONS</b>	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)	Height – 75 in (190.8 cm); Width – 24.0 in (61.1 cm); Depth – 44.0 in (111.8 cm); Weight Empty – 435 lb (197.3 kg)	Height – 75 in (190.8 cm); Width – 24.0 in (61.1 cm); Depth – 44.0 in (111.8 cm); Weight Empty – 435 lb (197.3 kg)

## HD400 CABINET POWER CORD AND CONNECTOR SPECIFICATIONS

PDU LINE CORD AND JUMPER CONFIGURATION (2 PDU'S ONE SIDE OF THE RACK)	NUMBER OF LINE CORDS USED	OUTLET CONNECTOR BANK VOLTAGE	MAX POWER (TUV) OUTLET CONNECTOR 10 AMP BANK RATED	MAX POWER (UL) OUTLET CONNECTOR 16 AMP BANK RATED
One Line Cord connected to 1PDU (P1)	1	200 Vac	46A /9200VA	64A / 12800VA
One Line Cord connected to 1PDU (P1) – Jumper installed in PDU1 (J1) to PDU2 (P1)	1	200 Vac	92A / 18400VA	128A / 25600VA
One Line Cord connected to 1PDU (P1) – One Line Cord connected to 2PDU (P1)	2	200 Vac	92A / 18400VA	128A / 25600VA

## SAFETY AND EMI 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.

For additional information see <https://support.emc.com> under the Safety & EMI Compliance Information tab.

## TAKE THE NEXT STEP

Contact your EMC sales representative or authorized reseller to learn more about how the EMC Isilon HD-Series can benefit your organization.

Also see our solutions in the EMC Store at <https://store.emc.com/isilon>.

## CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, [contact](#) your local representative or authorized reseller, visit [www.emc.com](http://www.emc.com), or explore and compare products in the [EMC Store](#).



EMC2, EMC, the EMC logo, FlexProtect, InsightIQ, Isilon, OneFS, SmartConnect, SmartDedupe, SmartLock, SmartPools, SmartQuotas, SnapshotIQ, and SyncIQ are registered trademarks or trademarks of EMC Corporation in the United States and other countries. VMware and vCenter are registered trademarks or trademarks of VMware, Inc., in the United States and other jurisdictions. All other trademarks used herein are the property of their respective owners. © Copyright 2016 EMC Corporation. All rights reserved. Published in the USA. 5/16 Specification Sheet H13705.3

EMC believes the information in this document is accurate as of its publication date. The information is subject to change without notice.

EMC<sup>2</sup>