

EMC Invista

EMC Invista systems can be part of a comprehensive information lifecycle strategy—a strategy that helps your enterprise attain the maximum value from its information, at the lowest TCO, at every point in the information lifecycle.

Invista enables ILM by moving the right data to the right tier of storage at the right time.

EMC® Invista® is a high-performance, network-based storage virtualization system. Invista simplifies the movement of data across tiers of heterogeneous storage, centralizes and simplifies volume management, and provides heterogeneous local replication.

Features

Online Data Mobility

Move production volumes among heterogeneous arrays

No host disruption or downtime

Volume Management

Create striped, concatenated, and sliced volumes

Invista Clones (optionally licensed)

Create full-copy, point-in-time clones with source and target on heterogeneous storage

Incremental resynchronization and restore

Reliability and Availability

Highly available stretched cluster configurations have no single point of failure.

Processor nodes may be separated by multi-mode fibre distances to sustain continuous operations through local site disasters such as a fire, sprinkler discharge, or power failure.

Non-disruptive software and hardware upgrades

Dual (A/B) fabric support

System Capacities

(Capacities are per Invista unless otherwise noted.)

Number of Data Path Controllers (DPCs)	2 or 4
Max. Usable Capacity	15.6 PB
Max. Virtual Volumes	Cisco SSM: 8,000; Brocade AP7600B or FA4-18: 8,000
Max. Storage Elements	Cisco SSM: 8,000; Brocade AP7600B or FA4-18: 8,000
Min./Max. Virtual Volume Size	100 MB/2 TB
Min./Max. Storage Extent Size	No Invista limit/2 TB
Number of Initiators	800

Connectivity

Invista currently supports the Cisco SSM and Brocade AP7600B or FA4-18 Data Path Controllers.

32 physical FC ports per Cisco SSM	1/2 Gb/s, auto-sensing
16 physical FC ports per Brocade AP7600B	1/2 Gb/s, auto-sensing; 4 GB/s port speed
16 physical FC ports per Brocade FA4-18	1/2 Gb/s, auto-sensing; 4 GB/s port speed
Number of FC SAN ports	No Invista limit

Hosts and arrays can connect to Invista through standard FC SANs, enabling host fan-in and array fan-out.

Read/Write I/O Limits

	Brocade AP7600B/FA4-18		Cisco SSM	
DPC Qty.	2	4	2	4
IOPS	2,000,000	4,000,000	800,000	1,600,000
GB/s	12.5	25	6.0	12.0

All limits are per Invista system. Actual results may vary depending on I/O workload. Note that since Invista does not cache I/Os, the above I/O limits are independent of cache hit ratios.

Online Data Mobility Limits and Performance

	Brocade AP7600B/FA4-18	Cisco SSM
Simultaneous data mobility jobs	40	40
Throughput (MB/s)	2,800	1,800

Clone Limits and Performance

	AP7600B/FA4-18-based system	SSM-based system
Number of clones	1,500	1,500
Number of primaries	256	256
Clones per primary	3	8
Max. clone size	2 TB	2 TB
Simultaneous clone synchronizations	40	40
Synchronization throughput (MB/s)	2,800	1,800

Management

EMC ControlCenter® Integration

Web-based Graphical User Interface (GUI) with SSL security

Command Line Interface (CLI)

Redundant 10/100 Ethernet Ports

Firewall-Protected Management Network

Interoperability

Please see the EMC Support Matrix for details.

Environmental Specifications

Physical Dimensions and Weight

	Height	Width	Depth	Weight
Control Path Cluster Storage Processor	1.7 in. (4.32 cm) (1 U)	16.93 in. (43 cm)	25.76 in. (65.44 cm)	37 lb (16.8 kg)
AP7600B	1.69 in. (4.29 cm) (1 U)	16.88 in. (42.87 cm)	25.40 in. (64.56 cm)	30.2 lb (13.7 kg) with two power supplies, no SFPs
FA4-18	16.56 in. (42.06 cm) (10 U)	1.41 in. (3.60 cm)	11.77 in. (29.89 cm)	7.4 lb. (3.4 kg), no SPFs
MDS 9216A	5.25 in. (13.3 cm) (3 U)	17.5 in. (44.5 cm)	22.75 in. (57.8 cm)	31 lb (14.1 kg) empty 65 lb (29.25 kg) with one supervisor module, one switching module, fan module, and two power supplies
MDS 9506	12.25 in. (31.1 cm) (7 U)	17.37 in. (44.1 cm)	21.75 in. (55.2 cm)	46 lb (20.9 kg) empty 124 lb (56 kg) with two supervisor modules, four switching modules, fan module, and two power supplies
MDS 9509	24.5 in. (62.3 cm) (14 U)	17.25 in. (43.8 cm)	18.8 in. (47.8 cm)	55 lb (24.9 kg) empty 146 lb (67 kg) with two supervisor modules, four switching modules, and two power supplies
MDS 9513	24.5 in. (62.3 cm) (14 U)	17.5 in. (44.5 cm)	28.0 in. (71.7 cm)	101.0 lb (45.4 kg) with fans and clock modules 375 lb (170.1 kg) maximum fully loaded
IP-Router AT-x900-48-FE	1.75 in. (4.45 cm) (1 U)	17.3 in. (44 cm)	17.3 in. (44 cm)	20 lb (9.1 kg)

Power Supply

	Input voltage	Current	AC line frequency	Output capacity	Output voltage
Control Path Cluster Storage Processor	100 to 240 VAC	7.6 A at 100 to 120 VAC 3.8 A at 200 to 240 VAC	47 to 63 Hz		
AP7600B	100 to 240 VAC	2.2 A at 100 to 120 VAC 1.1 A at 200 to 240 VAC	47 to 63 Hz		
FA4-18	100 to 240 VAC	2.2 A at 100 to 120 VAC 1.1 A at 200 to 240 VAC	47 to 63 Hz		
MDS 9216A	100 to 240 VAC	12 A at 100 to 120 VAC 5 A at 200 to 240 VAC	50 to 60 Hz	845 Watts	+3.3 VDC at 20 A +50 VDC at 16.2 A
MDS 9506	100 to 240 VAC	12 A at 100 to 120 VAC and 1,050 W output 12 A at 200 to 240 VAC and 1,900 W output	50 to 60 Hz	1,050 W at 100 to 120 VAC 1,900 W at 200 to 240 VAC	
MDS 9509	100 to 240 VAC	16 A at 100 to 120 VAC and 1,300 W output 16 A at 200 to 240 VAC and 2,500 W output	50 to 60 Hz	1,300 W at 100 to 120 VAC 2,500 W at 200 to 240 VAC	+3.3 VDC at 15 A +5 VDC at 5A +12 VDC at 12 A +42 VDC at 27.5 A (110/120 VAC) or 55.5 A (200/240 VAC)
MDS 9513	100 to 240 VAC	16 A max.	50 to 60 Hz	2,900 W at 100 VAC	+3.3 VDC at 15 A 6,000 W at 200 VAC +5 VDC at 5A +12 VDC at 12 A +42 VDC at 27.5 A (110/120 VAC) or 55.5 A (200/240 VAC)
IP-Power AT-x900-48-FE	100 to 240 VAC	2.2 A at 100 VAC 1.1 A at 230 VAC	47 to 63 Hz		

Operating Limits

	Temperature	Humidity	Altitude
Control Path Cluster Storage Processor	Non-Operating: -40° F to 158° F (-40° C to 70° C) Operating: 50° F to 95° F (10° C to 35° C)	Non-Operating: 90% max., non-condensing, at 95° F Operating: unavailable	Non-Operating: Operating:
AP7600B	Non-Operating: -13° F to 158° F (-25° C to 70° C) Operating: 32° F to 104° F (0° C to 40° C)	Non-Operating: 20% to 85% non-condensing Operating: 20% to 85% non-condensing	Non-Operating: 10,000 ft (3 km) max. Operating: 10,000 ft (3 km) max.
FA4-18	Non-Operating: -13° F to 158° F (-25° C to 70° C) Operating: 32° F to 104° F (0° C to 40° C)	Non-Operating: 20% to 85% non-condensing Operating: 20% to 85% non-condensing	Non-Operating: 10,000 ft (3 km) max. Operating: 10,000 ft (3 km) max.
MDS 9216A	Non-Operating: -40° F to 158° F (-40° C to 70° C) Operating: 32° F to 104° F (0° C to 40° C)	Non-Operating: % to 95% non-condensing Operating: 10% to 90% Non-condensing	Non-Operating: Operating: -197 to 6500 ft (-60 to 2000 m)
MDS 9506	Non-Operating: -40° F to 158° F (-40° C to 70° C) Operating: 32° F to 104° F (0° C to 40° C)	Non-Operating: 5% to 95% non-condensing Operating: 10% to 90% non-condensing	Non-Operating: Operating: -197 to 6500 ft (-60 to 2000 m)
MDS 9509	Non-Operating: -40° F to 158° F (-40° C to 70° C) Operating: 32° F to 104° F (0° C to 40° C)	Non-Operating: 5% to 95% non-condensing Operating: 10% to 90% non-condensing	Non-Operating: Operating: -197 to 6500 ft (-60 to 2000 m)
MDS 9513	Non-Operating: -40° F to 158° F (-40° C to 70° C) Operating: 32° F to 104° F (0° C to 40° C)	Non-Operating: 5% to 95% non-condensing Operating: 10% to 90% non-condensing	Non-Operating: Operating: -197 to 6500 ft (-60 to 2000 m)
IP Router	Non-Operating: -13° F to 167° F (-25° C to 75° C) Operating: 32° F to 122° F (0° C to 50° C)	Non-Operating: 5% to 95% non-condensing Operating: 10% to 90% non-condensing	Non-Operating: 10,000 ft (3 km) max. Operating: -10,000 ft (3 km) max.

Warranty and Maintenance

Two-year hardware warranty included. Software maintenance and extended hardware warranties are available.

Other

Long-distance optics available.

1 TB = 1,024 GB; 1 GB = 1,024 MB



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