



IBM 120 GB, 240 GB, 480 GB, and 800 GB Enterprise Value SSDs and 600 GB 15,000 rpm 6 Gbps SAS 2.5-inch HDD are engineered for increased performance and improved workload flexibility

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At a glance

IBM® 120 GB, 240 GB, 480 GB, and 800 GB Enterprise Value SSDs

New IBM 120 GB, 240 GB, 480 GB, and 800 GB solid-state drives (SSDs) are next-generation Enterprise Value SSDs for System x® that are engineered for greater performance and endurance in a cost-effective design and to support a broader set of workloads. These affordable, high performance SSDs support a broad range of data center application workloads; from read-intensive to mixed workloads of up to 70% read 30% write.

Benefits include:

- All capacities are offered in 1.8-inch, 2.5-inch, and 3.5-inch options.
- 20nm MLC NAND flash technology delivers up to 65,000 4K random read IOPS and up to 35,000 4K random write IOPS.
- Sequential bandwidth ranges up to 440 MBps read and 375 MBps write.
- Endurance extends up to 2.4 DWPD for five years.
- Advanced power loss functionality features both data at rest protection and data in flight protection.
- Enterprise data path protection includes single-bit error detection and correction, as well as double-bit error detection.
- Rigorous testing through the ServerProven® program instills confidence that your storage subsystem is compatible and will function reliably.

IBM 600 GB 15,000 rpm 6 Gbps SAS 2.5-inch HDDs

Data storage capacity and performance requirements are increasing for businesses of all sizes. The new 600 GB 15,000 rpm hard disk drives can meet capacity and performance requirements.

Features and functions:

- 6 Gbps SAS for optimal performance and system availability.
- RAID-friendly integration features for increasing system uptime, optimized performance and ease of management.
- Superior reliability to enable operation in RAID environments without compromising application performance or availability.
- Hot-swap capability.

- Rigorous testing through the ServerProven program for storage subsystem compatibility and reliability.

Warranty

One-year limited warranty or assumed system warranty on all SSDs and HDDs.

Overview

IBM 120 GB, 240 GB, 480 GB, and 800 GB Enterprise Value SSDs

New IBM 120 GB, 240 GB, 480 GB, and 800 GB solid-state drives are next-generation Enterprise Value SSDs for System x that are engineered for greater performance and endurance in a cost-effective design, and to support a broader set of workloads. The higher performance and endurance coupled with increased affordability delivers economic value to read-intensive workloads, as well as mixed-workloads of up to 70% read 30% write. With these SSDs, workloads such as Internet, Hyperscale, Cloud, Content Delivery, Caching, MySQL, and Analytics can benefit from affordable optimized storage, driving data center efficiency.

All capacities are offered in 1.8-inch, 2.5-inch, and 3.5-inch options. The SSD design uses a 20nm NAND Flash memory technology that can deliver up to 65,000 4K random read IOPS and up to 35,000 4K random write IOPS with the sequential read/write bandwidth ranging up to 440 MBps read and 375 MBps write. Their endurance of up to 2.4 DWPD for five years is a substantial increase for Enterprise Value class SSDs and positions next-generation Enterprise Value SSDs in supporting larger data center workloads. This can result in economic value for those workload configurations, as well as the data center itself.

The IBM 120 GB, 240 GB, 480 GB, and 800 GB MLC SATA Enterprise Value SSDs are covered under IBM warranty. These drives carry a 1-year limited warranty, or when installed in a System x server, these drives assume your system's base warranty. Solid-state devices do have finite write or P/E cycles and are listed as Total Bytes Written (TBW). Refer to the [Limitations](#) section and device specifications for details.

IBM 600 GB 15,000 rpm 6 Gbps SAS 2.5-inch HDDs

As the newest additions to the IBM System x family of 2.5-inch SAS drives, the 600 GB 15,000 rpm 6 Gbps 2.5-inch SAS HDDs offer the highest performance options and provide a wider selection of choices to satisfy a wide range of applications. These new drives are positioned at the top of the IBM SAS line.

Key features and benefits include:

- 15,000 rpm 2.5-inch SAS drives are RoHS compliant and Protection Information (PI) enabled
- 600 GB 15,000 rpm 2.5-inch SAS HDDs meet client requirements for larger capacities and increased speeds in small form factor drives
- Up to 15,000 rpm speed to help optimize performance
- Outstanding reliability that enables operation in RAID environments without compromising application performance or availability
- You can increase your storage and data management effectiveness when you install these new high-performance SAS HDDs

Warranty

IBM 120 GB, 240 GB, 480 GB and 800 GB SATA 1.8-inch, 120 GB, 240 GB, 480 GB, and 800 GB SATA 2.5-inch and 120 GB, 240 GB, 480 GB, and 800 GB SATA 3.5-inch MLC Enterprise SSDs offer a 1-year limited warranty¹.

The IBM 600 GB 15,000 rpm 6 Gbps SAS 2.5-inch HDDs offer a 1-year limited warranty¹.

Solid-state memory cells have an intrinsic, finite number of program/erase cycles that each cell can incur. As a result, solid-state storage has a maximum amount of program/erase cycles to which it can be subjected. IBM's warranty for the solid-state storage is limited to devices that have not reached the maximum guaranteed number of program/erase cycles, as documented in the Official Published Specifications for the product. A drive that reaches this limit may fail to operate according to its specifications.

¹ For information on IBM's Statement of Limited Warranty, contact your local IBM representative. Copies are available upon request.

Key prerequisites

IBM System x or BladeCenter® system with SATA or SAS capability depending on drives selected.

Planned availability date

- May 13, 2014: All SSDs
- May 9, 2014: All HDDs

Description

IBM 120 GB, 240 GB, 400 GB and 800 GB SATA 1.8-inch and 120 GB, 240 GB, 480 GB, and 800 GB SATA 2.5-inch HS/SS MLC Enterprise Value SSDs and 120 GB, 240 GB, 480 GB and 800 GB 3.5-inch SATA MLC Enterprise Value SSDs

These new drives bring solid-state reliability and low-power capabilities to System x storage. These new options are available as single 1.8-inch, 2.5-inch, and 3.5-inch SATA MLC drives.

IBM 600 GB 15,000 rpm 6 Gbps SAS 2.5-inch HDDs

The addition of a 600 GB 15,000 rpm offering to the System x family of 2.5-inch SAS HDDs makes it the highest capacity 15,000 rpm class device. The 600 GB HDDs are supported for internal HDD attachment in selected IBM System x systems.

SAS hard drives are supported with major operating systems, including Microsoft™ Windows™ and Linux™.

Key features and benefits of the 600 GB HDDs include:

- A 2.5-inch wide form factor that allows maximum installations in supported System x systems
- Drive media to buffer interface that supports sustained interface data transfers of up to 217 Mbps average on 600 GB drives
- Rigorously tested by IBM through the ServerProven program

Compatibility

- Support for popular network operating systems
- ServerProven testing for servers
- Supported on System x servers

Product positioning

These high-performance SATA MLC Enterprise Value SSD options are positioned in the family of IBM SATA SSDs based on solid-state technology.

These SSD drives support enterprise-value server and workstation applications, such as:

- Transaction processing
- Data mining
- Data warehousing
- Professional video and graphics

IBM 600 GB 15,000 rpm SAS HDDs

These new high-performance 600 GB 15,000 rpm 6 Gbps HDD and G3HS SAS 2.5-inch HDD option drives are positioned at the top of the IBM SAS HDD line based on the SAS/SATA technology.

These HDDs support entry-level server and workstation applications, such as:

- Transaction processing
- Data mining
- Data warehousing
- Professional video and graphics

Product number

Description	Type	Model	Feature	SEO	Part Number
IBM 120 GB SATA 1.8" MLC Enterprise Value SSD for IBM System x	3331	HC1	A56V	00AJ335	00AJ335
IBM 240 GB SATA 1.8" MLC Enterprise Value SSD for IBM System x	3331	HC1	A56W	00AJ340	00AJ340
IBM 480 GB SATA 1.8" MLC Enterprise Value SSD for IBM System x	3331	HC1	A56X	00AJ345	00AJ345
IBM 800 GB SATA 1.8" MLC Enterprise Value SSD for IBM System x	3331	HC1	A56Y	00AJ350	00AJ350
IBM 120 GB SATA 2.5" MLC HS Enterprise Value SSD for IBM System x	3331	HC1	A56Z	00AJ355	00AJ355
IBM 120 GB SATA 2.5" MLC SS Enterprise Value SSD for IBM System x	3331	HC1	A573	00AJ375	00AJ375
IBM 240 GB SATA 2.5" MLC HS Enterprise Value SSD for IBM System x	3331	HC1	A570	00AJ360	00AJ360
IBM 240 GB SATA 2.5" MLC SS Enterprise Value SSD for IBM System x	3331	HC1	A574	00AJ380	00AJ380
IBM 480 GB SATA 2.5" MLC HS Enterprise Value SSD for IBM System x	3331	HC1	A571	00AJ365	00AJ365
IBM 480 GB SATA 2.5" MLC SS Enterprise Value SSD for IBM System x	3331	HC1	A575	00AJ385	00AJ385
IBM 800 GB SATA 2.5" MLC HS	3331	HC1	A572	00AJ370	00AJ370

Enterprise Value SSD for IBM System x

IBM 800 GB SATA 2.5" MLC SS	3331	HC1	A576	00AJ390	00AJ390
Enterprise Value SSD for IBM System x					
IBM 120 GB SATA 2.5" MLC G3HS	3331	HC1	A577	00AJ395	00AJ395
Enterprise Value SSD for IBM System x					
IBM 240 GB SATA 2.5" MLC G3HS	3331	HC1	A578	00AJ400	00AJ400
Enterprise Value SSD for IBM System x					
IBM 480 GB SATA 2.5" MLC G3HS	3331	HC1	A579	00AJ405	00AJ405
Enterprise Value SSD for IBM System x					
IBM 800 GB SATA 2.5" MLC G3HS	3331	HC1	A57A	00AJ410	00AJ410
Enterprise Value SSD for IBM System x					
IBM 120 GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	3331	HC1	A57B	00AJ415	00AJ415
Enterprise Value SSD for Flex System x222					
IBM 240 GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	3331	HC1	A57C	00AJ420	00AJ420
Enterprise Value SSD for Flex System x222					
IBM 480 GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	3331	HC1	A57D	00AJ425	00AJ425
Enterprise Value SSD for Flex System x222					
IBM 800 GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	3331	HC1	A57E	00AJ430	00AJ430
Enterprise Value SSD for Flex System x222					
IBM 120 GB SATA 2.5" MLC Enterprise Value SSD for NextScale System	3331	HC1	A57K	00FN020	00FN020
Enterprise Value SSD for NextScale System					
IBM 240 GB SATA 2.5" MLC Enterprise Value SSD for NextScale System	3331	HC1	A57L	00FN025	00FN025
Enterprise Value SSD for NextScale System					
IBM 480 GB SATA 2.5" MLC Enterprise Value SSD for NextScale System	3331	HC1	A57M	00FN030	00FN030
Enterprise Value SSD for NextScale System					
IBM 800 GB SATA 2.5" MLC Enterprise Value SSD for NextScale System	3331	HC1	A57N	00FN035	00FN035
Enterprise Value SSD for NextScale System					
IBM 120 GB SATA 3.5" MLC Enterprise Value SSD for IBM System x	3331	HC1	A57F	00AJ435	00AJ435
Enterprise Value SSD for IBM System x					
IBM 240 GB SATA 3.5" MLC Enterprise Value SSD for IBM System x	3331	HC1	A57G	00AJ440	00AJ440
Enterprise Value SSD for IBM System x					
IBM 480 GB SATA 3.5" MLC Enterprise Value SSD for IBM System x	3331	HC1	A57H	00AJ445	00AJ445
Enterprise Value SSD for IBM System x					
IBM 800 GB SATA 3.5" MLC Enterprise Value SSD for IBM System x	3331	HC1	A57J	00AJ450	00AJ450
Enterprise Value SSD for IBM System x					

The following are features already announced for the 2582, 2583, 3331, 3837, 5455, 5458, 5460, 5466, 6391, 7143, 7147, 7158, 7160, 7377, 7382, 7383, 7870, 7875, 7906, 7912, 7914, 7915, 7916, 7917, 7944, 8038, 8722, 8737, 8752 machine types:

Description	MT	Model	Feature
IBM 600GB 15K 6Gbps SAS 2.5" G3HS HDD	3331	HC1	A4TS
IBM 600GB 15K 6Gbps SAS 2.5" G3HS HDD	3837	AC1	
		AC2	
		AC3	
		AC4	
		AC5	
		AC6	
		AC7	
		MC1	
		MC2	
IBM 600GB 15K 6Gbps SAS 2.5" HDD for NeXtScale System	3331	HC1	A5NG
IBM 600GB 15K 6Gbps SAS 2.5" HDD for NeXtScale System	5455	AC1	
		MC1	

IBM 600GB 15K 6Gbps SAS 2.5'' G2HS HDD	5458	AC1	A4VB
		MC1	
IBM 600GB 15K 6Gbps SAS 2.5'' G2HS HDD	7870	AC1	
		MC1	
IBM 600GB 15K 6Gbps SAS 2.5'' G2HS HDD	7875	AC1	
		MC1	
IBM 600GB 15K 6Gbps SAS 2.5'' G2HS HDD	7906	AC1	
		MC1	
IBM 600GB 15K 6Gbps SAS 2.5'' G2HS HDD	7917	AC1	
		MC1	
IBM 600GB 15K 6Gbps SAS 2.5'' G2HS HDD	8038	AC1	
		MC1	
IBM 600GB 15K 6Gbps SAS 2.5'' G2HS HDD	8737	AC1	
		MC1	
IBM 600GB 15K 6Gbps SAS 2.5'' G2HS HDD	8752	AC1	
		MC1	
IBM 120GB SATA 1.8'' MLC Enterprise Value SSD	3331	HC1	A56V
IBM 120GB SATA 1.8'' MLC Enterprise Value SSD	3837	AC1	
		AC2	
		AC3	
		AC4	
		AC5	
		AC6	
		AC7	
		MC1	
		MC2	
IBM 120GB SATA 1.8'' MLC Enterprise Value SSD	5455	AC1	
		MC1	
IBM 120GB SATA 1.8'' MLC Enterprise Value SSD	5460	AC1	
		MC1	
IBM 120GB SATA 1.8'' MLC Enterprise Value SSD	7143	AC1	
		MC1	
IBM 120GB SATA 1.8'' MLC Enterprise Value SSD	7147	AC1	
		MC1	
IBM 120GB SATA 1.8'' MLC Enterprise Value SSD	7915	AC1	
		MC1	
IBM 120GB SATA 1.8'' MLC Enterprise Value SSD	7916	AC1	
		MC1	
IBM 120GB SATA 1.8'' MLC Enterprise Value SSD	7917	AC1	
		MC1	
IBM 120GB SATA 1.8'' MLC Enterprise Value SSD	8722	AC1	
		MC1	
IBM 120GB SATA 1.8'' MLC Enterprise Value SSD	8737	AC1	
		MC1	
IBM 240GB SATA 1.8'' MLC Enterprise Value SSD	3331	HC1	A56W
IBM 240GB SATA 1.8'' MLC Enterprise Value SSD	3837	AC1	
		AC2	
		AC3	
		AC4	
		AC5	
		AC6	
		AC7	
		MC1	
		MC2	
IBM 240GB SATA 1.8'' MLC Enterprise Value SSD	5455	AC1	
		MC1	
IBM 240GB SATA 1.8'' MLC Enterprise Value SSD	5460	AC1	
		MC1	
IBM 240GB SATA 1.8'' MLC Enterprise Value SSD	7143	AC1	
		MC1	
IBM 240GB SATA 1.8'' MLC Enterprise Value SSD	7147	AC1	
		MC1	
IBM 240GB SATA 1.8'' MLC Enterprise Value SSD	7915	AC1	
		MC1	
IBM 240GB SATA 1.8'' MLC Enterprise Value SSD	7916	AC1	
		MC1	
IBM 240GB SATA 1.8'' MLC Enterprise Value SSD	7917	AC1	
		MC1	
IBM 240GB SATA 1.8'' MLC Enterprise Value SSD	8722	AC1	
		MC1	
IBM 240GB SATA 1.8'' MLC Enterprise Value SSD	8737	AC1	
		MC1	
IBM 480GB SATA 1.8'' MLC Enterprise Value SSD	3331	HC1	A56X

IBM 480GB SATA 1.8" MLC Enterprise Value SSD	3837	AC1	
		AC2	
		AC3	
		AC4	
		AC5	
		AC6	
		AC7	
		MC1	
		MC2	
IBM 480GB SATA 1.8" MLC Enterprise Value SSD	5455	AC1	
		MC1	
IBM 480GB SATA 1.8" MLC Enterprise Value SSD	5460	AC1	
		MC1	
IBM 480GB SATA 1.8" MLC Enterprise Value SSD	7143	AC1	
		MC1	
IBM 480GB SATA 1.8" MLC Enterprise Value SSD	7147	AC1	
		MC1	
IBM 480GB SATA 1.8" MLC Enterprise Value SSD	7915	AC1	
		MC1	
IBM 480GB SATA 1.8" MLC Enterprise Value SSD	7916	AC1	
		MC1	
IBM 480GB SATA 1.8" MLC Enterprise Value SSD	7917	AC1	
		MC1	
IBM 480GB SATA 1.8" MLC Enterprise Value SSD	8722	AC1	
		MC1	
IBM 480GB SATA 1.8" MLC Enterprise Value SSD	8737	AC1	
		MC1	
IBM 800GB SATA 1.8" MLC Enterprise Value SSD	3331	HC1	A56Y
IBM 800GB SATA 1.8" MLC Enterprise Value SSD	3837	AC1	
		AC2	
		AC3	
		AC4	
		AC5	
		AC6	
		AC7	
		MC1	
		MC2	
IBM 800GB SATA 1.8" MLC Enterprise Value SSD	5455	AC1	
		MC1	
IBM 800GB SATA 1.8" MLC Enterprise Value SSD	5460	AC1	
		MC1	
IBM 800GB SATA 1.8" MLC Enterprise Value SSD	7143	AC1	
		MC1	
IBM 800GB SATA 1.8" MLC Enterprise Value SSD	7147	AC1	
		MC1	
IBM 800GB SATA 1.8" MLC Enterprise Value SSD	7915	AC1	
		MC1	
IBM 800GB SATA 1.8" MLC Enterprise Value SSD	7916	AC1	
		MC1	
IBM 800GB SATA 1.8" MLC Enterprise Value SSD	7917	AC1	
		MC1	
IBM 800GB SATA 1.8" MLC Enterprise Value SSD	8722	AC1	
		MC1	
IBM 800GB SATA 1.8" MLC Enterprise Value SSD	8737	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	2582	AC1	A56Z
		MC1	
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	2583	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	3331	HC1	
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	5458	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	5460	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	6391	AC1	
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7143	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7147	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7160	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7377	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7382	AC1	

					MC1
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7383	AC1			MC1
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7870	AC1			MC1
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7875	AC1			MC1
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7906	AC1			MC1
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7914	AC1			MC1
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7915	AC1			MC1
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7917	AC1			MC1
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	7944	AC1			MC1
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	8038	AC1			MC1
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	8722	AC1			MC1
IBM 120GB SATA 2.5" MLC HS Enterprise Value SSD	8737	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	2582	AC1	A570		MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	2583	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	3331	HC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	5458	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	5460	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	6391	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7143	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7147	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7160	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7377	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7382	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7383	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7870	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7875	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7906	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7914	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7915	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7917	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	7944	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	8038	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	8722	AC1			MC1
IBM 240GB SATA 2.5" MLC HS Enterprise Value SSD	8737	AC1			MC1
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	2582	AC1	A571		MC1
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	2583	AC1			MC1
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	3331	HC1			MC1
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	5458	AC1			MC1
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	5460	AC1			MC1

IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	6391	AC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7143	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7147	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7160	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7377	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7382	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7383	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7870	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7875	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7906	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7914	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7915	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7917	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	7944	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	8038	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	8722	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC HS Enterprise Value SSD	8737	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	2582	AC1	A572
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	2583	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	3331	HC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	5458	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	5460	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	6391	AC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7143	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7147	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7160	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7377	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7382	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7383	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7870	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7875	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7906	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7914	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7915	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7917	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	7944	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	8038	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	8722	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC HS Enterprise Value SSD	8737	AC1	

IBM 120GB SATA 2.5" MLC SS Enterprise Value SSD	2583	AC1	A573
		MC1	
IBM 120GB SATA 2.5" MLC SS Enterprise Value SSD	3331	HC1	
IBM 120GB SATA 2.5" MLC SS Enterprise Value SSD	5458	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC SS Enterprise Value SSD	6391	AC1	
IBM 120GB SATA 2.5" MLC SS Enterprise Value SSD	7160	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC SS Enterprise Value SSD	7912	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC SS Enterprise Value SSD	7914	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC SS Enterprise Value SSD	7915	AC1	
		MC1	
IBM 240GB SATA 2.5" MLC SS Enterprise Value SSD	2583	AC1	A574
		MC1	
IBM 240GB SATA 2.5" MLC SS Enterprise Value SSD	3331	HC1	
IBM 240GB SATA 2.5" MLC SS Enterprise Value SSD	5458	AC1	
		MC1	
IBM 240GB SATA 2.5" MLC SS Enterprise Value SSD	6391	AC1	
IBM 240GB SATA 2.5" MLC SS Enterprise Value SSD	7160	AC1	
		MC1	
IBM 240GB SATA 2.5" MLC SS Enterprise Value SSD	7912	AC1	
		MC1	
IBM 240GB SATA 2.5" MLC SS Enterprise Value SSD	7914	AC1	
		MC1	
IBM 240GB SATA 2.5" MLC SS Enterprise Value SSD	7915	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC SS Enterprise Value SSD	2583	AC1	A575
		MC1	
IBM 480GB SATA 2.5" MLC SS Enterprise Value SSD	3331	HC1	
IBM 480GB SATA 2.5" MLC SS Enterprise Value SSD	5458	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC SS Enterprise Value SSD	6391	AC1	
IBM 480GB SATA 2.5" MLC SS Enterprise Value SSD	7160	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC SS Enterprise Value SSD	7912	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC SS Enterprise Value SSD	7914	AC1	
		MC1	
IBM 480GB SATA 2.5" MLC SS Enterprise Value SSD	7915	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC SS Enterprise Value SSD	2583	AC1	A576
		MC1	
IBM 800GB SATA 2.5" MLC SS Enterprise Value SSD	3331	HC1	
IBM 800GB SATA 2.5" MLC SS Enterprise Value SSD	5458	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC SS Enterprise Value SSD	6391	AC1	
IBM 800GB SATA 2.5" MLC SS Enterprise Value SSD	7160	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC SS Enterprise Value SSD	7912	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC SS Enterprise Value SSD	7914	AC1	
		MC1	
IBM 800GB SATA 2.5" MLC SS Enterprise Value SSD	7915	AC1	
		MC1	
IBM 120GB SATA 2.5" MLC G3HS Enterprise Value SSD	3331	HC1	A577
IBM 120GB SATA 2.5" MLC G3HS Enterprise Value SSD	3837	AC1	
		AC2	
		AC3	
		AC4	
		AC5	
		AC6	
		AC7	
		MC1	
		MC2	
IBM 240GB SATA 2.5" MLC G3HS Enterprise Value SSD	3331	HC1	A578
IBM 240GB SATA 2.5" MLC G3HS Enterprise Value SSD	3837	AC1	
		AC2	
		AC3	
		AC4	
		AC5	
		AC6	

					AC7	
					MC1	
					MC2	
IBM 480GB SATA 2.5" MLC G3HS Enterprise Value SSD	3331	HC1				A579
IBM 480GB SATA 2.5" MLC G3HS Enterprise Value SSD	3837	AC1				
		AC2				
		AC3				
		AC4				
		AC5				
		AC6				
		AC7				
		MC1				
		MC2				
IBM 800GB SATA 2.5" MLC G3HS Enterprise Value SSD	3331	HC1				A57A
IBM 800GB SATA 2.5" MLC G3HS Enterprise Value SSD	3837	AC1				
		AC2				
		AC3				
		AC4				
		AC5				
		AC6				
		AC7				
		MC1				
		MC2				
IBM 120GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	3331	HC1				A57B
IBM 120GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	7916	AC1				
		MC1				
IBM 240GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	3331	HC1				A57C
IBM 240GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	7916	AC1				
		MC1				
IBM 480GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	3331	HC1				A57D
IBM 480GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	7916	AC1				
		MC1				
IBM 800GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	3331	HC1				A57E
IBM 800GB SATA 2.5" MLC Enterprise Value SSD for Flex System x222	7916	AC1				
		MC1				
IBM 120GB SATA 3.5" MLC HS Enterprise Value SSD	3331	HC1				A57F
IBM 120GB SATA 3.5" MLC HS Enterprise Value SSD	5466	AC1				
		MC1				
IBM 120GB SATA 3.5" MLC HS Enterprise Value SSD	7158	AC1				
		MC1				
IBM 240GB SATA 3.5" MLC HS Enterprise Value SSD	3331	HC1				A57G
IBM 240GB SATA 3.5" MLC HS Enterprise Value SSD	5466	AC1				
		MC1				
IBM 240GB SATA 3.5" MLC HS Enterprise Value SSD	7158	AC1				
		MC1				
IBM 480GB SATA 3.5" MLC HS Enterprise Value SSD	3331	HC1				A57H
IBM 480GB SATA 3.5" MLC HS Enterprise Value SSD	5466	AC1				
		MC1				
IBM 480GB SATA 3.5" MLC HS Enterprise Value SSD	7158	AC1				
		MC1				
IBM 800GB SATA 3.5" MLC HS Enterprise Value SSD	3331	HC1				A57J
IBM 800GB SATA 3.5" MLC HS Enterprise Value SSD	5466	AC1				
		MC1				
IBM 800GB SATA 3.5" MLC HS Enterprise Value SSD	7158	AC1				
		MC1				
IBM 120GB SATA 2.5" MLC Enterprise Value SSD for NeXtScale System	3331	HC1				A57K
IBM 120GB SATA 2.5" MLC Enterprise Value SSD for NeXtScale System	5455	AC1				
		MC1				
IBM 240GB SATA 2.5" MLC Enterprise Value SSD for NeXtScale System	3331	HC1				A57L
IBM 240GB SATA 2.5" MLC Enterprise Value SSD for NeXtScale System	5455	AC1				
		MC1				
IBM 480GB SATA 2.5" MLC Enterprise Value SSD for						

NeXtScale System	3331	HC1	A57M
IBM 480GB SATA 2.5" MLC Enterprise Value SSD for NeXtScale System	5455	AC1 MC1	
IBM 800GB SATA 2.5" MLC Enterprise Value SSD for NeXtScale System	3331	HC1	A57N
IBM 800GB SATA 2.5" MLC Enterprise Value SSD for NeXtScale System	5455	AC1 MC1	

Note: The following option products are not related to the solid-state products in this announcement. This announcement is being used to get the HDD options announced.

The following are newly announced options for IBM systems.

Description	Type	Model	Feature	SEO	Part Number
IBM 600 GB 15K 6Gbps SAS 2.5" G3HS HDD	3331	HC1	A4TS	00AJ126	00AJ126
IBM 600 GB 15K 6Gbps SAS 2.5" HDD for NeXtScale System	3331	HC1	A5NG	00AJ290	00AJ290

Model conversions

None

Feature conversions

None

Publications

Publications are shipped with the announced products.

The IBM Systems Information Center provides you with a single information center where you can access product documentation for IBM systems hardware, operating systems, and server software. Through a consistent framework, you can efficiently find information and personalize your access. The IBM Systems Information Center is at

<http://publib14.boulder.ibm.com/infocenter/systems>

IBM Publications Center Portal

<http://www.ibm.com/shop/publications/order>

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided, as well as payment options via credit card. A large number of publications are available online in various file formats, which can currently be downloaded free of charge.

Title	Order number	Part number
Instruction Pubs ship with SSDs and HDDs	None	None

Displayable softcopy publications: None

Source file publications: None

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These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an on-demand business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

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For details on available IBM Business Continuity and Recovery Services, contact your IBM representative or visit

<http://www.ibm.com/services/continuity>

For details on education offerings related to specific products, visit

<http://www-304.ibm.com/services/learning/ites.wss/zz/en?pageType=page&c=a0011023>

Select your country, and then select the product as the category.

Technical information

Specified operating environment

Physical specifications

IBM 120 GB, 240 GB, 480 GB, and 800 GB SATA 1.8-inch MLC Enterprise Value SSDs

- Approximate height: 5.0 mm (0.20 in.)
- Approximate width: 54.0 mm (2.13 in.)
- Approximate depth: 78.5 mm (3.09 in.)
- Approximate weight:
 - 120 GB - 41.3 g (0.09 lb)
 - 240 GB - 41.1 g (0.09 lb)
 - 480 GB - 42.1 g (0.09 lb)
 - 800 GB - 44.3 g (0.10 lb)

IBM 120 GB, 240 GB, 480 GB, and 800 GB SATA 2.5-inch MLC HS and SS Enterprise Value SSDs

- Approximate height: 7.0 mm (0.27 in.)
- Approximate width: 69.85 mm (2.75 in.)
- Approximate depth: 100.45 mm (3.95 in.)
- Approximate weight:
 - 120 GB - 71.7 g (0.16 lb)
 - 240 GB - 72.5 g (0.16 lb)
 - 480 GB - 72.5 g (0.16 lb)
 - 800 GB - 73.9 g (0.16 lb)

IBM 120 GB, 240 GB, 480 GB, and 800 GB SATA 3.5-inch MLC Enterprise Value SSDs

- Approximate height: 7.0 mm (0.27 in.)
- Approximate width: 69.85 mm (2.75 in.)
- Approximate depth: 100.45 mm (3.95 in.)
- Approximate weight: 74 g (0.16 lb)
 - 120 GB - 71.7 g (0.16 lb)
 - 240 GB - 72.5 g (0.16 lb)
 - 480 GB - 72.5 g (0.16 lb)
 - 800 GB - 73.9 g (0.16 lb)

IBM 600 GB 15,000 rpm SAS 2.5-inch HDDs

- Approximate height: 15.0 mm (0.591 in.)
- Approximate width: 70.0 mm (2.76 in.)
- Approximate depth: 100.5 mm (3.957 in.)
- Approximate weight: 230 g (0.507 lb)

Shipping dimensions

IBM 120 GB, 240 GB, 480 GB, and 800 GB SATA 1.8-inch MLC Enterprise Value SSDs

- Height: 32.0 mm (1.26 in.)
- Width: 150.0 mm (5.90 in.)
- Depth: 226.0 mm (8.95 in.)
- Weight: 394 g (0.87 lb)

IBM 120 GB, 240 GB, 480 GB, and 800 GB SATA 2.5-inch MLC HS and SS and G3HS Enterprise Value SSDs

- Height: 63.0 mm (2.48 in.)
- Width: 174.0 mm (6.90 in.)
- Depth: 133.0 mm (5.24 in.)
- Weight: 433 g (0.95 lb)

IBM 120 GB, 240 GB, 480 GB, and 800 GB SATA 2.5-inch MLC Enterprise Value SSDs for Flex System x222

- Height: 140.0 mm (5.50 in.)
- Width: 204.0 mm (8.00 in.)
- Depth: 254.0 mm (10.0 in.)
- Weight: 433 g (0.95 lb)

IBM 120 GB, 240 GB, 480 GB, and 800 GB SATA 2.5-inch MLC Enterprise Value SSDs for NextScale System

- Height: 63.0 mm (2.48 in.)
- Width: 133.0 mm (5.24 in.)
- Depth: 174.0 mm (6.90 in.)
- Weight: 314 g (0.69 lb)

IBM 120 GB, 240 GB, 480 GB, and 800 GB SATA 3.5-inch MLC Enterprise Value SSDs

- Height: 95.3 mm (3.75 in.)
- Width: 194.0 mm (7.64 in.)
- Depth: 257.0 mm (10.0 in.)

- Weight: 314 g (0.69 lb)

IBM 600 GB 15,000 rpm SAS 2.5-inch HDDs

- Approximate height: 63.0 mm (2.48 in.)
- Approximate width: 133.0 mm (5.24 in.)
- Approximate depth: 174.0 mm (6.85 in.)
- Approximate weight: 590 g (1.30 lb)

Standards

None

Operating environment

- SSD
 - Temperature: 0° C to 70° C (32° F to 158° F)
 - Relative humidity: 8% to 85% (noncondensing)
 - Maximum altitude: 3,050 m (10,000 ft)
- HDD
 - Temperature: 5° C to 55° C (40° F to 132° F)
 - Relative humidity: 5% to 95% (noncondensing)
 - Maximum altitude: 3,050 m (10,000 ft)

Homologation

This product is not certified for direct connection by any means whatsoever to interfaces of public telecommunications networks. Certification may be required by law prior to making any such connection. Contact an IBM representative or reseller for any questions.

Hardware requirements

These SSDs must be installed in selected System x or BladeCenter servers with SATA capability based on selected drives.

The HDDs must be installed in selected System x servers with SAS capability based on selected drives.

Software requirements

The new IBM SATA SSDs and SAS HDDs work with most operating systems.

For further information, contact your IBM representative.

Compatibility

For latest compatibility information, visit

<http://www-03.ibm.com/systems/info/x86servers/serverproven/compat/us/>

Note: Some configurations may not be compatible.

Limitations

Solid-state memory cells have an intrinsic, finite number of write cycles that each cell can incur. As a result, each solid-state drive has a maximum amount of writes it can be subjected to, documented as Total Bytes Written (TBW). IBM is not responsible for replacement of hardware that has reached the maximum guaranteed number of write cycles. This limit may be revealed as the SSD drive failing to respond to system-generated commands or becoming incapable of being written to. In general, it is important to distinguish enterprise value drives from enterprise drives.

Enterprise drives have much higher write endurance and as a result can withstand a greater number of writes over the lifetime of the device compared to enterprise value level drives. SSD write endurance is an important factor to consider because unlike spinning disk media, NAND flash has a finite number of program/erase cycles it will accept. SSD write endurance is typically measured by the number of program/erase cycles, or P/E cycles, each cell incurs over its lifetime, and per drive is listed as TBW in the drive specification. This statistic can be used to give an estimate of the drive's remaining life based on the workload to which the drive will be subjected. The TBW value assigned to a solid-state drive is the total bytes of written data (based on number of P/E cycles) a drive can be guaranteed to complete. Reaching this limit does not cause the drive to immediately fail; it simply denotes the maximum number of writes that can be guaranteed.

A solid-state drive will not fail upon reaching the specified TBW. At some point based on manufacturing variance margin, after surpassing the TBW value, the drive will reach the end-of-life point, at which the drive will go into a read-only mode.

As a result of the technology limitations, care must be taken to use SSDs in environments that will not exceed the TBW of the drive prior to the required life expectancy of the application.

As an example, assume an access pattern of 50% random data and 50% sequential data with block size mixes of 5% of the data is 4k block size, 5% of the data is 8k block size, 10% of the data is 16k block size, 35% of the data is 64k block size, and 35% of the data is 128k block size. For a drive capable of 72 TB of lifetime writes, assuming an approximation of the workload stated above as being worst case, the drive workload must be limited to no more than 40 GB of writes per day to last five years and stay inside the 72 TBW limit. For the device to last three years, the drive write workload must be limited to no more than 65 GB of writes per day.

Additional information is available at

<http://www-03.ibm.com/systems/x/options/storage/solidstate/index.html>

Solid-state memory cells have an intrinsic, finite number of program/erase cycles that each cell can incur. As a result, each solid-state device has a maximum amount of program/erase cycles to which it can be subjected, documented as TBW or Drive Writes Per Day (DWPD). IBM's warranty for the device is limited to drives that have not reached the maximum guaranteed number of program/erase cycles, as stated below. A drive that reaches this limit may fail to operate according to its specifications.

Maximum warranted drive writes per drive is 2.39 Full Drive Writes per day for five years or 0.5 PB TBW on the 1.8-inch, 2.5-inch, 3.5-inch, SSD for Flex x222, and SSD for NeXtScale 120 GB SATA SSD depending on workload and data patterns.

Maximum warranted drive writes per drive is 2.39 Full Drive Writes per day for five years or 1.0 PB TBW on the 1.8-inch, 2.5-inch, 3.5-inch, SSD for Flex x222, and SSD for NeXtScale 240 GB SATA SSD depending on workload and data patterns.

Maximum warranted drive writes per drive is 2.27 Full Drive Writes per day for five years or 1.9 PB TBW on the 1.8-inch, 2.5-inch, 3.5-inch, SSD for Flex x222, and SSD for NeXtScale 480 GB SATA SSD depending on workload and data patterns.

Maximum warranted drive writes per drive is 1.36 Full Drive Writes per day for five years or 1.9 PB TBW on the 1.8-inch, 2.5-inch, 3.5-inch, SSD for Flex x222, and SSD for NeXtScale 800 GB SATA SSD depending on workload and data patterns.

User group requirements

This announcement satisfies or partially satisfies the requirements from one or more of the worldwide user group communities. Groups include COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc.

Planning information

Customer responsibilities

The new IBM SATA MLC Enterprise Value SSD products are designed as customer setup. Customer installation instructions can be found in the Installation and User's Guide for the system into which the drive is to be installed.

The new IBM 600 GB 2.5-inch SAS HDD products are designed as customer setup.

Cable orders

None

Installability

The IBM SATA SSDs and the SAS HDDs require about 20 minutes for installation.

Installation includes unpacking, attaching a customer-provided line cord, setting up, and powering on.

Packaging

IBM 120/240/480/800 GB 1.8-inch, 120/240/480/800 GB 2.5-inch and 120/240/480/800 GB 3.5-inch MLC Enterprise Value SSDs

Product	Package description	Boxes
IBM 120 GB, 240 GB, 480 GB and 800 GB 1.8-inch, 2.5-inch HS and SS and 3.5-inch SATA MLC Enterprise Value SSDs	Option Unit Box	1
IBM 600 GB 15K 6Gbps SAS 2.5-inch G3HS and NextScale HDDs	Option Unit Box	1

Contents:

SSD or 600 HDD
Important Notices and IBM Warranty Publication,
SSD Information Flyer

The IBM Enterprise Value SSDs or HDDs are shipped as a single package. Other items are in zipped bags.

Retail only

Packaging dimensions/weight - IBM 120 GB, 240 GB, 400 GB SATA 1.8-inch MLC SSDs

- Single box (HxWxD): 32.0 mm (1.26 in.) x 150.0 mm (5.90 in.) x 226.0 mm (8.90 in.)
- Package weight: 394 g (0.87 lb)

Packaging dimensions/weight - IBM 120 GB, 240 GB, 480 GB, 800 GB SATA 2.5-inch HS and SS MLC SSDs

- Single box (HxWxD): 63.0 mm (2.48 in.) x 174.0 mm (6.90 in.) x 133.0 mm (5.24 in.)

- Package weight: 433 g (0.95 lb) (may vary slightly based on SSD).

Packaging dimensions/weight - IBM 200 GB, 400 GB, 800 GB SAS 3.5-inch HS Enterprise SSDs

- Single box (HxWxD): 95.30 mm (3.75 in.) 194.0 mm (7.64 in.) 257.0 mm (10.0 in.)
- Package weight: 314 g (0.69 lb)

IBM 600 GB 15,000 rpm SAS 2.5-inch HDDs

- Approximate height: 63.0 mm (2.48 in.)
- Approximate width: 133.0 mm (5.24 in.)
- Approximate depth: 174.0 mm (6.85 in.)
- Approximate weight: 590 g (1.30 lb)

Note: All measurements are approximate.

Security, auditability, and control

It is a customer's responsibility to ensure that the server is secure to prevent sensitive data from being removed.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

IBM Electronic Services

Electronic Service Agent™ and the IBM Electronic Support web portal are dedicated to providing fast, exceptional support to IBM Systems customers. The IBM Electronic Service Agent tool is a no-additional-charge tool that proactively monitors and reports hardware events, such as system errors, performance issues, and inventory. The Electronic Service Agent tool can help you stay focused on your company's strategic business initiatives, save time, and spend less effort managing day-to-day IT maintenance issues. Servers enabled with this tool can be monitored remotely around the clock by IBM Support all at no additional cost to you.

Now integrated into the base operating system of AIX® 5.3, AIX 6.1, and AIX 7.1, Electronic Service Agent is designed to automatically and electronically report system failures and utilization issues to IBM, which can result in faster problem resolution and increased availability. System configuration and inventory information collected by the Electronic Service Agent tool also can be viewed on the secure Electronic Support web portal, and used to improve problem determination and resolution by you and the IBM support team. To access the tool main menu, simply type "smitty esa_main", and select "Configure Electronic Service Agent." In addition, ESA now includes a powerful web user interface, giving the administrator easy access to status, tool settings, problem information, and filters. For more information and documentation on how to configure and use Electronic Service Agent, refer to

<http://www.ibm.com/support/electronic>

The IBM Electronic Support portal is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. This portal enables you to gain easier access to IBM resources for assistance in resolving technical problems. The My Systems and Premium Search functions make it even easier for Electronic Service Agent tool-enabled customers to track system inventory and find pertinent fixes.

Benefits

Increased uptime: The Electronic Service Agent tool is designed to enhance the Warranty or Maintenance Agreement by providing faster hardware error reporting and uploading system information to IBM Support. This can translate to less wasted time monitoring the "symptoms," diagnosing the error, and manually calling IBM Support to open a problem record. Its 24 x 7 monitoring and reporting mean no more dependence on human intervention or off-hours customer personnel when errors are encountered in the middle of the night.

Security: The Electronic Service Agent tool is designed to be secure in monitoring, reporting, and storing the data at IBM. The Electronic Service Agent tool securely transmits either via the Internet (HTTPS or VPN) or modem, and can be configured to communicate securely through gateways to provide customers a single point of exit from their site. Communication is one way. Activating Electronic Service Agent does not enable IBM to call into a customer's system. System inventory information is stored in a secure database, which is protected behind IBM firewalls. It is viewable only by the customer and IBM. The customer's business applications or business data is never transmitted to IBM.

More accurate reporting: Since system information and error logs are automatically uploaded to the IBM Support center in conjunction with the service request, customers are not required to find and send system information, decreasing the risk of misreported or misdiagnosed errors. Once inside IBM, problem error data is run through a data knowledge management system and knowledge articles are appended to the problem record.

Customized support: Using the IBM ID entered during activation, customers can view system and support information in the "My Systems" and "Premium Search" sections of the Electronic Support website at

<http://www.ibm.com/support/electronic>

My Systems provides valuable reports of installed hardware and software using information collected from the systems by Electronic Service Agent. Reports are available for any system associated with the customer's IBM ID. Premium Search combines the function of search and the value of Electronic Service Agent information, providing advanced search of the technical support knowledgebase. Using Premium Search and the Electronic Service Agent information that has been collected from your system, customers are able to see search results that apply specifically to their systems.

For more information on how to utilize the power of IBM Electronic Services, contact your IBM Systems Services Representative, or visit

<http://www.ibm.com/support/electronic>

Terms and conditions

MES discount applicable

No

Field installable feature

Yes

Warranty period

One-year limited warranty¹, or system warranty for SSDs and HDDs.

An IBM part or feature installed during the initial installation of an IBM machine is subject to a full warranty effective on the date of installation of the machine. An IBM part or feature that replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. An IBM part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty effective on its date of installation. Unless specified

otherwise, the warranty period, type of warranty service, and service level of a part or feature are the same as those for the machine in which it is installed.

¹ For information on IBM's Statement of Limited Warranty, contact your local IBM representative. Copies are available upon request.

Customer setup

Yes

Machine code

No license terms apply.

Optional features warranty period

Optional features: One year limited warranty¹.

Solid-state memory cells have an intrinsic, finite number of program/erase cycles that each cell can incur. As a result, each solid-state device has a maximum amount of program/erase cycles to which it can be subjected, documented as Total Bytes Written (TBW) or Drive Writes Per Day (DWPD). IBM's warranty for the device is limited to drives that have not reached the maximum guaranteed number of program/erase cycles, as demonstrated in the table below. A drive that reaches this limit may fail to operate according to its specifications.

Maximum warranted drive writes per drive is 2.39 Full Drive Writes per day for five years or 0.5 PB TBW on the 1.8-inch, 2.5-inch, 3.5-inch, SSD for Flex x222, and SSD for NeXtScale 120 GB SATA SSD depending on workload and data patterns.

Maximum warranted drive writes per drive is 2.39 Full Drive Writes per day for five years or 1.0 PB TBW on the 1.8-inch, 2.5-inch, 3.5-inch, SSD for Flex x222, and SSD for NeXtScale 240 GB SATA SSD depending on workload and data patterns.

Maximum warranted drive writes per drive is 2.27 Full Drive Writes per day for five years or 1.9 PB TBW on the 1.8-inch, 2.5-inch, 3.5-inch, SSD for Flex x222, and SSD for NeXtScale 480 GB SATA SSD depending on workload and data patterns.

Maximum warranted drive writes per drive is 1.36 Full Drive Writes per day for five years or 1.9 PB TBW on the 1.8-inch, 2.5-inch, 3.5-inch, SSD for Flex x222, and SSD for NeXtScale 800 GB SATA SSD depending on workload and data patterns.

¹ For information on IBM's Statement of Limited Warranty, contact your local IBM representative. Copies are available upon request.

Prices

For all local charges, contact your IBM representative or Business Partner. For additional price information, visit

<http://www-06.ibm.com/systems/jp/x/system/guide.shtml>

AP distribution

Country/Region	Announce	Announce date
AP IOT		
ASEAN *	Yes	April 22, 2014
India/South Asia **	Yes	April 22, 2014
Australia	Yes	April 22, 2014
People's Republic of China	Yes	April 22, 2014
Hong Kong S. A. R of the PRC	Yes	April 22, 2014
Macao S. A. R of the PRC	Yes	April 22, 2014

Taiwan	Yes	April 22, 2014
South Korea	Yes	April 22, 2014
New Zealand	Yes	April 22, 2014
Japan IOT		
Japan	Yes	April 22, 2014

* Brunei Darussalam, Indonesia, Cambodia, Lao People's Democratic Republic, Malaysia, Philippines, Singapore, Thailand, and Vietnam
** Bangladesh, Bhutan, India, Sri Lanka, Maldives, Nepal, and Afghanistan

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