IBM 1 TB and 2 TB 7.2K 6 Gbps NL SAS 3.5-inch HS HDDs offer higher capacity for storage for selected System x and BladeCenter systems

Table of contents

At a glance

IBM® 1 TB and 2 TB SAS HDDs can provide the performance required for extensive storage capacity while providing the flexibility to use HS capability.

- 1 TB or 2 TB HDD capacity
- 7,200-rpm HDDs -- Deliver SAS device reliability and largest capacity performance in the IBM SAS HDD family
- 3.5-inch, slim-line form factor -- Optimizes storage capacity
- S.M.A.R.T. Technology -- Through use of software utilities, can alert you of certain impending drive failures, so replacements can be made
- Available as hot-swap
- One-year warranty

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: YE001).

Overview

The addition of 1 TB and 2 TB HDD offerings to the IBM System x® and BladeCenter® family of 3.5-inch SAS drives offers the higher-capacity options and provides a wider selection of choices to satisfy a wide range of applications. These new drives are positioned to offer maximum capacity currently available from IBM for our SAS HDD line.

These 1 and 2 TB NL SAS HDDs provide 3.5-inch form factor options that are available for hot-swap configurations.

Key features and benefits include:

- 1 TB and 2 TB capacity at 7,200 rpm speed
- Reliability that enables operation in RAID environments

You can put together a winning combination for data-storage applications when you install these new high-capacity SAS HDDs in your IBM System x or BladeCenter configurations.

Performance

1 TB and 2 TB performance characteristics include:

- Formatted capacity of 1,000,000 MB or 2,000,000 MB
- Drive to host interface that supports up to 6.0 Gb/s burst rate
- Drive media to buffer interface that supports sustained interface data transfers of up to 150 MB/s average
- Spindle speed of 7,200 rpm
- Average latency of 4.16 ms
- Hot-swap capability

Reliability

- SAS compliance enables these HDDs to connect directly into System x and BladeCenter systems.
- S.M.A.R.T Technology allows software utilities to alert you of certain impending drive failures so replacements can be made before a problem occurs.
- Rigorous testing through the ServerProven® program instills confidence that your storage subsystem is compatible and will function reliably.
- The HDDs come with a one-year, limited warranty[1].

[1] For information on the IBM Statement of Limited Warranty, visit

   http://www.ibm.com/systems/support/

Alternatively, this information is available through your IBM representative or reseller. Copies are available upon request.

With respect to on-site service, IBM sends a technician after attempting to diagnose and resolve the problem remotely.

Key prerequisites

System x or BladeCenter system with SAS capability

Planned availability date

April 27, 2010

Description

IBM 1 TB 7.2K rpm 6 Gbps NL SAS 3.5-inch HS HDD (42D0777) and 2 TB 7.2K rpm 6 Gbps NL SAS 3.5-inch HS HDD (42D0767)

These two 7,200 rpm 1 and 2 TB HDDs provide 3.5-inch form factor options that can be used as hot-swap drives. These new HDD offerings are for the IBM System x and BladeCenter family. They offer the highest-capacity SAS options and will provide a wider selection of choices to satisfy a range of applications.

These new drives are positioned as the highest-capacity offerings in the SAS HDD line.

Key features and benefits include:

- 7,200 rpm speed with highest-capacity
- Reliability that enables operation in RAID environments
- A 3.5-inch-wide, form factor that allows maximum installations in supported System x and BladeCenter systems

Note: There is a limitation with the new 2 TB SAS option. It is incompatible with the System x SAS/SATA controllers based on Adaptec technology.

Configurator support

- Configuration and Options Guide (COG)
- IBM Advanced Solutions Integration Tool (ASIT)

Product positioning

These high-capacity 1 and 2 TB 7,200 rpm NL SAS HDD options are positioned in IBM's SAS HDD line and are available in hot-swap versions.

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

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

Product number

Single Entity Offerings (SEOs)

Description	SEO number
IBM 1TB 7.2K 6Gbps NL SAS 3.5" HS HDD	42D0777
IBM 2TB 7.2K 6Gbps NL SAS 3.5" HS HDD	42D0767

The following are new features for the f4190, 4192, 4193, 4194, 4251, 4252, 7327, 7328, 7836, 7837, 7839, 7978, and 7979 machine types, Models MC1 and AC1 :

Description	Feature
IBM 1TB 7.2K 6Gbps NL SAS 3.5" HS HDD	5418
IBM 2TB 7.2K 6Gbps NL SAS 3.5" HS HDD	5417

The following are newly announced features on the IBM System 7323 and 8886 machine types, Model AC1:

Description	Feature
IBM 1TB 7.2K 6Gbps NL SAS 3.5" HS HDD	5418
IBM 2TB 7.2K 6Gbps NL SAS 3.5" HS HDD	5417

Note: The following does not apply to other products in this announcement.

The following is a newly announced feature on the IBM System 7145 machine type, Models MC1, AC1, and AC4:

Description	MT	Model	Feature
Emulex 8Gb FC Dual-port HBA for IBM System x	7145	MC1 AC1 AC4	3581

Publications

Publications are shipped with the announced product.

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.

Installation publications ship with the HDDs.

Displayable softcopy publications

None

Source file publications

None

Services

Global Technology Services

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

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

http://www.ibm.com/services/

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.ibm.com/services/learning/index.html

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

System x and BladeCenter support services

Recommended core technical support

When you buy IBM System x technology, include the support services you need -- to help keep both your hardware and software working for you, day after day, at peak performance. It's your first step toward helping to protect your investment and sustain high levels of system availability. We offer service-level and response-time

options to fit your business needs. And we'll help you get started with a core support package that includes:

- **Continuous system monitoring**

  Electronic monitoring that helps speed up problem-solving with automated, early detection of potential problems and system errors.

- **Hardware maintenance**

  World-class remote and on-site hardware problem determination and repair services.

- **Software technical support**

  Access to help line calls for fast, accurate answers to your questions during installation and throughout ongoing operations.

For more information, visit

    http://www.ibm.com/servers/eserver/xseries/services.html

Technical information

Specified operating environment

Physical specifications

IBM 1 TB 7.2K 6 Gbps NL SAS 3.5-inch HS HDD (42D0777) and IBM 2 TB 7.2K 6 Gbps NL SAS 3.5-inch HS HDD (42D0767)

- Approximate height: 25.6 mm (1.008 in)
- Approximate width: 101.6 mm (4.0 in)
- Approximate depth: 146.18 mm (5.755 in)
- Approximate weight: 710 g (1.57 lb)

Shipping dimensions

- Approximate height: 39 mm (1.5 in)
- Approximate width: 115 mm (4.5 in)
- Approximate depth: 160 mm (6.3 in)
- Approximate weight: 1150 g (2.32 lb)

Agency approvals

- UL
- CSA
- TUV
- CE Mark
- C-Tick Mark
- IEC
- Taiwan (BSMI Certification)
- Korea EMI

Standards

None

Operating environment

- Temperature:
  - 10 to 35 degrees C (50 to 95 F) at 0 to 914 m (0 to 3,000 ft)

 5

– 10 to 32 degrees C (50 to 90 degrees F) at 914 to 2133 m (3,000 to 7,000 ft)
- Relative humidity: 8% to 80% (non-condensing)
- Maximum altitude: 2,133 m (7,000 ft)

Hardware requirements

The HDDs must be installed in selected System x or BladeCenter systems.

Note: There is a limitation with the new 2 TB SAS option. It is incompatible with the System x Adaptec SAS/SATA controllers.

Software requirements

The new IBM 1 TB and 2 TB 7,200 rpm 6 Gbps NL SAS HDDs work with most system operating systems. **Note:** There may be some GPT partitioning issue with LSI SAS controllers when installing Linux-based OSs on to the 2 TB capacity.

For further information, contact your IBM representative.

Compatibility

For latest compatibility information, visit

  http://www.ibm.com/servers/eserver/serverproven/compat/us/

Note: Some configurations may not be compatible.

Limitations

None

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 1 TB and 2 TB 7,200 rpm 6 Gbps NL SAS 3.5-inch HS HDD products are designated as customer setup. Customer installation instructions are shipped with each option part.

Cable orders

None

Installability

The IBM 1 TB or 2 TB SAS HDDs require about 20 minutes for installation.

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

Packaging

IBM 1 TB and 2 TB 7,200 6 Gbps NL SAS 3.5-inch HS HDDs

```
Product                 Package description            Boxes

IBM 1 TB 7.2K 6Gbps     Option Unit Box                1
NL SAS 3.5-inch HS HDD
```

```
IBM 2 TB 7.2K 6Gbps
NL SAS 3.5-inch HS HDD
```

```
                       Contents:

                       Hard drive
                       Installation pub and warranty
                       Safety flyer
```

The 1 TB and 2 TB SAS HDDs are shipped as a single package. Other items are in zipped bags.

Retail only

Packaging dimensions and weight

- Single box (HxDxW): 39 mm (1.5 in) x 115 mm (4.5 in) x 160 mm (6.3 in)

- Package weight: 1150 g (2.32 lb)

Note: All measurements are approximate.

Supplies

For end users:

IBM 1 TB and 2 TB 7,200 rpm 6 Gbps NL SAS 3.5-inch HS HDDs can be purchased through dealers around the world.

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

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a Web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent

for problem reporting enables IBM to provide better support and service for your IBM server.

Terms and conditions

Field-installable features

Yes

Warranty period

One year

1 TB and 2 TB 7,200 rpm 6 Gbps NL SAS 3.5-inch HS HDDs offer a one year warranty[1].

- Warranty period: 1 year
- Service type (IOR/IOE/CCE/CCR): CRU
- Maintenance agreement: No
- Optional upgrade: No

If installed in system when purchased, these features assume the same warranty or maintenance terms as the machine in which it is installed for the remainder of the warranty or maintenance period for such machine.

Customer setup

Yes

Machine code

No license terms apply.

Pricing

For current prices, contact IBM at 888-Shop-IBM (746-7426) or visit

http://www-03.ibm.com/systems/x/

```
                                          Part
Description                               number

IBM 1 TB 7.2K 6Gbps NL SAS 3.5" HS HDD    42D0777
IBM 2 TB 7.2K 6Gbps NL SAS 3.5" HS HDD    42D0767


Field    Plant               MES      MES
install  install   MES       removal  add      Cables
only     only      removal   charge   charge   required

N        N         N                           N
```

If field installed on a purchased machine, parts removed or replaced become the property of IBM and must be returned.

The following are new features for the 4190, 4192, 4193, 4194, 4251, 4252, 7327, 7328, 7836, 7837, 7839, 7978, and 7979 machine types, Models MC1 and AC1.

```
                                          Initial/
                                          MES/
Description              Model   Feature   Both         RP
                         Number  number    support  CSU MES

IBM 1TB 7.2K 6Gbps NL SAS 3.5" HS HDD
```

```
                              AC1      5418            Initial
                              MC1                      Initial
IBM 2TB 7.2K 6Gbps NL SAS 3.5" HS HDD
                              AC1      5417            Initial
                              MC1                      Initial
```

The following are newly announced features on the IBM System 7323 and 8886 machine types, Model AC1.

```
                                        Initial/
                                        MES/
Description               Model   Feature   Both            RP
                          Number  number    support  CSU MES

IBM 1TB 7.2K 6Gbps NL SAS 3.5" HS HDD
                          AC1     5418      Initial
IBM 2TB 7.2K 6Gbps NL SAS 3.5" HS HDD
                          AC1     5417      Initial
```

Trademarks

Electronic Service Agent is a trademark of IBM Corporation in the United States, other countries, or both.

IBM, System x, BladeCenter and ServerProven are registered trademarks of IBM Corporation in the United States, other countries, or both.

Other company, product, and service names may be trademarks or service marks of others.

Terms of use

IBM products and services which are announced and available in your country can be ordered under the applicable standard agreements, terms, conditions, and prices in effect at the time. IBM reserves the right to modify or withdraw this announcement at any time without notice. This announcement is provided for your information only. Additional terms of use are located at

http://www.ibm.com/legal/us/en/

For the most current information regarding IBM products, consult your IBM representative or reseller, or visit the IBM worldwide contacts page

http://www.ibm.com/planetwide/us/