



IBM System Storage TS7610 ProtecTIER Deduplication Appliance Express brings data protection to remote offices and midrange environments

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At a glance

IBM® System Storage® TS7610 ProtecTIER® Deduplication Appliance Express® is a data protection offering for customers backing up no more than 3 TB of data per week.

Overview

IBM System Storage TS7610 ProtecTIER Deduplication Appliance Express is a preconfigured solution of IBM ProtecTIER Deduplication software, a powerful server, and high-speed disk storage designed to improve the performance and reliability of backup and recovery operations in remote offices and midrange environments.

IBM System Storage TS7610 ProtecTIER Deduplication Appliance Express includes:

- IBM ProtecTIER deduplication technology
- Integrated processing power and disk storage:
 - 2U enclosure
 - Fits in standard 19-inch rack
 - Twelve 1 TB SATA drives
 - Quad Core 2.33 GHz Intel® Xeon® Processor
- Optional ProtecTIER Internet Protocol (IP) replication for electronic replication to an off-site location to support improved disaster recovery capabilities
- Up to 25 times reduction of data volume through deduplication
- Functions that are non-disruption, easy to deploy, easy to scale

The TS7610 solution is designed to improve backup and recovery operations without making major changes to the existing infrastructure for mid-size and enterprise customers with smaller remote offices that are struggling with rapid data growth.

IBM System Storage ProtecTIER Entry Edition V2.5 software that is loaded on the IBM System Storage TS7610 ProtecTIER Deduplication Appliance Express to create a valid TS7610 ProtecTIER Deduplication Appliance solution has been enhanced to support the OpenStorage interface with Symantec NetBackup.

ProtectTIER V2.5 systems may be configured as a virtual tape library (VTL) or as an OpenStorage enabled system. At this time, a ProtectTIER system may only function as a VTL system or an OpenStorage system; it cannot function as both.

Key prerequisites

IBM System Storage ProtectTIER Entry Edition software is loaded on the IBM System Storage TS7610 ProtectTIER Deduplication Appliance Express to create a TS7610 ProtectTIER Deduplication Appliance solution.

A separate order for System Storage ProtectTIER Entry Edition software is required.

Planned availability date

December 3, 2010

Description

IBM System Storage ProtectTIER Entry Edition V2.5 software combined with TS7610 ProtectTIER Deduplication Appliance Express is a data deduplication and replication solution that compresses and stores backup data on a disk storage array. This combined software and hardware solution is referred to as TS7610 ProtectTIER Deduplication Appliance Express. The replication function allows ProtectTIER systems to be distributed across sites. TS7610 Express emulates a TS3500 tape library unit containing LTO3 tape drives to facilitate backup applications that are designed for use with tape storage. This emulation capability is designed to help customers achieve the following operational and throughput efficiencies:

- Backup window reduction
- Restoration time reduction
- Data sharing and resource optimization
- Operational efficiency
- Improved sharing of virtual tape libraries across applications and servers

IBM System Storage ProtectTIER Entry Edition V2.5 software that is loaded on the IBM System Storage TS7610 ProtectTIER Deduplication Appliance Express to create a valid TS7610 ProtectTIER Deduplication Appliance solution has been enhanced to support the OpenStorage interface with Symantec NetBackup.

ProtectTIER V2.5 systems may be configured as a virtual tape library (VTL) or as an OpenStorage enabled system. At this time, a ProtectTIER system may only function as a VTL system or an OpenStorage system; it cannot function as both.

Virtual tape library

TS7610 VTL solution provides the following capabilities:

- Up to 4 virtual TS3500 tape libraries
- Up to 64 virtual LTO3 tape drives
- Up to 8,192 virtual tape cartridges
- Optional ProtectTIER Internet Protocol (IP) replication to electronically replicate to an off-site location to support improved disaster recovery capabilities
- Up to 25 times reduction of data volume through deduplication
- Functions that are non-disruption, easy to deploy, easy to scale

The TS7610 solution is designed to improve backup and recovery operations without making major changes to the existing infrastructure for mid-size and enterprise customers with smaller remote offices that are struggling with rapid data growth.

OpenStorage API

OpenStorage interface is a NetBackup appliance programming interface (API) supporting communication between NetBackup systems and OpenStorage enabled ProtecTIER systems. The OpenStorage interface provides the following capabilities:

- NetBackup software directs ProtecTIER systems when to create, copy, delete or restore backup images
- Backup images may be replicated to up to 12 different ProtecTIER systems
- Workloads and performance are balanced between NetBackup media servers and ProtecTIER systems
- Detailed statistics on the state of the ProtecTIER systems are available through the API

For additional information, refer to Hardware Announcement [110-193](#), dated July 20, 2010, and Software Announcement [210-376](#), dated October 26, 2010.

Accessibility by people with disabilities

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

http://www.ibm.com/able/product_accessibility/index.html

Product positioning

TS7610 ProtecTIER Deduplication Appliance Express fits neatly into IBM's storage and tape product portfolio by expanding data protection offerings to the lower end of mid-size customers. By enabling storage of up to 25 times more data on a given amount of physical disk capacity, ProtecTIER greatly changes the economics of data protection. TS7610 is designed with capacity, price, performance, function, and reliability, availability, and serviceability characteristics to appeal to the mid-size customer, and to the enterprise customer with data backup and protection requirements in remote offices.

TS7610 ProtecTIER Deduplication Appliance integrates with and is complementary to many other IBM hardware and software offerings:

- IBM Tivoli® Storage Manager is fully compatible with TS7610 ProtecTIER Deduplication Appliance and can take advantage of a TS7610 ProtecTIER Deduplication Appliance as a target to increase backup performance and reliability.
- IBM tape systems, such as the TS3500 Tape Library, can be used in conjunction with the TS7610 Appliance to provide a comprehensive end-to-end backup and recovery environment that takes advantage of the strengths of both disk and tape.

Reference information

For information on IBM System Storage ProtecTIER Entry Edition V2.5, refer to Software Announcement [210-376](#), dated October 26, 2010.

Product number

| Description | Machine | Model | Feature |
|-----------------------------|---------|-------|---------|
| Dual port ethernet card | 3959 | SM1 | 3448 * |
| 8Gb FC Dual Port HBA - Host | 3959 | SM1 | 3458 |
| OST | 3959 | SM1 | 9023 |
| C13 to 5-15P power cord | 3959 | SM1 | 9950 |

* This feature has been previously announced in another product

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld® ID and password are required (use IBM ID).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=110-238>

Publications

The following publications are shipped with the product or are included on the TS7610 Appliance Publications CD-ROM:

| Title | Order number | Part number |
|-----------------------------------------------------------------------------------------------------------------------------|--------------|-------------|
| IBM System Storage TS7610 ProtectTIER Deduplication Appliance Express Introduction and Planning Guide | GA32-0776-01 | N/A |
| IBM System Storage TS7610 ProtectTIER Deduplication Appliance Express Installation and Setup Guide for Virtual Tape Systems | GA32-0777-01 | 46X6045 |
| IBM System Storage TS7610 ProtectTIER Deduplication Appliance Express Installation and Setup Guide for OpenStorage Systems | GA32-0836-00 | 46X6046 |
| IBM System Storage TS7610 ProtectTIER Deduplication Appliance Express Software Upgrade Guide | GA32-0837-00 | 46X6047 |
| IBM System Storage TS7610 ProtectTIER Deduplication Appliance Express Service Guide | GA32-0778-01 | 46X6048 |
| IBM System Storage TS7610 ProtectTIER Deduplication Appliance Express - ProtectTIER User's and Maintenance Guide | GA32-0779-01 | N/A |
| IBM System Storage TS7610 ProtectTIER Deduplication Appliance Express Publications CD-ROM | LCD8-1486-01 | 46X6049 |
| IBM System Storage TS7610 ProtectTIER Deduplication Appliance Express Customer Information Center CD-ROM | N/A | 46X6050 |
| IBM System Storage TS7610 ProtectTIER Deduplication Appliance Express Service Information Center CD-ROM | N/A | 46X6051 |

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.

Publications are available on the IBM Publications Center website and are included on the *IBM System Storage TS7610 ProtecTIER Deduplication Appliance Express Publications CD-ROM, LCD8-1486-01 (part number 46X6049)*.

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.

Technical information

Specified operating environment

Physical specifications

2 U rack

- Length: 707 mm (27.8 in)
- Width: 449 mm (17.67 in)
- Height: 88 mm (3.5 in)
- Weight: 30 kg (66 lb)

To assure installability and serviceability in non-IBM industry-standard racks, review the installation planning information for any product-specific installation requirements.

Operating environment

Operating temperature / Humidity / Altitude:

- 5 to 35° C (50 to 95° F) at 0 to 914 m (0 ft to 3,000 ft)
- 5 to 32° C (50 to 90° F) at 914 to 2,133 m (3,000 ft to 7,000 ft)
- Relative humidity: 20% to 80%
- Maximum altitude: 2,133 m (7,000 ft)

Electrical:

- 200 to 240 (nominal) V ac; 50 Hz or 60 Hz; System 8 A
- Input kilovolt-amperes (kVA) (approximately):
 - Configuration - Off: 0.10 kVA
 - Configuration - On and idle: 0.6 kVA
 - Configuration - On and typical: 1.0 kVA

Btu output: 1700 Watts

Noise level horizontal position: 7.2 bels

Equipment approvals and safety:

- FCC Verified to comply with Part 15 of the FCC Rules, Class A
- Canada ICES-003, issue 4, Class A
- IEC/UL 60950-1, 1st Edition
- CAN/CSA C22.2 No. 60950-1-03
- GOST
- NOM-019 *

* This storage system is certified by the respective UL and NOM agencies.

Hardware requirements

General platform prerequisites

A TS7610 Appliance solution with IBM ProtecTIER Deduplication software requires the IBM 3959 Model SM1 hardware with the following features:

- VTL configuration:
 - One 8GB Fibre Channel dual port HBA - Host (feature #3458)
 - One 9022 virtual tape library (feature #9022)
 - One SW Capacity (feature #9313 or #9314)
 - One Power cord (feature #9950 or #9953)
- OpenStorage configuration:
 - One Dual Port Ethernet card (feature #3448)
 - One 9023 open storage (feature #9023)
 - One SW Capacity (feature #9313 or #9314)
 - One Power cord (feature #9950 or #9953)

Customer provided monitor and keyboard are required for system installation and maintenance.

ProtecTIER Manager

ProtecTIER Manager is required for service or maintenance of ProtecTIER systems, and must be installed on a customer provided workstation.

The customer provided workstation must be capable of operating one of the following operating systems:

- Microsoft® Windows® 2003, Windows XP, or Windows 7
- Red Hat Enterprise 4 or 5

The workstation must have:

- At least 1.2 GB of available disk space

- At least 256 MB of RAM

The workstation must have access to the ProtecTIER service nodes at IP address (port 3501 is open on the firewall).

ProtecTIER Manager can support more than one ProtecTIER server. If the ProtecTIER Manager workstation is connected to more than one ProtecTIER server, they can be connected to the workstation via a switch box or via a terminal server. The workstation and switch box must be provided by the customer.

Confer with your IBM representative for workstation configuration alternatives.

Supported configurations

TS7610 appliance offers two software configurations with usable repository sizes of approximately 4.4 TB and approximately 5.9 TB.

VTL supported configurations

TS7610 ProtecTIER Deduplication Appliance Express - 4.4 TB configuration - plant features:

| Feature number | Description | Quantity |
|----------------|----------------------------|----------|
| 3458 | 8GB FC Dual Port HBA -Host | 1 |
| 9022 | VTL | 1 |
| 9313 | SW Capacity 4.4 TB | 1 |

One of the following power cords is required:

| | |
|------|-------------------------|
| 9950 | C13 to 5-15P power cord |
| 9953 | C13 to C14 power cord |

TS7610 ProtecTIER Deduplication Appliance Express - 5.9 TB configuration - plant features:

| Feature number | Description | Quantity |
|----------------|----------------------------|----------|
| 3458 | 8GB FC Dual Port HBA -Host | 1 |
| 9022 | VTL | 1 |
| 9314 | SW Capacity 5.9 TB | 1 |

One of the following power cords is required:

| | |
|------|-------------------------|
| 9950 | C13 to 5-15P power cord |
| 9953 | C13 to C14 power cord |

OpenStorage supported configurations

TS7610 ProtecTIER Deduplication Appliance Express - 4.4 TB configuration - plant features:

| Feature number | Description | Quantity |
|----------------|-------------------------|----------|
| 3448 | Dual Port Ethernet Card | 1 |
| 9023 | OST | 1 |
| 9313 | SW Capacity 4.4 TB | 1 |

One of the following power cords is required:

| | |
|------|-------------------------|
| 9950 | C13 to 5-15P power cord |
| 9953 | C13 to C14 power cord |

TS7610 ProtecTIER Deduplication Appliance Express - 5.9 TB configuration - plant features:

| Feature number | Description | Quantity |
|----------------|-------------------------|----------|
| 3448 | Dual Port Ethernet Card | 1 |
| 9023 | OST | 1 |
| 9314 | SW Capacity 5.9 TB | 1 |

One of the following power cords is required:

| | |
|------|-------------------------|
| 9950 | C13 to 5-15P power cord |
| 9953 | C13 to C14 power cord |

Tested platforms are listed in the Installation Guide under **Release Notes**.

Software requirements

Order the following ProtecTIER Entry Edition software license PID and maintenance PID when the TS7610 Appliance Express hardware is ordered:

- 5639-TAA, ProtecTIER Entry Edition V2.1 software
- One of the following software maintenance PIDs:
 - 5639-TAB 1 year renewal
 - 5639-TAC 1 year after license
 - 5639-TAD 3 year registration
 - 5639-TAE 3 year renewal
 - 5639-TAF 3 year after license
 - 5639-TAG 2 year registration
 - 5639-TAH 4 year registration
 - 5639-TAI 5 year registration

Refer to IBM System Storage ProtecTIER Entry Edition V2.1 Software Announcement [210-244](#), dated July 20, 2010.

Operating system prerequisites

The appropriate Linux® operating system is included with ProtecTIER Appliance Edition V2.3 software and is loaded on the TS7650 Appliance with the initial order.

Connectivity prerequisites

The supported Fiber Channel switches are listed in the System Storage Operation Center (SSIC) located at

<http://www-03.ibm.com/systems/support/storage/config/ssic/>

If this IBM System Storage TS7610 ProtecTIER Deduplication Appliance Express is to be accessed via ProtecTIER Manager installed on another computer, network connections must be configured to allow access.

Compatibility

The IBM System Storage TS7610 ProtecTIER Appliance Express emulates, in both stand-alone and clustered configurations, the IBM System Storage TS3500 tape library with IBM Ultrium 3 Tape Drives.

Limitations

ProtecTIER Entry Edition V2.1 software is only supported for installation on TS7610 ProtecTIER Deduplication Appliance Express hardware (3959 Model SM1).

A TS7610 Express system serving as a replication hub may only support four spokes.

Planning information

Customer responsibilities

Physical planning is a customer responsibility. Detailed planning information is in the *IBM System Storage TS7610 ProtecTIER Deduplication Appliance Express Publications CD-ROM, LCD8-1486-01 (part number 46X6049)*.

This product is customer installable. This product can be easily installed in frame space at or below 52 inches. If installations are planned for higher frame space, it is recommended that the local service delivery center be contacted to have an IBM Service representative install the product under a local contract. This product carries limited on-site support, with mandatory CRU. The product must be installed at a reasonable height (52 inches or less) to enable easy access to CRU's. Products installed in higher frame space present accessibility problems. Should the customer desire IBM to service this hardware, warranty service upgrades are available.

Two person install: The total weight of this system is approximately 60 lbs and requires two persons to install when fully assembled.

One person install: One person can install this if the twelve 1TB HDDs and the two power supplies are removed making the total weight of the system approximately 39 lbs. The twelve 1 TB HDDs must be reinstalled in the order they were removed.

You are responsible for downloading or obtaining from IBM, and installing designated Machine Code (microcode, basic input/output system code (called "BIOS"), utility programs, device drivers, and diagnostics delivered with an IBM machine) and other software updates in a timely manner from an IBM Internet Web site or from other electronic media, and following the instructions that IBM provides. You may request IBM to install Machine Code changes; however, you may be charged for that service.

Cable orders

Customer has to provide fibre channel cables to connect TS7610 ProtecTIER Deduplication Appliance Express and backup host.

Security, auditability, and control

This product uses the security and auditability features of host hardware, host software, or application software to which it is attached.

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.

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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.

To learn how Electronic Services can work for you, visit

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

Terms and conditions

MES discount applicable

Equal to the volume commitment discount

Field installable feature

Yes

Warranty period

One year

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 which 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 is the same as the machine it is installed.

Customer setup

Yes

Machine code

Same license terms and conditions as base machine

Optional features warranty period

- Optional feature(s) - One year

Pricing

| Description | Machine type | Model | Feature number |
|-----------------------------|-----------------|-------|-------------------|
| Dual port ethernet card | 3959 | SM1 | 3448 |
| 8Gb FC Dual Port HBA - Host | 3959 | SM1 | 3458 |
| OST | 3959 | SM1 | 9023 |
| C13 to 5-15P power cord | 3959 | SM1 | 9950 |
| C13 to C14 power cord | 3959 | SM1 | 9953 |

No cables are required with these feature numbers.

| Model number | Feature number | Field install only | Plant install only | MES removal | MES removal charge |
|--------------|----------------|--------------------|--------------------|-------------|--------------------|
| SM1 | 3448 | N | Y | N | N |
| SM1 | 3458 | N | Y | N | N |
| SM1 | 9023 | N | Y | N | N |
| SM1 | 9950 | N | Y | N | N |
| SM1 | 9953 | N | Y | N | N |

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

| Description | Type | Model | Feature | List Price |
|-----------------------------|------|-------|---------|------------|
| Dual Port Ethernet Card | 3959 | SM1 | 3448 | \$840 |
| 8Gb FC Dual Port HBA - Host | 3959 | SM1 | 3458 | 4350 |
| OST | 3959 | SM1 | 9023 | 0 |
| C13 to 5-15P power cord | 3959 | SM1 | 9950 | 0 |
| C13 to C14 power cord | 3959 | SM1 | 9953 | 0 |

For current prices visit

<http://www-03.ibm.com/systems/p/>

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

Corrections

(Corrected on November 4, 2010)

The Hardware requirements section has been updated.