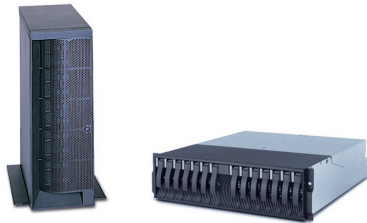


IBM TotalStorage™ Expandable Storage Plus Models DU3 and TU3



IBM TotalStorage 2104
Expandable Storage Plus

Highlights

- **Facilitates high availability with hot-swappable disk drives, redundant power and cooling and dual SCSI ports**
 - **Enhances storage protection with RAID 0, 1, 1E, 5 and 5E options when used with IBM Ultra3 SCSI RAID adapters**
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- **Provides an ideal package for Internet service providers when combined with an IBM RS/6000™ or IBM @server pSeries™ server**
 - **Incorporates high-performance Ultra3 SCSI disk storage with 160MB/sec throughput**
 - **Features up to fourteen 10,000 RPM 9.1GB, 18.2GB, 36.4GB and 73.4GB disk drives**
 - **Scales from up to 1TB of capacity per drawer or tower to more than 14TB per rack**
 - **Provides single or split-bus configuration flexibility to one or two servers**

IBM TotalStorage 2104 Expandable Storage Plus Models DU3 and TU3

The IBM TotalStorage 2104 Expandable Storage Plus (EXP Plus) provides flexible, scalable and low-cost disk storage for IBM RS/6000 and IBM @server pSeries servers in a compact package. This new disk enclosure is ideal for enterprises—such as Internet or application service providers—that need high-performance external disk storage in a small footprint. Industry-standard Ultra3 SCSI interfaces combine with Ultra3 SCSI adapters to provide exceptional throughput performance of 160MB/sec. In addition, RAID support is possible with IBM SCSI RAID adapters. With all of these capabilities, the EXP Plus provides an extremely cost-effective and leading-edge disk storage solution.

High availability

To help ensure that information is accessible, the EXP Plus is designed for high availability. It features hot-

swappable, auto-docking disk drives, as well as an optional redundant power supply and cooling unit, all designed to minimize downtime.

Availability is enhanced with the use of RAID options or UNIX® software mirroring. SCSI RAID adapters provide RAID 0, 1, 1E, 5 and 5E functions and can be used to attach the EXP Plus to RS/6000 and pSeries servers for increased data protection. To further facilitate availability, SCSI enclosure services can monitor and report problems to the server.

The EXP Plus can be configured to meet a variety of configuration requirements. In single server configurations, up to fourteen drives can be installed on a single SCSI bus. Alternatively, the bus can be split into two separate SCSI busses with up to seven drives each. The second host port option provides Ultra3 connectivity to either the same server or a second server.

A single bus configuration with a second host port supports up to twelve disks and enables connectivity to two hosts for disk affinity in non-RAID environments. HACMP can then be used to provide server failover for high availability in non-concurrent mode using the EXP Plus with non-RAID SCSI host bus adapters.

IBM 2104 Expandable Storage Plus Models DU3 and TU3 at a glance

Physical characteristics—DU3

Width	444 mm/17.5 in
Depth	552 mm/21.7 in
Height	125 mm/5.0 in (3U)
Weight	38.5 kg/85.0 lbs

Physical characteristics—TU3

Width (tower top)	189 mm/7.5 in
Width (tower base)	281 mm/11.0 in
Depth	594 mm/23.5 in
Height	529 mm/21.0 in
Weight	54.5 kg/120.0 lbs

Operating environment

Temperature	10° - 40° C/ 50° - 104° F
Relative humidity	8% to 80%
Wet bulb (caloric value)	27° C/81° F
Electrical power	.43 kVA (typical)
Capacity of exhaust	1.55 cubic meter/min

Power requirements

90 to 260 V Single Phase 50/60Hz	
Power consumption	330 Watts

Supported adapters¹

FC 2494—PCI 3-Channel Ultra2 SCSI RAID
FC 2498—PCI 4-Channel Ultra3 SCSI RAID
FC 6205—PCI Dual Channel Ultra2 SCSI
FC 6206—PCI Single-Ended Ultra SCSI
FC 6208—PCI SCSI-2 Fast/Wide Single-Ended

¹ For more information about supported servers and adapters, visit www.ibm.com/storage/expplus.

Flexible and scalable storage

The EXP Plus meets the needs of many different types of environments. Two models are available to fit the need for stand-alone storage in one- or two-server environments, or for rack-mounted storage used by several servers.

The rack-mounted Model DU3 drawer can reside in a variety of 19-inch racks, including the IBM 7014-S00, 7014-T00, 7014-T42, 7015-R00, or the 2101-100. The largest rack (7014-T42) can hold up to fourteen EXP Plus DU3 drawers for a total capacity of more than 14TB.

The stand-alone tower Model TU3 is ideal for one- or two-server environments, providing up to 1TB of capacity in a small desk-side tower unit.

Both the rack-mounted DU3 and the desk-side tower TU3 can be populated with up to fourteen disk drives. Available options include 10,000 rpm 9.1GB, 18.2GB, 36.4GB and 73.4GB disks. Drive capacities can be intermixed and drives can be added in increments as few as one or as many as thirteen. Housing multiple drawers in a rack provides the flexibility to build storage capacity from gigabytes to terabytes.

The EXP Plus can attach to RS/6000 servers by using a variety of SCSI adapters: SCSI-2 Fast and Wide, Ultra SCSI, Ultra2 SCSI and Ultra3 SCSI. For the highest performance and availability, the enclosures can be combined with the IBM PCI 4-channel Ultra3 SCSI RAID Adapter (FC 2494), enabling exceptional Ultra3 SCSI 160MB/sec throughput performance and multiple RAID options. Distances up to 20 meters are supported between disk enclosures and pSeries or RS/6000 servers using Ultra3 SCSI adapters.

For more information

For more information, contact your IBM representative or IBM Business Partner. Or visit www.ibm.com/storage/expplus



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GB equals one billion bytes when referring to hard drive capacity; accessible capacity may be less.

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