

IBM System Cluster 1350



# Software Revision History



IBM System Cluster 1350



# Software Revision History

**First Edition (February 2007)**

**© Copyright International Business Machines Corporation 2007. All rights reserved.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

---

# Contents

<b>Supported Components by Release</b> . . . . .	1
June 2003 release components . . . . .	1
November 2003 release components . . . . .	2
February 2004 release components . . . . .	3
June 2004 release components . . . . .	5
November 2004 release components . . . . .	7
November 2005 release components . . . . .	9
July 2006 release components . . . . .	12
December 2006 release components . . . . .	15



---

# Supported Components by Release

This document lists previously released IBM System Cluster 1350 components.

---

## June 2003 release components

This section provides a list of the IBM System Cluster 1350 components supported for the June 2003 software release.

### Cluster nodes:

- IBM® @server® 325 server
- IBM xSeries® 335
- IBM xSeries 345
- IBM xSeries 360
- IBM BladeCenter™ unit populated with HS20 blade servers
- IBM @server BladeCenter unit and IBM BladeRunner blade servers, models:
  - 8677-11X
  - 8678-21X
  - 8678-41X
  - 8678-51X
  - 8678-61X

### Storage servers:

- IBM TotalStorage™ FAStT200 Fibre Channel
- IBM TotalStorage FAStT600 Fibre Channel
- IBM TotalStorage FAStT700 Fibre Channel

### Storage expansion units:

- IBM FASt™ EXP 500 disk storage expansion unit
- IBM FASt EXP 700 disk storage expansion unit

### KVM/console/terminal servers:

- iTouch 8020 terminal and port server
- iTouch 8040 terminal and port server
- IBM NetBAY™ remote console manager
- IBM NetBAY 2 x 8 console switch

### Switches:

- Cisco Catalyst 4003 high speed switch
- Cisco Catalyst 4006 high speed switch
- Cisco Catalyst 3550-24 XL Ethernet switch
- Cisco Catalyst 3550-48 XL Ethernet switch
- Cisco Catalyst 3508G Ethernet switch

**Other:** IBM 1410-42L BladeCenter unit

### Operating Systems:

- Red Hat Version 8.0

- Red Hat AS Version 2.1
- SUSE LINUX Version 8.1
- SUSE LINUX Enterprise Server (SLES) Version 7 and Version 8
- Linux Cluster Installation Tool (LCIT) Version 3.0

---

## November 2003 release components

This section provides a list of the IBM System Cluster 1350 components supported for the November 2003 software release.

### Cluster nodes:

- IBM @server 325
- IBM xSeries 335
- IBM xSeries 345 models:
  - 3.06 GHz
  - 533 GHz
  - FSB
- IBM xSeries 360
- IBM @server BladeCenter unit populated with HS20 blade servers

### Storage servers:

- IBM TotalStorage FAStT200 storage controller
- IBM TotalStorage FAStT600 storage controller
- IBM TotalStorage FAStT700 storage controller
- IBM TotalStorage FAStT900 storage controller

### Storage expansion units:

- IBM TotalStorage FAStT EXP 400 disk storage expansion unit
- IBM TotalStorage FAStT EXP 700 disk storage expansion unit

### SCSI/RAID controllers:

- IBM ServeRAID™ -6I Ultra320 SCSI controller
- IBM ServeRAID -6M Ultra320 SCSI controller

### KVM/console/terminal servers:

- In-Reach LX 4032 terminal server
- In-Reach LX 4048 terminal server
- IBM NetBAY remote console manager
- IBM NetBAY 2 x 8 console switch

### Switches:

- Cisco Catalyst 3550-24 XL Ethernet switch
- Cisco Catalyst 3550-48 XL Ethernet switch
- Cisco Catalyst 3508G Ethernet switch
- Cisco Catalyst 4003 high-speed switch
- Cisco Catalyst 4006 high-speed switch
- Myrinet high-speed switch models:
  - M3-E32



- M3-E64
- M3-E128
- M3F-PC164C-2
- M3F-PCIXD-2

**Power management module:** APC Master Switch model AP9212

**Power Distribution Units (PDUs):**

- IBM NetBAY rack PDU
- IBM NetBAY front end rack PDU
- IBM @server xSeries Distributed Power Interconnect (DPI) rack PDU
- IBM @server xSeries front end DPI rack

**Operating Systems:**

- Red Hat Version 8.0 and Red Hat AS Version 2.1
- SUSE LINUX Version 8.1
- SLES Version 7 and Version 8
- LCIT Version 3.0

---

## February 2004 release components

This section provides a list of the IBM System Cluster 1350 components supported for the February 2004 software release.

**Cluster nodes:**

- IBM @server 326 2.2 GHz
- IBM xSeries 335 3.2 GHz/512 KB
- IBM xSeries 345 3.2 GHz
- IBM xSeries 360 3.06 GHz
- IBM @server BladeCenter unit populated with HS20 blade servers

**Storage servers:**

- IBM TotalStorage FAStT600 Fibre Channel
- IBM TotalStorage FAStT700 Fibre Channel
- IBM TotalStorage FAStT900 Fibre Channel
- IBM TotalStorage FAStT 250 GB S-ATA disk drive

**Storage expansion units:**

- IBM TotalStorage FAStT EXP 400 disk storage expansion unit
- IBM TotalStorage FAStT EXP 700 disk storage expansion unit

**SCSI/RAID controllers:**

- IBM ServeRAID -6I Ultra320 SCSI controller
- IBM ServeRAID -6M Ultra320 SCSI controller

**KVM/console/terminal servers:**

- MRV LX 32-port terminal server
- MRV 48-port terminal server
- In-Reach LX 4032 terminal server
- In-Reach LX 4048 terminal server
- IBM NetBAY remote console manager
- IBM NetBAY 2.8 console switch

**Switches and adapters:**

- Cisco Catalyst 4003 high-speed switch
- Cisco Catalyst 4006 high-speed switch
- Cisco Catalyst 3550-24 XL switch
- Cisco Catalyst 3550-48 XL switch
- Cisco Catalyst 3508G switch
- Cisco Catalyst 6548 fabric-enabled 10/100 Mb Ethernet line card
- Cisco Catalyst 6748 fabric-enabled 10/100/1000 Mb Ethernet line card
- Topspin 120 InfiniBand switch
- Topspin 120 InfiniBand host channel adapter
- Myrinet high-speed switch models:
  - M3-E32
  - M3-E64
  - M3-E128
  - M3F-PC164C-2
  - M3F-PCIXD-2
- Myrinet cluster expansion card
- SMC 8624T switch
- SMC BGSLCX1 mini-GBIC expansion module

**Power management module:** APC Master Switch model AP9212

**Power Distribution Units (PDU):**

- IBM NetBAY rack PDU
- IBM NetBAY front end rack PDU
- IBM @server xSeries Distributed Power Interconnect (DPI) rack PDU
- IBM @server xSeries front end DPI rack PDU

**Other:**

- Cisco Catalyst 6503 10/100/1000 Mb Ethernet switch rack unit
- Cisco Catalyst 6509 10/100/1000 Mb Ethernet switch rack unit

**Operating Systems:**

- Red Hat Enterprise Linux (RHEL) Version 3.0 32-bit and 64-bit
- Red Hat AS Version 2.1
- SUSE LINUX Version 8.1
- SLES Version 7
- LCIT Version 3.1

---

## June 2004 release components

This section provides a list of the IBM System Cluster 1350 components supported for the June 2004 software release.

### Cluster nodes:

- IBM @server 325 blade server management node
- IBM xSeries 335 cluster node
- IBM xSeries 345 cluster node
- IBM xSeries 360 cluster node
- IBM @server BladeCenter unit populated with HS20 blade servers

### Storage servers:

- IBM TotalStorage FAStT200
- IBM TotalStorage FAStT600
- IBM TotalStorage FAStT600 Turbo
- IBM TotalStorage FAStT700
- IBM TotalStorage FAStT900 Fibre Channel

### Storage expansion units:

- IBM TotalStorage FAStT EXP100 disk expansion unit
- IBM TotalStorage FAStT EXP400 disk expansion unit
- IBM TotalStorage FAStT EXP500 disk expansion unit
- IBM TotalStorage FAStT EXP700 disk expansion unit

### SCSI/RAID controllers:

- IBM ServeRAID -6I Ultra320 SCSI controller
- IBM ServeRAID -6M Ultra320 SCSI controller

### KVM/console/terminal servers:

- IBM NetBAY remote console manager (RCM)
- IBM NetBAY local console manager (LCM)
- IBM NetBAY 2 x 8 console switch (KVM)
- iTouch IR-8020 switch
- iTouch IR-8040 switch
- In-Reach LX 4032 terminal server
- In-Reach LX 4048 terminal server
- Equinox CCM4850 console manager

**Switches/adapters:**

- Cisco Catalyst 4003 high-speed switch
- Cisco Catalyst 4006 high-speed switch
- Cisco Catalyst 3550-24 XL switch
- Cisco Catalyst 3550-48 XL switches
- Cisco Catalyst 3508G switch
- Cisco Catalyst 6548 fabric-enabled 10/100 Mb Ethernet line card
- Cisco Catalyst 6748 fabric-enabled 10/100/1000 Mb Ethernet line card
- Cisco Catalyst 6704 10 Gb Ethernet switch
- Topspin 120 InfiniBand switch
- Topspin 120 InfiniBand host channel adapter
- Myrinet high-speed switch, models:
  - M3-E32
  - M3-E64
  - M3-E128
  - M3F-PC164C-2
  - M3F-PCIXD-2
  - M3F2-PCIXE-2
- Myrinet BladeCenter connectivity
  - Myrinet PCI card
  - Optical Pass-thru module
- SMC 8624T switch
- SMC BGSLCX1 mini-GBIC expansion module

**Power management module:** APC Master Switch model AP9212

**Power Distribution Units:**

- IBM NetBAY rack PDU
- IBM NetBAY front end rack PDU
- IBM DPI rack PDU
- IBM front-end DPI rack PDU
- IBM DPI high density PDU

**Other:**

- IBM TotalStorage FAStT 250 GB S-ATA disk drive
- Cisco Catalyst 6503 switch rack cabinet
- Cisco Catalyst 6509 10/100/1000 Mb Ethernet switch rack cabinet

**Operating systems:**

- Red Hat Linux Version 9 for 32-bit
- RHEL Version 3.0 for 32-bit and 64-bit
- SLES Version 8 for 32-bit and 64-bit
- LCIT Version 3.2

---

## November 2004 release components

This section provides a list of the IBM System Cluster 1350 components supported for the November 2004 software release.

### Cluster nodes:

- IBM @server 326 model 2.4 GHz management node
- IBM xSeries 336 cluster node, models:
  - 2.8 GHz
  - 3.0 GHz
  - 3.2 GHz
  - 3.4 GHz
  - 3.6 GHz
- IBM xSeries 346 cluster node, models:
  - 2.8 GHz
  - 3.0 GHz
  - 3.2 GHz
  - 3.4 GHz
  - 3.6 GHz
- IBM @server BladeCenter HS20 populated with Type 8843 blade servers
- IBM @server BladeCenter JS20 populated with Type 8842 blade servers

### Storage servers:

- IBM TotalStorage DS4 100 Serial-ATA storage server
- IBM TotalStorage DS4 100 Turbo storage server
- IBM TotalStorage storage servers, models:
  - DS4 200
  - DS4 300
  - DS4 400
  - DS4 500
  - DS300 storage area network (SAN) storage server
  - DS400 SAN storage server
- IBM SAN 2005 model H-16 storage server

### Storage expansion units:

- IBM TotalStorage expansion unit, models:
  - DS4000 EXP100
  - DS4000 EXP400
  - DS4000 EXP500
  - DS4000 EXP700
  - DS4000 EXP900

### KVM/console/terminal servers:

- IBM NetBAY remote console manager (RCM)
- IBM NetBAY local console manager (LCM)
- IBM NetBAY 2 x 8 console switch (KVM)
- iTouch IR-8020 switch

- iTouch IR-8040 switch
- In-Reach LX 4032 terminal server
- In-Reach LX 4048 terminal server

**Switches/adapters/controllers:**

- IBM Fibre Channel SCSI/iSCSI single channel and dual channel adapters
- Brocade Fibre Channel switch
- IBM @server BladeCenter Fibre Channel switch module
- IBM @server BladeCenter Fibre Channel expansion card
- Force10 switch fabric module
- Topspin 120 InfiniBand switch
- Topspin 270 InfiniBand switch
- Topspin 12-port 4X InfiniBand line card
- Topspin 270 InfiniBand switch fabric module
- Topspin InfiniBand management module
- Topspin InfiniBand host channel adapter
- Topspin InfiniBand host channel adapter PCI-X
- Topspin InfiniBand host channel adapter PCI-Express
- Voltaire 9024 InfiniBand switch router
- Voltaire InfiniBand PCI-X host channel adapter
- Voltaire 1-U 24-port InfiniBand switch, power supply, and rail kit
- Voltaire PCI-Express host channel adapter
- Cisco Catalyst 3750G-24T switch
- Cisco Catalyst 6704 Gigabit Ethernet switch
- Cisco Catalyst 6500 line card
- XENPAK 10 GB-SR
- IBM @server BladeCenter Gigabit Ethernet switch module
- SMC Ethernet switch models 8624T and 8648T
- SMC mini-GBIC expansion module
- Force 10 E600 unit:
  - Force 10 E600 Gb Ethernet switch line card
  - Force 10 E600 switch fabric module
  - Force 10 48-port Gb line card
  - Force 10 4-port Gb line card
- Cisco Catalyst 6500 10 Gb Ethernet line card
- Cisco Catalyst 6548 fabric-enabled 10/100 Mb Ethernet line card
- Cisco Catalyst 6748 fabric-enabled 10/100/1000 Mb Ethernet line card
- Cisco Catalyst 6704 4-port 10 Gb Ethernet switch
- XENPAK 10 Gb line card
- Copper Pass-thru module
- PRO/1000 MT dual port server adapter
- Myrinet high-speed Ethernet switch line cards, models:
  - M3-E32
  - M3-E64
  - M3-E128

- M3F-PC164C-2
- M3F-PCIXD-2
- M3F-PCIXD-4
- M3F2-PCIXE-2
- M3-SW16-8E
- Myrinet BladeCenter connectivity:
  - Myrinet PCI card
  - Optical Pass-Thru module
- SMC 8624T switch
- SMCBGS LCX1 mini-GBIC expansion module

**SCSI/RAID controllers:**

- ServeRAID 7k, -6l, and -6m Ultra320 SCSI controller adapters
- ServeRAID 7t Serial-ATA controller adapter

**Hard disk drives:**

- IBM TotalStorage FAStT 250 GB S-ATA disk drive
- IBM DS4000 Ultra320 300 GB 10k Hz hard disk drive
- IBM DS4000 Ultra320 146 GB Hz SCSI hard disk drives
- Maxtor 250 GB dual-port Serial-ATA hard disk drive
- Savvio 2.5 inch small-form-factor hard disk drive

**Other:**

- Cisco Catalyst 6503 switch rack cabinet
- Cisco Catalyst 6509 10/100/1000 Mb Ethernet switch rack cabinet

**Power management module:** APC Master Switch model AP9212

**Power Distribution Units:**

- IBM NetBAY rack PDU
- IBM NetBAY front-end rack PDU
- IBM @server xSeries DPI rack PDU
- IBM @server xSeries front-end DPI rack PDU

**Operating systems:**

- RHEL Version 3.0 preloaded for 32-bit, 64-bit, and 64-bit EMT
- SLES Version 9 for 32-bit, 64-bit EMT, and 64-bit PPC
- LCIT Version 3.4

---

## November 2005 release components

This section provides a list of the IBM System Cluster 1350 components supported for the November 2005 software release.

**Cluster nodes:**

- IBM @server 326m models:
  - 2.4, 2.6, 2.8 GHz single core
  - 1.8, 2.0, 2.2, 2.4 GHz dual core

- IBM xSeries 336 cluster node models:
  - 2.8 GHz
  - 3.0 GHz
  - 3.2 GHz
  - 3.4 GHz
  - 3.6 GHz
  - 3.8 GHz
- IBM xSeries 346 cluster node models:
  - 3.0 GHz
  - 3.2 GHz
  - 3.4 GHz
  - 3.6 GHz
  - 3.8 GHz
- IBM BladeCenter HS20 populated with type 8843 blade servers
- IBM BladeCenter JS20 populated with type 8842 blade servers
- IBM BladeCenter LS20 populated with type 8850 blade servers
- IBM pSeries® OpenPower 710 cluster node model 1.65 GHz
- IBM pSeries OpenPower 720 cluster node model 1.5 GHz
- IBM pSeries p505 cluster node models: 1.5, 1.65 GHz
- IBM pSeries p550 cluster node models: 1.5, 1.9 GHz

**Storage servers:**

- IBM TotalStorage DS4100 storage server
- IBM TotalStorage DS4300 storage server
- IBM TotalStorage DS4500 storage server

**Storage expansion units:**

- DS4000 EXP100
- IBM EXP400 external SCSI storage enclosure

**KVM/console/terminal servers:**

- IBM local 2 x 8 console manager
- IBM global 2 x 16 console manager
- IBM global 4 x 16 console manager
- IBM 1x8 and 2 x 16 console switch
- MRV LX - 32-port and 48-port terminal server switches
- Cyclades 48-port terminal server switch

**Switches:**

- SMC 8624T 24-port i Gb switch
- SMC 8648T 48-port 10/100/1000 switch
- SMC 8748M 48-port 1 Gb switch with 10 Gb uplinks
- SMC 8708L2 8-port 10 Gb switch
- Cisco Catalyst 3750 24-port 10/100/1000 switch
- Cisco 4506 6-slot, 6503 3-slot, and 6509 9-slot chassis
- Force10 E600 switch



- Force10 S50 48-port 10/100/1000 switch
- Voltaire 9024 and 9288 InfiniBand switches
- Topspin 120 and 270 InfiniBand switch
- Myricom M3-E32, M3-E64, M3-128, and CLOS256 Myrinet switches

**Adapters:**

- IBM TotalStorage FC2-133 host bus adapter (HBA)
- IBM Gb Ethernet-SX low profile PCI-X adapter
- IBM 10/100/1000 BASE-TX Ethernet low profile PCI-X adapter
- IBM 10/100 Mbps Ethernet PCI adapter II
- IBM 2-port 10/100/1000 BASE-TX Ethernet PCI-X adapter
- IBM 2-port Gb Ethernet-SX PCI-X adapter
- QLogic 2 Gbps 4-port Fibre Channel to PCI-X HBA
- QLogic 4 Gb Fibre Channel card (SmFF)
- PRO/1000 MT server Ethernet adapter by Intel
- PRO/1000 dual port server adapter by Intel
- PRO/1000 dual port 1 Gb adapter
- NetXtreme 1000 SX+, 1000T+ Ethernet adapters, and 1000T+ dual port Ethernet adapter
- Myrinet 333 MHz dual Fibre/PCI-X "E" card (2 MB memory)
- Myrinet 333 MHz single Fibre/PCI-X "F" card (2 MB memory)
- Myrinet 225 MHz "D" card (revision 2) (2 MB memory) for blade servers
- Myrinet 333 MHz single Fibre/PCI-X interface (4 MB memory) for blade servers
- InfiniBand DC module for blade servers
- Topspin 10 Gbps host channel PCI-X adapter, 10 Gbps host channel PCI-Express adapter
- Voltaire 10 Gbps host channel PCI-X adapter, 10 Gbps host channel PCI-Express adapter

**BladeCenter switch modules:**

- IBM @server BladeCenter optical pass-thru module
- IBM BladeCenter copper pass-thru module
- QLogic 4 Gb, 20-port switch module
- Brocade Enterprise SAN switch module for IBM BladeCenter
- Brocade Entry SAN switch module for IBM BladeCenter
- InfiniBand switch module for blade servers
- Nortel L2/L3 copper Gb Ethernet switch module for IBM BladeCenter
- Brocade 20-port, 4 Gb SAN switch module for IBM BladeCenter

**SCSI/RAID controllers:**

- IBM ServeRAID -6M Ultra320 SCSI controllers (128 MB and 256 MB cache)
- IBM ServeRAID 7t SATA controller

**Hard disk drives:**

- Ultra320 SCSI disk drive models:
  - 73.4 GB, 10 000 RPM, hot-swap, Secure Socket Layer (SSL)
  - 146.4 GB, 10 000 RPM, hot-swap, SSL
  - 300 GB, 10 000 RPM, hot-swap, SSL
  - 36.4 GB, short form factor (SFF), 10 000 RPM, hot-swap, SSL
  - 73.4 GB, SFF, 10 000 RPM, hot-swap, SSL
  - 36.4 GB, SFF, 10 000 RPM, non-hot-swap, SSL
  - 73.4 GB, SFF, 10 000 RPM, non-hot-swap, SSL
  - 36 GB, 15 000 RPM, hot-swap
  - 73 GB, 15 000 RPM, hot-swap
  - 146 GB, 15 000 RPM, hot-swap
- 73.4 GB, 10 000 RPM, 2 GB, Fibre Channel, hot-swap hard disk drive
- 146.8 GB, 10 000 RPM, Fibre Channel, hot-swap hard disk drive
- 300 GB, 10 000 RPM, 2 GB, Fibre Channel, hot-swap hard disk drive
- 36.4 GB 15 000 RPM, 2 GB, Fibre Channel, hot-swap hard disk drive
- 73.4 GB, 15 000 RPM, 2 GB, Fibre Channel, hot-swap hard disk drive
- 146.8 GB, 15 000 RPM, 2 GB, Fibre Channel, hot-swap hard disk drive

**Power distribution units:**

- IBM NetBAY rack PDU
- IBM NetBAY front end rack PDU
- IBM @server xSeries DPI rack PDU
- IBM @server xSeries front end DPI rack PDU

**Software:**

- Red Hat Enterprise Linux Version 4
- SUSE Linux Enterprise Server Version 9
- IBM CSM for Linux Version 1.5
- GPFS Version 2.4 for Linux
- MPI Connect for TCP/IP
- MPI Connect for Myrinet

---

## July 2006 release components

**Cluster nodes:**

- IBM System x3550 server
- IBM System x3650 server
- IBM System x3455 server
- IBM System x3755 server
- IBM BladeCenter HS21
- IBM BladeCenter LS21
- IBM BladeCenter LS41
- IBM BladeCenter QS20 (cell blade)

**Storage servers:**

- IBM Systems Storage DS4700 Express

- IBM TotalStorage DS4800 storage server model 82A (4GB cache)
- IBM TotalStorage DS4800 storage server model 84A (8 GB cache)
- IBM TotalStorage DS4800 storage server model 88A (16 GB cache)

**Storage expansion units:**

The cluster supports the IBM TotalStorage DS4000 EXP810 disk storage expansion unit.

**Storage controller adapters:**

- IBM ServeRAID 7t Serial-ATA controller adapter
- IBM ServeRAID 7k Ultra 320 SCSI controller adapter
- NetXtreme 1000 T+ Ethernet adapter
- NetXtreme 1000 T+ dual port Ethernet adapter
- Intel PRO/1000 PCI-Express G Ethernet adapter
- Myricom 8x PCI-Express, 2 MB memory, 10GBase-CX4 adapter
- Myricom 10 Gb Ethernet Network Interface Card for SR Fiber with LC Fiber connector
- Myrinet 333 MHz Dual Fibre/PCI-X "E" card (2 Mb)
- Myrinet 333 MHz Single Fibre/PCI-X "F" card (2 Mb)
- Voltaire 10 Gbps Host Channel PCI-X adapter
- Voltaire 10 Gbps Host Channel PCI Express adapter

**KVM/console/terminal servers:**

- IBM NetBAY 1 x 8 console switch
- IBM NetBAY 2 x 16 console switch
- IBM NetBAY Local 2 x 8 Console Manager (LCM)
- IBM NetBAY Global 2 x 16 Console Manager
- IBM NetBAY Global 4 x 16 Console Manager

**Fibre Channel switches and adapters:**

- IBM TotalStorage Fibre Channel Host Bus Adapter
- Fibre Channel SCSI/iSCSI single channel adapter
- Fibre Channel SCSI/iSCSI dual channel adapter
- Brocade Fibre Channel switch
- IBM BladeCenter Fibre Channel switch module
- IBM BladeCenter Fibre Channel expansion card
- QLogic QLE2460 Single-port PCI-E 4 GB adapter
- QLogic QLE2460 PCI-E Dual-port 4 GB Fibre Channel adapter
- QLogic Quad Channel 2 Gb Fibre Channel to PCI-X Host Bus Adapter (4-port)
- QLogic 4 Gb Fiber Channel expansion card
- Fibre Channel switch 2005 model B-16 (16-port)
- IBM BladeCenter DS4000 4 Gb PCI-X Dual-port Fibre Channel adapter
- IBM BladeCenter DS4000 4 Gb PCI-X Single-port Fibre Channel adapter

**BladeCenter switch modules:**

- IBM @server BladeCenter optical pass-thru module
- IBM BladeCenter copper pass-thru module

- QLogic 4 Gb, 20-port switch module
- Brocade Enterprise SAN switch module for IBM BladeCenter
- Brocade Entry SAN switch module for IBM BladeCenter
- InfiniBand switch module for blade servers
- Nortel L2/L3 copper Gb Ethernet switch module for IBM BladeCenter
- Brocade 20-port, 4 Gb SAN switch module for IBM BladeCenter

**InfiniBand switches:**

- Cisco Systems SFS 7000P InfiniBand Server Switch
- Voltaire InfiniBand 9096 switch bundle
- Voltaire InfiniBand 9288 switch bundle
- Voltaire InfiniBand Switch 9024D-M
- Voltaire InfiniBand Switch 9024S-M
- InfiniBand daughter card module for IBM BladeCenter

**SCSI/RAID controllers:**

- IBM ServeRAID -6M Ultra320 SCSI controllers (128 MB and 256 MB cache)
- IBM ServeRAID 7t SATA controller

**Hard disk drives:**

- 73.4 GB, 10 000 RPM, hot-swap, Secure Socket Layer (SSL)
- 146.4 GB, 10 000 RPM, hot-swap, SSL
- 300 GB, 10 000 RPM, hot-swap, SSL
- 36.4 GB, short form factor (SFF), 10 000 RPM, hot-swap, SSL
- 73.4 GB, SFF, 10 000 RPM, hot-swap, SSL
- 36.4 GB, SFF, 10 000 RPM, non-hot-swap, SSL
- 73.4 GB, SFF, 10 000 RPM, non-hot-swap, SSL
- 36 GB, 15 000 RPM, hot-swap
- 73 GB, 15 000 RPM, hot-swap
- 146 GB, 15 000 RPM, hot-swap
- 73.4 GB, 10 000 RPM, 2 GB, Fibre Channel, hot-swap hard disk drive
- 146.8 GB, 10 000 RPM, Fibre Channel, hot-swap hard disk drive
- 300 GB, 10 000 RPM, 2 GB, Fibre Channel, hot-swap hard disk drive
- 36.4 GB 15 000 RPM, 2 GB, Fibre Channel, hot-swap hard disk drive
- 73.4 GB, 15 000 RPM, 2 GB, Fibre Channel, hot-swap hard disk drive
- 146.8 GB, 15 000 RPM, 2 GB, Fibre Channel, hot-swap hard disk drive

**Power distribution units:**

- IBM NetBAY rack PDU
- IBM NetBAY front end rack PDU
- IBM @server xSeries DPI rack PDU
- IBM @server xSeries front end DPI rack PDU

**Software:**

- Red Hat Enterprise Linux Version 4
- SUSE Linux Enterprise Server Version 9
- IBM CSM for Linux Version 1.5

- GPFS Version 2.4 for Linux
- MPI Connect for TCP/IP
- MPI Connect for Myrinet

For a complete list of the components supported for the December 2006 release, see the *IBM System Cluster 1350 Installation and Service Guide*.

---

## December 2006 release components

Cluster nodes:

- IBM System x3550 server
- IBM System x3650 server
- IBM System x3655 server
- IBM System x3455 server
- IBM System x3755 server
- IBM BladeCenter HS21
- IBM BladeCenter LS21
- IBM BladeCenter JS21
- IBM BladeCenter LS41
- IBM BladeCenter QS20 (cell blade)

Management node:

- IBM System x3650 server
- IBM System x3655 server

### Storage servers:

- IBM System Storage DS4700 Express
- IBM TotalStorage DS4800 storage server model 82A (4GB cache)
- IBM TotalStorage DS4800 storage server model 84A (8 GB cache)
- IBM TotalStorage DS4800 storage server model 88A (16 GB cache)

**Storage expansion unit:** The cluster supports the IBM TotalStorage DS4000 EXP810 disk storage expansion unit.

### Fibre Channel adapters, switches, and expansion cards:

- IBM TotalStorage Fibre Channel Host Bus Adapter
- Fibre Channel SCSI/iSCSI single channel adapter
- Fibre Channel SCSI/iSCSI dual channel adapter
- Brocade Fibre Channel switch
- IBM BladeCenter Fibre Channel switch module
- IBM BladeCenter Fibre Channel expansion card
- IBM BladeCenter DS4000 4 Gb PCI-X Dual-port Fibre Channel adapter
- QLogic QLE2460 Single-port PCI-E 4 Gb adapter
- QLogic QLE2460 PCI-E Dual-port 4 Gb Fibre Channel adapter
- QLogic 4 Gb Fiber Channel expansion card
- Fibre Channel switch 2005 model B-16 (16-port)
- IBM BladeCenter DS4000 4 Gb PCI-X Single-port Fibre Channel adapter

**Hard disk drives:**

- IBM Fibre Channel 73.4 GB disk drive module (10k rpm)
- IBM Fibre Channel 146.8 GB disk drive module (10k rpm)
- IBM Fibre Channel 300 GB disk drive module (10k rpm)
- IBM Fibre Channel 36.4 GB disk drive module (15k rpm)
- IBM Fibre Channel 73.4 GB disk drive module (15k rpm)
- IBM Fibre Channel 146.8 GB disk drive module (15k rpm)
- Small Form Factor (SFF) 36 GB SAS hard disk drive (2.5 inches)
- SFF 73 GB SAS hard disk drive (2.5 inches)

**High-speed adapters:**

- IBM ServerRAID 8k Ultra 320 SCSI controller adapter
- NetXtreme 1000 T + Ethernet adapter
- NetXtreme 1000 T + dual port Ethernet adapter
- Intel PRO/1000 PCI-Express G Ethernet adapter
- Myricom 8x PCI-Express, 2 MB memory, 10GBase-CX4 adapter
- Myricom 10 Gb Ethernet Network Interface Card for SR Fiber with LC Fiber connector
- Myrinet 333 MHz Dual Fibre/PCI-X "E" card (2 Mb)
- Myrinet 333 MHz Single Fibre/PCI-X "F" card (2 Mb)
- Voltaire 10 Gbps Host Channel PCI-X adapter
- Voltaire 10 Gbps Host Channel PCI Express adapter

**KVM switches:**

- IBM NetBAY 1 x 8 console switch
- IBM NetBAY 2 x 16 console switch
- IBM NetBAY Local 2 x 8 Console Manager (LCM)
- IBM NetBAY Global 2 x 16 Console Manager
- IBM NetBAY Global 4 x 16 Console Manager

**InfiniBand switches and devices:**

- Cisco Systems SFS 7000P InfiniBand server switch
- Voltaire InfiniBand 9096 switch bundle
- Voltaire InfiniBand 9288 switch bundle
- Voltaire InfiniBand Switch 9024D-M
- Voltaire InfiniBand Switch 9024S-M
- InfiniBand daughter card module for IBM BladeCenter

**InfiniBand host channel adapters:**

- Voltaire InfiniBand host channel adapter PCI-X
- Voltaire InfiniBand host channel adapter PCI-Express

**10/100/1000 Ethernet switches:**

- IBM BladeCenter Gigabit Ethernet switch module (4-port)
- Force10 1-U stackable switch (48-port - 2 x 10 Gb uplinks)
- Force10 E300 switch chassis bundle
- Force10 E600 switch chassis bundle

- Force10 E1200 Terascale DC chassis bundle
- Force10 5-Slot AC rectifier chassis
- Force10 1-U stackable switch (48-port)
- SMC 8848 M switch chassis bundle
- Cisco Catalyst 6503-E switch
- Cisco Catalyst 6509-E switch
- Cisco Catalyst 3750 Ethernet switch (48-port)
- Cisco Catalyst 4506 switch chassis
- Cisco Catalyst Gigabit Ethernet Switch Module for IBM BladeCenter
- Nortel L2/L3 Copper Gigabit Ethernet Switch Module for IBM BladeCenter

**10 Gigabit Ethernet switch:** SMC 8708L2 Tiger IV (8-port) 10 Gb Ethernet switch

**I/O modules:**

- IBM BladeCenter Gigabit Ethernet switch module (4-port)
- Copper Pass-thru Module for IBM BladeCenter
- IBM BladeCenter Optical Pass-thru Module
- Cisco Systems Gigabit Ethernet Switch for IBM BladeCenter
- Brocade Entry SAN Switch Module for IBM BladeCenter
- Brocade 4 Gb SAN Switch Module for IBM BladeCenter (20-port)
- InfiniBand Switch Module for IBM BladeCenter
- IBM BladeCenter Layer 2/Layer 3 Copper Gigabit Ethernet Switch Module
- Qlogic 4 Gb switch module (20-port) for IBM BladeCenter
- IBM TotalStorage SAN switch module (16 B-2)

**Terminal servers:**

- Cyclades terminal server with a single power supply (32-port)
- Cyclades terminal server (48-port)

**High-speed Myrinet switches and line cards:**

- M3-E32 (5-slot)
- M3-E64 (9-slot)
- M3-E128 (17-slot)
- M3F-PC164C-2 (PCI adapter)
- M3F-PCIXF-2 line card
- M3F2-PCIXE-2 (low-profile PCI-X dual-port card)
- M3-SW16-8E (Ethernet line card)
- Myrinet 14-U, 20-slot enclosure (256-ports)
- Myrinet 14-U, 20-slot spine enclosure
- Myricom 14-U, 10 Gb CLOS switch bundle (128-ports)
- Myricom 14-U, 10 Gb Leaf switch bundle
- M3-4SW32-16Q line card (16-ports quad)
- M3-THRU-16Q (spine thru module)
- M3-SW32-16F line card (SW32 with 16 fiber port front connections)
- M3-2SW32 line card
- M3S-PCIXD-2-1 line card (2Mb)

- M3S-PCIXF-4-1 line card (4 Mb)

**Power distribution unit (PDU):**

- IBM NetBAY Rack Power Distribution Unit (PDU)
- IBM NetBAY Front-End PDU
- IBM Distributed Power Interconnect (DPI®) Rack PDU
- IBM DPI Front-End PDU
- IBM DPI High Density PDU

For a complete list of the components supported for the February 2007 release, see the *IBM System Cluster 1350 Installation and Service Guide*.







Part Number: 43W7799

Printed in USA

(1P) P/N: 42C4893

