

PRIMERGY®

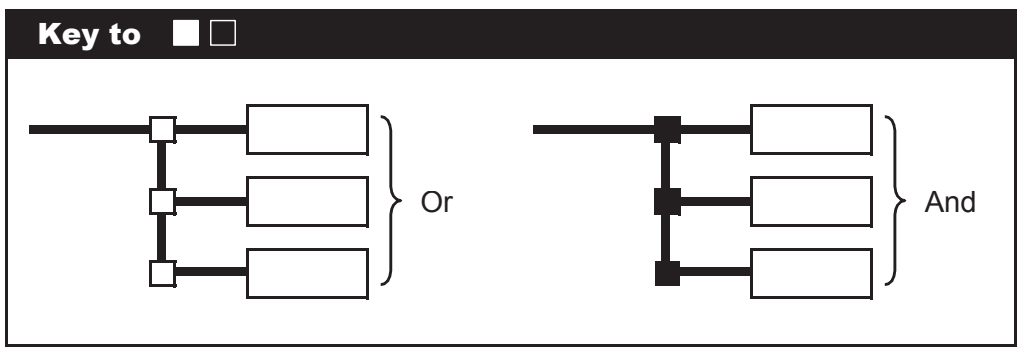
PRIMERGY N800 Datacenter Server
 System Configuration Guide (Ver.1) (March / 2001)

PRIMERGY N800 P2
 Configuration of Microsoft Clustering P7
 Rackmount P8

Index

The numbers on the left hand side of each page correspond to the various options available with PRIMERGYs as follows

- 1 CPU slot
- 2 RAM module slot
- 3 3.5 inch HDD Bay
- 4 5 inch Bay
- 5 RS-232C
- 6 PCI slot
- 7 ISA slot
- 8 Redundant PSU
- 9 Others



NOTES

PRIMERGY N800 (Windows2000® Datacenter Server)

Features of Windows2000 Datacenter Server

The technical features of Windows2000 Datacenter Server include:

- Support for up to 64GB of real main memory
- 4nodes clustering
- Load distribution services (NLB Network Load Balancing Service)
- Efficient communication between systems (WSDP Windows Socket Direct Path)
- Process control
- Support for up to 32way SMP (Symmetric Multi Processing) systems

The table below shows a comparison of Windows2000 Server products:

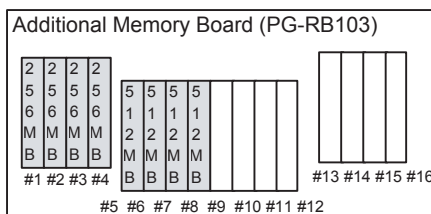
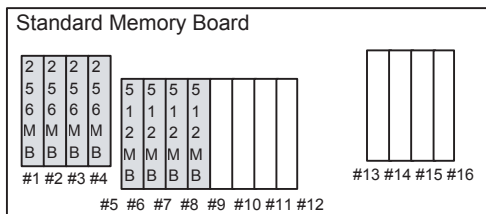
Function	Windows2000 Server	Windows2000 Advanced Server	Windows2000 Datacenter Server
Processor limit	4	8	32
Memory extension	4GB	8GB	64GB
Network Load Balancing	No	Yes	Yes
Server Clustering	No	Yes (Max. 2nodes)	Yes (Max. 4nodes)
Job Object	Job Object API	Job Object API	Process Control Tool
Winsock Direct	No	No	Yes

Specification of PRIMERGY N800

Type	Rackmount	
Product ID	PGTN8BH2R	PGTN8BG2R
CPU	Frequency	Pentium® III Xeon™ 700MHz
	Secondary cache	2MB / 1MB
	Number of CPUs	2 (up to 8)
Memory	Standard	1GB (256MB x 4)
	Maximum	32GB (1GB x 32)
Internal Bays	5-inch	Two (one occupied by DVD-ROM)
	CD-ROM/DVD-ROM	8/24X DVD-ROM (IDE)
	HDD bay	1inch x4/Hotplug
	Available HDD	9.1GB(10000rpm)/18.2GB(10000rpm)/36.4GB(10000rpm)
	Maximum	145.6GB (36.4GB x 4)
Expansion slot	PCI64bit 66MHz x4, PCI64bit 33MHz x 6	
SCSI Interface	Internal: Ultra2 Wide SCSI x 1, External: Ultra2 Wide x 1	
RAID controller	2 x Ultra160 (occupying one 64bit PCI slot)	
Network	LAN(10/100 base TX) x 1 (occupying one 64bit PCI slot)	
Dimension (mm)	445(W)x712(D)x312(H) Rackmount7U	
Weight	60kg (max.)	
Power consumption	710W (max.)	
Power supply	Three standard units (the third unit is for redundant)	

Mounting Additional Memory

A memory board with 16slots is standard equipment and up to 16GB memory can be mounted. When you add more than 16GB, an additional Memory Board (PG-RB103/PGBRB103) is required. When using two memory boards in N800, the same memory size must be mounted on each board.



● PCI resource area

A part of address area as below is assigned for PCI resource, cannot be used.

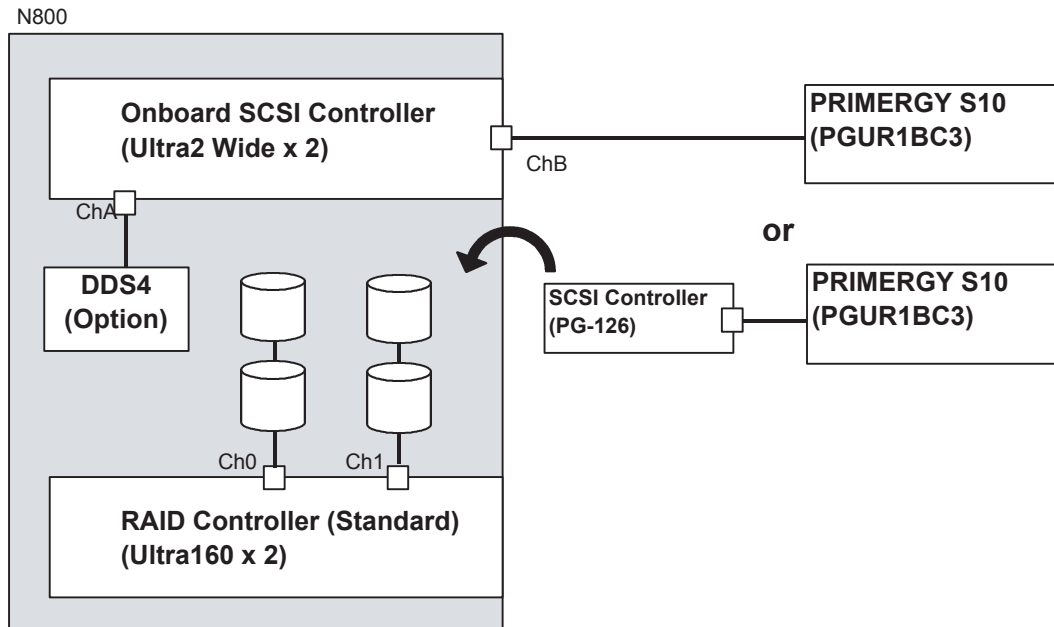
Operating System	Mounted Memory Size	The area for PCI resource
Windows®2000 Datacenter Server [Maximum Memory Size:64GB]	~3.5GB	No area for PCI resource
	3.5GB ~4.0GB	3.8GB ~4.0GB
	4.0GB ~32.0GB	3.8GB ~4.0GB

NOTES

Mounting devices

- In N800, there are four internal HDD bays (2bays/1ch x 2)
- N800 has one internal 5" bay in chassis for DDS4 (In case of SCSI connection, the DDS4 is available for daisy-chain connection with HDD)
- PRIMERGY S10 (Backup Cabinet) is available if " more then two backup devices" or "backup devices except for DDS4" are installed.

● Configuration Chart



● Install Operating System

- When Windows2000@Datacenter Server Operating System is installed in internal HDD, the HDD must be connected with Standard RAID Controller.
- Boot disk can be an external disk. In this case, the disk must be connected to PG-142B RAID Controller.
- Basically, installation should be done by "Installation and Startup Service". So please contact with your local sales representative.

● Connection Matrix

PRIMERGY N800

Connection of internal HDD and internal backup devices

Standard RAID Controller	Channel 0	For Internal HDD
	Channel 1	For Internal HDD
Onboard SCSI	Ultra2 Wide A	For Internal Backup device
	Ultra2 Wide B	For PRIMERGY S10

Internal HDD					Backup device					
Configuration	SCSI Interface	Connection Pattern			One device is connected					
		Host	Cable	Internal HDD	In case that DDS4 is connected	Except for DDS4	Narrow device x 2	Wide device x 2	Narrow device and Wide device	
Array Configuration	Ultra160	Standard RAID Controller (Ch0/1)	Cable(X2) (Standard equipment)	Up to four HDDs can be installed 1) 9GB, 10,000rpm 2) 18GB, 10,000rpm 3) 36GB, 10,000rpm	Onboard SCSI (Ach)		Onboard SCSI (Ultra2 Wide Bch) PRIMERGY S10 (PGUR1BC3) SCSI Cable (PG-CBLS007/008/009) or SCSI Controller (PG-126) PRIMERGY S10 (PGUR1BC3) SCSI Cable (PG-CBLS001/002/003)			

In case of SCSI configuration (Up to two HDDs can be mounted), internal DDS4 can be connected to ChA of Onboard SCSI by daisy chain.

System Configuration

Mountable I/O options

N800

Cards	Product ID	Bus	Maximum number of cards mounted	Total	REMARKS
SCSI Controller (Ultra Wide Diff)	PG-123	PCI64	4	4	10 For external disk array
SCSI Controller (Ultra2 Wide LVD)	PG-126	PCI64	2		
Fibre Channel Controller	PG-FC102	PCI64	4		
RAID Controller (Ultra160 LVD)	Standard Equipment	PCI64	1	5	Mounted in PCI slot1
RAID Controller (Ultra160 LVD)	PG-142B/C	PCI64	4		
RAID Controller (Ultra2 Wide LVD)	PG-143B	PCI64	6	6	
EthernetController (1000Base-SX)	PG-188	PCI64	2	4	Mounted in PCI slot3
EthernetController (100Base-TX)	Standard Equipment	PCI64	1		
EthernetController (100Base-TX)	PG-185	PCI64	3		

Connection Table

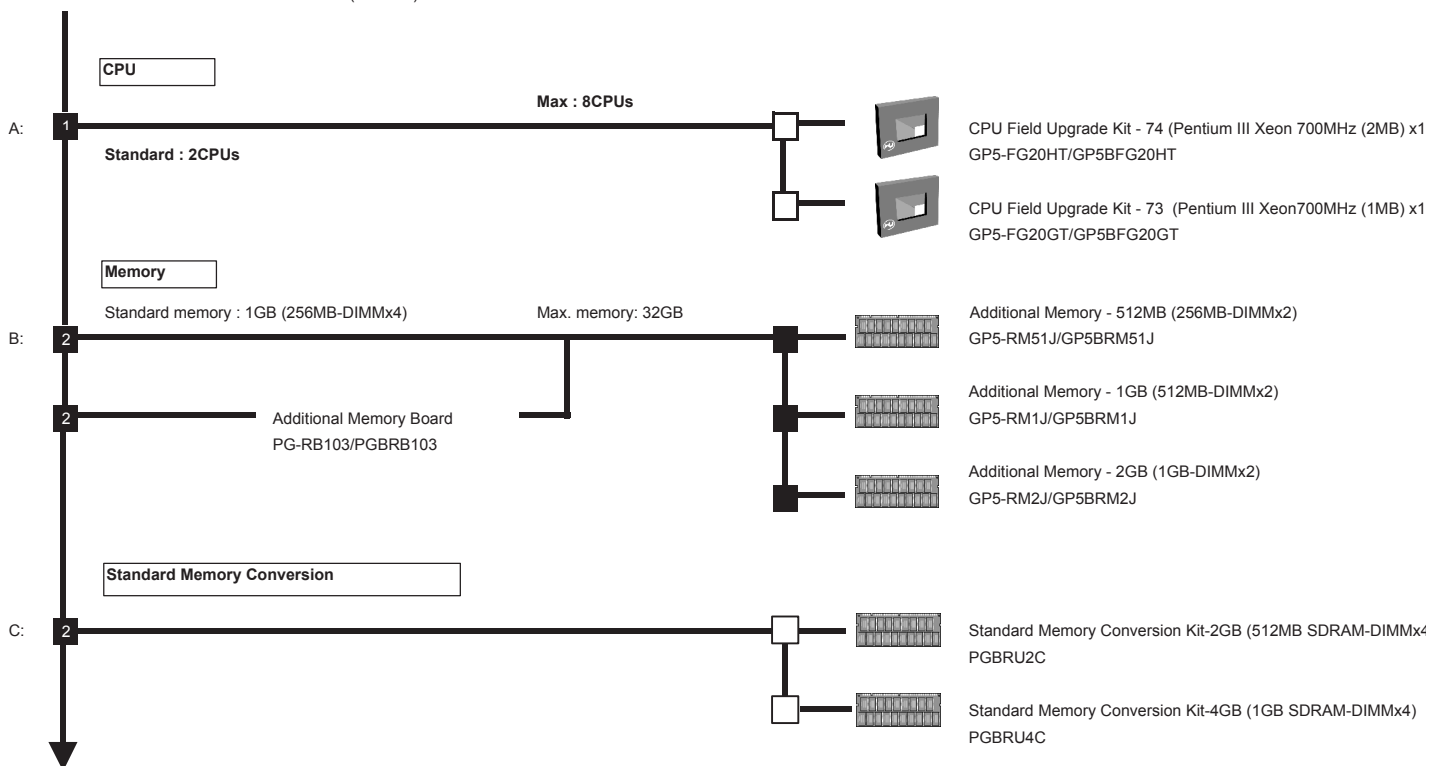


PGTN8BH2R	Rackmount Type	2 x Pentium® III Xeon™ 700MHz(2MB), Memory:1GB(ECC), HDD:Option
PGTN8BG2R	Rackmount Type	2 x Pentium® III Xeon™ 700MHz(1MB), Memory:1GB(ECC), HDD:Option

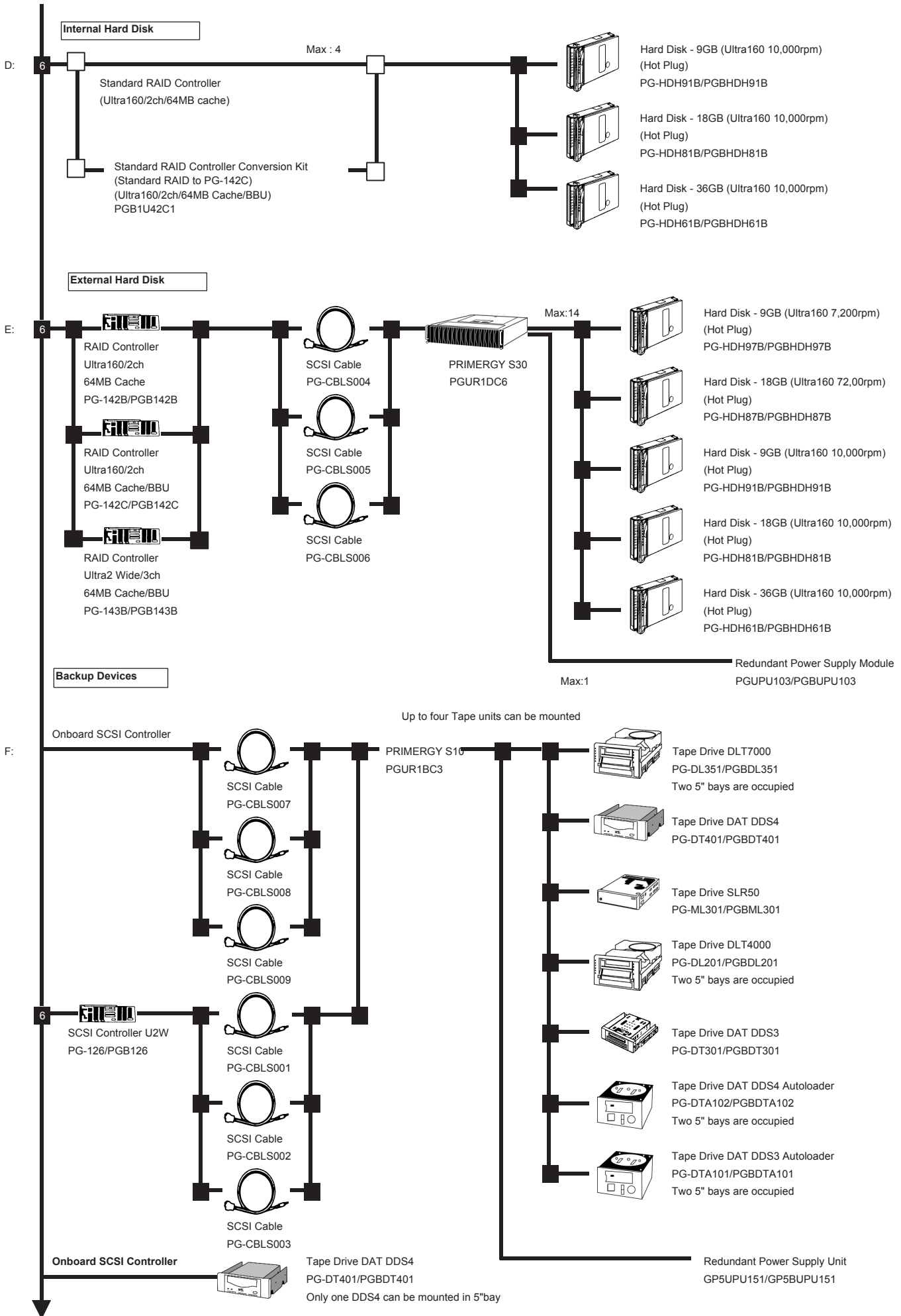
Rackmount Type

<Items>

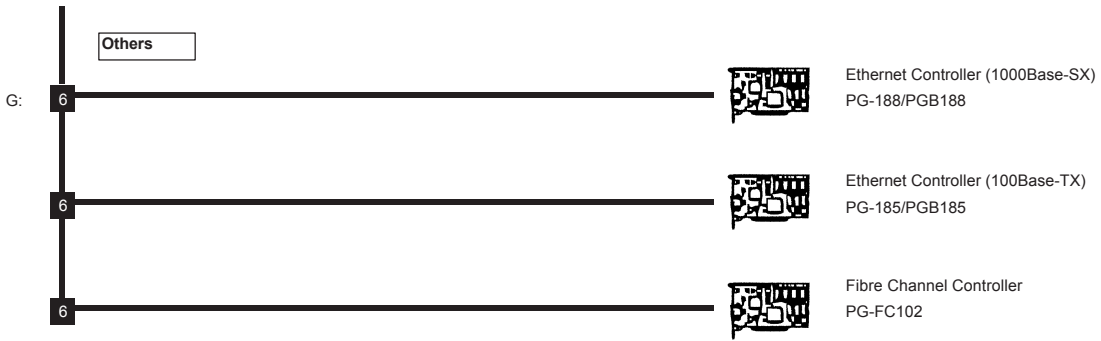
CPU Field Upgrade :	Go to A
Memory addition :	Go to B
Standard Memory Conversion :	Go to C
Internal Hard Disk Drive connection	Go to D
External Hard Disk Drive connection	Go to E
Backup devices	Go to F
Others (NIC etc.)	Go to G



System Configuration



System Configuration

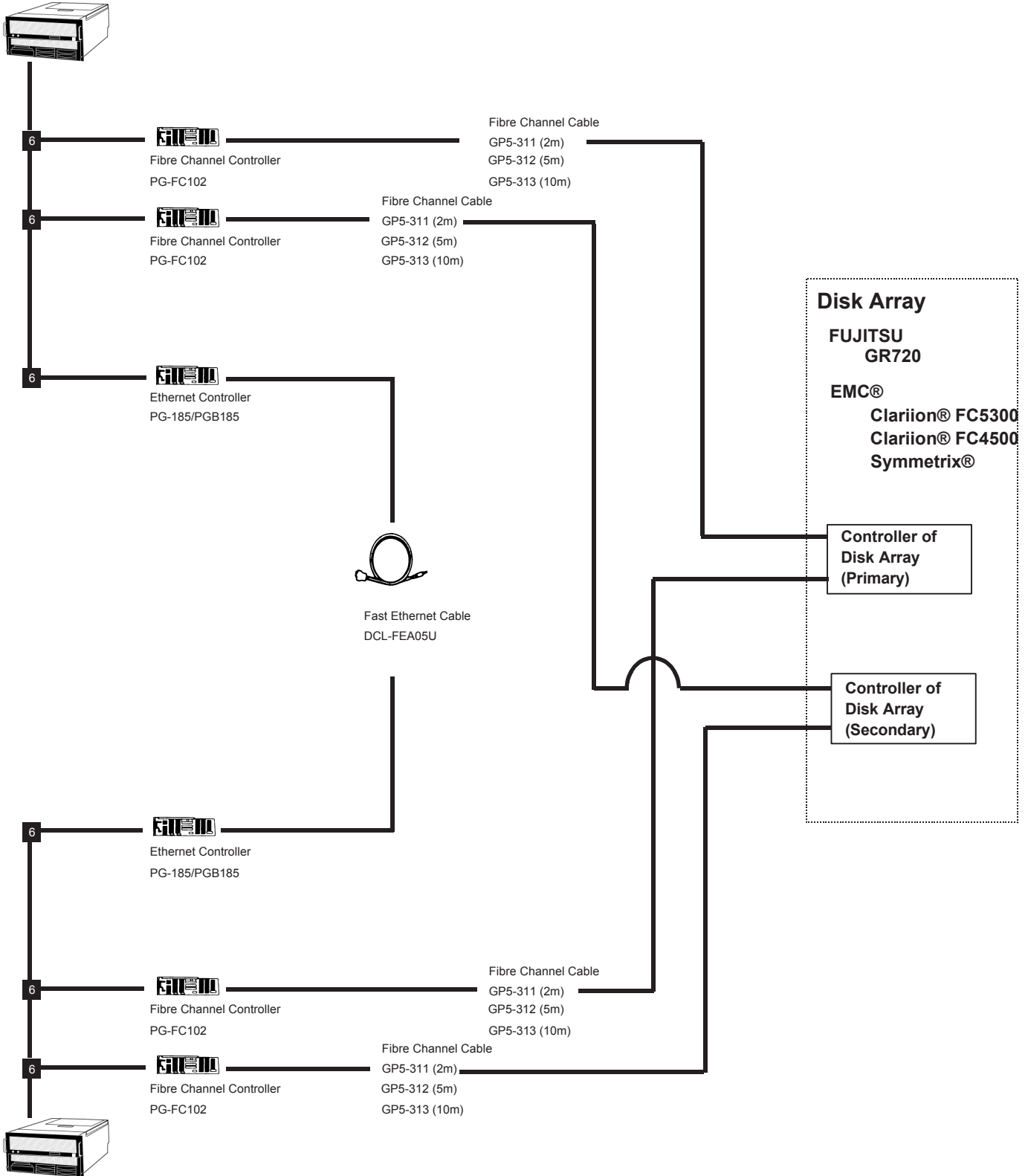


System Configuration

Configuration of Microsoft® Clustering

Fibre Channel Connection

<2Nodes Configuration>



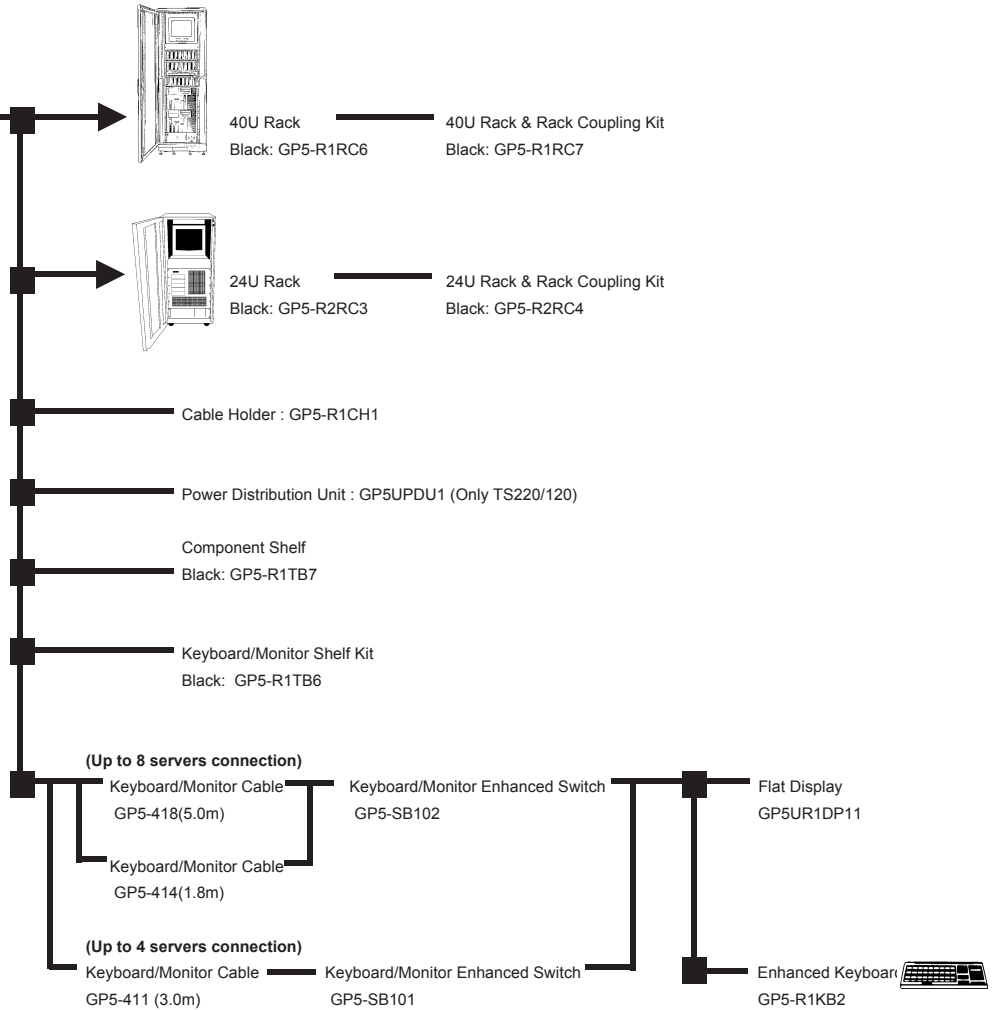
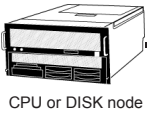
Please contact your local FUJITSU sales representative in the case as follows;

- In case of connecting with EMC disk array <designated or certified (by EMC) "Fibre Channel Controller(including driver SW)", "Fibre Channel Cable", "Fibre Channel HUB" must be used>.
- As for the certified configuration of Windows2000 Datacenter Server.
- Four nodes Clustering.

System Configuration

Rackmount

Rack Option



Up to eight servers can be connected to one GP5-SB102, and up to 64 servers can be connected with nine GP5-SB102 in cascade connection (Keyboard Monitor Cable: GP5-414 is required)

* In case of Cascade connection, AC adapter is required.



Hardware

Hardware List

Product	Product ID	Available Date	Remarks
CPU Field Upgrade Kit-74	GP5-FG20HT GP5BFG20HT [CTO option]	Available	PentiumIII Xeon(700MHz)/32KB+2MBCachex1,Placed on motherboard Includes one CPU, For HS910/N800
CPU Field Upgrade Kit-73	GP5-FG20GT GP5BFG20GT [CTO option]	Available	PentiumIII Xeon(700MHz)/32KB+1MBCachex1,Placed on motherboard Includes one CPU, For HS910/N800
Additional Memory 2GB	GP5-RM2J GP5BRM2J [CTO option]	Available	SDRAM-DIMM (100MHz) 1024MBx2 (Buffered CL/2)
Additional Memory 1GB	GP5-RM1J GP5BRM1J [CTO option]	Available	SDRAM-DIMM (100MHz) 512MBx2 (Buffered CL/2)
Additional Memory 512MB	GP5-RM51J GP5BRM51J [CTO option]	Available	SDRAM-DIMM (100MHz) 256MBx2 (Buffered CL/2)
Additional Memory 256MB	GP5-RM25J GP5BRM25J [CTO option]	Available	SDRAM-DIMM (100MHz) 128MBx2 (Buffered CL/2)
Standard Memory Conversion Kit -4GB	PGBRU4C [CTO option]	9th Mar	Standard Memory conversion 1GB to 4GB
Standard Memory Conversion Kit -2GB	PGBRU2C [CTO option]	9th Mar	Standard Memory conversion 1GB to 2GB
Additional Memory Board	PG-RB103 PGBRB103 [CTO option]	9th Mar	Additional memory board for mounting more than 16 DIMMs
Hard Disk Drive-36GB	PG-HDH61B PGBHDH61B [CTO option]	1st Mar	1"height/36.4GB/Ultra160/10000rpm/SCA2 80pin/Hotplug/SMART For N400 and S30
Hard Disk Drive-18GB	PG-HDH81B PGBHDH81B [CTO option]	1st Mar	1"height/18.2GB/Ultra160/10000rpm/SCA2 80pin/Hotplug/SMART For N400 and S30
Hard Disk Drive-9GB	PG-HDH91B PGBHDH91B [CTO option]	1st Mar	1"height/9.1GB/Ultra160/10000rpm/SCA2 80pin/Hotplug/SMART For N400 and S30
PRIMERGY S30 (Storage Subsystem)	PGUR1DC6	1st Mar	Rackmount(3U) Hard Disk Node Ultra160, 14 Hotplug HDD bays (1"x14 HDD/2ch), Maximum capacity is 509.6GB (36.4GB x14) Redundant&Hotplug FAN(Std.)/PSU(Opt.) <Connection> PG-142B/PG-142C/PG-143B - PG-CBLS004/PG-CBLS005/PG-CBLS006 <Available HDD> PG-HDH61B/PG-HDH81B/PG-HDH91B/PG-HDH87B/PG-HDH97B Only for Array configuration, CTO is available
Tape Drive DAT DDS4 (DAT Unit)	PG-DT401 PGBDT401 [CTO option]	Available	Internal DAT unit (DDS-4:20GB-40GB) SCSI Cable is included * As for the connection, please refer to the connection table of each model
Tape Drive DAT DDS3 (DAT Unit)	PG-DT301 PGBDT301 [CTO option]	Available	Internal DAT unit (DDS-3:12-24GB) * As for the connection, please refer to the connection table of each model
Tape Drive DAT DDS4 Autoloader (DAT Autoloader)	PG-DTA102 PGBDTA102 [CTO option]	Available	Internal DAT autoloader (DDS-4: 20GB-40GB) 6cassetes SCSI Cable is included. Two 5" bays are occupied * As for the connection, please refer to the connection table of each model
Tape Drive DAT DDS3 Autoloader (DAT Autoloader)	PG-DTA101 PGBDTA101 [CTO option]	Available	Internal DAT autoloader (DDS-3: 12GB-24GB) 6cassetes SCSI Cable is included. Two 5" bays are occupied * As for the connection, please refer to the connection table of each model
Tape Drive DLT4000 (DLT Unit)	PG-DL201 PGBDL201 [CTO option]	Available	Internal DLT unit (DLT4000: 20GB-40GB) Two 5" bays are occupied * As for the connection, please refer to the connection table of each model
Tape Drive DLT7000 (DLT Unit)	PG-DL351 PGBDL351 [CTO option]	Available	Internal DLT unit(DLT7000: 35-70GB) Two 5"bays are required and occupied SCSI Cable is included * As for the connection, please refer to the connection table of each model
Tape Drive SLR50 (Tape Unit)	PG-ML301 PGBML301 [CTO option]	Available	Internal Tape unit (SLR50: 25-50GB) * As for the connection, please refer to the connection table of each model

Hardware

Product	Product ID	Available Date	Remarks
PRIMERGY S10 (Backup Cabinet)	PGUR1BC3	9th Mar	Rackmount 3U 5" bay node for N400/H200 Up to four Tape units can be mounted <Available Backup devices> Occupy two bays : PG-DL201/PG-DL351/PG-DTA101/PG-DTA102 Occupy one bay: PG-ML301/PG-DT401/PG-DT301 CTO is available
Power Supply Module	PGUPU103 PGBUPU103 [CTO option]	1st Mar	Redundant PSU (500W), For S30 Power Code is required
40U Rack	GP5-R1RC6	Available	19" 40U Locker , Front door,rear door,side panel,earthquake proof board ,blank panel is attached. Size(WxDxH)mm:600x900x2000 <Number of units required for installation> N800: 7U PGUR1DC6: 3U/PGUR1BC3: 3U Keyboard/Monitor Shelf: 9U(for installation 15"CRT),1U(for installation Keyboard) Component shelf: 5U CRT/KB switch: Mounted at side of CRT (occupies same U as CRT) Color: Black
40U Rack&Rack Coupling Kit	GP5-R1RC7	Available	19"40U Locker + connection metal fittings Front door,rear door,concatenation frame,blank panel is attached. Color: Black
24U Rack	GP5-R2RC3	Available	19" 24U Locker , Front door,rear door,side panel,earthquake proof board ,blank panel is attached. Size(WxDxH)mm:600x900x1200 <Number of units required for installation> N800: 7U PGUR1DC6: 3U/PGUR1BC3: 3U Keyboard/Monitor Shelf: 9U(for installation 15"CRT),1U(for installation Keyboard) Component shelf: 5U CRT/KB switch: Mounted at side of CRT (occupies same U as CRT) Color: Black
24U Rack&Rack Coupling Kit	GP5-R2RC4	Available	19"24U Locker + connection metal fittings Front door,rear door,concatenation frame,blank panel is attached. Color: Black
Component Shelf	GP5-R1TB7	Available	Shelf to fit peripheral device into 40U Rack, Table size:400(W)x500(D) Color: Black
Keyboard/Monitor Shelf Kit	GP5-R1TB6	Available	Used to store display unit (CRT), a keyboard (KB), and a mouse on a rack. Color: Black
Keyboard/Monitor Enhanced Switch	GP5-SB101	Available	Switch enables sharing of a set of CRT,keyboard,and mouse by two or more servers (up to four servers).
Keyboard/Monitor Enhanced Switch	GP5-SB102	Available	Switch enables sharing of a set of CRT,keyboard,and mouse by two or more servers (up to eight servers). Shared up to 64 servers in cascade connection.* AC adapter is required for cascade connection (Procured locally)
Keyboard/Monitor Cable	GP5-418	Available	For connection with switch (For connection GP5-SB102) (5.0m)
Keyboard/Monitor Cable	GP5-414	Available	For cascade connection between GP5-SB102 (1.8m)
Keyboard/Monitor Extension Cables	GP5-411	Available	CRT/KB cable for connection Server with GP5-SB101, CRT cabling1,KB/Mouse cabling1 is attached
Enhanced Keyboard	GP5-R1KB2	Available	87Key keyboard for Rackmountable type
Flat Display	GP5UR1DP11	Available	Rackmountable LCD display with Keyboard, 2U height <GP5UR1DP1 + GP5-R1RK7>
SCSI Controller UW (SCSI Card)	PG-123 PGB123 [CTO option]	Available	Ultra Wide HVD (High Voltage Differential)/1ch/SMART HDD is not supported/ Up to 40MB/s of synchronous transfer support <Connector> - 68-pin connector for external SCSI - 68-pin connector for internal SCSI - 50-pin connector for internal SCSI <Use> For connection with external Disk Array * SCSI cable is required.

Hardware

Product	Product ID	Available Date	Remarks
SCSI Controller U2W (SCSI Card)	PG-126 PGB126 [CTO option]	Available	Ultra2 Wide(LVD)/1ch/SMART HDD/Up to 80MB/s transfer speed <Connector> - 68-pin connector for external SCSI (Ultra2 Wide) - 68-pin connector for internal SCSI (Ultra2 Wide) - 68-pin connector for internal SCSI (Ultra Wide) - 50-pin connector for internal SCSI (Ultra Wide) <Use> For connection PRIMERGY S10 * SCSI cable is required.
RAID Controller U160 2Channels (RAID Card)	PG-142B PGB142B [CTO option]	Available	RAID Controller, Ultra160/2ch/64MB cache/RAID level 0,1,5,6 (0+1)are supported For internal/external array configuration
RAID Controller U160 2Channels (RAID Card)	PG-142C PGB142C [CTO option]	Available	RAID Controller, Ultra160/2ch/64MB cache/Battery Backup/ RAID level 0,1,5,6(0+1) are supported For internal/external array configuration
RAID Controller U2W 3Channels (RAID Card)	PG-143B PGB143B [CTO option]	Available	RAID Controller, Ultra2wide (LVD)/3ch/64MB cache/Battery Backup/RAID level 0,1,5,6(0+1) are supported For internal/external array configuration
Standard RAID Controller Conversion Kit	PGB1U42C1 [CTO option]	Available	Convert Standard RAID Controller to PG-142C
Fast Ethernet Controller	PG-185 PGB185 [CTO option]	Available	100BASE-TX/10BASE-T/PCI64bit/Driver is included AFT(Adapter Fault Tolerance)/ALB(Adaptive Load Balance) Twisted pair cable (category5:100BASE-TX/category3:10BASE-T) is required
Gigabit Ethernet Controller (Fibre)	PG-188 PGB188 [CTO option]	Available	1000BASE-SX/PCI64bit-66MHz/Driver is included Fibre Channel cable is required : GP5-311/2m, GP5-312/5m, GP5-313/15m
Fibre Channel Controller	PG-FC102	1st Mar	1GB Optical, FC-AL/FC-Fabric, Duplex SC port for external device
SCSI Cable	PG-CBLS001	1st Mar	SCSI Cable (1.5m) Connection between SCSI Controller and S10/External SCSI devices HDCI-HDCI
SCSI Cable	PG-CBLS002	1st Mar	SCSI Cable (5m) Connection between SCSI Controller and S10/External SCSI devices HDCI-HDCI
SCSI Cable	PG-CBLS003	1st Mar	SCSI Cable (10m) Connection between SCSI Controller and S10/External SCSI devices HDCI-HDCI
SCSI Cable	PG-CBLS004	1st Mar	SCSI Cable (2m) Connection between RAID Controller and S30 VHDCI-VHDCI
SCSI Cable	PG-CBLS005	1st Mar	SCSI Cable (5m) Connection between RAID Controller and S30 VHDCI-VHDCI
SCSI Cable	PG-CBLS006	1st Mar	SCSI Cable (10m) Connection between RAID Controller and S30 VHDCI-VHDCI
SCSI Cable	PG-CBLS007	1st Mar	SCSI Cable (1.8m) Connection between External Onboard SCSI Interface (PGBCBLS011) and S10/External SCSI devices VHDCI-HDCI
SCSI Cable	PG-CBLS008	1st Mar	SCSI Cable (5m) Connection between External Onboard SCSI Interface (PGBCBLS011) and S10/External SCSI devices VHDCI-HDCI
SCSI Cable	PG-CBLS009	1st Mar	SCSI Cable (10m) Connection between External Onboard SCSI Interface (PGBCBLS011) and S10/External SCSI devices VHDCI-HDCI
RAID Cabling Kit	PGBCBLS012 [CTO option]	Available	SCSI cabling (RAID Controller to HDD) instruction
Fast Ethernet Cable	DCL-FEA05U	Available	Fast Ethernet Cable for node-node connection in Clustering configuration (5m)
Fibre Channel Cable	GP5-311	Available	Fibre Channel Cable (2m)
Fibre Channel Cable	GP5-312	Available	Fibre Channel Cable (5m)
Fibre Channel Cable	GP5-313	Available	Fibre Channel Cable (15m)

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