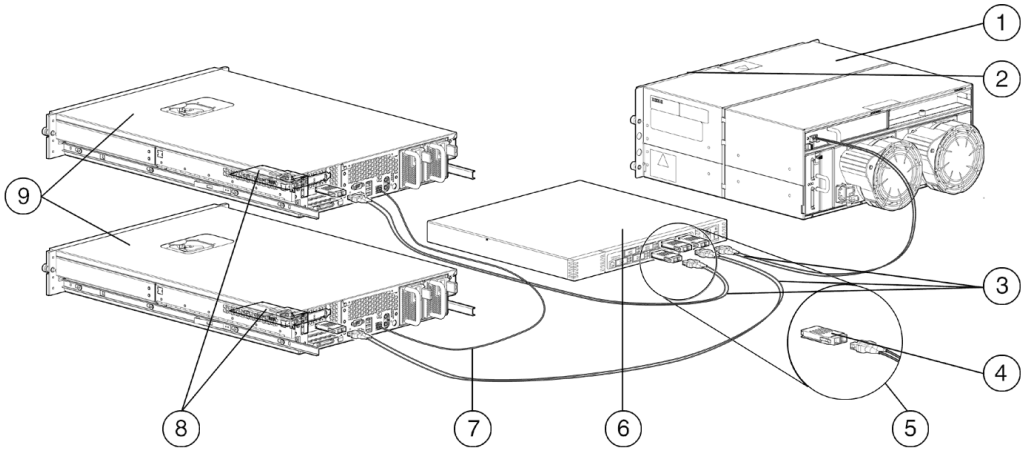
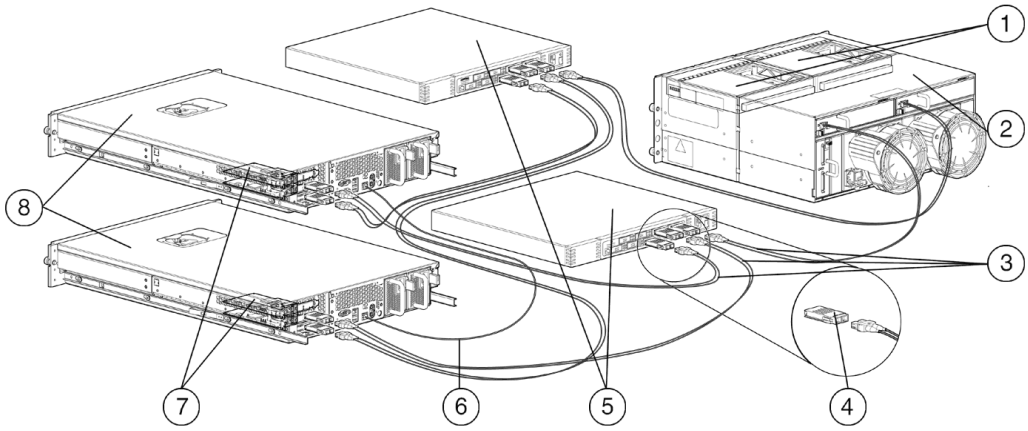
RETIRED: This document has been officially retired, and the base products listed herein are now considered obsolete and are no longer available for sale. Consequently, the information contained within may no longer be current. This document is provided exclusively for reference and historical purposes.

ProLiant DL F100 Integrated Cluster Solutions and Non-Integrated Cluster Bundle Configurations



1. MSA1000
2. Smart Array Controller
3. Multi-Mode Fibre Channel Cables
4. Gigabit Interface Convertors (GBICs)
5. Small Form Factor Fixed Transceivers (SFF) or Small Form Factor Pluggable Transceivers (SFP)
6. Fibre Channel Interconnect #1 and #2
7. Ethernet "HeartBeat" Loop
8. Host Bus Adapters
9. ProLiant Servers #1 and #2

ProLiant DL F200 Integrated Cluster Solutions and Non-Integrated Cluster Bundle Configurations



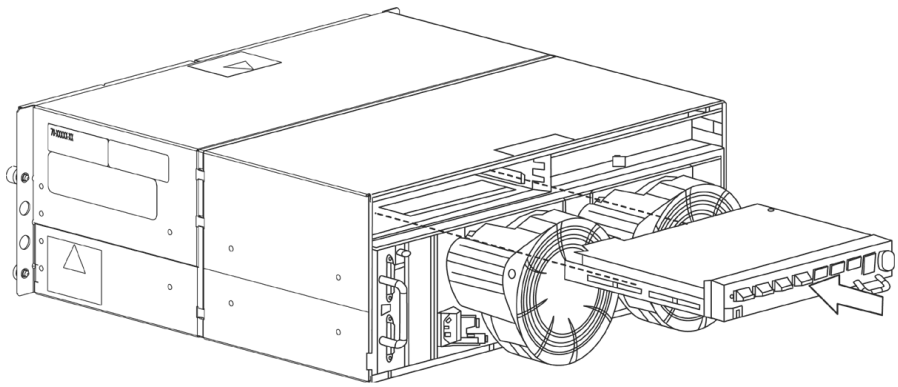
1. Smart Array Controller
2. MSA1000
3. Multi-Mode Fibre Channel Cables
4. Gigabit Interface Convertors (GBICs), SFP or SFF
5. Fibre Channel Interconnect #1 and #2
6. Ethernet "HeartBeat" Loop
7. Host Bus Adapters
8. ProLiant Servers #1 and #2

ProLiant DL360 G3 F100/F200 Integrated Cluster Solutions and Non-Integrated Bundles

The ProLiant DL360 G3 F100 and F200 Integrated cluster solutions & Non-Integrated Cluster bundles for MSA1000 are a family of integrated cluster solutions designed to simplify the deployment of fibre channel cluster solutions. The solutions are integrated in a 22 U rack in our world class factories. The bundles are delivered as separate parts on a shrink wrapped pallets to be integrated at the customer site by the customer or an HP field service engineer. Each product can be ordered with one part number.

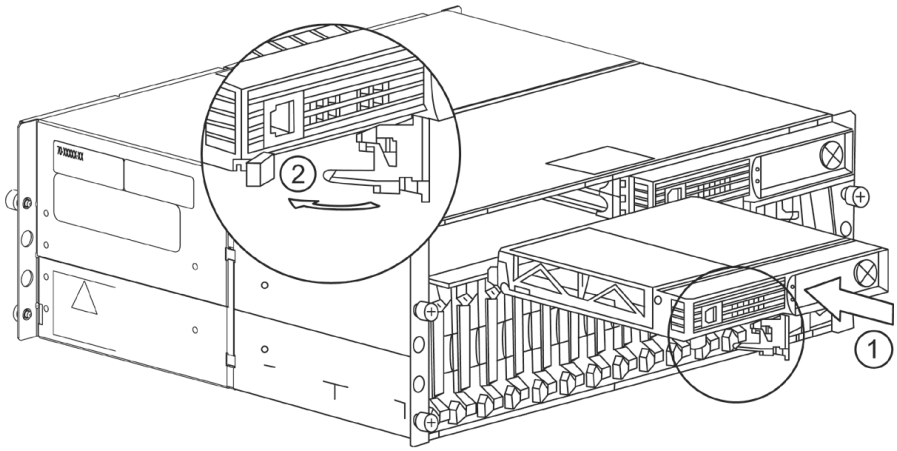
- Ideal for mail, Internet servers, file/print, IT Consolidation, and databases
- Uses standard Microsoft® clustering software, provided as part of the operating system (optional), to provide clustering functionality and failover (OS Not included with solution)
- Internal hardware components for server and storage already installed and cabled (Integrated Cluster Solutions only)
- Single path from servers to storage for cost effective availability (F100 Integrated Cluster Solutions and Non-Integrated Cluster Bundles only))
- Industry-leading HP installation and management functionality for lights-out management (optional) of your Integrated Cluster Solution and Non-Integrated Cluster Bundle
- Scalable architecture that can grow with your future needs
- Ability to upgrade an F100 Integrated Cluster Solutions or Non-Integrated Cluster to redundant paths (See ProLiant Cluster F200 for MSA1000 Upgrade Bundle) or purchase a redundant path F200 Integrated Solution or Non-Integrated Bundle
- All HP ProLiant Integrated Cluster Solutions or Non-Integrated Cluster Bundles come with ProLiant Clusters that offer detailed instructions on set-up and installation of clusters.
  NOTE: The F200 solutions, bundles and upgrade bundles include two Secure Path V4.0 for Windows® Workgroup licenses.
- HP offers services and support that can be tailored to meet customer's installation and set-up needs. Through our Configure to order process our customers can work with their account manager and solutions architects to have their cluster completely built with IP addresses set and customized images loaded in our factories.
- We have added these Integrated Cluster Solutions completely cabled in a 22U Rack and Non-integrated Bundles to our offerings to make the clustering experience less complex. Please see the solutions page on our Web site for more details: http://www.hp.com/servers/proliant/highavailability.
- These products can then be shipped throughout North America and EMEA.

MSA Hub 2/3 (Integrated)



Overview

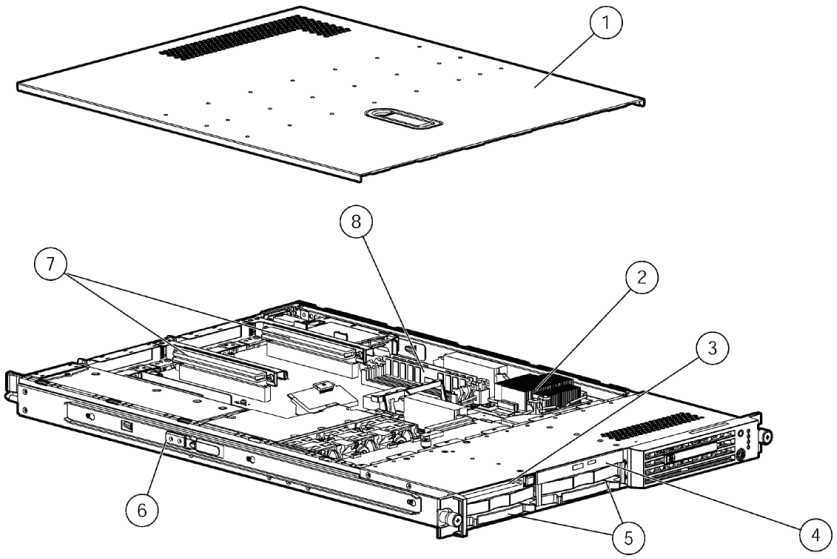
MSA1000 Controller



HP StorageWorks Modular SAN Array 1000

- High performance controller(s) built on DAS to SAN {DtS} architecture for maximum investment protection
- 4U rack mount design combining both the controller and disk shelf
- 2Gb/s Fibre Channel host connections
- Optional embedded 6-port 2Gb/s Fibre Channel fabric switch or 3-port 2Gb/s Fibre Channel hub
- Ultra3 SCSI connections to drives
- Support for HP Ultra2, Ultra3, and Ultra320 Universal 1" Drives
- Scaleable from 3 to 42 drives via StorageWorks 4200/4300 Enclosures
- Support for 1Gb/s and 2Gb/s Fibre Channel fabrics
- Multiple clusters and/or single server access by all supported OSes to an individual MSA1000

ProLiant DL360 G3 Server



1. Tool-free cover
2. Processor (one shown, two supported)
3. 1.44-MB floppy drive
4. 24x CD-ROM drive (low-profile)
5. Two 1" Wide Ultra 320 SCSI Hot Plug Drive Bays
6. Rack side rails
7. 2 full length PCI-X slots
8. Memory slots

ProLiant DL360 G3 Server

- Leading the scale out environment with Integrated Lights-Out management, the DL360 offers essential availability features and concentrated 1U compute power for spaced constrained internet and data center environments.
- Integrated Lights-Out (iLO) remote management embedded on every DL360
- Up to 2 Intel® Xeon 2.80 GHz Processors with 533MHz front side bus and 512-KB level 2 cache
- 1U Rack form factor (1.75")
- ServerWorks GC -LE Chipset
- Embedded Smart Array 5i+ Plus RAID Controller with optional BBWC
- Two full length 64-bit/100MHz PCI-X slots (one slot available if redundant power supply is installed)
- 325-Watt hot plug power supply, with optional 1+1 redundancy
- Up to 4GB of 2-way interleaved PC2100 DDR SDRAM running at 266MHz, Advanced ECC memory standard
- Two Compaq NC7781 PCI-X Gigabit NICs (embedded) 10/100/1000 WOL (Wake on LAN)
- Supports up to two 1" Ultra320 (only) hot plug hard drives
- Exceptional serviceability with optional sliding rails, cable management and in-rack, tool-free access
- ProLiant Essential Foundation Pack standard, including SmartStart, Insight Managerä, ROM Based Setup Utility (RBSU), and ActiveUpdate.
- Protected by Compaq Services, including a three-year, next business day on-site limited global warranty and extended Pre-Failure Warranty which covers processors, memory, and hard drives – Certain restrictions and exclusions apply. Consult the Compaq Customer Support Center at 1-800-345-1518 for details.

Models (DL360 G3 Cluster Solutions and Bundles)

		EMEA	NA
ProLiant Cluster Kits	ProLiant DL360 G3 F100 Integrated Cluster Solution (Microsoft Windows NT® 4.0EE, Windows 2000 Advanced Server, or Windows Server 2003)	321654-421	317644-001
	ProLiant DL360 G3 F200 Integrated Cluster Solution (Microsoft Windows NT 4.0EE, Windows 2000 Advanced Server, or Windows Server 2003)	317644-421	321737-001
	ProLiant DL360 G3 F200 Non- Integrated Cluster Bundle (Microsoft Windows NT 4.0EE, Windows 2000 Advanced Server, or Windows Server 2003)	N/A	321494-001
	ProLiant Cluster F200 for MSA1000 Upgrade Bundle	N/A	317647-001

ProLiant DL360 G3 F100_F200 Integrated Cluster Solutions and Non-Integrated Bundles

The ProLiant Cluster Integrated Solutions and Non-Integrated Bundles provide high availability for applications and data in a business-critical environment. The ProLiant DL360 G3 F100 and F200 Integrated Solutions & Non-Integrated Bundles utilizes HP's industry-leading ProLiant server products, StorageWorks Modular SAN Array 1000, Ethernet interconnect and HP's leading installation and systems management utilities. The ProLiant DL360 G3 F100 Integrated Cluster Solutions & Non-Integrated Bundles for MSA1000 utilizes the industry-standard Microsoft Cluster Server software for cluster operation and management. The F100 solutions and bundles provides a single path connection between the ProLiant Servers and the MSA1000, with a fibre channel 3 port embedded mini-hub (StorageWorks MSA hub 2/3) creating an affordable entry-level fibre channel high availability configuration. The cluster kit, which HP offers with the ProLiant DL360 G3 F100 Integrated Cluster Solutions & Non-Integrated Bundles for MSA1000, contains documentation and a 10' Ethernet interconnect cable f or heartbeat connection between server nodes.

The ProLiant DL360 G3 F200 Integrated Cluster solution for MSA1000 delivers a higher level of availability then the F100. TheF200 also uses HP's industry-leading ProLiant servers, StorageWorks Modular SAN Array 1000, Ethernet server to server interconnect, and HP's industry of availability in clusters by enabling multi-path fibre channel connections. SANworks Secure Path management software by HP, included with the kit, features support for a redundant fibre channel infrastructure (two paths through the fibre channel three (3) port embedded mini-hub) utilizing dual Host-Bus-Adapters in each server connected to one MSA1000 storage subsystems, each with dual RAID controllers that creates a configuration with no single point of failure. HP also provides a cluster kit for the F200 solutions and bundles, which contains the software components that are required to connect two HP servers and HP Fibre Channel Storage systems together in a cluster, along with documentation and an interconnect cable.

HP StorageWorks Modular SAN Array 1000

The HP StorageWorks modular SAN array 1000 is the first generation 2Gb Fibre Channel storage system designed for the entry level to mid-range Storage Area Network (SAN). Designed to reduce the complexity, expense and risk of SAN deployment, the MSA1000 is a scaleable, high performance storage system built with investment protection in mind. The modular design of the MSA1000 allows the user to easily add storage capacity on an as needed basis.

The MSA1000 combines the array controller shelf and the drive shelf, which holds up to fourteen 1^2 universal disk drives in a single 4U rack mount cabinet. More storage can be easily deployed with the addition of up to two StorageWorks 4314 or 4214 Enclosures for a maximum storage capacity of 6TB when using the new 146GB drives. The MSA1000 provides the latest 2Gb Fibre Channel technology to the hosts. Besides the single port 2Gb Fibre Channel I/O module that comes standard, there is an optional 6-port, 2Gb Fibre Channel fabric switch that fits inside the MSA1000. A recent optional addition is a 3-port 2Gb Fibre Channel hub that also fits inside - an ideal low cost solution for simple 2-node clustering.

The MSA1000 provides Ultra3 SCSI connections to the hard drives and uses the HP Universal 1^2 Ultra2, Ultra3, and/or Ultra320 drives. By utilizing existing SCSI drives, the MSA1000 lowers the total cost of ownership and extends the customer's hardware investments into the future. The MSA1000 can be remotely managed by using management tools such as HP Insight Manager 7, Array Configuration Utility and the StorageWorks Fabric Switch Management Utility. Recent updates to the MSA1000's controller firmware offer support for NetWare and Linux operating systems along with the original support for for Microsoft Windows NT, Windows 2000, and Windows Server 2003. This updated firmware also supports multiple clusters and/or single servers accessing an MSA1000.

ProLiant DL360 G3 Server

The DL360 has balanced processor resources with high performance 266MHz, 2-way interleaved DDR SDRAM, PCI-X technology and U320 drives, bringing more performance per U for web hosting, data center utility, terminal services, and HPTC environments. Next-generation Xeon processors with 533MHz front side bus not only increase system performance, they can also handle a significantly greater workload per processor because of higher processor frequencies, faster system bus, and Hyper-Threading technology. Additionally, with up to 4GB memory capacity, the DL360 helps eliminate a common system bottleneck. Industry-leading features included in the price of the server, such as integrated Lights Out remote management and ProLiant Essentials Pack, significantly increase the value-add of the DL360G3.

The virtual presence of Integrated Lights-Out (iLO) technology provides secure text based remote console and remote power on/off. Optional graphical remote console and virtual media functionality further enhances the feature set.

The DL360 G3 now provides an optional hot plug redundant power supply to meet the demanding availability requirements of corporate data centers. Advanced ECC SDRAM, redundant ROM, Automatic Server Recover, optional transportable battery backed write cache and ProLiant reliability guarantee optimum server uptime.

The system can be configured with one or two full-length PCI-X slots (one full length slots available if the redundant power supply is installed, two slots available if redundant power supply is not installed), Integrated Lights Out remote management, dual embedded 10/100/1000 NICs, and an embedded Smart Array 5i+ enhance configuration flexibility, increasing the DL360 G3's versatility within the data center.

RRDeployment tools help get the system up and running quickly, simply, and consistently. The ProLiant Essentials management pack ships standard with every ProLiant server and includes SmartStart, SmartStart Scripting Toolkit, Insight Manager, Array Configuration utility (ACU), iLO Setup Utility ROM Based Setup Utility (RBSU), and Pre-Failure Warranty. In addition, spring-loaded, tool-free Universal rack rails ship standard with the DL360 G3 to support both round hole and square hole racks, providing fast and easy server installation and maintenance.

Service and Support Offerings (HP Care Pack Services)

HP Care Pack Services listed here are available in North America only.

Windows 2000 Advanced Server Cluster Installation and Startup Service for ProLiant Servers:
HP.com web page: http://h18005.www1.hp.com/services/carepaq/us/install/cp_win2000.html.

2 node Cluster *(ProLiant Server Only)*

Windows 2000 Adv. Server Cluster Installation & Startup Service for Proliant Servers CSD (One 2- node Cluster)	248497-002	FM-W2KA2-IN
Windows 2000 Adv. Server Cluster Installation & Startup Service for Proliant Servers CSD (Two 2- node cluster pairs)	248498-002	FM-W2KA4-IN

HP StorageWorks modular SAN array 1000 installation & startup service:
http://services-im.inet.cpqcorp.net/ServiceMenu/packages/ww/CSD-MSA1000.DOC.

External Fibre Storage

MSA1000 I&S – Core Service	263858-002	QR-SMMSA-IS
MSA1000 I&S – Redundancy Option (SecurePath)	305465-002	QR-SMMSR-IS
MSA1000 I&S – Subsys add-on (Add an extra MSA1000)	305464-002	QR-SMMSS-IS

Solution/Bundle Contents

ProLiant DL360 G3 F100 Integrated Cluster Solution Contents			
(Part Number: 317644-001 (US), 321654-421 (EMEA))			
		Number of Units	Part Number
Servers	DL360R03 P2800-512KB, 512MB	2	292889-xx1
	Intel Xeon 2.80 GHz/533MHz-512KB Processor Option Kit	2 (1 Ea server)	292892-B21
	18.2-GB 15,000 rpm U320 Universal Hard Drive (1")	4 (2 Ea server)	286775-B22
	ProLiant Cluster HA/F100 for MSA1000	1	252408-B23
	MSA 1000 Fibre Channel Adapter (FCA) 2101	2 (1 Ea server)	245299-B21
	DL360 G2/G3 Universal sliding rail kit	2	303341-B21
	512MB of Advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (2 x 256 MB)	2 (1 Ea server)	300678-B21
External Storage	HP StorageWorks modular SAN array 1000	1	201723-B22
	5 m LC-LC Multi-Mode Fibre Channel Cable	2	221692-B22
	HP StorageWorks MSA Hub 2/3	1	286763-B21
Rack and Supported Rack Options	Modular Power Distribution Units (mPDU), Low Volt Model, 24A (100-127 VAC) (NA, Japan) (NA Models) NOTE: Part Number 252663-D71 ships with the US ProLiant DL360 G3 F100 Integrated Cluster Solution PN 321654-001).	2	252663-D71
	Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC) (WW) (EMEA Models) NOTE: Part Number 252663-B24 ships with the EMEA ProLiant DL360 G3 F100 Integrated Cluster Solution PN 321654-421).	2	252663-B24
	Server Console Switch 1 x 4-port (100 to 230 VAC)	1	400336-xx1
	CPU to Server Console Cable, 7'	2	110936-B25
	TFT5600 RKM Rack Keyboard Monitor	1	221546-xx1
	Rack Blanking Panels – Graphite (Multi)	1	253214-B26
	Cable Spool	2	70-40853-03
	HP Rack 10622 (22U) – Shock Pallet	1	245163-B22

ProLiant Cluster F200 for MSA1000 Upgrade Contents			
(Part Number: 317647-001 (NA))			
(For ProLiant DL580 G2, DL380 G3, & DL360 G3 F100 Integrated Cluster Solution Only)			
		Number of Units	Part Number
F200 Optional Upgrade (For ProLiant DL360 G3 F100 Integrated Cluster Solution NA only)	ProLiant Cluster HA/F200 for MSA1000	1	252409-B23
	MSA 1000 Fibre Channel Adapter (FCA) 2101	2	245299-B21
	HP StorageWorks MSA Hub 2/3	1	286763-B21
	2m LC-LC Multi-Mode Fibre Channel Cable	2	221692-B22
	2Gb/s SFP Fibre Channel Transceiver Kit (used on switches with SFP ports)	1	221470-B21
	msa1000 Controller, with 256MB cache	1	218231-B21

Solution/Bundle Contents

ProLiant DL360 G3 F200 Integrated Cluster Solution Contents			
(Part Number: 321737-001 (US), 317644-421 (EMEA))			
ProLiant DL360 G3 F200 Non-Integrated Cluster Bundles Contents			
(Part Number: 321494-001 (NA))			
		Number of Units	Part Number
Servers	DL360R03 P2800-512KB, 512MB	2	292889-xx1
	Intel Xeon 2.80 GHz/533MHz-512KB Processor Option Kit	2 (1 Ea server)	292892-B21
	18.2-GB 15,000 rpm U320 Universal Hard Drive (1")	4 (2 Ea server)	286775-B22
	ProLiant Cluster HA/F100 for MSA1000	1	252409-B23
	MSA 1000 Fibre Channel Adapter (FCA) 2101	2 (1 Ea server)	245299-B21
	DL360 G2/G3 Universal sliding rail kit	1	303341-B21
	512MB of Advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (2 x 256 MB)	2 (1 Ea server)	300678-B21
External Storage	HP StorageWorks modular SAN array 1000	1	201723-B22
	msa1000 Controller, with 256MB cache	1	218231-B22
	2m LC-LC Multi-Mode Fibre Channel Cable	4	221692-B22
	2Gb/s SFP Fibre Channel Transceiver Kit (used on switches with SFP ports)	1	221470-B21
	HP StorageWorks MSA Hub 2/3	2	286763-B21
Rack and Supported Rack Options	NOTE: NO Racks or Supported Rack Options are included with the ProLiant DL360 G3 F200 Non-Integrated Cluster Bundles (Part Number: 321494-001 (NA)).		
	Modular Power Distribution Units (mPDU), Low Volt Model, 24A (100-127 VAC) (NA, Japan) (NA Model) NOTE: Part Number 252663-D71 ships with the US ProLiant DL360 G3 F100 Integrated Cluster Solution PN 321654-001)).	2	252663-D71
	Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC) (WW) (EMEA Model) NOTE: Part Number 252663-B24 ships with the EMEA ProLiant DL360 G3 F100 Integrated Cluster Solution PN 321654-421).	2	252663-B31
	Server Console Switch 1 x 4-port (100 to 230 VAC)	1	400336-xx1
	CPU to Server Console Cable, 7'	2	110936-B25
	TFT5600 RKM Rack Keyboard Monitor	1	221546-xx1
	Rack Blanking Panels – Graphite (Multi)	1	253214-B26
	Cable Spool	2	70-40853-03
	HP Rack 10622 (22U) – Shock Pallet	1	245163-B22

Country Code for DL360 G3 Server (292889-xx1)	Country Code for TFT5600 RKM (221546-xx1)	Country Code for Server Console Switch (400336-xx1)
-001 = US	-001 = US	-001 = US
-421 = EURO	-031 = UK	-B31 = Int'l

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