

Edition I



- HP ProLiant Servers
- HP StorageWorks All-in-One Storage Systems
- CarePack Services

Technology for better business outcomes



Information brief for reference purposes. Visit www.hp.com/products/quickspecs for additional models, features and options

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Processor Decoder

AMD Opteron Processors

Processor Number	Processor Type	Processor Speed	Processor Cores	System Bus Speed	L2 Cache	Watts	Processor Number	Processor Type	Processor Speed	Processor Cores	System Bus Speed	L2 Cache	Watts
Four socket capable - Opteron 8300 & 8200 series							Dual socket capable - Opteron 2300 & 2200 series						
8356	Barcelona	2.3GHz	Quad	1GHz	4x512K	75W	2356	Barcelona	2.3GHz	Quad	1GHz	4x512K	95W
8354	Barcelona	2.2GHz	Quad	1GHz	4x512K	75W	2354	Barcelona	2.2GHz	Quad	1GHz	4x512K	95W
8224SE	Santa Rosa	3.2GHz	Dual	1GHz	2x1M	120W	2352	Barcelona	2.1GHz	Quad	1GHz	4x512K	95W
8222	Santa Rosa	3.0GHz	Dual	1GHz	2x1M	95, 120W	2222	Santa Rosa	3.0GHz	Dual	1GHz	2x1M	95, 120W
8220	Santa Rosa	2.8GHz	Dual	1GHz	2x1M	95, 120W	2220	Santa Rosa	2.8GHz	Dual	1GHz	2x1M	95, 120W
8218	Santa Rosa	2.6GHz	Dual	1GHz	2x1M	68, 95W	2218	Santa Rosa	2.6GHz	Dual	1GHz	2x1M	68, 95W
8216	Santa Rosa	2.4GHz	Dual	1GHz	2x1M	68, 95W	2216	Santa Rosa	2.4GHz	Dual	1GHz	2x1M	68, 95W
8214	Santa Rosa	2.2GHz	Dual	1GHz	2x1M	68, 95W	2214	Santa Rosa	2.2GHz	Dual	1GHz	2x1M	68, 95W
Single socket capable - Opteron 1200 series							2212	Santa Rosa	2.0GHz	Dual	1GHz	2x1M	68, 95W
1222	Santa Ana	3.0GHz	Dual	1GHz	1M	103, 125W							
1220	Santa Ana	2.8GHz	Dual	1GHz	1M	103, 125W							
1218	Santa Ana	2.6GHz	Dual	1GHz	1M	65, 103W							
1216	Santa Ana	2.4GHz	Dual	1GHz	1M	65, 103W							
1214	Santa Ana	2.2GHz	Dual	1GHz	1M	65, 103W							
1212	Santa Ana	2.0GHz	Dual	1GHz	1M	65, 103W							



Processor Decoder

Intel Processors

Processor Number	Processor Type	Processor Speed	Processor Cores	Front Side Bus Speed	L3 Cache	Watts	Processor Number	Processor Type	Processor Speed	Processor Cores	Front Side Bus Speed	L2 Cache	Watts
Four socket capable - Xeon 7200 & 7300 series							Dual socket capable - Xeon 5400 series						
X7350	Tigerton	2.93GHz	Quad	1066MHz	8MB	130W	X5482	Harperdown	3.20GHz	Quad	1600MHz	12MB	120W
L7345	Tigerton	1.86GHz	Quad	1066MHz	8MB	50W	E5472	Harperdown	3.00GHz	Quad	1600MHz	12MB	80W
E7340	Tigerton	2.40GHz	Quad	1066MHz	8MB	80W	X5472	Harperdown	3.00GHz	Quad	1600MHz	12MB	120W
E7330	Tigerton	2.40GHz	Quad	1066MHz	6MB	80W	E5462	Harperdown	2.80GHz	Quad	1333MHz	12MB	80W
E7320	Tigerton	2.13GHz	Quad	1066MHz	4MB	80W	X5460	Harperdown	3.16GHz	Quad	1333MHz	12MB	120W
E7310	Tigerton	1.60GHz	Quad	1066MHz	4MB	80W	E5450	Harperdown	3.00GHz	Quad	1333MHz	12MB	80W
E7220	Tigerton	2.93GHz	Dual	1066MHz	8MB	80W	X5450	Harperdown	3.00GHz	Quad	1333MHz	12MB	120W
Single socket capable - Xeon 3000 series & Pentium							E5440	Harperdown	2.83GHz	Quad	1333MHz	12MB	80W
X3350	Yorkfield	2.66GHz	Quad	1333MHz	12MB	95W	E5430	Harperdown	2.66GHz	Quad	1333MHz	12MB	80W
X3320	Yorkfield	2.50GHz	Quad	1333MHz	6MB	95W	E5420	Harperdown	2.50GHz	Quad	1333MHz	12MB	80W
X3220	Kentsfield	2.40GHz	Quad	1066MHz	8MB	95W	L5420	Harperdown	2.50GHz	Quad	1333MHz	12MB	50W
X3210	Kentsfield	2.13GHz	Quad	1066MHz	8MB	95W	E5410	Harperdown	2.33GHz	Quad	1333MHz	12MB	80W
X3075	Conroe	2.66GHz	Dual	1333MHz	4MB	65W	L5410	Harperdown	2.33GHz	Quad	1333MHz	12MB	50W
X3065	Conroe	2.33GHz	Dual	1333MHz	4MB	65W	E5405	Harperdown	2.00GHz	Quad	1333MHz	12MB	80W
E4400	Conroe	2.00GHz	Dual	800MHz	2MB	65W	X5272	Waldale	3.40GHz	Dual	1600MHz	6MB	80W
E3110	Waldale	3.00GHz	Dual	1333MHz	6MB	65W	X5260	Waldale	3.33GHz	Dual	1333MHz	6MB	80W
E2160	Pentium	1.80GHz	Dual	800MHz	1MB	65W	440	Celeron	2.00GHz	Single	800MHz	512KB	35W
440	Celeron	2.00GHz	Single	800MHz	512KB	35W	E5205	Waldale	1.86GHz	Dual	1066MHz	6MB	65W
440	Celeron	1.60GHz	Single	800MHz	512KB	35W							

HP ProLiant ML110 G5

PN # **444811-001** ML110 G5 Xeon 3065 NHP-72GB SAS
444809-001 ML110 G5 Pentium E2160 NHP-160GB SATA

- **Processor:** Dual-Core Intel® Xeon® Processor 3065 (2.33GHz, 1333 FSB, 4MB L2 cache) or Dual-Core Intel® Pentium® Processor E2160 (1.80GHz, 800 FSB, 1MB L2 cache)
- **Memory:** 512MB (1GB on SAS models) PC2-6400 (DDR2-800) standard, up to 8GB
- **Expansion Slots:** 4 total: 3 PCIe (one x8, two x1), 1 PCI 3.3V
- **Interfaces:** 1 serial, 1 video, 1 mouse, 1 keyboard, 8 USB (2f, 2i, 4r), 1 RJ-45
- **Network Card:** NC105i Gigabit
- **Storage Controller:** SAS model: HP SC40Ge Host Bus Adapter with RAID (0, 1). SATA model: 6 port SATA controller with RAID (0, 1, 10)
- **Internal Storage:** 72GB SAS 15K rpm (up to 1.2TB) or 160GB SATA 7.2K rpm (up to 2.0TB)
- **Optical Drive:** 16x DVD-ROM
- **Form Factor:** Tower - 4U



Options ProLiant ML110 G5

	Memory
450260-B21	2GB ECC PC2-6400 DDR2 (1x2GB)
450259-B21	1GB ECC PC2-6400 DDR2 (1x1GB)
450258-B21	512MB ECC PC2-6400 DDR2 (1x512MB)
	3.5" SAS Non Hot-Plug HDDs (SAS models)
431950-B21	300GB SAS 15K rpm
432093-B21	146GB SAS 15K rpm
432095-B21	72GB SAS 15K rpm
	3.5" SATA Non Hot-Plug HDDs
411276-B21	250GB SATA 7.2K rpm
411275-B21	160GB SATA 7.2K rpm
	Remote Management
445513-B21	ML110 G5 Lights-Out 100c card
	Storage Controllers
411508-B21	Smart Array E200/128MB BBWC PCIe controller ¹
416096-B21	SC44Ge SAS PCIe HBA2 with RAID ¹
412911-B21	SC11Xe U320 SCSI PCIe HBA

¹Requires optional cable (457692-B21) on SATA models

	Communications
434905-B21	NC110T PCIe Gb Adapter
412648-B21	NC360T PCIe Dual Port Gb Adapter
435508-B21	NC364T PCIe Quad Port Gb Adapter
	Removable Storage
447326-B21	DVD-ROM drive
447328-B21	DVD-RW drive
442085-B21	1GB USB 2.0 Floppy Drive Key
DC361B	USB External Diskette Drive
	HP Storage Works Tape Backup
DW026A	HP DAT 72 USB Internal Tape Drive
DW027A	HP DAT 72 USB External Tape Drive
Q1580A	HP DAT 160 USB Internal Tape Drive
Q1581A	HP DAT 160 USB External Tape Drive
	HP Care Pack Services
U4444E	HP CPe Install HP ProLiant ML110 (per event)
U4433E	HP CPe 3Y Nxt Day HW ProLiant ML110
U4434E	HP CPe 3Y 4H 13x5 HW ProLiant ML110
U4435E	HP CPe 3Y 4H 24x7 HW ProLiant ML110
U4436E	HP CPe 3Y 6H 24x7 CTR ProLiant ML110

HP ProLiant ML115 G5

PN # 480568-005 ML115 G5 Opteron 1214 NHP-160GB SATA



- **Processor:** Dual-Core AMD Opteron 1214 (2.2GHz, 2MB L2 cache)
- **Memory:** 1GB PC2-6400 (DDR2-800) standard, up to 8GB
- **Expansion Slots:** 4 total: 3 PCI-E (one x16, one x8, one x1), 1 PCI 3.3V
- **Interfaces:** 1 serial, 1 video, 1 mouse, 1 keyboard, 8 USB (4f, 2i, 2r), 1 RJ-45
- **Network Card:** NC105i Gigabit
- **Storage Controller:** 4 port SATA controller with RAID (0, 1, 5)
- **Internal Storage:** 160GB SATA 7.2K rpm (up to 2.0TB)
- **Optical Drive:** DVD-ROM drive
- **Form Factor:** Tower - 4U

Options ProLiant ML115 G5

	Memory	Communications
450260-B21	2GB ECC PC2-6400 DDR2 (1x2GB)	434905-B21 NC110T PCIe Gb Adapter
450259-B21	1GB ECC PC2-6400 DDR2 (1x1GB)	412648-B21 NC360T PCIe Dual Port Gb Adapter
450258-B21	512MB ECC PC2-6400 DDR2 (1x512MB)	Removable Storage
	3.5" SATA Non Hot-Plug HDDs	447328-B21 DVD-RW drive
404463-B21	500GB SATA 7.2K rpm	442085-B21 1GB USB 2.0 Floppy Drive Key
411276-B21	250GB SATA 7.2K rpm	HP Storage Works Tape Backup
411275-B21	160GB SATA 7.2K rpm	DW026A HP DAT 72 USB Internal Tape Drive
	Storage Controllers	Q1580A HP DAT 160 USB Internal Tape Drive
411508-B21	Smart Array E200/128MB BBWC PCIe controller ²	HP Care Pack Service
416096-B21	SC44Ge SAS PCIe HBA ² with RAID	U4444E HP CPe Install HP ProLiant ML115 (per event)
347786-B21	8 port SAS PCI-X HBA ² with RAID	U4433E HP CPe 3Y Nxt Day HW ProLiant ML115
412911-B21	SC11Xe U320 SCSI PCIe HBA	U4434E HP CPe 3Y 4H 13x5 HW ProLiant ML115
	² Requires optional cable (430479-B21)	U4435E HP CPe 3Y 4H 24x7 HW ProLiant ML115
	Remote Management	U4436E HP CPe 3Y 6H 24x7 CTR ProLiant ML115
437372-B21	ML115 Lights-Out 100c card	
445513-B21	ML115 G5 Lights-Out 100c card	

HP ProLiant ML150 G5

PN # **450162-001** ML150 G5 Xeon E5405 NHP-160GB SATA
450163-001 ML150 G5 Xeon E5405 HP SAS/Base

- **Processor:** Quad-Core Intel® Xeon® Processor E5405 (2.0GHz, 1333 FSB, 12MB L2 cache)
- **Upgradeability:** Up to 2 processors/8 cores
- **Memory:** 1GB (2GB on Hot-Plug models) PC2-5300 FBD (DDR2-667) standard, up to 16GB
- **Slots:** 6 total: 5 PCI-E (two x8, three x4), 1 PCI 3.3V
- **Interfaces:** 1 serial, 1 video, 1 mouse, 1 keyboard, 8 USB (2f, 2i, 4r), 1 RJ-45
- **Network Card:** NC105i Gigabit
- **Storage Controller:** SATA model: SATA RAID controller (0, 1). Base model: HP SC40Ge Host Bus Adapter with RAID (0, 1)
- **Internal Storage:** NHP-SATA model: 160GB SATA 7.2K rpm (up to 3.0TB) standard. HP models: Maximum of 8 HDDs (6.0TB SATA/2.4TB SAS)¹
- **Optical Drive:** 16x DVD-ROM
- **Form Factor:** 5U Tower (Optional rack conversion tray)

¹Option 458312-B21 provides 4 additional LFF drive bays and requires an additional storage controller.

Options ProLiant ML150 G5

Quad-Core Intel Xeon Processors

455420-B21 Quad-Core E5405 (2.0 GHz, 80 Watts, 1333 FSB)

Memory

408854-B21 8GB FBD PC2-5300 (2x4GB)
461840-B21 4GB FBD PC2-5300 (2x2GB)
408851-B21 2GB FBD PC2-5300 (2x1GB)
408850-B21 1GB FBD PC2-5300 (2x512MB)

3.5" SATA non Hot-Plug HDDs

404469-B21 500GB SATA 7.2K rpm
411276-B21 250GB SATA 7.2K rpm
411275-B21 160GB SATA 7.2K rpm

3.5" SATA Hot-Plug HDDs

432341-B21 750GB SATA 7.2K rpm
395473-B21 500GB SATA 7.2K rpm
349239-B21 250GB SATA 7.2K rpm
349238-B21 160GB SATA 7.2K rpm

3.5" SAS Hot-Plug HDDs¹

416127-B21 300GB SAS 15K rpm, Single Port
375872-B21 146GB SAS 15K rpm, Single Port
375870-B21 72GB SAS 15K rpm, Single Port
375868-B21 36GB SAS 15K rpm, Single Port
458312-B21 ML150 G5 4 LFF HotPlug bays drive cage¹

¹This option requires an additional storage controller

Rack Conversion Kit

417705-B21 Tower to rack conversion tray

Remote Management

445513-B21 ML150 G5 Lights-Out 100c card

Storage Controllers

411508-B21 Smart Array E200/128MB BBWC PCI-E controller¹
416096-B21 SC44Ge SAS PCI-E HBA with RAID¹
412911-B21 SC11Xe U320 SCSI PCI-E HBA

¹Requires 457692-B21 cable when added to non hot-plug models.

Redundant Options

458312-B21 RPS ML150 G5

Communications

434905-B21 NC110T PCI-E Gb Adapter
412648-B21 NC360T PCI-E Dual Port Gb Adapter
435508-B21 NC364T PCI-E Quad Port Gb Adapter

Removable Storage

447328-B21 DVD-RW drive
447326-B21 DVD-ROM drive

HP Care Pack Services

U8195E HP CPe Install HP ProLiant ML150 (per event)
U8184E HP CPe 3Y Nxt Day HW ProLiant ML150
U8192E HP CPe 3Y 4H 13x5 HW ProLiant ML150
U8193E HP CPe 3Y 4H 24x7 HW ProLiant ML150
U8194E HP CPe 3Y 6H 24x7 CTR ProLiant ML150

HP ProLiant ML350 G5

PN # 458242-001 ML350 G5 Xeon E5420 SFF SAS/Tower/Base



- **Processor:** Quad-Core Intel® Xeon® Processor E5420 (2.5GHz, 1333 FSB, 12MB L2 cache)
- **Upgradeability:** Up to 2 processors / 8 cores
- **Memory:** 2GB PC2-5300 FBD (DDR2-667) standard, up to 32GB
- **Slots:** 6 total: 3 PCI-E x4, 3 PCI-X 3.3V. Optional PCI-E x8 and additional PCI-X
- **Interfaces:** 1 serial (2nd optional), 1 parallel (optional), 1 video, 1 mouse, 1 keyboard, 6 USB (2f, 2i, 2r), 1 RJ-45, 1 iLO2
- **Network Card:** NC373i Multifunction Gigabit w TOE
- **Storage Controller:** Smart Array E200i/128MB BBWC
- **Internal Storage:** Up to 8 Hot-Plug SFF HDDs (960GB SATA/1.168TB SAS)
- **Optical Drive:** 16x DVD-ROM
- **Form Factor:** 5U (tower or rack)
Integrated Lights-Out 2 (iLO2) standard

Options ProLiant ML350 G5

Quad-Core Intel Xeon Processors

458265-B21 Quad-Core E5420 (2.50GHz, 80 Watts, 1333 FSB)

Memory¹

397415-B21 8GB FBD PC2-5300 (2x4GB)
397413-B21 4GB FBD PC2-5300 (2x2GB)
397411-B21 2GB FBD PC2-5300 (2x1GB)
397409-B21 1GB FBD PC2-5300 (2x512MB)

¹Low Power DIMMs RAM listed in quickspecs.

SFF SAS Hot-Plug HDDs¹

431958-B21 146GB SAS 10K rpm, Single Port
431935-B21 72GB SAS 10K rpm, Single Port

¹Dual Port & 15K rpm HDDs listed in quickspecs.

SFF SATA Hot-Plug HDDs

431786-B21 120GB SATA 5.4K rpm
379306-B21 60GB SATA 5.4K rpm

Remote Management

263825-B21 iLO Advanced Pack, Single Server License

Redundant Options

399771-001 Hot Plug RPS 350/370/380 G5
409579-B21 Hot Plug Redundant Fan ML350 G5

Rack Conversion kit

412640-B21 ML350 G5 Tower to Rack Kit

Storage Controllers

405132-B21 Smart Array P400/256MB PCI-E Controller
411064-B21 Smart Array P400/512MB BBWC PCI-E Controller
435129-B21 Smart Array E500/256MB PCI-E Controller

Communications

434905-B21 NC110T PCI-E Gb Adapter
412648-B21 NC360T PCI-E Dual Port Gb Adapter
435508-B21 NC364T PCI-E Quad Port Gb Adapter
394791-B21 NC373T PCI-E Multifunction Gb Adapter
394795-B21 NC380T PCI-E Dual Port Multifunction Gb Adapter
401222-B21 Parallel/Serial Port ML350/370 G5

Removable Storage

447328-B21 SATA DVD-RW drive
447326-B21 SATA DVD-ROM drive
409582-B21 Floppy Drive 350/370 G5

HP Care Pack Services

U4522E HP CPe Install HP ProLiant ML350 (per event)
U4512E HP CPe 3Y 4H 13x5 HW ProLiant ML350
U4513E HP CPe 3Y 4H 24x7 HW ProLiant ML350
U4514E HP CPe 3Y 6H 24x7 CTR ProLiant ML350

HP ProLiant ML370 G5

PN # 458345-001 ML370 G5 Xeon E5430 SFF SAS/Tower/Base

- **Processor:** Quad-Core Intel® Xeon® Processor E5430 (2.66GHz, 1333MHz, 12MB L2 cache)
- **Upgradeability:** Up to 2 processors/8 cores
- **Memory:** 2GB PC2-5300 FBD (DDR2-667) up to 64GB¹
- **Slots:** 9 total: 7 PCIe x4, 2 PCI-X 3.3V
- **Interfaces:** 1 serial (2nd optional), 1 parallel (optional), 1 video, 1 mouse, 1 keyboard, 5 USB (2f, 1i, 2r), 2 RJ-45, 1 iLO2
- **Network Card:** Dual NC373i Multifunction Gigabit w TOE
- **Storage Controller:** Smart Array P400/256MB
- **Internal Storage:** Up to 8 Hot-Plug SFF HDDs (960GB SATA/1.17TB SAS) standard. Maximum of 16 Hot-Plug SFF HDDs (1.92TB SATA/2.34TB SAS)²
- **Optical Drive:** DVD-ROM
- **Form Factor:** 5U (tower or rack)

Systems Insight Display & Integrated Lights-Out 2 (iLO2) standard

¹ Requires optional memory card (403766-B21)

² Option 401415-B21 provides 8 additional SFF drive bays and requires an additional storage controller.

Options ProLiant ML370 G5

Quad-Core Intel Xeon Processors

458414-B21 Quad-core E5430 (2.66 GHz, 80 Watts, 1333 FSB)

Memory¹

397415-B21 8GB FBD PC2-5300 (2x4GB)
397413-B21 4GB FBD PC2-5300 (2x2GB)
397411-B21 2GB FBD PC2-5300 (2x1GB)
397409-B21 1GB FBD PC2-5300 (2x512MB)
403766-B21 ML370 G5 Memory Expansion Board

¹Low Power DIMMs RAM listed in quickspecs.

SFF SAS Hot-Plug HDDs¹

431958-B21 146GB SAS 10K rpm, Single Port
431935-B21 72GB SAS 10K rpm, Single Port
401415-B21 ML370 G5 8 SFF Hot-Plug bays drive cage²

¹Dual Port & 15K rpm HDDs listed in quickspecs.
²This option requires an additional storage controller

Remote Management

452141-B21 iLO Advanced Pack, Single Server License

Redundant Options

399771-001 Hot Plug RPS 350/370/380 G5
400693-B21 Hot Plug Redundant Fan ML370 G5

Rack Conversion Kit

400899-B21 ML370 G5 Tower to Rack Kit

Storage Controllers

383280-B21 BBWC enabler for P400
405148-B21 512MB BBWC for P400
411064-B21 Smart Array P400/512MB PCIe controller
435129-B21 Smart Array E500/256MB PCIe controller
412911-B21 SC11Xe U320 SCSI PCIe HBA
374654-B21 Single Channel U320 SCSI HBA G2

Communications

434905-B21 NC110T PCIe Gb Adapter
412648-B21 NC360T PCIe Dual Port Gb Adapter
435508-B21 NC364T PCIe Quad Port Gb Ada
394791-B21 NC373T PCIe Multifunction Gb Adapter
394795-B21 NC380T PCIe Dual Port Multifunction Gb Adapter
401222-B21 Parallel/Serial Port ML350/370 G5

HP Care Pack Services

U4538E HP CPe Install HP ProLiant ML370 (per event)
U4528E HP CPe 3Y 4H 13x5 HW ProLiant ML370
U4529E HP CPe 3Y 4H 24x7 HW ProLiant ML370
U4530E HP CPe 3Y 6H 24x7 CTR ProLiant ML370

HP ProLiant DL160 G5

PN # 445202-001 DL160 G5 Xeon E5405 HP-SAS

- **Processor:** Quad-Core Intel® Xeon® Processor E5405 (2.0GHz, 1333 FSB, 12MB L2 cache)
 - **Upgradeability:** Up to 2 processors/8 cores
 - **Memory:** 1GB PC2-5300 (DDR2-667), up to 32GB
 - **Expansion Slots:** 2 total PCI-E x16. Optional 2x PCI-X 3.3V replacement
 - **Interfaces:** 1 serial, 1 video, 1 mouse, 1 keyboard, 5 USB (2f, 1i, 2r), 2 RJ-45, 1 LO100
 - **Network Card:** Dual NC105i Gigabit
 - **Storage Controller:** HP SC40Ge Host Bus Adapter with RAID (0, 1)
 - **Internal Storage:** Up to 4 Hot-Plug LFF HDDs (3.0TB SATA/1.2TB SAS) standard
 - **Form Factor:** 1U rack
- Integrated Lights-Out 100 (LO100i) standard**



Options ProLiant DL160 G5

Quad-Core Intel Xeon Processors

446077-B21 Quad-Core E5405 (2.5GHz, 80 Watts, 1333 FSB)

Memory

397415-B21 8GB PC2-5300 DDR2 (2x4GB)
397413-B21 4GB PC2-5300 DDR2 (2x2GB)
397411-B21 2GB PC2-5300 DDR2 (2x1GB)
397409-B21 1GB PC2-5300 DDR2 (1x1GB)

3.5" SAS Hot-Plug HDDs²

431944-B21 300GB SAS 15K rpm, Single Port
375872-B21 146GB SAS 15K rpm, Single Port
375870-B21 72GB SAS 15K rpm, Single Port
375868-B21 36GB SAS 15K rpm, Single Port

²Dual Port HDDs listed in quickspecs

3.5" SATA Hot-Plug HDDs

432341-B21 750GB SATA 7.2K rpm
395473-B21 500GB SATA 7.2K rpm
349239-B21 250GB SATA 7.2K rpm
349238-B21 160GB SATA 7.2K rpm

Remote Management

455339-B21 LO100i Select Pack, Single Server License
455342-B21 LO100i Advanced Pack, Single Server License

Storage Controllers

411508-B21 Smart Array E200/128MB BBWC PCI-E controller
405132-B21 Smart Array P400/256MB PCI-E Controller
411064-B21 Smart Array P400/512MB BBWC PCI-E Controller
405148-B21 Smart Array E500/256 PCI-E Controller

Communications

434905-B21 NC110T PCI-E Gb Adapter
412648-B21 NC360T PCI-E Dual Port Gb Adapter
435508-B21 NC364T PCI-E Quad Port Gb Adapter
394791-B21 NC373T PCI-E Multifunction Gb Adapter
394795-B21 NC380T PCI-E Dual Port Multifunction Gb Adapter

Removable Storage

447889-B21 DVD-ROM drive
447891-B21 DVD-RW drive
442085-B21 1GB USB 2.0 Floppy Drive Key
DC141B USB External Diskette Drive

HP Care Pack Services

U9520E HP CPe Install HP ProLiant DL160 (per event)
U9508E HP CPe 3Y Nxt Day HW ProLiant DL180
U9509E HP CPe 3Y 4H 13x5 HW ProLiant DL180
U9510E HP CPe 3Y 4H 24x7 HW ProLiant DL180
U9511E HP CPe 3Y 6H 24x7 CTR ProLiant DL180

HP ProLiant DL180 G5

PN # **464505-005** DL180 G5 Xeon E5405/E200

- **Processor:** Quad-Core Intel® Xeon® Processor E5405 (2.0GHz, 1333 FSB, 12MB L2 cache)
- **Upgradeability:** Up to 2 processors/8 cores
- **Memory:** 1GB PC2-5300 (DDR2-667), up to 16GB
- **Expansion Slots:** 3 total PCI-E x8. Optional 1 PCI-E/2 PCI-X 3.3V replacement
- **Interfaces:** 1 serial, 1 video, 1 mouse, 1 keyboard, 7 USB (2f, 1i, 4r), 1 RJ-45
- **Network Card:** NC7781 Gigabit
- **Storage Controller:** Smart Array E200/128MB
- **Internal Storage:** Up to 8 Hot-Plug LFF HDDs (6.0TB SATA/2.4TB SAS) standard
- **Form Factor:** 2U rack

Options ProLiant DL180 G5

Quad-Core Intel Xeon Processors

458786-B21 Quad-Core E5405 (2.5GHz, 80 Watts, 1333 FSB)

Memory¹

408854-B21 8GB PC2-5300 DDR2 (2x4GB)
408853-B21 4GB PC2-5300 DDR2 (2x2GB)
408851-B21 2GB PC2-5300 DDR2 (2x1GB)
462483-B21 1GB PC2-5300 DDR2 (1x1GB)

¹Low Power DIMMs RAM listed in quickspecs

3.5" SAS Hot-Plug HDDs²

431944-B21 300GB SAS 15K rpm, Single Port
375872-B21 146GB SAS 15K rpm, Single Port
375870-B21 72GB SAS 15K rpm, Single Port

²Dual Port HDDs listed in quickspecs.

3.5" SATA Hot-Plug HDDs

432341-B21 750GB SATA 7.2K rpm
395473-B21 500GB SATA 7.2K rpm
349239-B21 250GB SATA 7.2K rpm
349238-B21 160GB SATA 7.2K rpm

Remote Management

445513-B21 DL180 G5 Lights-Out 100c card

Storage Controllers

411508-B21 Smart Array E200/128MB BBWC PCI-E controller
405132-B21 Smart Array P400/256MB PCI-E Controller
411064-B21 Smart Array P400/512MB BBWC PCI-E Controller
464830-B21 Internal SAS/SATA cable

Communications

434905-B21 NC110T PCI-E Gb Adapter
412648-B21 NC360T PCI-E Dual Port Gb Adapter
435508-B21 NC364T PCI-E Quad Port Gb Adapter
394791-B21 NC373T PCI-E Multifunction Gb Adapter
394795-B21 NC380T PCI-E Dual Port Multifunction Gb Adapter

Removable Storage

449991-B21 DVD-ROM drive
449998-B21 DVD-RW drive
442085-B21 1GB USB 2.0 Floppy Drive Key
DC141B USB External Diskette Drive

Redundant Options

451366-B21 750W RPS DL180 G5
437572-B21 1200W HE RPS DL180 G5

HP Care Pack Services

UH301E HP CPe Install HP ProLiant DL180 (per event)
UH270E HP CPe 3Y Nxt Day HW ProLiant DL180
UH271E HP CPe 3Y 4H 13x5 HW ProLiant DL180
UH272E HP CPe 3Y 4H 24x7 HW ProLiant DL180
UH273E HP CPe 3Y 6H 24x7 CTR ProLiant DL180

HP ProLiant DL320 G5p

PN # **445433-001** DL320G5p Xeon 3075

- **Processor:** Dual-Core Intel® Xeon® Processor 3075 (2.66GHz, 1333 FSB, 4MB L2 Cache)
- **Memory:** 1GB PC2-6400 (DDR2-800) standard, up to 8GB
- **Slots:** 2 total: 2 PCI-E x8. One optional convertible to PCI-X 3.3V
- **Interfaces:** 1 serial, 1 video, 1 mouse, 1 keyboard, up to 5 USB (2f, 1i -optional-, 2r), 2 RJ-45, 1 optional iLO2 dedicated port
- **Network Card:** NC326i Dual Port Gigabit
- **Controller:** 4 port SATA controller with RAID (0, 1)
- **Internal Storage:** Up to 2 Hot-Plug LFF HDDs (3.0TB SATA/1.2TB SAS) standard. Maximum 4 Hot-Plug LFF HDDs (6.0TB SATA/2.4TB SAS) requires optional drive cage.
- **Form Factor:** 1U rack
- **Integrated Lights-Out 2 (iLO2) standard**



Options ProLiant DL320 G5p

Memory

450260-B21	2GB ECC PC2-6400 (1x2GB)
450259-B21	1GB ECC PC2-6400 (1x1GB)
450258-B21	512MB ECC PC2-6400 (1x512MB)

3.5" SATA Hot-Plug¹ HDDs

432341-B21	750GB SATA 7.2K rpm
395473-B21	500GB SATA 7.2K rpm
349239-B21	250GB SATA 7.2K rpm
349238-B21	160GB SATA 7.2K rpm

3.5" SAS Hot-Plug¹ HDDs²

431944-B21	300GB SAS 15K rpm, Single Port
375872-B21	146GB SAS 15K rpm, Single Port
375870-B21	72GB SAS 15K rpm, Single Port
450341-B21	DL320 G5p 4 LFF Hot-Plug bays drive cage

¹Hot-Plug capability requires SAS controller.

²Dual Port HDDs listed in quickspecs.

Remote Management

450343-B21	DL320G5p iLO2 dedicated port
452141-B21	iLO Advanced Pack, Single Server License

Removable Storage¹

449991-B21	DVD-ROM drive 12.7mm
449998-B21	DVD-RW drive 12.7mm drive
442085-B21	1GB USB Floppy Drive Key
DC141B	USB external diskette drive

¹19.5mm optical storage for 4 bays drive cage listed in quickspecs

Storage Controllers

411508-B21	Smart Array E200/128MB BBWC PCI-E controller ¹
405132-B21	Smart Array P400/256MB PCI-E controller ¹
411064-B21	Smart Array P400/512 BBWC PCI-E controller ¹
435129-B21	Smart Array E500/256MB PCI-E controller ¹

¹Requires 452130-B21 SATA/SAS cable.

Communications

434905-B21	NC110T PCI-E Gb Adapter
412648-B21	NC360T PCI-E Dual Port Gb Adapter
435508-B21	NC364T PCI-E Quad Port Gb Adapter

Slot options

450341-B21	PCI-X riser (1 slot)
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HP Care Pack Services

U4490E	HP CPe Install HP ProLiant DL320 (per event)
U4479E	HP CPe 3Y Nxt Day HW ProLiant DL320
U4480E	HP CPe 3Y 4H 13x5 HW ProLiant DL320
U4481E	HP CPe 3Y 4H 24x7 HW ProLiant DL320
U4482E	HP CPe 3Y 6H 24x7 CTR ProLiant DL320

HP ProLiant DL360 G5

PN # **457925-001** DL360 G5 Xeon E5420 SFF SAS/Base
457926-001 DL360 G5 Xeon E5405 SFF SAS/Entry

- **Processor:** Quad-Core Intel® Xeon® Processor E5405 (2.0GHz, 1333 FSB, 12MB L2 cache) or E5420 (2.5GHz, 1333 FSB, 12MB L2 cache)
- **Upgradeability:** Up to 2 processors/8 cores
- **Memory:** 1GB (2GB on base models) PC2-5300 FBD (DDR2-667), up to 32GB
- **Slots:** 2 total: 2 PCI-E x8 (1 optional convertible to PCI-X 3.3V)
- **Interfaces:** 1 serial, 2 video, 1 mouse, 1 keyboard, 4 USB (1f, 1i, 2r), 2 RJ-45, 1 iLO2
- **Network Card:** Dual NC373i Multifunction Gigabit w TOE
- **Controller:** Smart Array E200i/64MB (entry) or Smart Array P400i/256MB (base)
- **Internal Storage:** Up to 4 Hot-Plug SFF HDDs (480GB SATA/584GB SAS) standard. Maximum of 6 Hot-Plug SFF HDDs (720GB SATA/876GB SAS)¹
- **Form Factor:** 1U rack

Systems Insight Display & Integrated Lights-Out 2 (iLO2) standard

¹Requires P400 controller and SAS 4i cable.



Options ProLiant DL360 G5

Quad-Core Intel Xeon Processors

457937-B21 Quad-Core E5420 (2.50GHz, 80 Watts, 1333 FSB)
457941-B21 Quad-Core E5405 (2.00GHz, 80 Watts, 1333 FSB)

Memory¹

397415-B21 8GB FBD PC2-5300 (2x4GB)
397413-B21 4GB FBD PC2-5300 (2x2GB)
397411-B21 2GB FBD PC2-5300 (2x1GB)
397409-B21 1GB FBD PC2-5300 (2x512MB)

¹Low Power DIMMs RAM listed in quickspecs.

SFF SAS Hot-Plug HDDs¹

431958-B21 146GB SAS 10K rpm, Single Port
431935-B21 72GB SAS 10K rpm, Single Port
401415-B21 ML370 G5 8 SFF Hot-Plug bays drive cage

¹Dual Port & 15K rpm HDDs listed in quickspecs.

Redundant Options

399542-B21 Hot Plug RPS DL36x

Remote Management

452141-B21 iLO Advanced Pack, Single Server License

Storage Controllers

346914-B21 128MB BBWC upgrade for E200i

Storage Controllers

399550-B21 Smart Array P400i/256MB Controller
383280-B21 BBWC enabler for P400/P400i
405148-B21 512MB BBWC for P400/P400i
435129-B21 Smart Array E500/256MB PCI-E controller
399546-B21 6 drive bays enabler for P400i
411100-B21 6 drive bays enabler for slotted Smart Array

Communications

434905-B21 NC110T PCI-E Gb Adapter
412648-B21 NC360T PCI-E Dual Port Gb Adapter
435508-B21 NC364T PCI-E Quad Port Gb Adapter
394795-B21 NC380T PCI-E Dual Port Multifunction Gb Adapter

Slot options

405154-B21 DL36x PCI-X riser (1 slot)

Removable Storage

383975-B21 Slimline DVD±R/RW drive
331903-B21 Slimline CD-RW/DVD-ROM Drive
264007-B21 Slimline DVD-ROM Drive
390164-B21 Slimline Diskette drive

HP Care Pack Services

U4506E HP CPe Install HP ProLiant DL360 (per event)
U4496E HP CPe 3Y 4H 13x5 HW ProLiant DL360
U4497E HP CPe 3Y 4H 24x7 HW ProLiant DL360
U4498E HP CPe 3Y 6H 24x7 CTR ProLiant DL360

HP ProLiant DL380 G5

PN # **458565-001** DL380 G5 Xeon E5430 2GB SFF SAS/Base
458568-001 DL380 G5 Xeon E5405 1GB SFF SAS/Entry

- **Processor:** Quad-Core Intel® Xeon® Processor E5405 (2.0GHz, 1333 FSB, 12MB L2 cache) or E5430 (2.66GHz, 1333 FSB, 12MB L2 cache)
- **Upgradeability:** Up to 2 processors/8 cores
- **Memory:** 1GB (2GB on base models) PC2-5300 FBD (DDR2-667), up to 32GB
- **Slots:** 5 total: 5 PCI-E (three x8, two x16). Opt. 2 slot conversion to to PCI-X 3.3V
- **Interfaces:** 1 serial, 2 video, 1 mouse, 1 keyboard, 5 USB (2f, 1i, 2r), 2 RJ-45, 1 iLO2
- **Network Card:** Dual NC373i Multifunction Gigabit w TOE
- **Storage Controller:** Smart Array P400/256MB (base) or Smart Array E200/64MB (entry)
- **Internal Storage:** Up to 8 Hot-Plug SFF HDDs (960GB SATA/1.168TB SAS)
- **Form Factor:** 2U rack

Systems Insight Display & Integrated Lights-Out 2 (iLO2) standard

Options ProLiant DL380 G5

Quad-Core Intel Xeon Processors

458575-B21 Quad-Core E5430 (2.66 GHz, 80 Watts, 1333 FSB)
458579-B21 Quad-Core E5405 (2.00GHz, 80 Watts, 1333 FSB)

Memory¹

397415-B21 8GB FBD PC2-5300 (2x4GB)
397413-B21 4GB FBD PC2-5300 (2x2GB)
397411-B21 2GB FBD PC2-5300 (2x1GB)
397409-B21 1GB FBD PC2-5300 (2x512MB)
¹Low Power DIMMs RAM listed in quickspecs.

SFF SAS Hot-Plug HDDs¹

431958-B21 146GB SAS 10K rpm, Single Port
431935-B21 72GB SAS 10K rpm, Single Port
401415-B21 ML370 G5 8 SFF Hot-Plug bays drive cage
¹Dual Port & 15K rpm HDDs listed in quickspecs.

SFF SATA Hot-Plug HDDs

431786-B21 120GB SATA 5.4K rpm
379306-B21 60GB SATA 5.4K rpm

Remote Management

452141-B21 iLO Advanced Pack, Single Server License

Redundant Options

399771-001 Hot Plug RPS 350/370/380 G5

Storage Controllers

351580-B21 128MB BBWC for E200
383280-B21 BBWC enabler for P400¹
405148-B21 512MB BBWC enabler for P400
411064-B21 Smart Array P400/512MB PCIe controller
435129-B21 Smart Array E500/256MB PCIe controller
¹Requires 417836-B21 - Battery attach kit.

Communications

434905-B21 NC110T PCIe Gb Adapter
412648-B21 NC360T PCIe Dual Port Gb Adapter
435508-B21 NC364T PCIe Quad Port Gb Adapter
394795-B21 NC380T PCIe Dual Port Multifunction Gb Adapter

Slot options

410570-B21 DL38x PCI-X riser (2 slots)

Removable Storage

383975-B21 Slimline DVD±R/RW drive
331903-B21 Slimline CD-RW/DVD-ROM Drive
264007-B21 Slimline DVD-ROM Drive
390164-B21 Slimline Diskette drive

HP Care Pack Services

U4554E HP CPe Install HP ProLiant DL380 (per event)
U4544E HP CPe 3Y 4H 13x5 HW ProLiant DL380
U4545E HP CPe 3Y 4H 24x7 HW ProLiant DL380
U4546E HP CPe 3Y 6H 24x7 CTR ProLiant DL380

HP ProLiant DL385 G5

PN # 449768-001 DL385 G5 Opteron 2352 SFF SAS/Base

- **Processor:** Quad-Core AMD Opteron 2352 (2.1GHz, 2MB L2cache)
- **Upgradeability:** Up to 2 processors/8 cores
- **Memory:** 2GB PC2-5300 (DDR2-667), up to 32GB¹
- **Slots:** 5 total: 5 PCIe (three x8, two x16). Opt. 2 slot conversion to PCI-X 3.3V
- **Interfaces:** 1 serial, 2 video, 1 mouse, 1 keyboard, 5 USB (2f, 2r, 1i), 2 RJ-45, 1 iLO2
- **Network Card:** Dual NC373i Multifunction Gigabit w TOE
- **Storage Controller:** Smart Array P400/256MB
- **Internal Storage:** Up to 8 Hot-Plug SFF HDDs (960GB SATA/1.168TB SAS)
- **Form Factor:** 2U rack

Systems Insight Display & Integrated Lights-Out 2 (iLO2) standard

¹Requires 2 processors installed

Options ProLiant DL385 G5

Quad-Core AMD Opteron Processors

449774-B21 Quad-Core Opteron 2352 (2.1GHz, 75 Watts)

Memory

408854-B21 8GB PC2-5300 (2x4GB)
408853-B21 4GB PC2-5300 (2x2GB)
408851-B21 2GB PC2-5300 (2x1GB)
408850-B21 1GB PC2-5300 (2x512MB)

SFF SAS Hot-Plug HDDs¹

431958-B21 146GB SAS 10K rpm, Single Port
431935-B21 72GB SAS 10K rpm, Single Port
401415-B21 ML370 G5 8 SFF Hot-Plug bays drive cage

¹Dual Port & 15K rpm HDDs listed in quickspecs.

SFF SATA Hot-Plug HDDs

458924-B21 120GB SATA ETY 5.4K rpm
379306-B21 60GB SATA 5.4K rpm

Remote Management

452141-B21 iLO Advanced Pack, Single Server License

Redundant Options

399771-001 Hot Plug RPS DL385 G2

Storage Controllers

383280-B21 BBWC enabler for P400/P400i¹
405148-B21 512MB BBWC enabler for P400/P400i¹
411064-B21 Smart Array P400/512MB PCIe controller
435129-B21 Smart Array E500/256MB PCIe controller
¹Requires 417836-B21 - Battery attach kit.

Communications

434905-B21 NC110T PCIe Gb Adapter
412648-B21 NC360T PCIe Dual Port Gb Adapter
435508-B21 NC364T PCIe Quad Port Gb Adapter
394795-B21 NC380T PCIe Dual Port Multifunction Gb Adapter

Slot options

410570-B21 DL38x PCI-X riser (2 slots)
464271-B21 2 PCIe x16/x4 riser

Removable Storage

383975-B21 Slimline DVD±R/RW drive
331903-B21 Slimline CD-RW/DVD-ROM Drive
264007-B21 Slimline DVD-ROM Drive
DC141B USB External Diskette Drive

HP Care Pack Services

U4554E HP CPe Install HP ProLiant DL385 (per event)
U4544E HP CPe 3Y 4H 13x5 HW ProLiant DL385
U4545E HP CPe 3Y 4H 24x7 HW ProLiant DL385
U4546E HP CPe 3Y 6H 24x7 CTR ProLiant DL385

HP ProLiant DL580 G5

PN # **451993-001** DL580 G5 X7350 8GB 4P SAS SFF/Performance
438087-001 DL580 G5 E7330 4GB 2P SAS SFF/Base
438089-001 DL580 G5 E7310 4GB 2P SAS SFF/Base

- **Processors:** Two Quad-Core Intel Xeon 7300 series (4 on performance models)
- **Upgradeability:** Up to 4 processors/16 cores
- **Memory:** 4GB (8GB on Performance Models) PC2-5300 (DDR2-667), up to 256GB¹
Support for Online Spare or Mirror
- **Slots:** 8 standard, up to 11 total: 8 PCIe, Optional expansion for up to (3) PCI-X or (3) PCIe x8
- **Interfaces:** 1 serial, 2 video, 1 mouse, 1 keyboard, 5 USB (2f, 1i, 2r), 2 RJ-45, 1 iLO2
- **Network Card:** Two embedded NC373i Multifunction Gigabit w TOE
- **Storage Controller:** Smart Array P400/256MB (512MB & BBWC on performance models)
- **Internal Storage:** Up to 8 Hot-Plug SFF HDDs (960GB SATA/1.17TB SAS) standard.
Maximum of 16 Hot-Plug SFF HDDs (1.92TB SATA/2.34TB SAS)²
- **Optical Drive:** Slimline DVD-ROM Drive
- **Form factor:** 4U rack

Systems Insight Display & Integrated Lights-Out 2 (iLO2) standard

¹Requires optional memory cards kit (452179-B21).

²Option 452180-B21 provides 8 additional SFF drive bays and requires an additional storage controller.

Options ProLiant DL580 G5

Quad-Core Intel Xeon Processors

451999-B21	Quad-Core X7350 (2.93 GHz, 130 Watts)
438091-B21	Quad-Core E7330 (2.4 GHz, 80 Watts)
438093-B21	Quad-Core E7310 (1.6 GHz, 80 Watts)

Memory¹

413015-B21	16GB FBD PC2-5300 (2x8GB)
397415-B21	8GB FBD PC2-5300 (2x4GB)
397413-B21	4GB FBD PC2-5300 (2x2GB)
397411-B21	2GB FBD PC2-5300 (2x1GB)
451279-B21	DL580G5 Memory expansion boards

¹Low Power DIMMs RAM listed in quickspecs.

SFF SAS Hot-Plug HDDs¹

431958-B21	146GB SAS 10K rpm, Single Port
431935-B21	72GB SAS 10K rpm, Single Port
452180-B21	DL580 G5 8 SFF Hot-Plug bays drive cage ²

¹Dual Port & 15K rpm HDDs listed in quickspecs.

²This option requires an additional storage controller

Remote Management

452158-B21	iLO Advanced Pack, Single Server License
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Redundant Options¹

437572-B21	800/1200W AC Power Supply ¹ 4 P/S needed for redundancy on lowline (110V) environments.
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Rack Conversion kit

453744-B21	DL580 G5 Tower Kit
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Storage Controllers

381513-B21	Smart Array P800/512MB BBWC controller
405148-B21	512MB BBWC for P400
383280-B21	BBWC enabler for P400
416096-B21	SC44Ge PCIe SAS HBA

Communications

434905-B21	NC110T PCIe Gb Adapter
412648-B21	NC360T PCIe Dual Port Gb Adapter
435508-B21	NC364T PCIe Quad Port Gb Adapter
394791-B21	NC373T PCIe Multifunction Gb Adapter

Slot options

452181-B21	PCI-X option card (3 slots)
452182-B21	PCI-E option card (3 slots)

HP Care Pack Services

U4617E	HP CPe Install HP ProLiant DL580 (per event)
U4607E	HP CPe 3Y 4H 13x5 HW ProLiant DL580
U4608E	HP CPe 3Y 4H 24x7 HW ProLiant DL580
U4609E	HP CPe 3Y 6H 24x7 CTR ProLiant DL580

HP ProLiant DL585 G5

PN # **448187-001** DL585 G5 Opteron 8354 2P 4GB SFF SAS/Base

- **Processors:** 2 Quad-Core AMD Opteron 8354 (2.2GHz, 2MB L2 cache)
 - **Upgradeability:** Up to 4 processors/16 cores
 - **Memory:** 4GB PC2-5300 (DDR2-667), up to 128GB¹
 - **Slots:** 9 total: 7 PCI-E (four x8, three x16), 2 PCI-X 3.3V
 - **Interfaces:** 1 serial, 2 video, 1 mouse, 1 keyboard, 5 USB (2f, 1i, 2r), 2 RJ-45, 1 iLO2
 - **Network Card:** Dual NC371i Multifunction Gigabit w TOE
 - **Storage Controller:** Smart Array P400/256MB
 - **Internal Storage:** Up to 8 Hot-Plug SFF HDDs (1.17TB SAS/960GB SATA)
 - **Optical Drive:** Slimline DVD/CD-RW Combo Drive
 - **Form factor:** 4U rack
- Systems Insight Display & Integrated Lights-Out 2 (iLO2) standard**

¹Requires 4 processors installed.

Options ProLiant DL585 G5

Quad-Core AMD Opteron Processors

448192-B21 Quad-Core Opteron 8354 (2.2 GHz, 75 Watts) 2P Option Kit

Memory

408854-B21 8GB PC2-5300 (2x4GB)
408853-B21 4GB PC2-5300 (2x2GB)
408851-B21 2GB PC2-5300 (2x1GB)
408850-B21 1GB PC2-5300 (2x512MB)

SFF SAS Hot-Plug HDDs¹

431958-B21 146GB SAS 10K rpm, Single Port
375861-B21 72GB SAS 10K rpm, Single Port
¹15K rpm HDDs listed in quickspecs.

SFF SATA Hot-Plug HDDs

458924-B21 120GB SATA ETY 5.4K rpm
379306-B21 60GB SATA 5.4K rpm

Remote Management

452158-B21 iLO Advanced Pack, Single Server License

Storage Controllers

383280-B21 BBWC enabler for P400¹
405148-B21 512MB BBWC enabler for P400¹
411064-B21 Smart Array P400/512MB PCIe controller
381513-B21 Smart Array P800/512MB BBWC controller
435129-B21 Smart Array E500/256MB PCIe controller
416096-B21 SC44Ge PCIe SAS HBA
412911-B21 SC11Xe U320 SCSI PCIe HBA
¹Requires 417836-B21 - Battery attach kit.

Communications

434905-B21 NC110T PCIe Gb Adapter
412648-B21 NC360T PCIe Dual Port Gb Adapter
435508-B21 NC364T PCIe Quad Port Gb Adapter
394795-B21 NC380T PCIe Dual Port Multifunction Gb Adapter

Removable Storage

383975-B21 Slimline DVD±R/RW drive

HP Care Pack Services

U4617E HP CPe Install HP ProLiant DL585 (per event)
U4607E HP CPe 3Y 4H 13x5 HW ProLiant DL585
U4608E HP CPe 3Y 4H 24x7 HW ProLiant DL585
U4609E HP CPe 3Y 6H 24x7 CTR ProLiant DL585

HP ProLiant BL c-Class

HP ProLiant BL460c

459484-B21 BL460c Xeon E5440
459485-B21 BL460c Xeon E5430

HP ProLiant BL465c G5

445105-B21 BL465c G5 Opteron 2356

HP ProLiant BL480c

459497-B21 BL480c Xeon E5450 (2P)
459500-B21 BL480c Xeon E5410

HP ProLiant BL680c G5

449316-B21 BL680c G5 Xeon E7330 2P
443530-B21 BL680c G5 Xeon E7310 2P

HP ProLiant BL685c G5

447966-B21 BL685c G5 Opteron 8356 (2P)

Fiber Channel Mezzanine Options

403621-B21 Emulex LPe1105 FC Dual Channel4Gb
403619-B21 QLogic QMH2462 FC Dual Channel 4Gb

Quad-Core AMD Opteron processor upgrades

445106-B21 Quad Core 2356 for BL465c G5
447977-B21 Quad Core 8356 for BL685c G5 (2P)

Quad-Core Intel Xeon processors upgrades

459490-B21 Quad-Core E5440 for BL460c
459491-B21 Quad-Core E5430 for BL460c
459502-B21 Quad-Core E5450 for BL480c
459506-B21 Quad-Core E5410 for BL480c
449321-B21 Quad-Core E7330 for BL680c G5 (2P)
443693-B21 Quad-Core E7310 for BL680c G5 (2P)

Memory upgrades for Xeon based

397415-B21 8GB FBD PC2-5300 (2x4GB)
397413-B21 4GB FBD PC2-5300 (2x2GB)
397411-B21 2GB FBD PC2-5300 (2x1GB)
397409-B21 1GB FBD PC2-5300 (2x512MB)

Memory upgrades for Opteron based

408854-B21 8GB PC2-5300 (2x4GB)
408853-B21 4GB PC2-5300 (2x2GB)
408851-B21 2GB PC2-5300 (2x1GB)
408850-B21 1GB PC2-5300 (2x512MB)

SFF SAS Hot-Plug HDDs

431935-B21 72GB SAS 15K rpm SFF SP
431933-B21 36GB SAS 15K rpm SFF SP
431958-B21 146GB SAS 10K rpm SFF SP
375861-B21 72GB SAS 10K rpm SFF SP



Storage Blade

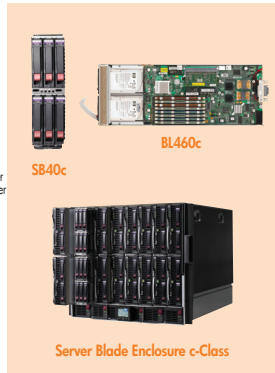
411243-B21 S840c Storage Blade

StorageWorks Tape Blades

440947-B21 Ultrium 448c Tape Blade
A4401A Ultrium 920c Tape Blade

Ethernet Mezzanine Options

416585-B21 NC325m Quad Port 1Gb Server Adaptor
406771-B21 NC326m Dual Port 1Gb Server Adaptor
445978-B21 NC360m Dual Port 1Gb Server Adaptor
447953-B21 NC364m Quad Port 1Gb Server Adaptor
408770-B21 NC372m Dual Port Multifunction 1Gb Server Adaptor
440970-B21 NC512m Dual Port 10GbE Multifunction Server Adaptor



TOOLS

Supported OSs and versions
<http://www.hp.com/go/supportos>

ProLiant Essentials

<http://www.hp.com/servers/proliantessentials>

Configurator

<http://h300099.www3.hp.com/configurator/>

Solution wizard and documentations

<http://www.hp.com/go/activeanswers>

Options ProLiant BL c-Class

BL c7000 Enclosure

403320-B22 HP BLc7000 1 PH 2 PS 4 Fan Full ICE Kit
403321-B22 HP BLc7000 1 PH 2 PS 4 Fan Full ICE Kit
403818-B22 HP BLc7000 3 PH 6 PS 6 Fan Full ICE Kit - SH1
403918-B22 HP BLc7000 3 PH 6 PS 6 Fan Full ICE Kit - SH1
412133-B22 HP BLc7000 3 PH 6 PS 6 Fan Full ICE Kit
412136-B22 HP BLc7000 3 PH 6 PS 6 Fan Full ICE Kit

c7000 Enclosure Options

412140-B21 HP BL c-Class Active Cool Fan
412138-B21 HP BLc7000 Enclosure Power Supply Option Kit (supplied with IEC C20 - C19 jumper cord)
412142-B21 HP Redundant Onboard Administrator

c3000 Enclosures

437502-B22 HP BLc3000 4 AC 6 Fan Full ICE BL
437504-B22 HP BLc3000 4 AC 6 Fan Full ICE BL
469499-B21 HP BLc3000 2 AC 4 Fan Full ICE BL - Tower
469500-B21 HP BLc3000 2 AC 4 Fan Full ICE BL - Tower

c3000 Enclosure Options

412140-B21 HP BL c-Class Active Cool Fan
437572-B21 HP 1200W AC Power Supply

Ethernet switches

445860-B21 HP 10Gb Ethernet Blade Switch
438031-B21 HP 130 Gb Ethernet Bl-c Switch
410916-B21 Cisco Catalyst 3020 Blade Switch
410917-B21 HP GBE2c Ethernet Blade Switch
438030-B21 HP GBE2c Layer2/3 Ethernet Blade Switch

SAN switches

AE370A Brocade 4/12 SAN Switch, Full Fabric
AE372A Brocade 4/24 SAN Switch, Full Fabric
AE371A Brocade 4/24 SAN Switch Power Pack, Full Fabric

AE373A Brocade 4/12 SAN Switch 12-port

Upgrade I1U
AG641A Cisco MDS 9124e 12-port Fabric Switch
AG642A Cisco MDS 9124e 24-port Fabric Switch
T5109A Cisco MDS 9124e Fabric Switch 12-port

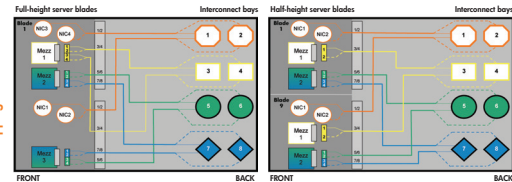
LAN Modules

399593-B22 HP 1/10Gb Virtual Connect Ethernet Module
447047-B21 HP 1/10Gb-F Virtual Connect Ethernet Module
406740-B21 HP Ethernet Pass-Thru Module

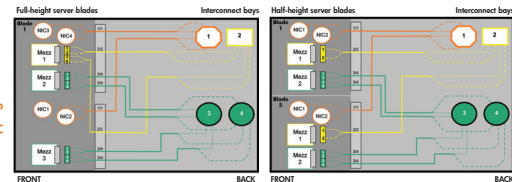
SAN Modules

409513-B21 HP 4Gb Fibre Channel Virtual Connect Module
403626-B21 HP 4Gb Fibre Channel Pass-Thru Module

Port Mapping c7000 Enclosure



Port Mapping c3000 Enclosure



HP StorageWorks All-in-One Storage System (AiO)

HP All-in-One Storage Systems are radically simple, integrated, and affordable network storage solutions that enable small and mid-size companies to easily manage, grow, and protect their data without requiring them to become storage experts.

HP StorageWorks All-in-One

AG502A	AiO400 1.0TB (4x250GB SATA)
AG536A	AiO600 1.5TB (6x250GB SATA)
AG541A	AiO600 3.0TB (6x500GB SATA)
AG655A	AiO1200 3.0TB (12x250GB SATA)
AG656A	AiO1200 6.0TB (12x500GB SATA)
AG657A	AiO1200 9.0TB (12x750GB SATA)
AG658A	AiO1200 1.7TB (12x146GB SAS)
AG659A	AiO1200 3.6TB (12x300GB SAS)
AK296A	AiO400r 1 TB SATA
AK225A	AiO400r 2 TB SATA
AK226A	AiO400r 1.2TB SAS
AG725A	AiO600 1.8 TB SAS



HP AiO400

This entry-level rackable solution (AiO400) is an excellent solution for customers needing less than 1TB total internal raw storage capacity.

HP AiO600

This tower/rack solution (AiO600) is an excellent solution for customers looking for increased capacity, scalability, and hardware redundancy. The AiO600 is available in both SATA and Serial Attached SCSI (SAS) configurations.

HP AiO1200

This high capacity (AiO1200) is an excellent solution for customers looking for top notch reliability with Storage Mirroring, increased performance and capacity from 12 internal drives and a high performance RAID controller. The AiO1200 is available in both SATA and Serial Attached SCSI (SAS) configurations.

HP StorageWorks All-in-One Options

	Additional Memory for AiO400¹		SCSI or SAS Host Bus Adapter for backup
390825-B21	512MB PC2-4200 DDR (1 x 512 MB)	374654-B21	PCI-X single channel Ultra320 SCSI HBA G2
390824-B21	1GB PC2-4200 DDR (1 X 1 GB)	412911-B21	PCI-e SC11Xe SCSI HBA
	Additional Processor or Memory for AiO600¹	416096-B21	PCI-e SC44Ge SAS HBA
416890-B21	Dual-Core Intel Xeon Processor 5150 (2.67 GHz, 1333 FSB)		SCSI Host Bus Adapter for External Drive Support (PCI-X)
413507-B21	512MB FBD PC2-5300 (1 x 512 MB)	291967-B21	Smart Array 642
397409-B21	1GB FBD PC2-5300 (2 x 512 MB)	273915-B21	Smart Array 6402/128
397411-B21	2GB FBD PC2-5300 (2 x 1 GB)	273914-B21	Smart Array 6404/256
397413-B21	4GB FBD PC2-5300 (2 x 2 GB)		SAS Controller for External Drive Support (PCI-e)
	Additional Memory for AiO1200¹	381513-B21	Smart Array P800/512 BBWC Controller
432803-B21	512MB Unbuffered PC2-5300 (1 x 512 MB)		Networking Communications
432804-B21	1GB Unbuffered PC2-5300 (1 x 1 GB)	434905-B21	NC110T PCI-e Gigabit Server Adapter
432806-B21	2GB Unbuffered PC2-5300 (1 x 2 GB)	412648-B21	NC360T PCI-e Dual Port Gigabit Server Adapter
	The AiO400 has only one full-height, full-length PCI-X slot available.	394791-B21	NC373T PCI-e Multifunction Gigabit Server Adapter
	The AiO400 supports storage expansion to a single MSA20 array up to 9.0TB (12x750GB SATA)	394795-B21	NC380T PCI-e Dual Port Multifunction Gigabit Server Adapter
	The AiO1200 has one half-length, low-profile PCI Express x1 slot (x8 connector)		Tower to Rack Conversion Kit
	¹ Note: Memory is expandable to OS limit of 4GB	AG546A	AiO600 Tower to Rack Conversion Kit
		371482-B21	Shipping Bracket for Round Hole Racks

HP StorageWorks D2D Backup System

Backup to disk has only recently become an affordable option for smaller organizations. Until now, backup to tape has long been the de facto standard for server backup. **Disk-to-disk (D2D)** backup offers some substantial advantages over tape backup, most importantly the ability to retrieve lost data much more quickly since data is available online.

The **HP StorageWorks D2D (Disk-to-Disk) Backup System** provides reliable, consolidated data protection for up to four servers in a single, self-managing device. It works with your backup software application to fully automate daily backup jobs, requiring less manual handling than tape-based systems - a real benefit for organizations with limited IT resources.

This simple solution fits right into your existing Windows environment, working with your current hardware and software in most cases. Existing tape drives are still used to provide tape backups for offsite copies for disaster recovery purposes. Existing backup software may be used because the HP D2D Backup System is managed as a tape device.

For new installations, the **HP D2D Backup System** is offered with a Data Protector Express Software Kit that includes all the components needed to protect up to four servers.



HP StorageWorks D2D Backup System Options

Maximum Number of Servers Supported per D2D System are 4

Maximum Number of Tape Devices Emulated are 4 RAID 5 Support via software

Tape Devices Emulated are HP LTO Ultrium 2 Tape Drive or HP 1/8 LTO Ultrium 2 Autoloader

Maximum Number of Virtual Tape Cartridges Emulated are 96 (24 per tape device up 200GB per cartridge)

Additional Memory for AiO400

390825-B21	512MB PC2-4200 DDR (1 x 512 MB)
390824-B21	1GB PC2-4200 DDR (1 X 1 GB)

HP StorageWorks D2D

EH881A	D2D110 Backup w/ Ultr 448 Tape Drive 1 TB (4x250 GB SATA)
EH885A	D2D120 Backup w/ Ultr 920 Tape Drive 2 TB (4x500 GB SATA)
EH950A	D2D130 Backup 3 TB (4x750 GB SATA)
EH952A	D2D130 Backup w/ Ultr 920 Tape Drive 3 TB (4x750 GB SATA)
EH951A	D2D130 Backup w/ Data Protector Express 3 TB (4x750 GB SATA)

Rack-Mount Options

253449-B21	Utility Shelf
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Data Protector Express upgrade for HP D2D Backup System models EH880A and EH884A

BB117AT	Upgrades the included backup software to a network backup solution
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HP Care Pack Services

UD056E	Install HP StorageWorks D2D (per event)
UE314E	3Y NBD 9x5 Backup Solution HW Support
UE315E	3Y4H 13x5 Backup Solution HW Support
UE316E	3Y4H 24x7 Backup Solution HW Support
UE317E	3Y6H 24x7 Backup Solution HW Support

Data Protector Express options for HP D2D Backup System models EH923A and EH924A

BB119AA	HP Data Protector Express Media Server LTU
BB121AA	HP Data Protector Express Network Client Agent LTU
BB122AA	HP Data Protector Express Network Client Agent 3 pack LTU.
BB123AA	HP Data Protector Express Microsoft Exchange Online Backup Agent LTU.
BB124AA	HP Data Protector Express Microsoft SQL Server Online Backup Agent LTU.

ProLiant Server + Tape Drive Positioning

If you have...	and your business needs are...	your best choices are...
ML110 DL360 ML115 DL365 ML150	Low Entry Price Minimal Capacity BackupWindow Not A Concern	DAT 72 USB
ML350 DL380 ML370 DL385	Attractive Price Minimal Capacity Backup Window Not A Concern	DAT 72 USB DAT 160
	High Capacity Requirement Mission Critical Data Small BackupWindow Density is important	Ultrium 448 Ultrium 920
ML570 DL580 DL585	High Capacity Requirement Mission Critical Data High Reliability Small BackupWindow	Ultrium 920 Ultrium 1760 Ultrium 1840

Note: ProLiant DL rack servers have to use tape drives externally (rack-mount availability)

Product Description Tape Drive	Ultrium				DAT	
	LTO1840	LTO1760	LTO920	LTO448	DAT160	DAT72
Media Cartridge	C7974A	C7974A	C7973A	C7972A	C8011A	C8010A
Cleaning Cartridge	C7978A	C7978A	C7978A	C7978A	C8015A	C5709A
Internal SAS	EH860A	EH919A	EH847A	DW085A	Q1587A	N/A
External SAS	EH861A	EH920A	EH848A	DW086A	Q1588A	N/A
Internal SCSI	EH853A	N/A	EH841A	DW016A	Q1573A	Q1522B
External SCSI	EH854A	N/A	EH842A	DW017B	Q1574A	Q1523B
External SCSI Rack-mount	N/A	EH946A	EH903A	DW028A (1U)	N/A	N/A
Internal USB	N/A	N/A	N/A	N/A	Q1580A	DW026A
External USB	N/A	N/A	N/A	N/A	Q1581A	DW027A

1U SCSI Rack-Mount Kit
 1U USB Rack-Mount Kit
 1U USB Cable Option Kit
 3U SCSI Rack-Mount Kit

A7445B
A8007A
396114-B21
274338-B22

up to 2 half-height internal SCSI tape drives.
 up to 2 half-height internal USB tape drives.
 1U USB cable kit
 up to 4 half-height or 2 full-height SCSI tape drives.

Note1: DAT72, DAT160, LTO448, LTO920, LTO1760
Note2: Full-height drives is LTO1840

External cable options for **416096-B21** - HP SC44Ge
 Internal/External PCIe SAS HBA:
 HP SAS Ext-Min 1x 4M Cable Assembly Kit **AE468A**

Compatible Controllers & Host Bus Adapters:
 SC44Ge Internal/External PCIe SAS HBA **416096-B21**
 SC11Xe PCIe Ultra320 SCSI HBA **412911-B21**
 PCI-X Single channel Ultra320 SCSI HBA G2 **374654-B21**

Hardware compatibility table:
<http://www.hp.com/products/1/storage/compatibility/tapebackup/ISS/index.html>



HP Modular Power Distribution Units

252663-B24	High Volt 3.6KVA, 16A 16 C-13 ALL LA
252663-D71	Low Volt 2.8KVA, 24A 32 5-15
252663-D72	High Volt 4.9KVA, 24A 32 C-13
252663-B31	High Volt 7.3KVA, 32A 32 C-13 ARG/CH
252663-B21	High Volt 8.3KVA, 40A 28 C-13 ALL LA
252663-D74	High Volt 4.9KVA 24A 4 C-19
252663-D75	High Volt 8.3KVA 40A C4 C-19

UPS Tower

AF403A	HP T1000 G2, 5-15P, USB, SRL, UPS NA
AF405A	HP T1000 G2, C14,USB,SRL,UPS INTL
AF406A	HP T1500 G2, 5-15P, USB, SRL, UPS NA
AF408A	HPT1500 G2, C14,USB,SRL,UPS INTL
AF409A	HP R/T 2200 G2, 5-20P, USB, SRL, UPS NA
AF411A	HPR/T 2200 G2, C14,USB,SRL,UPS INTL

UPS Rackmount

AF419A	HP R1500 G2 VA, 1U, UPS, NA
AF418A	HP R1500 G2 VA 1U, UPS, INTL
AF422A	HP R3000 VA 2U, UPS, L5-30, NA
AF423A	HP R3000 VA 2U, UPS, L6-20, NA
AF414A	HP R3000 VA 2U, UPS, INTL
AF426A	HP R5500 VA 3U, UPS, NA/JPN
AF416A	HP R5500 VA 3U, UPS, INTL



HP Power Protection and Management

HP Rack 10000 G2 series

AF013A
AF003A
AF062A
AF056A
AF054A
AF074A
257413-B21
257414-B21

HP 10636 G2 (36U) - Crated
 HP 10642 G2 (42U) - Crated
 600mm G2 Stabilizer Option Kit
 10636 G2 (36U) Side Panels (set of two)
 10642 G2 (42U) Side Panels (set of two)
 HP10000 G2 Rack Grounding
 Fan Kit (110V)
 FAN kit (220V)

HP Rack 5000 series

358254-B21
374493-B21
376440-B21

HP 5642 (42U) - Unassembled on pallet
 Stabilizer kit for 5642 rack
 Front door for 5642 rack

Rack Options for HP Rack 10000 G2 Series and 5000 Series

336044-B21
336045-B21
AF600A
AF601A
AF602A
262587-B21
262588-B21
263474-B23
AG052A
348373-B21
AG072A HP
AF072A
AF604A

Server Console Switch, 0 x 1 x 8 port
 Server Console Switch, 0 x 2 x 16 port
 HP 0X2X16 KVM Console, USB, SW
 HP 2X1X16 IP Console, USB/VM, SW
 HP 4X1X16 IP Console, USB/VM, SW
 IPConsole Interface Adapter, 8 pack
 IPConsole Interface Adapter, 1 pack
 IPCAT5 Cable 12', 8 pack
 TFT7600 Rackmount Keyboard and Monitor US
 TFT7210R Rack Mounted 17" Monitor
 1U Rack Mounted Keyboard with USB
 1U Universal Blanking Panel kit (10 panels)
 PS/2 Virtual Media Interface Adapter, 1 pack

NOTE: Requires PS/2 mouse and keyboard connections and one USB port on server.

HP CarePack Services

U2871E

HPCPe Install Rack and Rack Options

HP CarePack		Educational Services	
PROLIANT AND BLADE	HB513S HE644S HE645S U8693S	VMWare Infrastructure 3: Install and Configure Managing and Monitoring Insight Control Environment Deploying and Updating Insight Control Environment HP BladeSystem Planning, Deployment and Automated Management	
	STORAGE	U2404S U4236S U4879S H6773S U1610S U1611S	Fibre Channel SAN Technology SAN Technical Planning and Design Managing HP StorageWorks Enterprise Virtual Array Managing HP StorageWorks XP Disk Array HP OpenView Storage Data Protector I HP OpenView Storage Data Protector II
	LINUX	U8583S H7091S H7092S	Linux Fundamentals Linux Administration I Linux Administration II
	ITSM	H1846S UC328S U8988S	ITIL Foundations for IT Service Management w/test HP OpenView Service Desk 5.x Administration I IT Service Support- ITIL Manager in IT Service Management w/test

HP CarePack Datacenter services	
U5683E	ProLiant Essentials Rapid Deployment Pack Installation and Startup Service
U5695E	Microsoft Windows Exchange Server Installation and Startup Service
U5711E	Microsoft SQL Server Installation and Startup Service for Stand-alone Member (Package 1) Service
U5712E	Microsoft SQL Server Installation and Startup Service for Cluster Member (Package 2) Service
U5717E	Microsoft Windows Server Operating System Installation and Startup Basic Service
U8141E	Linux Server Installation and Startup Basic Service ProLiant IA-32: HA114A1-5H4
UA041E	ProLiant Essentials Systems Insight Manager (SIM) Installation and Startup Service
UA042E	ProLiant Essentials: Rapid Deployment Pack Implementation Basic Service
UC629E	Linux File and Print Server Installation and Startup
UC630E	Linux Web Server Installation and Startup
UD546E	Virtual Machine Management & Server Migration Pack Installation and Startup
UF370E	vmWare Virtual Infrastructure Installation and Startup - Starter
UF366E	vmWare Virtual Infrastructure Installation and Startup - Standard
UF367E	vmWare Virtual Infrastructure Installation and Startup - Enterprise
UF368E	iLO Power Management Installation & Startup Service
UF369E	Insight Control Environment Installation & Startup Service
UF372E	Insight Control - Linux Edition Installation & Startup
UF811E	vmWare Capacity Planner Assessment Service - 50 servers
UF812E	vmWare Capacity Planner Assessment Service - 200 servers
UF813E	vmWare Capacity Planner Assessment Service - 1000 servers