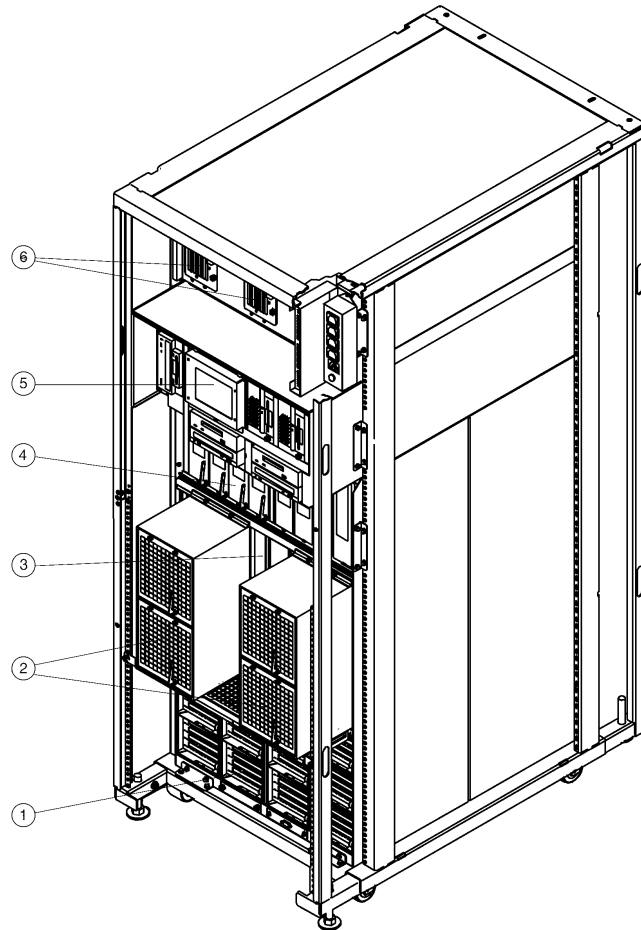# QUICKSPECS

Overview

WHAT'S NEW

- The ProLiant ML770 is a 2-cabinet system; one cabinet houses the CPUs and Memory, the second cabinet houses the system support components.
- System Cabinet: A 32 processor capable system based on the Unisys CMP (Cellular Multi-Processing) architecture providing customers with a scale-up solution
- Support Cabinet includes:
  - Two Compaq ProLiant DL360 servers
  - 24-port Ethernet Switch
  - StorageWorks BA35A-BA system to hold boot devices
  - Windows 2000 Datacenter Server
  - 32 or 16 Pentium® III Xeon™ 700 MHz processors
  - 2-MB L2 Cache per processor
  - 32-GB Memory (32P Model) or 16-GB Memory (16P Model) standard (future support for 64-GB Memory)
  - 16 to 64 slots (64-bit/33-MHz Hot Swap I/O) available depending on configuration
  - 8 to 32 slots (64-bit/33-MHz Hot Swap I/O) available depending on configuration
  - Four (32P Model) or two (16P Model) Integrated NC3131 Fast Ethernet NIC 64 PCI Dual Port 10/100 (in PCI slots)
  - Four (32P Model) or two (16P Model Integrated Ultra3 SCSI Controllers
  - 16 hot plug redundant power supplies (10 hot plug redundant power supplies for 16P Model)
  - Six hot plug redundant system fans
- Protected by Compaq Services, including a one-year limited warranty. On-site installation service is also included. Compaq Service and Support Programs are available on a Worldwide basis. Certain restrictions and exclusions apply. Consult the Compaq Customer Support Center for details.

1. Hot Swap I/O cages
2. Main Storage Unit with Memory DIMMs
3. Processor Pods
4. Hot Plug Redundant Power Supplies
5. LCD Panel
6. Hot Plug Redundant Fans

QUICKSPECS

Standard Features

Processor

Intel Pentium III Xeon processors 700 MHz
> **Note:** 16 or 32 processors ship standard, depending on model.

Cache Memory

2-MB level 2 writeback cache per processor standard

Upgradability

Upgradable to 32P (16P Model only)
> **Note:** Upgrade performed by Compaq Global Services.

Upgradable to future processor technology

Memory (Depending on Model):

Standard	32 GB ECC protected SDRAM DIMMs
Maximum	32 GB (64 GB future support)
Standard	16 GB ECC protected SDRAM DIMMs
Maximum	16 GB (32 GB future support)

Network Controller

(4) Compaq NC3131 Fast Ethernet NIC 64 PCI Dual Port 10/100 NICs integrated in PCI slots (32P Model) OR
(2) Compaq NC3131 Fast Ethernet NIC 64 PCI Dual Port 10/100 NICs integrated in PCI slots (16P Model)

Expansion Slots (One of the following, depending on model)

I/O (Total)	64 Total (32P Model)
64-bit/33-MHz Hot Swap I/O	16 to 64 (slots available depending on configuration), 8 used
I/O (Total)	31 Total (16P Model)
64-bit/33-MHz Hot Swap I/O	8 to 32 (slots available depending on configuration), 4 used

Storage Controllers

(4) Integrated Ultra3 Controllers in PCI slots (32P Model) OR
(2) Integrated Ultra3 Controllers in PCI slots (16P Model)

External Components (installed in Support Cabinet)

Two Compaq ProLiant DL360 servers	Two 18.2-GB Wide Ultra3 SCSI 256-MB memory 10,000 rpm 1″ hot plug hard drives, ship standard per server, no expansions slots available.
24-port Ethernet Switch	
StorageWorks BA35A-35 Shelf	
2-port KVM switch	
TFT500R Flat panel Monitor	
Rack Internal Trackball Keyboard	

Graphics (in ProLiant DL360 servers)

Integrated ATI RAGE IIC Video Controller with 4MB Video Memory

Form Factor

Both System Cabinet and Support Cabinet are stand-alone cabinets: 27″W x 48″D x 69″H

Compaq Software

Compaq Insight Manager	The comprehensive system management tool that monitors the operation of Compaq servers, workstations and clients

Manageability

Compaq Insight Manager

Standard Features

Availability

Hardware partitioning with independent partitions
Hot Swap I/O cages
Redundant Hot Plug Fans
Dynamic sector repairing and drive parameter tracking (with Smart Array controllers)
Hot Plug Dual Port 10/100 TX NIC
Redundant Hot Plug Power Supplies
ECC Memory

Power Supply

16 redundant hot plug power supplies (10 in 16P Model) requiring three-phase power.

OS Support

Microsoft Windows 2000 Datacenter

Service and Support

Compaq Services provides a wide range of service offerings, including a one-year, limited warranty, and lifetime toll-free 7 x 24 hardware technical phone support. Disaster recovery services are available through partnership with Comdisco.

Note: Certain restrictions and exclusions apply. Consult the Compaq Customer Support Center for details.

Standard Features

Models

Model ML770R01 X700-2MB 32GB (32P)

209858-xx1

Processor(s)	(32) Intel Pentium III Xeon 700 MHz	Network Controller	4 NC3131 64-bit PCI dual port 10/100 (integrated in PCI slots)
Cache Memory	2-MB Level 2 writeback per processor	Storage Controllers	4 Integrated Ultra3 SCSI Controllers (in PCI slots)
Memory	SDRAM DIMM	System Management Support Cabinet	2 Compaq ProLiant DL360s (including two 18.2-GB hard drives, 256-MB memory each) to be configured into the Compaq ProLiant ML770 Support Cabinet
Standard	32 GB	Switches	One 24-port ethernet switch and one 2-port ethernet switch Cables to attach to System Cabinet
Maximum	32 GB	Form Factor	Two stand-alone cabinets (27"H x 48"D x 69"H)

Model ML770R01 X700-2MB 16GB (16P)

209856-xx1

Processor(s)	(16) Intel Pentium III Xeon 700 MHz	Network Controller	2 NC3131 64-bit PCI dual port 10/100 (integrated in PCI slots)
Cache Memory	2-MB Level 2 writeback per processor	Storage Controllers	2 Integrated Ultra3 SCSI Controllers (in PCI slots)
Memory	SDRAM DIMM	System Management Support Cabinet	2 Compaq ProLiant DL360s (including two 18.2 -B hard drives, 256-MB memory each) to be configured into the Compaq ProLiant ML770 Support Cabinet
Standard	16 GB	Switches	One 24-port ethernet switch and one 2-port ethernet switch Cables to attach to System Cabinet
Maximum	16 GB	Form Factor	Two stand-alone cabinets (27"H x 48"D x 69"H)

Country Code Key

XX=00	U.S.
XX=02	Int'l

Options

ProLiant ML770 Upgrade Kit

Compaq ProLiant ML770 Upgrade Option Kit	222103-B21

    Note: Kit includes 16 processors and 16-GB memory.

Compaq ProLiant ML770 Support Cabinet (Recommended)

Compaq ProLiant ML770 Support Cabinet (NA)	222081-001

    (**Note:** Stand-alone Support Cabinet dimensions: 27″W x 48″D x 69″H)
    (**Note:** The external Support Cabinet is a matching support rack that includes a 2.5″ joiner kit,
    a rack-mount conversion kit (to convert from 24″ to 19″ RETMA cabinet), a TFT5000R Flat
    Panel Monitor and Rack Internal Trackball Keyboard)

Communications

Compaq NC3131 Fast Ethernet NIC 64 PCI Dual Port 10/100	338456-B21
Compaq NC3135 Fast Ethernet Upgrade Module	138604-B21
Compaq NC6132 Gigabit Module 1000 SX Upgrade Module for NC3134 and NC3131	338456-B23
Compaq NC6133 Gigabit Module 1000LX Upgrade Module for NC3134 and NC3131	338456-B24
Compaq NC3133 Fast Ethernet Module 100FX Upgrade Module for NC3134 and NC3131	338456-B25
Compaq NC6134 Gigabit NIC 64 PCI 1000SX	174818-B21
ServerNet II PCI Adapter Card Kit	174736-B21
ServerNet II 12-port Copper Serial Switch Kit (U.S.)	174739-001
ServerNet II 12-port Copper Serial Switch Kit (Int'l)	174739-B31
ServerNet II 5-meter Copper Serial Cable Kit	174737-B21
ServerNet II 10-meter Copper Serial Cable Kit	174738-B22

StorageWorks DLT Department Library

TL891 DLT library unit, 1 drive Rack, FWD	120876-B21
TL891 DLT library unit, 2 drive Rack, FWD	120876-B22
Add-On 35/70-GB Drive for TL891	120878-B21
MiniLibrary Data Unit	128670-B21
MiniLibrary Expansion Unit	120877-B21
DLT IV Data Cartridges (single pack)	295194-B21
DLT IV Data Cartridges (7 pack)	295192-B21
DLT Cleaning Cartridge	199704-001
StorageWorks Dual Channel Ultra-Wide Differential Library Host Bus Adapter	157229-B21

Note: The StorageWorks Dual Channel Ultra-Wide Differential Library Host Bus Adapter is required
    to support FWD-based tape libraries.

Mini-Library Pass-Through Mechanism Kit	120880-B21
10-Slot Magazine	120881-B21
Mini-Library Tabletop to Rack Mount Conversion Kit, Metric/RETMA racks	120882-B21
Mini-Library Tabletop to Rack Mount Conversion Kit, Compaq racks	120883-B21

Note: Please see the TL891 Automated DLT Tape Library Solution QuickSpecs for additional information,
    including Upgrade Kits, Accessories, ProLiant Connectivity Kits, Host Bus Adapters, SCSI Cable Kits, and
    Localization Kits and additional options needed for a complete solution at:
      http://www.compaq.com/products/quickspecs/North_America/10233_na.html (North America).
      http://www.compaq.com/products/quickspecs/Division/10233_div.html (Division/Worldwide).
    Please note that these web sites are available in English only.

Options

StorageWorks Enterprise Tape Library

ESL9236D Enterprise Library 6 35/70 Drive	146205-B23
ESL9236D Enterprise Library 8 35/70 Drive	146205-B24
ESL9236D Enterprise Library 10 35/70 Drive	146205-B25
ESL9236D Enterprise Library 12 35/70 Drive	146205-B26
ESL9236D Enterprise Library 14 35/70 Drive	146205-B27
ESL9236D Enterprise Library 16 35/70 Drive	146205-B28
Library Ready 35-/70-GB Hot-swap drive for ESL9326D	146209-B21
ESL 9000 Pass-Through Kit for Multi Unit Connectivity	161268-B21
DLT IV Data Cartridges (single pack)	295194-B21
DLT IV Data Cartridges (7 pack)	295192-B21
DLT Cleaning Cartridge	199704-001

Note: Please see the Compaq StorageWorks Enterprise Backup Solution QuickSpecs for additional information, including Tape Drives, Cartridges, Controllers, and SCSI Cables and additional options needed for a complete solution at:
http://www.compaq.com/products/quickspecs/North_America/10233_na.html (North America).
http://www.compaq.com/products/quickspecs/Division/10233_div.html (Division/Worldwide).
Please note that these Web sites are available in English only.

StorageWorks Modular Array 8000/Enterprise Modular Array 12000

EMA12000 D14 60 Hz	175990-B21
EMA12000 D14 50 Hz	175990-B22
EMA12000 S14 60 Hz	175991-B21
EMA12000 S14 50 Hz	175991-B22
MA8000 60 Hz	175992-B21
MA8000 50 Hz	175992-B22
EMA12000 Blue 60 Hz	175993-B21
EMA12000 Blue 50 Hz	175993-B22

Note: Options include controller, solution kits, ACS. MA8000/EMA12000 includes controller shelf, drive shelves and cabinet. Packaging upgrade to RA8000/ESA12000.

Note: Please see the Compaq StorageWorks MA8000/EMA12000 QuickSpecs for FC Hubs, FC switches, platform software, host adapters, disks and options for complete solutions at:
http://www.compaq.com/products/quickspecs/North_America/10418_na.html (North America).
http://www.compaq.com/products/quickspecs/Division/10418_div.html (Division/Worldwide).
Please note that these Web sites are available in English only.

StorageWorks Options

Fibre Channel Tape Controller – II	152975-001
Fibre Channel Tape Controller – II (Int'l)	152975-B31
Fibre Channel Storage Switch 16	380578-B21
Fibre Channel Storage Switch 8	380591-B21
Fibre Channel SAN Switch/8 with Fabric Operating Software	158222-B21
Fibre Channel SAN Switch/16 with Fabric Operating Software	158223-B21

Options

Service Upgrades (CarePaqs)

Data Center Service Plan

Data Center Enterprise Support Plan for ProLiant ML770 16 Processor System 7 x 24 2-hour H/W, 7 x 24 1-hour O/S (NT) One Year (2-5-2 Part Number for U.S.)	FP-DC162-12
Data Center Enterprise Support Plan for ProLiant ML770 32 Processor System 7 x 24 2-hour H/W, 7 x 24 1-hour O/S (NT) One Year (2-5-2 Part Number for U.S.)	FP-DC322-12
Data Center Enterprise Support Plan for ProLiant ML770 16 Processor System 7 x 24 4-hour H/W, 7 x 24 1-hour O/S (NT) One Year (2-5-2 Part Number for U.S.)	FP-DC164-12
Data Center Enterprise Support Plan for ProLiant ML770 32 Processor System 7 x 24 4-hour H/W, 7 x 24 1-hour O/S (NT) One Year (2-5-2 Part Number for U.S.)	FP-DC324-12

Installation & Start-up Services

Installation for MA8000/EMA12000 Storage with 42U Cabinet	FM-EDINS-IN
Installation for EMA12000 Storage with 36U Cabinet with 10″ bay	FM-EBINS-IN
Installation for EMA12000 Storage with 36U Cabinet with 14″ bay	FM-EBINS-IN
Installation for EMA12000 Storage with 36U Cabinet with 1.6″ Drive Enclosure	FM-ECINS-IN
Installation for EMA8000 RAID Storage Subsystem	FM-SMRSC-BD
Installation for EMA12000 RAID Storage Subsystem	FM-SMRSC-BE
Installation of ESL9326 Tape Library 0-8	FM-T6INS-IN
Installation of ESL9326 Tape Library 9-16	FM-T7INS-IN
Installation of ESL9000 Pass-Through	FM-T7INP-IN

Availability Assessment

Availability Assessment Service for Windows 2000 Datacenter (2-5-2 Part Number for U.S.)	QR-SMAAT-BA

Windows 2000 DataCenter Subscription Service

MS Datacenter Server 1-16P Software Updates (2-5-2 Part Number for U.S.)	QR-SMMDS-AB
MS Datacenter Server 1-32P Software Updates (2-5-2 Part Number for U.S.)	QR-SMMDS-AC

Note: For more information, customer/resellers can contact www.Compaq.com/services.
Please note that this Web site is available in English only.

Storage

DRIVE SUPPORT

Tape Drives (External only support)

> **Note:** For an up-to-date listing of the latest O/S Support details for each of the Tape Drives listed below, please see the following:
>
> http://www.compaq.com/products/quickspecs/North_America/10233_na.html (North America)
> http://www.compaq.com/products/quickspecs/Division/10233_div.html (Division/Worldwide).
> Please note that these Web sites are available in English only.

TL891 DLT Library (1 – 2 Drive)	2 drives per SCSI channel	External	StorageWorks Dual Channel Ultra-Wide Differential Library HBA
ESL9236D Enterprise Library		External	StorageWorks Dual Channel Ultra-Wide Differential Library HBA

Technical Specifications

System Unit	**Cabinet Dimensions** (HxWxD)	69 x 27 x 48 in/175.3 x 68.6 x 121.9 cm
	Access Area	Front and rear, 27 x 42 in/68.6 x 106.7 cm
	Estimated Weight	1,200 lbs/544.3 kg
	Cellular Mulit-Processing Architecture	4-way non-blocking crossbar interconnect, SMP-based programming model (applications run without change)
	Power Sector (up to 2 per cabinet)	24A, 50/60 Hz, 3 phase, 200 to 240 VAC (NA)
		24A, 50/60 Hz, 3 phase, 380 to 416 VAC (Int'l)
	Thermal Per Power Sector (up to 2 per cabinet)	23,075 BTU/hr
	Power Wattage Per Power Sector (up to 2 per cabinet)	67KW
	Cooling Method	Up to 6 cabinet impellers (N+1)
	Ambient Temperature	
	Operating	55.4° to 95° F/13° to 35°C
	Shipping	–40° to 149° F/–40° to 65°C
	Relative Humidity (non-condensing)	
	Operating	10% to 80%
	Non-operating	95% maximum
	Altitude	0 to 8000 feet/0 to 2436 meters
	Noise Level	7.5 Bels re: 1pW
	Shock	
	Operating	3 g, 15ms
	Non-operating	8 g, 15ms
	Vibration	
	Operating	0.01 in, 5 to 10 Hz; 0.25 g, 22 to 300 Hz
	Non-operating	0.10 in, 5 to 10 Hz; 0.5 g, 10 to 70 Hz; 0.002 in, 70 to 99 Hz; 1 g, 99 to 300 Hz

Video Controller (in the ProLiant DL360 servers)	**Controller Chip**	ATI RAGE IIC PCI
	Video DRAM	4-MB Video SGRAM
	Data Transfer Method	32-bit PCI
	Support Resolution	Supported Color Depths:
	640 x 480	16.7M, 64K, 256, 16
	800 x 600	16.7M, 64K, 256, 16
	1024 x 768	16.7M, 64K, 256, 16
	1152 x 864	16.7M, 64K, 256, 16
	1280 x 1024	16.7M, 64K, 256, 16
	1600 x 1200	64K, 256, 16
	Connector	VGA

Technical Specifications

**Compaq NC3131
Fast Ethernet NIC 64 PCI
Dual Port 10/100**

Network Interface	10Base-T/100Base-TX
Compatibility	IEEE 802.3/802.3u compliant
Data Transfer Method	32/64-bit bus-master PCI
Network Transfer Rate	
10Base-T (Half-Duplex), 10Base-2	10 Mb/s
10Base-T (Full-Duplex)	20 Mb/s
100Base-TX (Half-Duplex)	100 Mb/s
100Base-TX (Full-Duplex)	200 Mb/s
Connector	Dual RJ-45
I/O Address and Interrupt	Automatic Configuration
Cable Support	
10Base-T100Base-TX	Categories 3, 4 or 5 UTP (2 or 4 pair); up to 328 feet (100 meters)
	Category 5 UTP (2 pair); up to 328 feet (100 meters)
OS Driver Support	Windows 2000 Datacenter server