

POWER

Lines

POWERLINES NO 6 • SUMMER 2002

TABLE OF CONTENTS

INGRAM MICRO

→ SNS ②

ADAPTEC

→ "THE MOST COMPLETE LINE OF RAID SOLUTIONS" ③

VERITAS

→ BACKUP EXEC v8.6 ④

IBM

→ TOPSELLERS xSERIES ⑤

→ eSERVER xSERIES ⑥

IOMEGA

→ NAS A300 & P400 SERIES ⑧

3Com

→ GIGABIT ETHERNET ⑨

hp

→ HOT-PLUG MIRRORING MEMORY ⑩

→ ADVANCED MEMORY PROTECTION ⑫

→ OUT OF WARRANTY CAREPAQS ⑬

→ hp SERVER TC3100 ⑭

→ hp SERVER TC4100 ⑮

→ hp PROCURVE SWITCH SERIES 5300XL ⑯

FUJITSU-SIEMENS

→ NEW PRIMERGY SERVERS ⑱

SYMANTEC

→ PCANYWHERE 10.5 ⑳

→ NORTON ANTI-VIRUS 7.6 ㉑

MICROSOFT OEM

→ WINDOWS 2000 SERVER ㉒

MICROSOFT

→ SHAREPOINT PORTAL SERVER 2001 ㉓

→ MOBILE INFORMATION SERVER 2002 ㉔

②⑤

APC

→ APC POWERSTRUCXURE ②⑥

LINKSYS

→ WIRED NETWORK ②⑦

→ WIRELESS NETWORK ②⑧

②⑧

**INGRAM
MICRO**®

TABLE OF CONTENTS



Linksys ②⑦

THE ENTERPRISE EDITION FROM INGRAM MICRO



Fujitsu-Siemens ⑱



Microsoft OEM ②③

Servers, Networking and Storage group



SNS



POWER LINES

**LOOKING FOR MORE INFORMATION
ON NETWORK PRODUCTS?
SERVERS? SECURITY?**

CALL OUR SNS GROUP!

- TEL: + 32 2 254.93.77
- FAX: + 32 2 254.99.04
- E-MAIL: SNS@INGRAMMICRO.BE

You can be certain of professional advice in selecting the ideal network product to suit your needs, or in setting up a total network solution.

THE GOOD REFLEX: WWW.INGRAMMICRO.BE

“The most complete line of RAID solutions”

Adaptec provides a full range of solutions tailored to meet customers' needs from low-cost servers using ATA devices to higher performing SCSI devices and external storage systems, going from RAID ATA to RAID 2 and 4 channel SCSI, with zero channel SCSI RAID and single channel SCSI RAID.

ATA RAID

LOW COST DATA PROTECTION AND INCREASED PERFORMANCE



**ADAPTEC
ATA RAID
1200A**

→ **TWO-CHANNEL RAID 0/1 CARD SUPPORTS UP TO FOUR ATA/100 DRIVES**

- Ideal for individuals and companies using ATA drives in workstation, entry-level server and rackmount server environments
- For customers looking for basic mirroring/striping functionality, improved I/O performance and reliability.



**ADAPTEC
ATA RAID
2400A**

→ **FOUR-CHANNEL ATA/100 RAID CARD WITH ADVANCED FEATURES SUCH AS ONLINE CAPACITY EXPANSION AND RAID 5**

- Ideal for PC server users who need advanced RAID features using ATA hard drives
- For small business servers with a focus on low-cost coupled with high performance.

ZERO-CHANNEL SCSI RAID

EASY AND COST-EFFECTIVE UPGRADE TO RAID



**ADAPTEC
SCSI RAID
2005S**

→ **CREDIT CARD SIZE, INNOVATIVE ZERO-CHANNEL RAID CARD FREES UP PCI SLOTS IN RACK-MOUNT SERVERS, USING A SO DIMM SOCKET**

- Ideal for Intel-based servers and workstations implementing Adaptec SCSI zero-channel RAID (ZCR)
- For customers looking for an affordable, flexible upgrade path to advanced RAID
- The unique design of this card gives high-density servers advanced RAID data protection and performance without sacrificing a PCI slot – making it ideal for 1U applications.

ADAPTEC SCSI RAID 2000S

→ **LOW-PROFILE, ZERO-CHANNEL PCI RAID CARDS ADDS ADVANCED FUNCTIONALITY TO ONBOARD SCSI**

- Ideal for Intel-based servers and workstations implementing Adaptec SCSI ZCR
- Reduces the cost of the RAID controller by eliminating the need for an additional Adaptec SCSI chip on the controller
- Compatibility with multiple ZCR technologies makes the Adaptec 2000S card a logical choice for customers looking to standardize on a single RAID card.

SINGLE CHANNEL SCSI RAID

AFFORDABLE, FULLY-FEATURED, LOW PROFILE RAID SOLUTION FOR INCREASED DATA PROTECTION AND SERVER AVAILABILITY

ADAPTEC SCSI RAID 2110S

→ **SINGLE-CHANNEL, LOW PROFILE ULTRA160 SCSI RAID CARD FOR PEDESTAL AND RACKMOUNT SERVERS**

- Ideal for entry-level and high density servers and workstations requiring up to 15 disk drives
- For customers looking for an affordable, fully-featured, low-profile solution for increased data protection and server availability.

TWO AND FOUR CHANNEL SCSI RAID

MAXIMUM PERFORMANCE AND EXPANDABILITY

ADAPTEC SCSI RAID 3210S

→ **TWO-CHANNEL ULTRA160 SCSI RAID CARD WITH TRUE 64-BIT/66MHZ PERFORMANCE**

- Ideal for workgroup and departmental SCSI servers; conventional and rackmount servers requiring up to 30 disk drives
- For customers looking for an affordable solution offering high performance, increased data protection, and server availability.



ADAPTEC SCSI RAID 3410S

→ **FOUR-CHANNEL ULTRA160 SCSI RAID CARD WITH TRUE 64-BIT/66MHZ PERFORMANCE**

- Ideal for mid-range to enterprise-level SCSI servers either conventional or rackmount servers
- For customers looking for the highest performance, scalable solutions to support large file transfer applications.

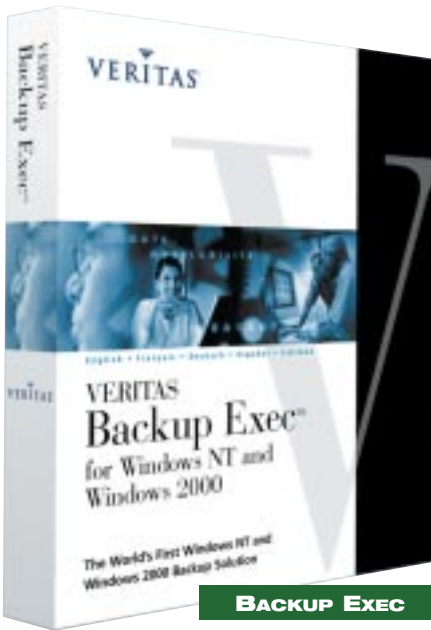
ADAPTEC SCSI RAID 5400S

→ **ADAPTEC'S HIGHEST POWERED RAID ENGINE, THIS ENTERPRISE CLASS RAID CARD HAS EXCITING DATA PROTECTION FEATURES FOR HIGH SPEED DATA THROUGHPUT APPLICATIONS**

- Ideal for high-end server applications of up to 60 disk drives where low transaction overhead is the primary consideration
- Unique 100% disk utilization, RAID level morphing and mixed RAID levels across drives provides flexibility and scalability for the most demanding applications.



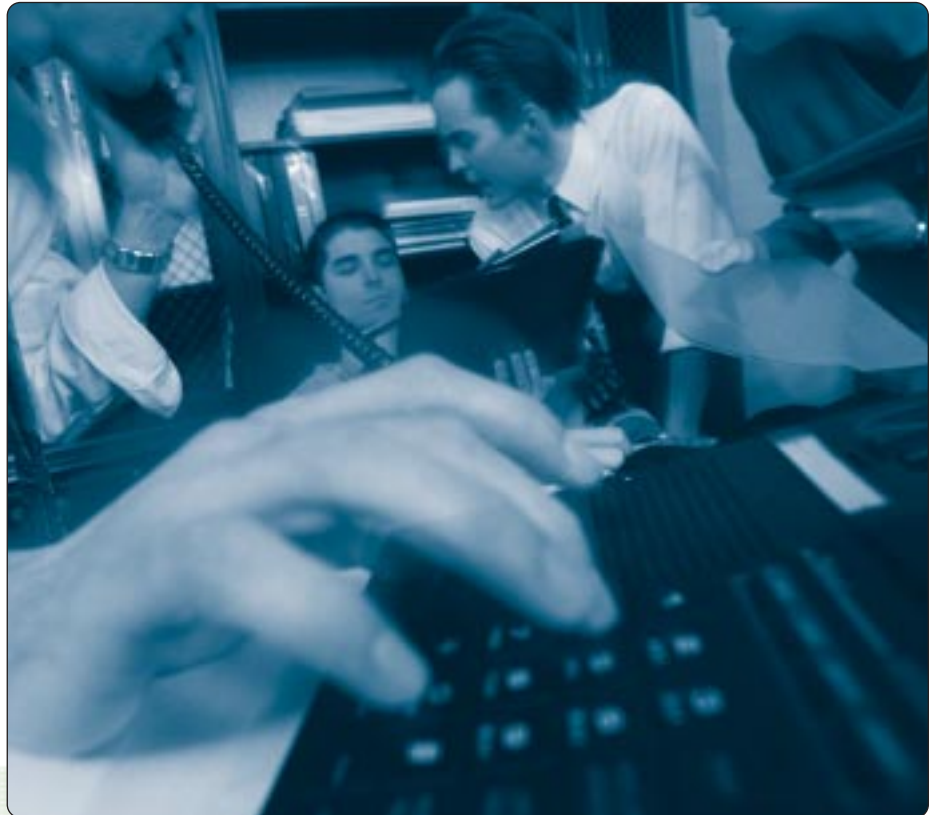
Backup Exec v8.6 for Windows NT & Windows 2000



Version 8.6 of Backup Exec for Windows NT/2000 is the industry standard backup solution providing Microsoft certified compatibility for the entire Windows NT and Windows 2000 environment offering reliable backup and recovery of Windows 2000 Active Directory, Distributed File System and the System State components. Combined with the many available options, Backup Exec provides a complete scalable solution for any size network and any level user.

Built in wizards, agent accelerator technology and advanced device and media management offers the ease of use, high performance and flexibility to manage data quickly and reliably.

When a disaster strikes, you shouldn't have to depend on staff scrambling through multiple applications to recover data or upon those key individuals trained on multiple backup solutions. Our backup and recovery solution provides a turnkey approach for every platform and application you use, and reduce the total cost for disaster recovery preparedness to one software application. There's no need for extensive training or the maintenance of a specially trained staff.



INGRAM MICRO SKU

- J72 1422 Backup Exec V8.6 SERVER Edition NT/2000
- J72 1340 Backup Exec V8.6 ADVANCED SERVER Edition NT/2000

- J72 1377 Backup Exec V8.6 Exchange Agent
- J72 1417 Backup Exec V8.6 MS SQL Agent NT/2000
- J72 1392 Backup Exec V8.6 Open File Option NT/2000
- J72 1376 Backup Exec V8.6 IDR Additional Remote License
- J72 2975 Backup Exec V8.6 SAN Shared Storage Option
- J72 1394 Backup Exec V8.6 SharePoint Portal Server

- J72 1388 Backup Exec Remote Agent 8.6 NT 3PK WNT/2000
- J72 1389 Backup Exec Remote Agent 8.6 NT 1PK WNT/2000

- J72 1333 Backup Exec V8.6 Server Back Office Bundle NT/2000 SBE
Includes Backup Exec SERVER edition plus Exchange and SQL options (Also 2 Remote Agents for NT)

- J72 1328 Backup Exec V8.6 Adv. Svr Back Office Bundle NT/2000 SBE
Includes Backup Exec SERVER ADVANCED edition plus Exchange and SQL options (Also 2 Remote Agents for NT)

- J72 1396 Backup Exec V8.6 SBS Edition NT/2000 SBE
Includes Backup Exec PLUS Exchange, SQL agents and Intelligent Disaster Recovery option and is only compatible with Microsoft Small Business Server

TopSellers xSeries

These servers support the industry's broadest range of platforms –hardware, operating systems and applications– for a wide range of solutions to fit the market needs, including open standards. IBM systems interconnect and merge smoothly with the existing technology to deliver a flexible and integrated infrastructure.

→ **THREE CRITICAL ELEMENTS MAKE UP THE IBM VISION FOR THE FUTURE OF E-BUSINESS**

- **Application flexibility**
Choices in selecting, building and deploying applications
- **New tools for managing e-business**
New ways to manage end-to-end growth, risks and costs
- **Innovative technology**
Extreme performance and scalability with IBM reliability and security.

IBM xSERIES 220

→ **INDUSTRY-LEADING PERFORMANCE AND DATA PROTECTIONS TECHNOLOGY AT AN AFFORDABLE PRICE**

The x220 gives tool-free access to major internal components –such as processors, hard drives and expansion cards– and makes service and upgrades quick and easy. Take advantage of management software to make the system easy to configure and manage, such as:

- LAN Client Control Manager (LCCM) to help reduce costs when installing multiple systems on the network
- ServerGuide to simplify installation

HIGHLIGHTS

- Dual processing power at an entry price
- Tool-free access for extreme ease-of-use
- Optional high-performance
- RAID controllers increase levels of availability and redundancy
- Fits into an office or rack environment at only 51cm (20 ") deep and 4U high

Today's businesses rely more and more on e-business methods to achieve faster, more efficient results for customers. The IBM xSeries brand is a portfolio of hardware, services and support that form the building blocks of successful e-business.



IBM x-SERIES 220

NOW AVAILABLE AT INGRAM MICRO

→ 058 HE15 VPN: K642XBE
EServer x220 PIII 1.26 GHz,
18.2 GB HDD, 512 KB Cache,
128 MB SDRAM, Eth Ultra160 SCSI

xSERIES FIBRE ARRAY STORAGE TECHNOLOGY (FASTT) SOLUTIONS

IBM Fibre Array Storage Technology (FASTT) products allows to process, track and share information across an enterprise more effectively than ever before. IBM FASTT products are a complete set of storage area network (SAN) building blocks for IBM xSeries and other select Intel processor-based systems. From storage servers to hubs, the breadth

of choice allows to build the fibre configuration needed to manage the data fueling business-critical database applications. As business grows, the FASTT storage solutions are easily expandable. Furthermore, the new FASTT Storage Manager software comes with advanced backup features. FASTT products protect the infrastructure investment because they do not require purchasing additional application servers for the sake of compatibility.

Contact our IBM specialist for more info at: 02/254.93.74.

xSeries



eServer xSeries

UNIVERSAL SERVERS					
A full range of affordable servers created for maximum expansion and flexibility.					
Unique to IBM eserver in the Intel market	xSeries* 200	xSeries 220	xSeries 232	xSeries 250	xSeries 300
Machine Type	(8479)	(8646)	(8668)	(8665)	(8672)
Form Factor	Tower or Rack (4U)	Tower or Rack (4U)	Tower or Rack (5U)	Tower or Rack (8U)	Rack (1U)
File/Print Server	✓	✓	✓		✓
Web Server	✓	✓	✓	✓	✓
Mail Server		✓	✓	✓	✓
e-commerce			✓	✓	
Customer Relationship Management			✓	✓	
Enterprise Resource Planning			✓	✓	
Database				✓	
Business Intelligence				✓	
Processor	1 GHz Celeron** 1 GHz Pentium III ** 1.13 GHz Pentium III 1.26 GHz Pentium III	1 GHz Pentium III 1.13 GHz Pentium III 1.26 GHz Pentium III 1.4 GHz Pentium III	1 GHz Pentium III 1.13 GHz Pentium III 1.26 GHz Pentium III 1.4 GHz Pentium III	700 MHz Pentium III Xeon** 900 MHz Pentium III Xeon	800 MHz Celeron 950 MHz Celeron 1 GHz Pentium III
Number of Processors	1	Up to 2	Up to 2	Up to 4	1
L2 Cache memory (per processor)	128 KB/256 KB/512 KB	256 KB/512 KB	256 KB/512 KB	1 MB/2 MB	128 KB/256 KB
Memory (std/max)	64 MB or 128 MB/ 1.5 GB	128 MB or 256 MB/ 4 GB	256 MB/4 GB	512 MB/16 GB	128 MB or 256 MB/ 1.5 GB
Total I/O Slots	5 (5x PCI)	5 (3x 64 bit PCI, 2x PCI)	5 (4x 64 bit PCI, 1x PCI)	6 (4x 64 bit Active PCI, 2x 66 MHz 64 bit PCI)	2 (2x PCI)
Remote I/O					
Integrated SCSI	Some Models, Ultra 160 Adapter	Ultra 160	2 Channel Ultra 160	2 Channel Ultra 2	Some Models Ultra 160 Adapter
Disk Bays	4	4 (3x Hotplug some models)	6 Hotplug + 3 opt. Hotplug	10 Hotplug	2
Maximum Internal Storage	293.6 GB (SCSI)	293.6 GB	660.6 GB	734 GB	72.8 GB
Network Interface Controller	10/100	10/100	10/100	10/100	2x 10/100
ECC Memory (error checking)	✓	✓	✓	✓	✓
Chipkill* Memory				✓	
Hot-swap Drives		(Some Models)	✓	✓	
Redundant Power			(Some Models)	✓	
Hot-swap Power			(Some Models)	✓	
Redundant Fans			(Some Models)	✓	
Hot-swap Fans			(Some Models)	✓	
Active Memory					
Active PCI				✓	
Predictive Failure Analysis* on:					
- Disks	✓	✓	✓	✓	✓
- Memory			✓	✓	
- Processors			✓	✓	
- Power Supply			✓	✓	
- Fans			✓	✓	
- VRM's			✓	✓	
Redundant Network Interface Cards	Optional	Optional	Optional	Optional	Integrated
Fibre Channel	FASiT 200		✓	✓	✓
	FASiT 500		✓	✓	✓
	FASiT 700		✓	✓	✓
Hard Disk Drives non Hot-swap SCSI	✓	✓ (Some Models)			✓
Hot-swap SCSI		✓ (Some Models)	✓	✓	✓
ServerRAID	4Lx	✓	✓	✓	✓
Adapters	4Mx	✓	✓	✓	✓
	4H		✓	✓	✓
Tape	LTO	✓	✓	✓	✓
	DLT		✓	✓	
	SDLT	✓	✓	✓	✓
	DDS 3	✓	✓		✓
	DDS 4	✓	✓	✓	✓
	TR 5	✓			
EXP Units	EXP300	✓	✓	✓	✓
	EXP500		✓	✓	✓
NetBAY* Racks	42/25/11	✓	✓	✓	✓
UPS	Min. tower requirements	APC Smart-UPS 700	APC Smart-UPS 700	APC Smart-UPS 1000	APC Smart-UPS 1000
	Min. rack requirements	APC Smart-UPS 1400RMiB	APC Smart-UPS 1400RMiB	APC Smart-UPS 1400RMiB	APC Smart-UPS 1400RMiB

Iomega introduces NAS A300 & P400 Series

THE IOMEGA NAS A300 SERIES

The storage needs of small businesses to enterprise are exploding. Iomega NAS A300 series provides enterprise quality protection, enhanced business performance simply at an affordable price.



TARGET CUSTOMERS

→ SMALL BUSINESSES

- Less expensive than a server for file and printer sharing and data storage
- Store databases, customer archived files, CAD/CAM industrial sized projects freeing up space and enhancing the performance of the primary server.

→ MEDIUM-SIZED BUSINESS AND ENTERPRISE

- Consolidation of infrequently used data enhancing network and server performance

BENEFITS NAS A300 SERIES

→ SIMPLE INSTALLATION

- Setup and discovery wizard
- All software is preloaded
- Most options are pre-configured

→ EASE OF USE

- Browser-based management system great for remote management
- Plug and use on any network
- Real-time backup functionality

→ COMPATIBILITY & CONNECTIVITY

- Powerful Unix based OS
- Supports multiple client file systems simultaneously
- Software RAID (0,1,5,1+0)
- Single fast Ethernet connections

→ AFFORDABLE BUSINESS SECURITY

- 3 year warranty
- Field-serviceable parts
- No client access license needed

- Store email archives, customer profile databases, perform real-time back ups – freeing up the network and servers.

THE IOMEGA NAS P400 SERIES

Provides enterprise quality protection with optimal choice in platform, capacity, and performance at an affordable price.



TARGET CUSTOMERS

→ SMALL BUSINESSES

- Store mission critical data that the business can not afford to lose access during Server downtime
- Store databases, customer archived files, CAD/CAM industrial sized projects freeing up space and enhancing the performance of the primary server.

→ MEDIUM-SIZED BUSINESS AND ENTERPRISE

- Consolidation and replication of mission critical data enhancing network and server performance
- Store ERP databases, customer profile databases or industrial size CAD/CAM projects
- Store email archives, customer profile databases, perform real-time back ups – freeing up the network and servers.

WHAT IS THE IOMEGA NAS?

Designed for multi-platform data consolidation and file sharing, Iomega Network Attached Storage (NAS) server appliance family is an **optimised, simplified and affordable alternative to general-purpose servers for supplemental storage**. An Iomega NAS appliance helps to manage ever-increasing amounts of data and makes file storage space available to network clients at a lower cost per gigabyte. What's more, it's Plug & Play and connects directly into a local area network (LAN) in minutes, with no downtime for end users. Iomega delivers affordable capacity for business security.



BENEFITS NAS P400 SERIES

→ SIMPLE INSTALLATION

- Setup and discovery wizard
- All software is preloaded
- Most options are pre-configured

→ EASE OF USE

- Browser-based management system great for remote management
- ADS directory services that greatly improves manageability and reliability
- Plug and use on any network
- Hot-swappable drives

→ COMPATIBILITY & CONNECTIVITY

- Unix OS or Windows 2000 server Appliance kit
- Supports multiple client file systems simultaneously
- Software RAID (0,1,5,5+ hot spare)
- Dual Ethernet and Gigabit Ethernet ports

→ AFFORDABLE BUSINESS SECURITY

- An automated client backup software
- 3 year warranty
- Field-serviceable parts
- No client access license needed

INGRAM MICRO SKU

- 618 Z147 NAS A300U 120 GB RAID 5 (UNIX POWERED)
- 618 Z148 NAS P400U 160 GB (UNIX POWERED)
- 618 Z153 NAS P400M 160 GB (WIN 2000 SERVER POWERED)
- 618 Z149 NAS P405U 320 GB (UNIX POWERED)
- 618 Z150 NAS P405M 320 GB (WIN 2000 SERVER POWERED)
- 618 Z151 NAS P410U 480 GB (UNIX POWERED)
- 618 Z152 NAS P410U 480 GB (WIN 2000 SERVER POWERED)

Gigabit Ethernet

The trend has been established: more and more local networks need the Gigabit Ethernet bandwidth. Applications and databases are becoming more and more extensive and similarly are over-burdening the network. Furthermore, the integration of speech and video over the network is also growing, applications where a lack of bandwidth has an immediate effect on quality. Besides this, the performance level of servers and workstations in recent years has seen such growth that 100 Megabit Ethernet is now a bottleneck for much of this equipment.

Products that use Gigabit Ethernet technology have of course been with us for a number of years but the cost factor involved in the deployment of Gigabit Ethernet was until recently considerably high. The high costs were mainly determined by the fact that Gigabit Ethernet was only supported by glass fibre cabling, and glass fibre is simply more expensive than UTP.

The days of Gigabit technology being complex and expensive are thankfully a thing of the past. The introduction of Gigabit UTP as standard has ensured that every type of network can be cost-effectively equipped with Gigabit technology. 3Com, market leader in Ethernet switching, is naturally at the forefront of these developments.

→ WHY OPT FOR 3COM'S GIGABIT ETHERNET?

1. **3Com makes Gigabit Ethernet affordable**, following the general trend in 3Com's competitively priced products; baseline switches, for example, are the perfect answer for clients with tight budgets looking to install Gigabit.
2. **3Com performs the best!** Independent studies have shown that 3Com switches are faster than the competitors'!
3. **3Com has the largest market share in Gigabit UTP products**, and what's more, 3Com also has the widest choice in Gigabit Ethernet products.
4. **3Com has excellent standard guarantee conditions:**
 - Life long guarantee
 - 5 year standard Advance Hardware Replacement (in the event of a defect, 3Com dispatches a replacement without the client having first to send off the defect product); this is actioned within 48 hours during the first year after purchase, and within 5 working days during the next 4 years.
 - 1 year's free support desk!
 - Free software updates!



SUPERSTACK 3 SWITCH 4900

THE SUPERSTACK 3 SWITCH 4900 FAMILY

These switches are totally wire-speed non-blocking, which means that all the ports support Gigabit speed. Besides high performance, the SuperStack 3 Switch 4900 family also offers high availability. It supports functions such as link aggregation, resilient links and spanning tree and likewise there is an optional external power supply (Advanced Redundant Power Supply). The following extension modules are available:

- 4x 1000Base-T
- 4x 1000Base-SX
- 4x 1000Base-LX
- 4x 1000Base-X based on GBIC's (1000Base-SX, LX and LH GBIC's are supported)

SUPERSTACK 3 SWITCH 4900

The SuperStack 3 Switch 4900 is a 12 port Gigabit switch with the possibility of expanding to 16 ports. The 12 Gigabit ports are 100/1000 Mbps based on UTP or 1000Base-SX. The 4900 has a switching capacity of 32 Gbps. Besides high performance the 4900 also has high availability.

SUPERSTACK 3 SWITCH 4924



SUPERSTACK 3 SWITCH 4924

This new 24-port 10/100/1000 UTP multi-layer Gigabit Ethernet switch comes best to the fore in a server environment. Function versatility, high-speed (wires speed) and with a spare slot for optional modules.

SUPERSTACK 3 SWITCH 4950

The SuperStack 3 Switch 4950 is a 24 port multi-layer Gigabit Ethernet switch with a combination of 12x 10/100/1000 UTP, 6x 1000Base-SX and 6x GBIC ports. It makes high density, high performance (wire speed) and media flexibility affordable for server or backbone environments. The switch is supplied with a spare slot for optional modules.

→ CONCLUSIONS OF THE TOLLY GROUP:

3Com SuperStack 3 4900 supplies a throughput of 32 Gbit/s compared to the 8 Gbit/s from the Cisco Catalyst 3508G XL and the 5Gbit/s from the Cisco Catalyst 4003.



→ MODULES FOR THE SUPERSTACK 3 SWITCH 4900 FAMILY

- 3C17710 SuperStack 3 Switch 4900 family, 4-port 1000 BASE-SX expansion module
- 3C17711 SuperStack 3 Switch 4900 family, 4-port 1000 BASE-T expansion module
- 3C17712 SuperStack 3 Switch 4900 family, 4-port 1000 BASE-LX expansion module
- 3C17714 SuperStack 3 Switch 4900 family, 4-port GBIC expansion module
- 3CGBIC91 3Com 1000 BASE-SX GBIC
- 3CGBIC92 3Com 1000 BASE-LX GBIC
- 3CGBIC97 3Com 1000 BASE-LH70 GBIC

hp introduces the first servers to offer Hot-Plug Mirrored Memory



PROLIANT DL580 G2 RACK

PROLIANT DL580 G2 KEY BENEFITS

- Industry leading 4-way performance to support the most complex, compute-intensive applications
- First server to offer Hot Plug Mirrored Memory, to deliver the high availability features required to ensure reliability of business-critical applications
- The industry's best rack optimised server design simplifies serviceability while providing maximum deployment flexibility throughout the life of the server
- Integrated Lights Out capabilities and Management tools deliver maximum system uptime and performance optimisation in dynamic computing environments.

WHAT'S NEW

→ HIGH PERFORMANCE PROCESSOR SUBSYSTEM

- Intel Xeon 1.4 or 1.6 GHz Processors with resp. 512 KB or 1 MB L3 integrated cache
- Hyperthreading technology for optimised performance.

→ 400 MHZ BUS SPEED

- High Performance Memory Subsystem

On May 7th, hp has announced the next generation ProLiant DL580 and ML530 servers. They are the first Industry Standard based servers to offer Hot Plug Mirrored Memory!

- 200 MHz DDR SDRAM (PC1600) Advance ECC Memory, with 4.1 interleaving
- 32 GB Maximum Memory using optional second memory board
- Support for hp Advanced Memory Protection Technology (See separate article), with On-line Spare, Single Board Mirrored, and Hot Plug Mirrored Memory.

→ HIGH PERFORMANCE I/O SUBSYSTEM

- 6 x PCI/X 64-bit/100 MHz slots available, 4 of these are Hot Pluggable
- Quad Peer PCI-X
- Embedded Dual channel Smart Array 5i Plus controller. Supports RAID 0,1, 1+0 and 5 on the internal hard drives
- Standard Single Port GigaBit Network card in a slot (10/100/1000 Copper based).

→ FLEXIBLE STORAGE SUBSYSTEM

- Ultra3/Ultra4 SCSI drive cage supports 4 Hard drives, configurable as 4x 1 or 2x 2 disks.

→ HIGH AVAILABILITY FEATURES

- Dual 800W hot plug power supplies on most models
- Standard Redundant Hot Plug cooling Fans on all models

- Integrated Lights Out Technology Standard
- Redundant ROM
- New Advanced Diagnostics Panel, featuring Quickfind Diagnostics Display.
- On-Line Spare CPU, with hp Automatic Server Recovery
- Fully supported in Microsoft, Linux and Novell Clusters.

→ VIRTUALLY CABLE-FREE MECHANICAL DESIGN

→ ROM BASED OS SETUP!

IDEAL APPLICATIONS

- Messaging & Collaboration with Microsoft Exchange or Lotus Domino Server
- Wireless Gateways
- Medium to Large Enterprise databases (Oracle, Microsoft SQL)
- Application Servers: Oracle, Lotus Domino Application Server,...
- Enterprise Resource Planning: SAP, JD-Edwards,...
- E-business: eg. Web Hosting
- Large Infrastructure: File&Print, Domain Controller/Directory Services

- Server Consolidation
- Data Warehousing
- Clustering
- Space constrained Data Centers.

PROLIANT ML530 G2 KEY BENEFITS

- Industry leading 4-way performance to support the most complex, compute-intensive applications
- First 2-way server to offer Single Board Mirrored Memory, to deliver the high availability features required to ensure reliability of business-critical applications.
- The industry's best rack optimised server design simplifies serviceability while providing maximum deployment flexibility throughout the life of the server.
- Integrated Lights Out capabilities and Management tools deliver maximum system uptime and performance optimisation in dynamic computing environments.

WHAT'S NEW

→ HIGH PERFORMANCE PROCESSOR SUBSYSTEM

- 2.4+ GHz Intel Xeon processors, with 400 MHz bus and 512K L2 cache
- Hyper Threading Technology.

→ HIGH PERFORMANCE MEMORY SUBSYSTEM

- 200 MHz DDR SDRAM (PC1600) Advance ECC Memory, with 4.1 interleaving
- 16 GB Maximum Memory
- Support for hp Advanced Memory Protection Technology (See separate article), with On-line Spare and Single Board Mirrored Memory.

→ HIGH PERFORMANCE I/O SUBSYSTEM

- 7 x PCI/X 64-bit/100 MHz slots , 5 available, 4 of these are Hot Pluggable

- Embedded hp NC3163 10/100 Fast Ethernet NIC with WOL&PXE
- Quad Peer PCI-X.

→ EXPANSION FEATURES

- 12 hot plug hard drive bays standard, 2 more optional.

→ AVAILABILITY FEATURES

- Mirrored Memory, Online Spare Memory, Advanced ECC Memory standard
- Hot Plug Power supply and Hot Plug system Fans with optional redundancy
- Four hot Plug PCI-X slots
- Redundant ROM
- hp Automatic Server Recovery-2, with On-Line Spare CPU
- Fully supported in Microsoft, Linux and Novell Clusters.



PROLIANT ML530 G2 RACK



PROLIANT ML530 G2 TOWER

IDEAL APPLICATIONS

- Server Consolidation
- Remote Site or Branch Office
- High Performance, low cost database Engine
- Large Infrastructure
- Mail and Messaging
- Dedicated Application Server.



Advanced Memory Protection

→ WHY DO CUSTOMERS NEED ADVANCED MEMORY PROTECTION

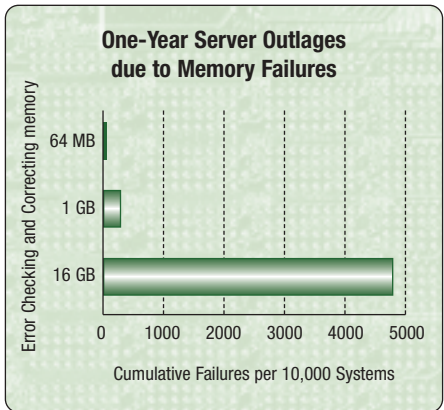
As Memory pricing dropped more and more, OS's support ever larger memory footprints and applications require more and more memory. In order to adhere to these new requirements, ProLiant Servers are supporting ever increasing memory capacities. For example, the present generation ProLiant ML370G2, supports up to 6 GB of RAM, whereas its older pre-decessor ProLiant 1600 was limited to maximum 1 GB of RAM. A six-fold memory increase in less than 3 years!

With the latest server additions, we even see 32-bit Industry Standard servers with up to 32 GB of RAM, compared with their predecessors three years ago, an 8-fold increase!

MEMORY ERROR TYPES

- **Single-bit** (one bit of a data word is incorrect)
- **Multi-bit** (more than one bit of a data word is incorrect)
- **Hard errors** – data error is repeatable, even after “scrubbing” the error (source: physical failures in DRAM, DIMM, socket, or controller)
- **Soft errors** – data error goes away after “scrubbing” the error (source: intermittent failures due to highly-energized particles).

MEMORY FAILURE RATES INCREASE	
Memory Size	Annual Failure Rate
64 MB	0.3%
1 GB	3%
16 GB	48%



As one can see, when the installed memory goes up by x%, the failure rate increase equally... meaning the larger the installed memory, the larger the chance of losing data due to a memory failure.

→ IN COMES ADVANCED MEMORY PROTECTION

hp has developed a spectrum of advanced memory technologies that provide superior memory protection over simple error checking and correcting memory (ECC). hp Advanced Memory Protection is designed to maintain server availability and memory reliability without service intervention. hp Advanced Memory Protection features are available throughout the ProLiant line, with increasing fault protection going up the line.

→ ADDITIONAL KEY POINTS ABOUT ADVANCED MEMORY PROTECTION INCLUDE

- hp Advanced Memory Protection features are optional. Standard system memory uses Advanced ECC to detect and correct single bit errors as well as some multi-bit errors
- The ProLiant Servers implementation is OS independent for Online Spare, Single-board Mirrored Memory, and Hot Plug Mirrored Memory
- Advanced Memory Protection uses industry standard DIMMs. The features in Advanced Memory Protection place specific requirements on the DIMMs used, and hp Memory Option Kits are guaranteed to meet all requirements
- The ProLiant Servers use an industry standard chipset, however hp's implementation of chipset features is unique
- Advanced Memory Protection options are easily configured in the server's ROM-based setup during the POST process.
- Advanced Memory Protection options are viewable through hp Insight Manager 7 (CIM 7) and the Integrated Management Log (IML)

FEATURES

The **ProLiant DL580 G2** and **ML530 G2** include the following optional hp Advanced Memory Protection features:

- **Online Spare Memory**
If the number of single-bit correctable errors on a bank exceeds the pre-defined error threshold, that bank will fail over to the online

spare bank without intervention or server interruption. Online spare memory can be configured across one or two memory cards. The failed memory can then be replaced at the user's convenience during a scheduled maintenance window.

- **Single-Board Mirrored Memory**

Single-board mirrored memory provides a higher level of availability than Advanced ECC and Online Spare Memory because it protects against diverse multi-bit errors. Single-board Mirrored Memory uses mirrored banks on a single memory board that is configured with one redundant bank of memory. The system writes to both banks, but reads from one. If a DIMM(s) has a multi-bit error, the system simply reads from the mirrored bank instead. This process occurs without intervention or server interruption, and the failed DIMM can be replaced during a regularly scheduled shutdown.

The **ProLiant DL580 G2** also contains an additional high-availability protection feature:

- **Hot-Plug Mirrored Memory**

Hot-Plug Mirrored Memory is a fault-tolerant memory feature that provides the highest level of availability: it protects against multi-bit errors and does not require any server downtime to replace failed DIMMs. Hot-Plug Mirrored Memory requires that two memory boards be installed, one an exact mirror of the other, which run in parallel. When configured for Hot-Plug Mirrored Memory, the system writes to both memory boards, but reads from one. If a read error occurs, the system fails over to the redundant memory board. At that point the memory board containing the failed DIMMs can be hot replaced. Once the failed DIMMs are replaced and the memory board re-installed into the server, the system goes back to full mirrored status. All this occurs without bringing the server down.



Out of Warranty CarePags for hp Servers

Warranty protects your product, CarePaq protects your business

Once the sale has been made, the slippery salesman no longer wants to know the buyer. Establishing a relationship of trust with the customer is, of course, an entirely different matter, but something that is far more profitable in the long run.

CarePaq is the dream way of winning a customer's trust. As you know, a CarePaq service constitutes an extension of the standard warranty on hp hardware. It also covers servers and storage products.

OUT OF WARRANTY

Since February, you have been able to offer CarePags of a new kind to your ProLiant customers. **Out of Warranty CarePags** are available for the ProLiant 300, 500, 500 Plus, 700 and 700 Plus series. An Out of Warranty CarePaq comes into force after the warranty period or after a three-year CarePaq. It can be sold for the **fourth year or for the fourth and fifth years**, at the customer's choice.

- **Sales Arguments:** your customer's activities are protected for several years, since a complete additional cover is offered for one or two years in addition to the three years of warranty. This is extremely interesting, for, when hardware reaches a certain age, it becomes more sensitive to wear and tear and to breakdowns. Furthermore, when a machine is out of warranty, the cost of replacement parts climbs steeply.
- **Important business rules**
 - The new Out of Warranty CarePaq must be bought during the ProLiant's warranty period in question (three years);
 - Your customer must register his CarePaq before the expiry of the warranty period (three years).
- **Response:** you can now offer a choice to your customer SMEs and other customer companies - a **Next Business Day** response option or a 4-hour response option (with office hours of 9 x 5, or 08.00 to 17.00 x 5 working days, but not 24 x 7).

What you should remember: it is **easier and more advantageous** than ever to sell CarePaq for servers, as they are:

- Easy to sell with the product;
- Profitable, with an attractive margin;
- Complementary to our own service package (based on CarePaq).

Furthermore:

- Administration is easy (no bumb, no contracts);
- You do the servicing yourselves;
- You increase customer loyalty (you acquire a satisfied customer).



→ **WARRANTY PROTECTS YOUR PRODUCT, CAREPAQ PROTECTS YOUR BUSINESS!!**



CAREPAQS! ALSO FOR RACK OPTIONS

Since March, all Server & Storage CarePags (Next Business Day, 9 x 5, 24 x 7 and Call to Fix 6 hours) also support all the rack options validated by hp within the same rack.

An excellent overall solution therefore for:



- UPS rack (but not for external UPS),
- PDU rack,
- TFT rack monitors & keyboards,
- Server console switches,
- Switch boxes & fans,
- Cupboard.

In summary: the customer buys a CarePaq for a ProLiant, installs it in a rack and that's that: the above rack options are covered by his or her CarePaq server.

Not covered by this support: UPS SW, batteries, non-standard power supply, and non-standard PDU cables.

- **Important:** this service is retroactive. That is to say that all existing CarePags take advantage from the extension of the new support conditions.
- **Conclusion:** it is now more interesting than ever for your existing customers to buy CarePaq services and keep your customers happy pro-actively.

→ **WARRANTY PROTECTS YOUR PRODUCT, CAREPAQ PROTECTS YOUR BUSINESS!!**

For further information: consult www.compaq.be/carepaq.nl or www.compaq.be/carepaq.fr

hp server tc3100

The easy server your business can depend on!



The hp Server tc3100 is the latest entry in hp's easy-to-use server line, delivering more reliability, manageability and expandability than its predecessor, the hp Netserver e800. It improves on this earlier model by adding outstanding serviceability and greater performance—at an even lower price. With all this and more, the hp Server tc3100 is the easy server your fast-growing business can depend on—now and in the future.

→ HIGHLIGHTS

- Powerful and scalable, the hp Server tc3100 is built around an Intel® Pentium® III processor with a 133 MHz front-side bus, up to 4 GB of error checking and correcting SDRAM and a dual-channel Ultra3 SCSI controller
- It's expandable to dual processing, 365 GB storage capacity; and with six PCI slots, the hp Server tc3100 can easily meet the demands of growing businesses
- Some models offer hot-swap disks to maximize server availability
- Optional remote management card allows controlling remote locations with no on site IT resource.

→ TECHNICAL SPECIFICATIONS

- **Processor:** up to two Intel Pentium III 1.26 GHz or 1.40 GHz processors with 133 MHz front-side bus, 512 KB on-chip L2 cache
- **Memory:** 256 MB buffered error checking and correcting SDRAM

FEATURES AND BENEFITS

- hp Navigator installation CD-ROM and bundled configurations, including memory, disk drive and network card, allow a quick and easy installation
- hp Tootools diagnostic software helps to proactively resolve potential problems
- expansion and performance capabilities allow for future growth and protect the initial investment
- optional DAT internal tape drive and One-Button Disaster Recovery function for the best level of security
- design for serviceability allows quick and tool-free upgrades or maintenance for maximum uptime.



hp SERVER tc3100



- **I/O slots:** six PCI slots with USB support
- **Controller:** integrated, dual-channel Ultra3 SCSI controller
- **Mass storage:** shelves 8 shelves
- **Maximum storage:** up to 365 GB
- **Video:** Integrated 1024x768, 256-color, non-interlaced 8 MB SDRAM video memory
- **Hard disk drives:** 18.2 GB, 36.4 GB, and 72.8 GB Ultra3 SCSI (10K rpm) cold-swap or hot-swap
- **Built-in I/O ports:** two USB ports
- **Backup solution:** bundled hp DAT 24i tape backup with One-Button Disaster Recovery (OBDR) on some models
- **Network card:** embedded 10/100TX Ethernet NIC

- **Remote manageability:** optional hp Server Remote Management Card including remote LAN access, advanced security, online diagnostics, and group actions via serial or LAN connection
- **Operating systems:** Microsoft® Windows® 2000 Server
- **Warranty:** three-year, next-business day, on site limited warranty from hp or authorized resellers (standard business hours) worldwide.



hp server tc4100

the robust hp server that keeps your growing business up and running

The hp Server tc4100 delivers corporate-level performance, availability, and manageability in a flexible package that allows you to respond easily as your business needs evolve.

→ **GROW AND EVOLVE YOUR BUSINESS**

- **Enterprise-class availability:** the hp Server tc4100 delivers maximum uptime protection with hot-swappable, redundant hard drives, power supplies, and cooling fans
- **Ability to grow with you:** with its industry-leading expandability and upgradability, the hp Server tc4100 is ready to meet the needs of your growing business
- **Easy, efficient serviceability:** tool-free entry and removal and replacement of all major components mean you can perform most service without calling a technician
- **Industry-leading manageability:** hp's Web-based network resource management and performance-monitoring tool, hp Toptools, plus an hp Server Remote Management Card and an optional visual diagnostics panel deliver unmatched flexibility, simplicity, and network control.

→ **TECHNICAL SPECIFICATIONS**

- **Performance:** processor Up to two 133 MHz Intel® Pentium® III 1.13 GHz, 1.26 GHz, or 1.40 GHz with 133 MHz front-side bus
- **Cache:** 512 KB on-die cache
- **Memory:** 256 MB to 4.0 GB PC-133 MHz error checking and correcting (ECC) SDRAM
- **Controller:** embedded dual-channel Ultra3 SCSI controller
- **Mass storage system:** 12 shelves total
- **Video:** embedded ATI RAGE XL video controller
- **CD-ROM drive:** 48x maximum-speed IDE CD-ROM drive
- **Built-in I/O ports:** two USB ports
- **Management software:** hp Toptools
- **Network interface card (NIC):** integrated 10/100TX LAN adapter with preboot execution (PXE) and wake-on-lan (WAN)
- **One-button disaster recovery (OBDR)** support with hp DAT, DLT, and Ultrium tape devices
- **Warranty:** three-year, next-business day, on site limited warranty from hp or authorized resellers (standard business hours) worldwide.

hp SERVER TC4100



5% DISCOUNT

hp SUMMER PROMO

→ **NOW AT INGRAM MICRO: 5% DISCOUNT ON ALL NEWLY LAUNCHED hp SERVERS**

From May 1st 2002 until July 31st 2002, the entire range of the newly launched range of hp servers, is eligible for **an extra 5% off**.

Exceptions are: big deal contracts (SBO/OPG) and the P5550T and P5553T products.

For more info please check with your Ingram Micro contact.

- When you order, please mention the following reference code '5JU5 01' in order to receive the **5% discount**.



hp ProCurve Switch series 5300xl

hp ProCurve Switch 5304xl AND 5308xl

The hp ProCurve Switch 5304xl and 5308xl are respectively a 3U and 5U wire speed Layer 2/3/4 four and eight slot chassis switches targeted primarily at high performance access tier applications where higher port density is needed. The hp ProCurve Switch 5304xl and 5308xl provide respectively up to 16 and 32 Gigabit Ethernet ports or 96 and 192 10/100-TX with hp Auto-MDI-X ports. Voice, video and data ready, the Switch 5300xl series offers extensive prioritization that bring full convergence down to the desktop. The chassis comes standard with a routing engine and power supply.

→ hp ProCurve Switch 5372xl

The HP ProCurve Switch 5372xl bundles 72 10/100-TX ports in the 8 slot 5308xl chassis, leaving 5 open slots.

→ hp ProCurve Switch 5348xl

The HP ProCurve Switch 5348xl bundles 48 10/100-TX ports in the 4 slot 5304xl chassis, leaving 2 open slots.

FEATURES AND BENEFITS

- **Non-blocking architecture:** 76.8 Gbps non-blocking crossbar switching fabric provides wire-speed intra- and inter-module switching with up to 48 Mpps throughput built on hp custom-designed ASIC technology
- **Hot-swappable modules:** permits modules and mini-GBICs to be added or swapped without interrupting the network
- **Optional redundant power supply:** provides uninterrupted power
- **Port security:** prevents unauthorized access using MAC address lockdown
- **hp auto-MDIX:** automatically adjusts for straight-through or crossover cables on all 10/100-TX and 100/1000-T ports
- **lifetime warranty:** for as long as you own the product, with next-business-day advance replacement.



SPECIFICATIONS

→ STANDARD CONFIGURATION

- **Switch 5372xl:** 8-slot chassis with integrated routing engine, power supply, 72 10/100-TX ports
- **Switch 5308xl:** 8-slot chassis with integrated routing engine, power supply
- **8-slot chassis:** maximum of 192 10/100-TX ports or 32 Gigabit ports
- **Switch 5348xl:** 4-slot chassis with integrated routing engine, power supply, 48 10/100-TX ports
- **Switch 5304xl:** 4-slot chassis with integrated routing engine, power supply
- **4-slot chassis:** maximum of 96 10/100-TX ports or 16 Gigabit ports.

→ Performance

- Latency: <6µs (FIFO)
- Switch fabric speed: 76.8 Gbps
- Throughput:
 - Switch 5308xl and 5372xl: 48 Mpps
 - Switch 5304xl and 5348xl: 24 Mpps
- Address table size: 10,000 entries.

→ MOUNTING

- Mounts in an EIA-standard 19-in telco rack or equipment cabinet (mounting hardware included); horizontal surface mounting only.

→ MEMORY AND PROCESSOR

- Fabric: Motorola PowerPC @ 200 MHz, 12 MB flash, 32 MB SDRAM
- Module: ARM7 @ 66 MHz, 128 KB flash, 128 KB SRAM, 18 MB RDRAM
- Packet buffer size: 36 MB
- Dual flash.

→ MANAGEMENT

- hp TopTools for Hubs & Switches included.

HP PROCURVE SWITCH PROMOTION

→ **!!!BENEFIT NOW ALSO FROM THE EXCLUSIVE HP NETWORKING OFFER AND SAVE UP TO 600 EUROS WHEN BUYING A NEW HP PROCURVE SWITCH!!!**

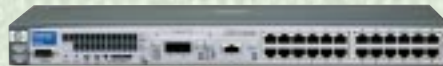
When buying a **NEW** hp ProCurve Switch and trading-in your old Switch, you gain a certain amount of euros, depending on the number of ports of the Switch you Trade-in.

The following matrix gives you an overview of possible discounts*:

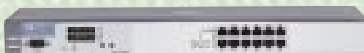
Sold product	Cash-in per port traded-in	Max # ports	Max cash-in per Switch
Switch 2524	€ 3	24	€ 72
Switch 4148gl (New)	€ 4	48	€ 192
Switch 5372xl (New)	€ 8	72	€ 576
9300 10/100 Module	€ 25	24	€ 600

For more info, please check at <http://www.eu.trade-in.hp.com>

*for the total list of participating Switches, please check <http://www.eu.trade-in.hp.com>



hp PROCURVE SWITCH 2524



hp PROCURVE 10/100 HUB 12



hp PROCURVE SWITCH 4108GL BUNDLE

	Free Module slots	Free Transceiver slots	Included Ports	HP AUTO-MDIX	Performance Switch Fabric Speed	Throughput	Management	Warranty
hp procurve 10base-T hub 8			8 x 10Base-T Ports					Lifetime next day on site
hp procurve 10/100 hub 12			12 x 10/100Base-TX Autosensing				unmanaged	Lifetime next day on site
hp procurve 10/100 hub 24			24 x 10/100Base-TX Autosensing				unmanaged	Lifetime next day on site
hp procurve switch 408			8 x 10/100Base-TX Autosensing	•			unmanaged	Lifetime next day on site
hp procurve switch 2124		1	24 x 10/100Base-TX Autosensing	•	2.6 Gbps		unmanaged	Lifetime next day on site
hp procurve switch 2312		2	12 x 10/100Base-TX Autosensing	•	9.6 Gbps	6.6 Mpps	unmanaged	Lifetime next day on site
hp procurve switch 2324		2	24 x 10/100Base-TX Autosensing	•	9.6 Gbps	6.6 Mpps	unmanaged	Lifetime next day on site
hp procurve switch 2512		2	12 x 10/100Base-TX Autosensing	•	9.6 Gbps	6.6 Mpps	HP Tootools	Lifetime next day on site
hp procurve switch 2524		2	24 x 10/100Base-TX Autosensing	•	9.6 Gbps	6.6 Mpps	HP Tootools	Lifetime next day on site
hp procurve switch 4000m	5		40 x 10/100Base-TX Autosensing		3.8 Gbps	4.67 Mpps	HP Tootools	Lifetime next day on site
hp procurve switch 8000m	10				3.8 Gbps	4.67 Mpps	HP Tootools	Lifetime next day on site
hp procurve switch 4104gl	4			•	18.3 Gbps	11.3 Mpps	HP Tootools	Lifetime next day on site
hp procurve switch 4148gl	2		48 x 10/100Base-TX Autosensing	•	18.3 Gbps	11.3 Mpps	HP Tootools	Lifetime next day on site
hp procurve switch 4108gl	8			•	36.6 Gbps	21.6 Mpps	HP Tootools	Lifetime next day on site
hp procurve switch 4108gl bundle	4	3	72 x 10/100Base-TX Autosensing	•	36.6 Gbps	21.6 Mpps	HP Tootools	Lifetime next day on site
hp procurve L3 switch 5304xl	4			•	36.6 Gbps	24 Mpps	HP Tootools	Lifetime next day on site
hp procurve L3 switch 5348xl	2		48 x 10/100Base-TX Autosensing	•	36.6 Gbps	24 Mpps	HP Tootools	Lifetime next day on site
hp procurve L3 switch 5308xl	8			•	76.8 Gbps	48 Mpps	HP Tootools	Lifetime next day on site
hp procurve L3 switch 5372xl	5		72 x 10/100Base-TX Autosensing	•	76.8 Gbps	48 Mpps	HP Tootools	Lifetime next day on site
hp procurve routing switch 9304M	4				128 Gbps	48 Mpps	HP Tootools	1 year next day on site
hp procurve routing switch 9308M	8				256 Gbps	96 Mpps	HP Tootools	1 year next day on site

*All these models are 19-in rackmountable

Optional modules and transceivers	hp procurve switch 10/100Base-T 8 port module J4111A	hp procurve switch 100Base-FX 4 port module J4112A	hp procurve switch Gigabit-SX module J4113A	hp procurve switch Gigabit-LX module J4114A	hp procurve switch 100/1000Base-T module J4115B	hp procurve switch 10Base-FL 4 port module J4118A	hp procurve switch 4000/8000 redundant power supply J4119A	hp procurve switch Gigabit stacking kit J4116A	hp procurve Gigabit-SX transceiver J4131A-B	hp procurve Gigabit-LX transceiver J4132A	hp procurve 100/1000-T transceiver J4834A	hp procurve 100-FX SC transceiver J4853A	hp procurve switch GL /XL redundant power supply	hp procurve switch GL 10/100-TX 24 port module J4862B	hp procurve switch GL 100/1000-T 6 port module J4863A	hp procurve switch GL 3 slot transceiver module J4864A	hp procurve switch GL 6 slot mini GBIC module J4893A	hp procurve switch XL 10/100-TX 24 port module J4820A	hp procurve switch XL 100/1000-T 4 port module J4821A	hp procurve switch XL 4 slot mini GBIC module J4878A	hp procurve 6b SX (LC) mini GBIC J4858A	hp procurve 6b LX (LC) mini GBIC J4859A	hp procurve 6b LH (LC) mini GBIC J4860A (09-2002)	hp procurve 9300 10/100 BT 24 port module J4140A	hp procurve 9300 100 Base FX (MTRJ) 24 port module J4142A	hp procurve 9300 1000Base-T 8 port module J4842A	hp procurve 9300 8 port mini GBIC module J4856A	hp procurve 9300 8 port mini GBIC redundant mgmt module J4857A	hp procurve 9300 redundant power supply J4147A		
hp procurve switch 2124																															
hp procurve switch 2312																															
hp procurve switch 2324																															
hp procurve switch 2512																															
hp procurve switch 2524																															
hp procurve switch 4000m	•	•	•	•	•	•	•																								
hp procurve switch 8000m	•	•	•	•	•	•	•																								
hp procurve switch 4104gl													•	•	•	•	•														
hp procurve switch 4148gl													•	•	•	•	•														
hp procurve switch 4108gl													•	•	•	•	•														
hp procurve switch 4108gl bundle													•	•	•	•	•														
GL 3 slot transceiver module J4864A								•	•	•	•	•																			
GL 6 slot mini GBIC module J4893A													•	•	•	•	•														
hp procurve L3 switch 5304xl																		•	•	•											
hp procurve L3 switch 5348xl																		•	•	•											
hp procurve L3 switch 5308xl																		•	•	•											
hp procurve L3 switch 5372xl																		•	•	•											
XL 4 slot mini GBIC module J4878A																				•	•	•									
hp procurve routing switch 9304M																								•	•	•	•	•	•	•	•
hp procurve routing switch 9304M																								•	•	•	•	•	•	•	•
8 port mini GBIC module J4856A																							•	•	•						
8 port mini GBIC redundant mgmt module J4857A																							•	•	•						



New Primergy Servers: best in class

PRIMERGY H250

→ ALLROUND-SERVER WITH DUAL-PROCESSOR

The new PRIMERGY H250 server is continuing the successful path set by the PRIMERGY 2-way server with state-of-the-art technology. The high Dual processor performance and expandability, as well as various reliability and availability features such as hot-plug hard disks, redundant and hot-plug fans and hot-plug and redundant power supplies (optional), a main memory with hot spare memory option, ECC, memory scrubbing and Chipkill™ function contribute to investment security for the future and permit simple adaptation to virtually all requirements in this class.

The optional Zero-Channel RAID controller supplements onboard SCSI with enhanced RAID functions. With this option RAID levels 0, 1, 10, 5 and 50 are supported and the existing SCSI-connections are used, hence the name Zero-Channel RAID. This solution offers a more favourable price/performance ratio, than a separate RAID controller with the corresponding SCSI-connections.

The hot-spare memory option cares overall for improved memory availability, by keeping a redundant memory bank with up to 2 GB.

The onboard Remote-Management controller offers the Server Management functionality of the RemoteView Service Board (RSB) integrated on the system board, instead of an optional configurable RSB as for other PRIMERGY servers. This independent component has an own COM and LAN interface, as well as an own power supply and can be supplemented with an optional battery backup unit.

The PRIMERGY H250 is shipped with the server management products ServerStart and ServerView and the integrated functions PDA (Prefailure Detection and Analysing) and ASR&R (Automatic Server Reconfiguration and Restart) and optionally offers LocalView, RemoteView and chipDISK for comprehensive server management.

The system supports standard operating systems such as Windows NT, Windows 2000, Netware, Open UNIX 8, OpenServer 5 and Linux.

HIGHLIGHTS PRIMERGY H250

- 1 - 2 new Intel® Xeon™ processors with 1.80, 2.0 and 2.20 GHz
- Up to 8 GB DDR RAM main memory 2-way interleaved; ECC protected, memory scrubbing and Chipkill™ support
- Hot-spare memory option (reserves one of 4 banks)
- Dual channel Ultra160 SCSI controller
- Optional Zero-Channel RAID controller for upgrading the onboard dual channel SCSI controller with RAID functionality
- 6 I/O slots:
2x PCI-X 64 bit / 100 MHz, hot-plug
2x PCI 64 bit / 66 MHz
2x PCI 32 bit / 33 MHz
- New cooling concept for drive, power supply and electronics
- Redundant and hot-plug fans
- Space for 3 accessible drives (CD, DVD and tape drives) plus FD
- 7 height units in a rack including telescope rails

- Internal disk capacity of 876 GB with 12x 1-inch HDD's (server internal with 73 GB disks, much more external)
- Jumper less hard disk configuration due to modular SCSI backplane
- Onboard Remote Server Management controller with COM and LAN interfaces
- Further options:
- Redundant and hot-plug power supplies
- RemoteView, LocalView™
- and chipDISK

PRIMERGY H450 AND PRIMERGY R450

→ ALL-ROUND-SERVERS WITH 4-WAY-PROCESSOR

The new PRIMERGY H450 and PRIMERGY R450 servers are continuing the successful path set by the PRIMERGY 4-way server with state-of-the-art technology interleaved.

COMPARISON BETWEEN PRIMERGY H200 AND H250

	PRIMERGY H200	PRIMERGY H250
Processor	Intel® Pentium® III Xeon	Intel® Pentium® Xeon™
Clock rate/second level cache	1 GHz / 256 KB	1.80 GHz / 512 KB 2.0 GHz / 512 KB 2.20 GHz / 512 KB
System board	ServerWorks Champion 2.0 HE	ServerWorks GC-HE Lite
Main memory	128 MB – 4 GB (SDRAM)	256 MB – 8 GB (DDR RAM)
Hot spare memory	no	yes (optional)
PCI-X 100 hot-plug	-	2
PCI 64-bit / 66 MHz	2	2
PCI 64-bit / 33 MHz	4	-
PCI 32-bit / 33 MHz	1 (short)	2 (short)
Hard disk slide-in modules	12x 1-inch (2x 6) 9, 18, 36 GB	12x 1-inch (2x 6) 18, 36, 73 GB
Accessible drives	2x 5.25-inch 1x 3.5-inch	2x 5.25-inch 1x 3.5-inch FD and 5.25-inch CD/DVD
Rack integration	7 U	7 U
Video memory	4 MB onboard	8 MB ATI Rage XL onboard
Ultra160 SCSI controller onboard	yes	yes
Zero-Channel RAID Controller	no	yes
Redundant hot-plug power supply unit	Yes (optional) 400 W	yes (optional) 500 W
Redundant hot-plug fans	yes	yes

HIGHLIGHTS PRIMERGY H450

- 1 - 4 new Intel® Xeon™ processors MP with 1.40, 1.50 and 1.60 GHz with Intel® NetBurst™ micro architecture and “Hyper-Threading” technology
- Up to 16 GB DDR RAM main memory 4-way interleaved ECC protected, memory scrubbing and Chipkill™ support
- Hot-spare memory option (reserves one of 4 banks)
- Dual channel Ultra160 SCSI controller
- Optional Zero-Channel RAID controller for upgrading the onboard dual channel SCSI controller with RAID functionality
- 8 I/O slots:
5x PCI-X 64 bit / 100 MHz, hot-plug
1x PCI 64 bit / 66 MHz, hot-plug
2 x PCI 32 bit / 33 MHz
- New cooling concept for drive, power supply and electronics
- Redundant and hot-plug fans
- Space for 3 accessible drives (CD, DVD and tape drives) plus FD
- 7 height units in a rack including telescope rails

- Internal disk capacity of 876 GB with 12x 1-inch HDD's (server internal with 73 GB disks, much more external)
- Jumper less hard disk configuration due to modular SCSI backplane
- Onboard Remote Server Management controller with COM and LAN interfaces
- LC-display for LocalView™
- Further options:
- Redundant and hot-plug power supplies
- RemoteView® and chipDISK.



PRIMERGY H250 Tower



PRIMERGY H450 Rack

COMPARISON BETWEEN PRIMERGY H400 AND H450

	PRIMERGY H400	PRIMERGY H450
Processor	Intel® Pentium® III Xeon	Intel® Pentium® Xeon™ MP
Clock rate/second level cache	700 MHz / 256 KB	1.40 GHz / 256 KB
	900 MHz / 256 KB	1.50 GHz / 256 KB
		1.60 GHz / 256 KB
L3 Cache	-	512 KB / 1 MB (1.60 GHz)
System board	ServerWorks Champion 2.0 HE	ServerWorks GC-HE
Memory	128 MB – 16 GB (SDRAM)	512 MB – 16 GB (DDR RAM)
Hot spare memory	no	yes (optional)
PCI-X 100 hot-plug	-	5
PCI 64-bit / 66 MHz hot-plug	2	1
PCI 64-bit / 33 MHz hot-plug	4	-
PCI 32-bit / 33 MHz	2 (short)	2 (short)
Hard disk slide-in modules	12x 1-inch (2x 6)	12x 1-inch (2x 6)
	9, 18, 36 GB	18, 36, 73 GB
Accessible drives	2x 5.25-inch	2x 5.25-inch
	1x 3.5-inch FD and	1x 3.5-inch FD and
	5.25-inch CD/DVD	5.25-inch CD/DVD
Rack integration	7 U	7 U
Video memory	4 MB onboard	8 MB ATI Rage XL onboard
Ultra160 SCSI controller onboard	yes	yes
Zero-Channel RAID Controller	no	yes
Redundant hot-plug power supply unit	Yes (optional) 400 W	yes (optional) 500 W
Redundant hot-plug fans	yes	yes
LC-Display for LocalView	yes	yes
4 LED's on the front side	no	yes

HIGHLIGHTS PRIMERGY R450

- 1 – 4 Intel® Xeon™ processors MP, with clock rates of 1.4, 1.5 and 1.6 GHz and a 512-KB or 1-MB (with the 1.6 GHz processor) third-level cache quad-pumped 100 MHz FSB
- High-performance ServerWorks GC HE chipset
- Up to 16 GB of main memory, 4-way interleaved DDR-RAM
- Hot-spare memory option (redundant memory bank offering up to 4 GB)
- Eight I/O slots
- 5x PCI-X 64-bit / 100 MHz, hot-plug
- 1x PCI 64-bit / 66 MHz, hot-plug
- 2x PCI 32-bit / 33 MHz
- Maximum internal hard disk capacity of 438 GB with 6 (2 x 3) x 1-inch hot-plug hard disks
- Onboard controllers
- 2-channel Ultra160 SCSI
- 10/100 Mbit/s Ethernet LAN
- Graphics controller (8 MB)
- The optional RAID upgrade kit (zero-channel RAID) provides RAID functionality via the SCSI onboard controller
- Redundant hot-plug fans and hot-plug PCI modules, redundant hot-plug power supply units

FUJITSU COMPUTERS
SIEMENS

- Occupies only 4 height units (U) in the rack
- Space for 2 slimline drives (height: 0.5 inch) with direct access (CD/DVD and floppy disk drive)
- Onboard remote management controller with its own COM and LAN interface, as well as an external power supply module and an optional battery backup unit.



PRIMERGY H450

The PRIMERGY H450 floorstand server and R450 Rack server can be equipped with up to 4 of the new Intel® Xeon™ MP processors. This processor technology permits greater performance bandwidths and more versatile use thanks to its new Intel® NetBurst™ micro-architecture, the hyper-threading technology and the additional third-level cache.

The hot-spare memory option ensures improved overall memory availability by means of a redundant memory bank with a capacity of up to 4 GB. Permanent monitoring means that the server switches over to the hot-spare memory bank in plenty of time before an uncorrectable error occurs. This process is transparent to the operating system and applications.

Like the PRIMERGY H250, the PRIMERGY H450 and R450 also dispose of an optional Zero-Channel Raid and onboard Remote Management.



PRIMERGY R450

COMPARISON BETWEEN PRIMERGY N400 AND R450

	PRIMERGY N400	PRIMERGY R450
Processor	Intel® Pentium® III Xeon	Intel® Pentium® Xeon™ MP
Clock rate/second level cache	1 GHz / 256 KB	1.40 GHz / 256 KB 1.50 GHz / 256 KB Cache 1.60 GHz / 256 KB
L3 Cache	-	512 KB / 1 MB (1.60 GHz)
System board	ServerWorks Champion 2.0 HE	ServerWorks GC-HE
Memory	512 MB – 16 GB (SDRAM)	512 MB – 16 GB (DDR RAM)
Hot spare memory	no	yes (optional)
PCI-X 100 hot-plug	-	5
PCI 64-bit / 66 MHz hot-plug	2	1
PCI 64-bit / 33 MHz hot-plug	4	-
PCI 32-bit / 33 MHz	2 (short)	2 (short)
Hard disks	4x 1-inch 18, 36, 73 GB	12x 1-inch (2x 6) 18, 36, 73 GB
Accessible drive bays	2x 5.25-inch 1x 3.5-inch FD and	2x 5.25-inch 1x 3.5-inch FD
Rack integration	4 U	4 U
Video memory	4 MB onboard	8 MB onboard
Ultra160 SCSI controller onboard	yes	yes
Zero-Channel RAID Controller	no	yes
Redundant hot-plug power supply unit	Yes	yes
Redundant hot-plug fans	yes	yes
Management Controller onboard	No	Yes

Further information on PRIMERGY servers and other Fujitsu Siemens Computer products can be found on: <http://www.fujitsu-siemens.com>



PRIMERGY BX 300 BLADE SERVERS

With their "server-on-a-board" technology, PRIMERGY BX300 blade servers set new standards for economy and reliability in data centers. The concept of fully integrated servers with the smallest possible footprint is implemented by the integration of hard disks and the main memory on the CPU blades. The latest low-voltage processors, the high-performance chipset and the gigabit LAN connection permit high performance over the smallest of spaces, coupled with a considerable reduction in power consumption.

The blade server chassis contains the common infrastructure, such as redundant and hot-plug capable power supply modules, fans, and management and switchblades.

Users can respond to increasing performance requirements simply by adding additional CPU blades online, without any change to the existing infrastructure.



PRIMERGY BX300



PRIMERGY BX300 blade servers have been optimized for rapid commissioning and simple administration. Intelligent concepts for remote server management permit automated configuration and installation of the operating system and application programs simultaneously for a large number of servers, even in large server farms.

PRIMERGY BX300 blade servers support standard operating systems for Intel-based systems such as Red Hat Linux and Windows 2000.

HIGHLIGHTS PRIMERGY BX300 BLADE SERVERS!

- Extremely compact design: a standard 19-inch rack with 46 height units can accommodate up to 300 CPU blades and the space available in data centers is used optimally

- Low power consumption and heat dissipation
- Simple configuration, installation, and operating system and software installation
- Excellent RAS functionality (reliability, availability, serviceability) thanks to redundancy and hot-swap capability of all blade server components in a chassis
- All data traffic into and out of the blade server is conducted via TCP/IP over LAN connections
- Complete server management software for remote installation/monitoring, administration and maintenance
- High scalability and flexibility for changing tasks
- PRIMERGY blade servers have a modular design; the compute nodes (CPU blades) are connected to the I/O modules (switch or LAN blades), management blades and power supply modules by means of a midplane:
 - Blade server chassis (3 height units)
 - 20 slots for CPU blades
 - Midplane

- Mouse, keyboard and monitor ports
- Two power supply modules
- Front panel with 5 fans
- Redundant fans at the rear
- LED's at the rear for status displays
- CPU blades
 - LV Intel® Pentium® III processors
 - Two DIMM slots for up to 2 GB SDRAM ECC-protected memory
 - Two 2.5-inch IDE hard disks with 20 or 40 GB in a RAID 0 or 1 configuration
 - Two Gbit Ethernet channels per CPU blade
 - An integrated keyboard, video and mouse switch for headless server operation
 - One VGA and two USB connections at the front
 - LED's for status displays
- Switch blades
 - Up to four gigabit LAN switches
 - 10 internal and 3 external connections
- Management blades
 - Two redundant, autonomous management blades with LAN and COM port
 - Extensive remote management software.

pcAnywhere™ 10.5 for SMB License in-a-box



→ **FAST AND SECURE REMOTE ACCESS TO PCs AND SERVERS**

Symantec pcAnywhere™ 10.5 for Small Business supports all Microsoft Windows 32-bit operating systems, including Windows XP. A complete, license-in-a-box solution, it is the world's #1 seller for fast, secure, and easy remote access. It lets mobile professionals securely and quickly connect to office PCs to transfer files and run applications –across a broad range of connection methods. And, it lets IT administrators remotely manage servers and provide helpdesk support as well as create customized installation sets to reduce the installation size, set policies, and incorporate security settings. Symantec pcAnywhere can be safely deployed in any environment. That's because it is developed and supported by Symantec –“The leader in Internet Security.”*

*Gartner Dataquest Study, October 2001

INGRAM MICRO SKU

→ 125 P709	PCANYWHERE 10.5 SMALL BUSINESS 10 USER	IN
→ 125 P710	PCANYWHERE 10.5 SMALL BUSINESS 25 USER	IN
→ 125 P711	PCANYWHERE 10.5 SMALL BUSINESS 50 USER	IN
→ 125 P721	PCANYWHERE 10.5 SMALL BUSINESS 10 USER	FR
→ 125 P722	PCANYWHERE 10.5 SMALL BUSINESS 25 USER	FR
→ 125 P723	PCANYWHERE 10.5 SMALL BUSINESS 50 USER	FR

Norton AntiVirus™ Corporate Edition 7.6 for Small Business

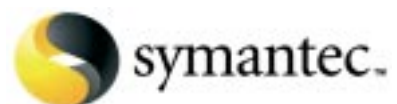
Norton AntiVirus Corporate Edition 7.6 for Small Business is a complete and easy-to-use license-in-a-box solution that protects desktops and file servers with the world's best-selling anti-virus technology. With a quick start card for fast installation and a one-year maintenance agreement that includes technical support and upgrade insurance, it delivers maximum value and complete protection –right out of the box. The Symantec System Center central management console makes it easy to install and maintain comprehensive, continuous protection for users. The Digital Immune System™, with its exclusive Closed Loop Automation, provides access to unparalleled Internet response mechanisms that deliver fast, reliable, and hands-free virus detection, analysis, and repairs. So even in the face of unusually heavy demand during serious outbreaks like the LoveLetter and Melissa attacks, Symantec's scalable backend architecture ensures that virus cures will

be available when needed most. Plus, Symantec's extensible NAVEX scanning and repair technology maximizes system uptime by providing the ability to update virus definitions and engine extensions without having to reboot servers or re-deploy software. As the latest version of Symantec's award-winning solution, Norton AntiVirus 7.6 for Small Business supports today's advanced technologies. The new release is compatible with Microsoft Terminal Servers as well as Microsoft Windows® XP, allowing businesses to enjoy uninterrupted protection as they migrate to the latest technology. Like all Symantec security products, Norton AntiVirus is backed by Symantec Security Response –the world's leading anti-virus and Internet security research and response organization.

* Technical support for the five-license pack is limited to a set number of occurrences per year.

INGRAM MICRO SKU

→ 125 N202	NAV SBS Desktop-Server 7.6 5 users INT
→ 125 N203	NAV SBS Desktop-Server 7.6 10 users INT
→ 125 N204	NAV SBS Desktop-Server 7.6 25 users INT
→ 125 N453	NAV SBS Total Protection 7.6 5 users INT
→ 125 N454	NAV SBS Total Protection 7.6 10 users INT
→ 125 N455	NAV SBS Total Protection 7.6 25 users INT



Windows® 2000 Server

The network operating system for the next generation of PC computing

Windows 2000 Server is the multipurpose network operating system for businesses of all sizes, from small, centralized organizations to the largest distributed enterprise.



Windows 2000® Server integrates standards-based directory, Web, application, network, file and print services with powerful end-to-end management and reliability to provide the best solution for integrating your business with the Internet. Windows 2000® Server is available in Microsoft OEM version including 5 clients!

INTERNET-ENABLING FEATURES

- Run rich web applications and host web sites easily
- Create & share powerful web solutions with XML integration
- Build scalable applications quickly with the Component Object Model (COM+)
- Securely connect mobile employees and branch offices on a VPN
- Simplify extranet user management with Active Directory
- Issue and manage digital certificates
- Secure data on hard disks or in transmission with encryption features
- Enable single logon to Windows 2000 and other supporting systems
- Increase productivity with increased file, print and web performance.

RELIABILITY FEATURES

- Identify reliable and unreliable drivers with driver certification
- Protect against errant web processes
- Dependably access data on file shares
- Ensure hard disk space availability
- Archive data automatically
- Increase volume size while online
- Increase disk performance while online
- Change and configure hardware without rebooting with Plug & Play
- Repair system more easily with Recovery Console
- Troubleshoot system during start up
- Configure automatic restart of failed services

RELIABILITY FEATURES

- Configure your server automatically
- Deploy copies of configured servers with System preparation tool
- Automatically record DNS computer names Dynamic DNS
- Set up network automatically
- Jumpstart telecommuting
- Allocate network bandwidth to priority applications or users
- Simplify and centralize management, strengthen security and extend interoperability
- Delegate administrative authority over resources on the network
- Remotely manage servers from almost any desktop through terminal services
- Migrate from a Windows NT 4.0 environment
- Interoperate with other directory services
- Manage system data from any source.

HARDWARE SUPPORTED

- USB printers, keyboards and mice
- Quality of Service-enabled switches and routers
- Directory-enabled networking devices
- IEEE 1394 enabled services
- Infra-red devices
- DSL, NAT & DHCP-enabled devices
- ATM & Gigabit network-enabled devices.

INGRAM MICRO SKU

- 803 CK64 WIN 2000 Server OEM SR2 NL 3PK €793.88/Unit
- 803 CK58 WIN 2000 Server OEM SR2 FR 3PK €793.88/Unit
- 803 BW16 WIN 2000 Server OEM SR2 UK 3PK €793.88/Unit
- 803 ZG27 WIN 2000 Server OEM SR2 GE 3PK €560.78/Unit
- Microsoft Retail Box WIN 2000 Server incl.5 clients +/- €1063.50/Unit

→ PACKAGING

- 1 unit per OEM distribution pack, includes 5 clients

→ LICENSING TERMS

- When may you buy Microsoft OEM Windows 2000?
- **If distributed with an assembled computer system** (for ex. IBM server, hp Server, Toshiba Server of Fujitsu-Siemens,...)
 - **One Condition: Microsoft OEM Windows 2000 Server must be preinstalled!**
 - **Price: Save Money with Microsoft OEM,** Microsoft OEM Windows 2000 Server about 20% cheaper than Microsoft Retail Box Windows 2000 Server.

Microsoft® OEM System Builder

SERVER PROMO'S

→ hp

- 943 D5T2
HP Server tc3100
PIII-1.26 GHz Mod18HS, 128 MB SDRAM, 18.2 GB - hot swap disk, dual channel, Ultra 160 SCSI, NIC, fdd and CD, hot swap, HDD cage, pedestal, 3yrs on site next day
- **+ HP SUMMER PROMO:** Now at Ingram Micro: 5% discount on all newly launched
- For more info please check page 15
- 876 DN92 **ProLiant ML350T02**
P1266 512 MB, 3x 8 GB SA-532
"File & Print III"

→ FUJITSU SIEMENS

- 077 8416 **Primergy C150 Power P4**

→ IBM

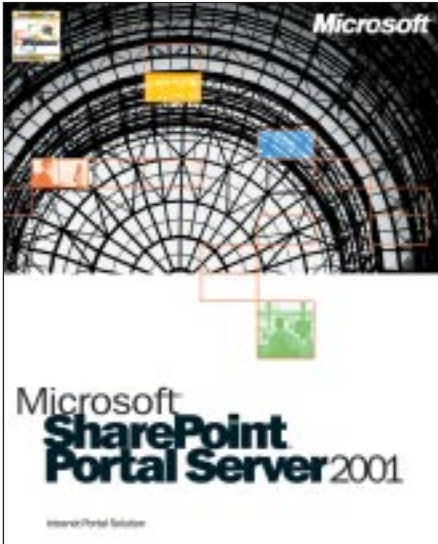
- 058 HE15 **EServer X220,**
PIII-1.26 GHz, 128 MB, 512 KB Cache, 18.2 GB U160, 40x CD, Ethernet

OPPORTUNITY: INSTALL WITH MS OEM WIN 2000 SERVER AND TAKE MORE PROFIT



SharePoint™ Portal Server 2001

SharePoint Portal Server combines the ability to quickly create corporate Web portals with search functions, document management features, and collaboration options.



As an organization creates and collects information, people spend increasing amounts of time searching, organizing, and managing that information. SharePoint Portal Server combines the ability to quickly create corporate Web portals with search functions, document management features, and collaboration options. SharePoint Portal Server is tightly integrated with the tools that you use every day –Windows Explorer, Office applications, and browsers– to help you create, manage, and share content throughout your organization.

Web portals are quickly becoming a popular means of aggregating information from many different sources into one convenient place. SharePoint Portal Server provides an easy way to create corporate Web portals and integrate document management and search capabilities.

SharePoint Portal Server creates a Web portal –known as the dashboard site– automatically during installation. The dashboard site offers a centralized access point for finding and managing information. By using a browser to view the dashboard site, users can perform document management tasks and find information.

→ **THE DASHBOARD SITE ALLOWS USERS TO:**

- Browse through information by categories
- Search for information
- Subscribe to new or changing information
- Check documents in and out
- Review a document's version history
- Approve documents for publication
- Publish documents.

The dashboard site can provide access to information stored both inside and outside your organization, allowing users to find and share documents regardless of location or format. In addition, you can customize the home page of the dashboard site to display organizational news and other important information.

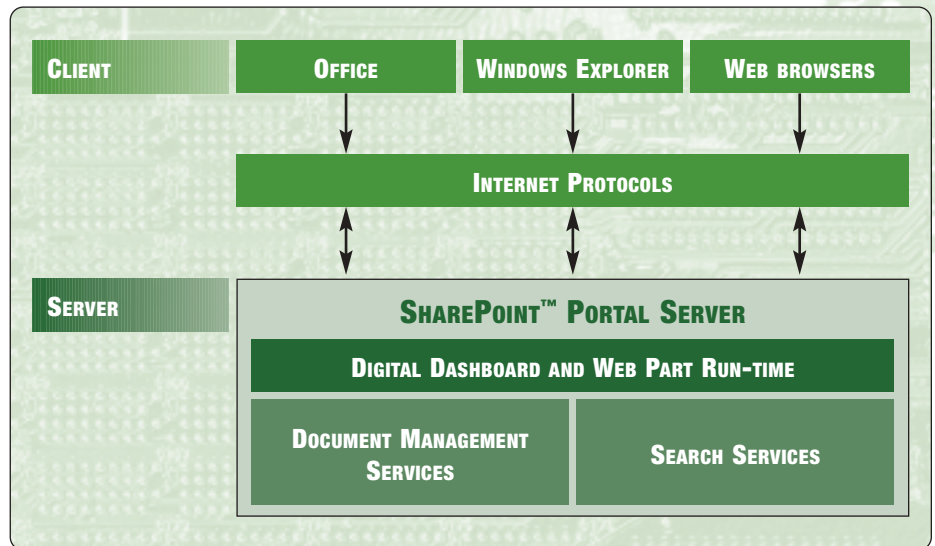
DOCUMENT MANAGEMENT AND PUBLISHING

Large and complex information sources, such as a collection of file shares, can be difficult to navigate

and use because there is little or no organizational framework to direct users. File shares, for instance, provide only a hierarchical directory structure as a means of organizing content. There is only one navigation path to any given document, and users must know the name of the server that the document is stored on, in addition to the directory structure of folders on the server. When you add other sources of information, such as Web sites, e-mail servers, and databases to the mix of information sources, finding the right information can be extremely difficult. Important documents can also be lost, overwritten, or hard to find.

SharePoint Portal Server offers a number of features to help streamline your document management such as:

- Version tracking to record the history of documents
- Application of descriptive, searchable information (metadata) to identify a document
- Document publishing control
- Automated approval routes for documents to be sent to reviewers
- Web discussions for online comments by multiple document reviewers
- Control of document access based on roles.



INGRAM MICRO SKU

→ 803 BH48	SHAREPOINT PORTAL SVR 2001 5 CLT WIN NT	UK
→ 803 BH47	SHAREPOINT PORTAL SVR 2001 25 CLT WIN NT	UK
→ 803 BD43	SHAREPOINT PORTAL SVR 2001 5 CLT WIN NT	FR
→ 803 BD42	SHAREPOINT PORTAL SVR 2001 25 CLT WIN NT	FR

Mobile Information Server 2002

Mobile Information Server 2002 extends the reach of Microsoft .NET-based enterprise applications, data, and intranet content into the realm of the mobile user. Mobile Information Server 2002 brings the power of the corporate intranet to the latest generation of mobile devices, so no matter where you are, you can securely gain access to your e-mail messages, contacts, calendars, tasks, or intranet line-of-business applications.

→ **MAKE YOUR ORGANIZATION MOBILE**

Microsoft's goal is to help bring information and mobile users together –any time, any place, and on any device. Mobile Information Server 2002 is the unifying technology to accomplish this goal. Through integration with Microsoft .NET Enterprise Servers and Microsoft Windows® 2000 Server, Mobile Information Server 2002 extends applications to multiple mobile devices and wireless applications from multiple vendors and wireless carriers.

Organizations demand carrier-class performance with high levels of reliability, scalability, and performance. In Mobile Information Server 2002, this is achieved using clustering, replication, load balancing, and content delivery. Additionally, Mobile Information Server 2002 delivers secure and private wireless communications and data exchange by offering end-to-end security features for all wireless solutions.

OUTLOOK MOBILE ACCESS

The business e-mail application, Microsoft Outlook®, is in constant demand. Now, by using the Outlook Mobile Access 2002 application that ships with Mobile Information Server 2002, users can stay more productive and efficient by combining the freedom and convenience of wireless devices with the power of key enterprise information.

Outlook Mobile Access is the mobile device and telephone portal operating environment for browsing and receiving notifications from Outlook e-mail messages, calendars, tasks, and contacts.

Mobile Information Server 2002 extends the reach of Microsoft .NET-based enterprise applications, data, and intranet content into the realm of the mobile user.

With secure, real-time access to live information from Outlook, you can easily control the communications and information sent through your cellular phone. By using Pocket Outlook in Pocket PC 2002, you can synchronize directly with your Microsoft Exchange 2000 data through Outlook Mobile Access 2002.

→ **MOBILE SERVICES AND SOLUTIONS**

For Mobile Information Server 2002 users, Outlook Mobile Access is only the beginning. Developers can use Mobile Information Server 2002 to extend the existing investment in the corporate intranet or a wire-line computing solution when building connectors and services for any data server type or application. Developers can also take advantage of their existing skills and tools to create new wireless applications and content based on the highly extensible Mobile Information Server 2002 architecture. Most importantly, the mobile device you already own becomes immediately more useful –Mobile Information Server 2002 offers broad support for multiple devices plus flexibility for new generations of devices.

FEATURES

Mobile Information Server 2002, when combined with Microsoft Outlook® Mobile Access, brings the power of the corporate intranet to the latest generation of mobile devices so you can gain secure access to your e-mail messages, contacts, calendars, and tasks.

→ **MOBILE-ENABLE THE ENTERPRISE**

- Mobile Gateway Functionality
- Notification Routing
- High Security
- Internet and Wireless Standards Support
- Mobile Device Support



- Integration with Windows 2000
- International Support
- Enhanced Security
- Updated Deployment Topologies
- New Language Support.

→ **OUTLOOK MOBILE ACCESS**

- Out-of-the-Box Productivity
- Tight Integration with Exchange
- Rich Browsing from Mobile Devices
- Push Notifications
- Microsoft Server ActiveSync
- Voice Call Option
- Worldwide Support.

→ **MOBILE SERVICES AND SOLUTIONS**

- Mobile Web Forms, Mobile Controls, and Microsoft ASP.NET
- Mobile Information Server and Mobile Web Forms and Controls
- Scalability and Performance
- Management Tools
- Administration Tools
- Updated Software Development Kit.

Further information on
Mobile Information Server 2002
 can be found on:
<http://www.microsoft.com/miserver/>

INGRAM MICRO SKU		
→ 803 FL62	MOBILE INFO SVR ENT 2002 W/5 OMAS	FR
→ 803 ZJ27	MOBILE INFO SRV ENT 2002 W/5 OMAS	UK



APC PowerStrucXure: let your imagination run!

PowerStruXure APC: Evolutionary database architecture for a tailor-made infrastructure.



APC POWERSTRUXURE

→ IMAGINE...

That you could reduce your spending on materials by investing in a database infrastructure that meets all your present requirements instead of giving an approximate estimation of your future ones.

→ IMAGINE...

That you would only have to capitalise on this initial investment to keep abreast of the evolution of your needs instead of wasting time and money in reinvesting in a new architecture.

→ IMAGINE...

That you could meet the unforeseeable evolution of your electricity requirements without any problem because your infrastructure smoothly adapts to change.

→ IMAGINE...

That you could manage the electricity supply of your data processing infrastructure while at the same time controlling all its internal components.

→ THEN IMAGINE...

Better availability, reduced service costs and a technical solution conceived and tested solely for your environment, from the power supply to the equipment that needs protecting.

→ IMPOSSIBLE?

**A FIGMENT OF THE IMAGINATION?
NOT AT ALL!**

APC IS PROUD TO PRESENT POWERSTRUXURE

An innovative solution that revolutionises the way in which databases are deployed both in existing or new structures.

PowerStruXure is a totally new database architecture that allows you to pay as you grow while saving up to 50% in capital costs, 20% in operating costs and giving you more mines of availability per Euro. It is the optimal database solution for today's facilities & IT managers.*

This is only a brief overview of what PowerStruXure is all about. APC and Ingram Micro recommend you looking into this product as early as possible when setting up a project.

From mid-June onwards, you can contact our SNS group who will be happy to help you in putting together your solutions. At the same time, an APC specialist is on hand should you wish him to accompany you to your client to determine the optimal solution.



THE TEN POINTS TO FOLLOW FOR DATABASES

APC has already had more than 500 meetings with its partners and users throughout the world and closely observed the trends that are emerging in today's database environment.

→ THEY CAME UP WITH THESE TEN POINTS THAT IT WOULD BE WISE TO FOLLOW:

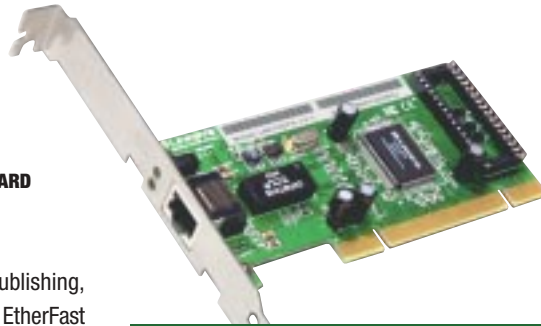
- 1** Optimise the investment and available space
- 2** Adapt to meet the on-going evolution in needs
- 3** Accelerate the speed of deployment
- 4** Reduce costs of technical support contracts
- 5** Reduce the average length of restarting
- 6** Manage the ever-growing and unpredictable power evolution
- 7** Minimise failures between the wave and the critical charge
- 8** Reduce human errors
- 9** Manage the multiplication of cables and connections
- 10** Simplify the complexity of the system.

Wired network @ Linksys

ETHERFAST 10/100 LAN CARD

→ **10/100 MBPS FAST ETHERNET PERFORMANCE IN A MANAGED PCI CARD FOR DESKTOP COMPUTERS**

Built to run with the fastest video, publishing, and database network applications, the EtherFast 10/100 LAN Card is a high performance network adapter for 32 bit PCI local bus computers. Boasting an incredible maximum data throughput of 200 megabits-per-second in full duplex mode, it includes an auto-sensing dual-speed 10BaseT/100BaseTX port, which means that you can begin integrating Fast Ethernet now even if you don't plan on upgrading to a 100 Mbps network right away. The EtherFast 10/100 LAN Card is Windows Plug-and-Play compatible. The card also runs on almost all popular OSes, including Windows NT, NetWare and Linux. Wake-On-LAN support is built in: you can wake up your workstations from anywhere on the network! Built-in support for the widest range of PCT motherboards, networking hardware, and software means you don't have to worry about compatibility.



ETHERFAST 10/100 LAN CARD

The 8-port rack mountable switch is great for enterprise and medium-sized business use. Etherfast Switches eliminate bottlenecks and bandwidth constraints, optimising network performance while protecting your investment in your existing infrastructure. By migrating your entire network to Fast Ethernet with Etherfast Switches, you will have the power to double your network's performance with full duplex speed up to 200 Mbps.

The Etherfast 10/100 Switches pack a full suite of error detection and correction features for reliable communication every time. Auto-partitioning, data collision control, preamble regeneration and incoming frame retiming ensures that not a single bit is lost, even during the heaviest moments of network activity. Built to last, these switches are optimised to deliver high-end video, multimedia and other speed-intensive applications at blistering speeds.

ETHERFAST CABLE/DSL ROUTER

→ **WITH A BUILT-IN 4-PORT 10/100 SWITCH FOR HIGH INTERNET ACCESS SHARING**

The Linksys Instant Broadband Etherfast Cable/DSL routers are the perfect solution for connecting a group of PCs to a high-speed broadband Internet connection and a fast Ethernet or Ethernet backbone. Configurable like a DHCP server, the Etherfast Cable/DSL routers act as the only externally recognised Internet gateways on your LAN. The router can be configured to regulate internal user' access to the Internet and serve as an Internet firewall against unwanted outside intruders.



ETHERFAST CABLE/DSL ROUTER 4 PORT

This cutting-edge combination of router and switch technologies eliminates the need to buy an additional hub or switch and serves your network as a completely dedicated, full-duplex backbone.

FEATURES

- Model: LNE100TX ver.5.1
- Standards: IEEE 802.3, IEEE 802.3u, PCI 2.1, ACPI, PC99
- Protocol: CSMA/CD
- Ports: 1x 10BaseT/100BaseTX R-45 port
- Cabling type: UTP category 5 or better
- Speeds (Mbps): 10 or 100 (half duplex) 20 or 200 (full duplex)
- WOL support: Power management event
- Bus type: 32-bit PCI

10/100 8 PORTS SWITCHES

→ **COMPACT DESIGN-POWERFUL DEVICE FOR INTERNET-READY NETWORK CONNECTION**

The Etherfast 8-Port 10/100 Workgroup Switch is a quick and easy way to boost your network's performance while migrating to the power of Fast Ethernet. With support for half and full duplex speeds, the switch allows your network to run at 10 Mbps, 20 Mbps, 100 Mbps and an incredible 200 Mbps!

FEATURES

- Model: EZXS88W
- Standards: IEEE802.3u
- Protocol: CSMA/CD
- Topology: Star
- Ports: 8x 10BaseT/100BaseTX RJ45, 1 uplink
- LEDS: Power, Link/activity (per port), full duplex/collision (per port), 100 Mbps (per port)
- Cabling type: UTP Category 3 or higher (10BaseT) UTP Category 5 or higher (100BaseTX)

FEATURES

- Model: BEFSR41
- Standards: IEEE 802.3, 10BaseT, 802.3u, 100BaseTX
- Protocol: CSMA/CD
- Ports: Four 10/100 RJ-45 switched connectors (LAN) One 10BaseT RJ-45 connector for ADSL/Cable modem (WAN)
- Speed: Router 10 Mbps, switch 10/100 Mbps
- Cabling type: UTP/STP category 5
- Topology: star
- Led indicators: power, link/activity, full Duplex/collision, speed for LAN Link, Activity, Diag for WAN.



Wireless network @ a really good price!

INSTANT WIRELESS NETWORK ADAPTER

→ **THE FREEDOM TO WORK WHERE YOU WANT, THE FLEXIBILITY TO WORK HOW YOU WANT**

Attention Notebook PC Users: Put the "mobile" back into mobile computing! Whether you're at your desk or in the boardroom, the Linksys Instant Wireless Network PC Card allows you to share printers, files, and other resources anywhere within your LAN infrastructure, increasing your productivity and keeping you "in touch".

The Instant Wireless Network PC Card now has a new higher powered antenna that provides greater ranges than ever. The increased sensitivity helps filter out interference and "noise" to keep your signal clear. Improved error correction in the chipset keeps you operating at higher transmission rates for longer distances. And, since you only need one Type II or III PCMCIA slot, you're free to use your other slots for additional accessories.



Ready to run in Type II or III PCMCIA equipped notebook PCs running Windows 95, 98, Millennium, NT, 2000, and XP, the Instant Wireless Network PC Card from Linksys is truly a "musthave" for all notebook PC users.

FEATURES

- Model Nr: WPC11
- Standard: IEEE 802.11B
- Channels: 13 channels in Europe
- Operating range:
 - Indoor: Up to 30m @ 11 Mbps
 - Up to 50m @ 5.5 Mbps
 - Up to 70m @ 2 Mbps
 - Up to 91m @ 1 Mbps
 - Outdoor: Up to 152m @ 11 Mbps
 - Up to 270m @ 5.5 Mbps
 - Up to 396m @ 2 Mbps
 - Up to 457m @ 1 Mbps
- Card type: 6-bit PCMCIA type II
 - LEDS: Power, TX/RX

NETWORK ACCESS POINT

→ **THE LATEST IN WIRELESS TECHNOLOGY. THE ULTIMATE IN NETWORK FLEXIBILITY.**

Don't be bound by cabling restrictions any longer! The Instant Wireless Network Access Point from Linksys delivers the freedom to configure your network your way. Utilization of "state-of-the-art" wireless technology gives you the ability to set up workstations in ways you never thought possible; no cables to install means fewer expenses and fewer hassles.

The Instant Wireless Access Point's high-powered antennas offer a range of operation of up to 500 meters providing seamless roaming throughout your LAN infrastructure. Advanced user authentication ensures a high level of security for wireless networking, while easy-to-use Windows-based diagnostics and statistic tools ensure that you'll always be in control. Best of all, the Instant Wireless Access Point features easy installation - just plug it in and you're ready to go!

When all these features come together in one compact, lightweight, and power-efficient unit, you have the ultimate in flexible networking-the Linksys Instant Wireless Access Point.

FEATURES

- Model Nr: WAP11
- Standards: IEEE802.3 (10BaseT), IEEE802.3u (100BaseTX), IEEE802.11B (Wireless)
- Channels: 13 channels in Europe
- Ports: 1 RJ45, 1 USB
- Cabling type:
 - 10BaseT: UTP category 3 or better
 - 100BaseTX: UTP category 5 or better
 - USB: USB cable
- LEDS: Power, ACT, Link (wired-link/activity)



INSTANT WIRELESS ETHERFAST CABLE/DSL ACCESS POINT/ROUTER

→ **CONNECT YOUR WIRELESS NETWORK TO YOUR HIGH-SPEED BROADBAND PIPELINE.**

The Instant Wireless EtherFast Cable/DSL Access Point/Router provides the ideal solution for connecting your wireless network to a high-speed broadband Internet connection and a 10/100 Fast Ethernet backbone. Configurable as a DHCP server for your existing network, the EtherFast Cable/DSL Access Point/Router acts as the only externally recognized Internet gateway on your local area network (LAN) and serve as an Internet firewall against unwanted outside intruders. The Router can also be configured to filter internal users' access to the Internet.

A typical router relies on a hub or a switch to share its Internet connection, but the Linksys EtherFast Cable/DSL Access Point Router channels this connection through the blazing, full duplex speed of its built-in EtherFast 10/100 4-Port Switch. This cutting-edge combination of wireless router and switch technology eliminates the need to buy an additional hub or switch. Now your entire wireless network can enjoy blazing broadband Internet connections supported by its robust switched backbone. With the dual-function speed and power of the EtherFast Cable/DSL Access Point/Router, your network will take off at speeds faster than you ever imagined possible.

FEATURES

- Model nr: BEFW11S4
- Standards: IEEE802.3 (10BaseT), IEEE802.3u (100BaseTX), IEEE802.11B (wireless)
- Protocol: CSMA/CD
- Ports:
 - WAN: 1 RJ45 ports for cable/DSL modem
 - LAN: 1 shared uplink port, 4 10/100 RJ45 switched ports
- Cabling type: UTP category 5 or better
- LEDS: power
 - WAN: Diag, act, link
 - LAN: 100, full/col, link/act, WLAN Link, WLAN ACT