

Open For Business

HP 9000 Series 800
Business Servers
Buyer's Guide to Success

December 1992

**FIFTH
EDITION**



Foreword

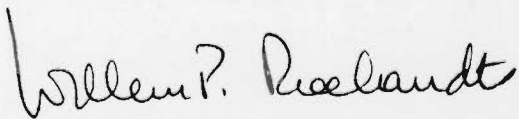
In today's fast-moving global marketplace, timely access to meaningful and accurate information can make the difference between profits and losses. So it's more important than ever to maximize the efficiency and productivity of the computing resources that manage this business critical information. The catalyst to sustaining a competitive advantage is ensuring your business strategy drives your information technology (IT) strategy and implementation...not vice versa. This can only be achieved by ensuring that the IT strategy is inherently flexible, allowing your company to respond to the changes in your business environment.

In addressing your IT strategy, the choice of strategic vendors for your computer systems can be complex: different operating systems, software architectures...and conflicting vendor philosophies. As a business manager myself, I believe that, in the final analysis, the system you choose is not going to be successful solely because of its performance, innovative technology, or software solutions. It must help you solve your business problems.

Today, more and more leading companies are solving their business problems through Open Systems.

Open Systems protect your investment in software, hardware, and training. These systems also contribute to increases in productivity and quality, ultimately transforming your business into a prosperous enterprise. With seamless communications across heterogeneous platforms, providing greater access to business data and improving teamwork, open standards further help to reduce costs and increase flexibility. You can integrate old and new computer systems and choose innovative products from a variety of vendors. What's more, with an open and flexible information system, people can make faster, more effective decisions. Consequently, your company can improve its responsiveness to market conditions, which increases your competitive position and impacts your bottom line.

HP is committed to Open Systems. As your information technology partner, I believe our commitment distinguishes us from other suppliers as clearly as the capabilities and quality of our systems and services.



Wim Roelandts
Vice President, Computer Systems Organization
Hewlett-Packard Company



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<i>How to Use This Overview</i>	If you are involved in the evaluation or purchase of computer systems, this overview of HP 9000 Business Servers is written for you. It provides a comprehensive overview of the business benefits of HP 9000 Open Systems capabilities and solutions. And it shows you how HP 9000 systems can help you create a more competitive and profitable business. The Executive Overview summarizes the business advantages of HP 9000 Series 800 systems in addressing business challenges with Open Systems, and provides a series of industry successes showing how HP solutions helped to solve customers' business problems. Sections 1–4 provide Information Technology Managers with a more detailed look at HP 9000 systems and solutions, consulting services and support, and suggestions on your next steps to success.	



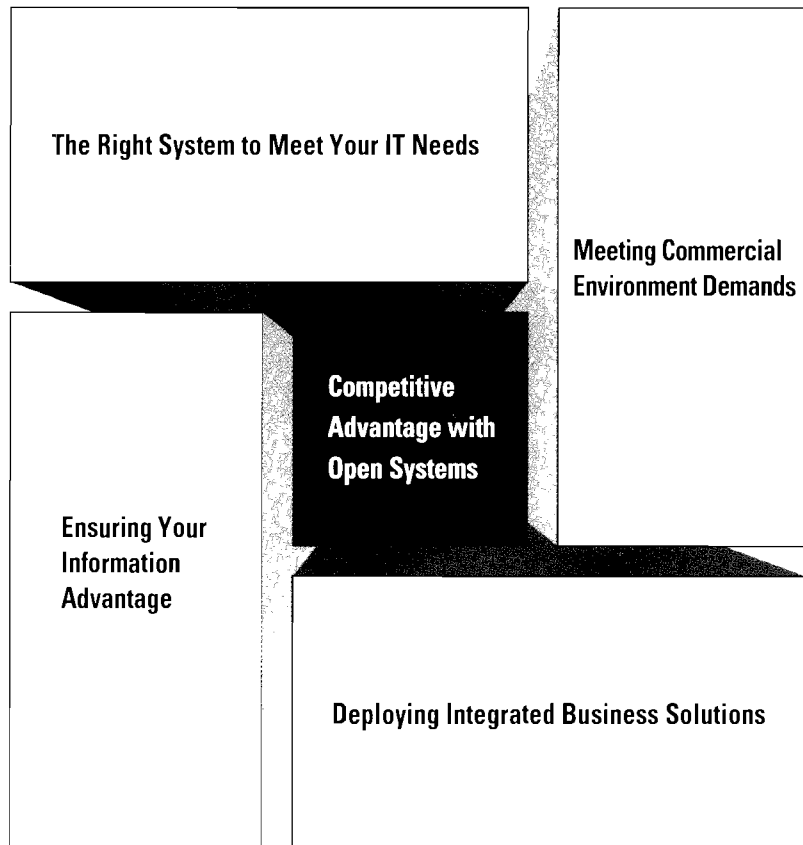
Competitive Advantage with Open Systems

Executive Overview

Addressing Business Challenges

HP: Open Systems Leadership

Proven Successes



Addressing Business Challenges

It is vitally important for the continued success of your corporation to seek strategic alternatives to help your organization remain competitive and profitable in this challenging business environment. Today's business challenges span everything from a recessionary business climate and tighter budgets to increased global competition with smaller profit margins, all within the context of higher customer expectations.

To help address these business demands, companies are reshaping business processes with information technology. The key to gaining an edge in today's business climate is flexibility in responding to market conditions, which can be attained via easier access to meaningful information.

The flexibility of Open Systems is critical to enabling change for your success. The advantage of an Open Systems approach to computing is that it has the capability to adapt your information systems quickly to a dynamic

business environment. This allows for faster, better informed decision making, shorter product development cycles, and improved responsiveness to customers.

HP's business is open information systems. So for almost any challenge you're likely to encounter, we can help—with innovative Open Systems products and proven solutions, services, and support, while maintaining quality business relationships with customers and partners. We've been successful with businesses around the world in improving productivity and efficiency, controlling costs, increasing flexibility, and enhancing competitiveness. And your company can profit from our experience.

Reshaping business processes with information technology

Many companies have found that the old ways of doing business do not apply to the highly competitive 1990s. The enhanced communication from Open Systems is conducive to an interdepartmental teamwork approach in solving business problems. At HP, we partner with our customers in applying Open Systems technology, to improve the processes which form the core of their business operations.

Aligning information systems with corporate goals

Historically, computer automation has focused on automating repetitive tasks, such as payroll and financials. Today, executives are looking beyond automation, and into the information technology community to provide systems which augment the decision making process and proactively support the overall goals of the business. Because Open Systems

can provide meaningful enterprise-wide information to the people that need it, they are better empowered to make well informed decisions. HP's modular approach to Open Systems allows companies to focus their IT investments toward creating and reinforcing a competitive advantage.

Controlling costs while leveraging past IT investments

A compelling benefit of the Open Systems paradigm is that businesses are no longer held hostage by computer vendors which try

to "lock in" customers to their systems. The fiercely competitive nature of the Open Systems marketplace is driving the costs of computers down, without requiring customers to sacrifice functionality. Today, HP customers are free to choose from a scalable platform, the most cost-effective systems to meet current business requirements, while leveraging past investments in legacy systems.

HP *'s best-in-class hardware, software, and support provide you with all the benefits of Open Systems and more.*

- **Broadest range of compatible servers in the industry allows your business room to grow**
- **Industry-leading price/performance reduces your cost of ownership**
- **Selection of thousands of software solutions enables you to choose the perfect application**
- **Broad range of clients and peripherals provides one-stop shopping**
- **Robust network and system management capabilities streamline operations**
- **Multi-level security safeguards your data**
- **High availability enhances mission critical applications**
- **Integrated office solutions increase end user productivity**
- **Customized consulting helps align IT with your corporate goals**
- **Support services ensure your uptime**

"We feel HP is clearly the leader in Open Systems and we're very comfortable with their ability to deliver an excellent solution on time and within budget. With these solutions, the system can expand and adapt to meet our needs, which means our investments in hardware, software and training will be protected."

—Jim Sage, VP of Information Systems, Camelot Music

HP: Open Systems Leadership

HP Is Open for Business

HP's family of RISC-based HP 9000 Business Servers and workstations represents the broadest Open Systems product line in the industry. Period.

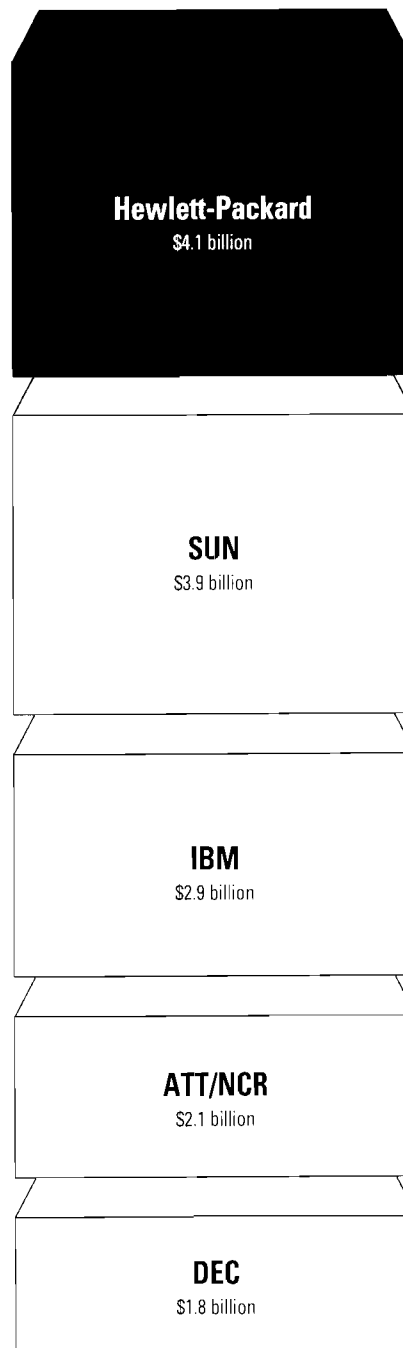
HP 9000 Business Servers can transform your complex network of information and resources into a single, coherent, and well orchestrated business enterprise—with exciting power and flexibility. You can select powerful systems from a single, compatible product line to meet the total needs of your business...from desktop computers, to workgroup or department servers, to traditional mainframe class systems.

Open operating system of choice

UNIX is becoming the open operating system of choice as companies today are looking at issues such as vendor independence, Open Systems, client/server architecture, and cost reductions balanced by increased performance.

Because of HP's proven commitment to Open Systems and standards, we have paved the way for you to integrate old and new computer systems, choose innovative products from a variety of vendors, and link everything into a cooperative network that supports your business goals.

Top UNIX Vendor



The Open Systems leader

Hewlett-Packard is a pioneer in developing and promoting the Open Systems which bring together people and information from all corners of your organization.

HP customers can benefit from our years of experience in Open Systems leadership:

- HP is the top worldwide UNIX[®] vendor (see figure 1).
- HP's customized consulting services provide a roadmap to Open Systems.
- Over the past nine years of U.S. Datapro surveys, HP has consistently ranked the highest in support and service.¹ Additional independent research rates HP as a worldwide leader in overall customer support satisfaction, as well as customer satisfaction.
- For over five years, HP has been the most attractive major computing platform for Value Added Resellers (VARs), topping DEC, IBM, and Sun.² VARs find the HP 9000 an attractive platform providing more than 5,000 applications on HP 9000 Business Servers (see figure 2).
- In the commercial multiuser RISC/UNIX market, HP is the number one vendor, compared with DEC, IBM, Sun, and others, with a 49% market share (see figure 3).³

UNIXworld, December 1992

Figure 1 As the top UNIX vendor, HP gives you a broad line of solutions from which to choose!

¹ Based on maintenance effectiveness, maintenance responsiveness, troubleshooting, documentation, and education.

² Based on survey of 1,250 VARs. The overall winner in 18 categories on products, pricing, support, and partnership. *ValueBusiness*, 1987-1991.

³ Based on 1991 worldwide commercial multiuser RISC/UNIX revenue. Aberdeen Group Market Viewpoint, "Commercial Multiuser UNIX 1992: RISC and Hewlett-Packard are the Buyers' Choices," February 1992.



HP Receives Top Honors from Partners



Figure 2 HP received top honors for overall score and overall impression from VARs in the 1992 VARBUSINESS Annual Report Card Review.

Committed to standards

With the emergence of distributed, client/server computing environments, HP's commitment to standards is more relevant than ever for multivendor integration and application migration. HP believes that the best way to protect our customers is to carefully innovate new technologies with business benefits to meet our customer's needs, and drive them into wide usage through licensing and standards. With compliance to hundreds of industry standards, our track record is indisputable.

You can see our commitment to standards as you look at our credentials:

- HP systems are among the first to be compliant with new standards, such as X-Open and POSIX.
- Founding sponsor of Open Software Foundation (OSF).
- HP has over 300 employees on standards committees to drive the development of new standards with HP contributed technology and ensure compliance to new standards.
- HP technologies are consistently selected as industry standards (i.e. components of DCE, DME, OSF/Motif,TM etc.).

As proof of our long-term commitment, HP continues to recognize future computing trends and contributes technologies to support them. HP was a leading contributor to OSF/Motif, a user interface technology enabling

ease of use, and Distributed Management Environment (DME) for simpler management of distributed, multivendor networks. HP also played a key role in the development of foundation technologies for OSF's Distributed Computing Environment (DCE), which provides transparent interaction of applications in multivendor and client/server environments.

Superior multivendor integration

HP's extensive multivendor experience and networking products enable you to easily link HP 9000 Business Servers into many vendors' networking environments including those of IBM, DEC, Novell, Banyan, and more. This allows you to take advantage of HP's superior reliability and performance in multivendor computing environments.

#1 RISC/UNIX Vendor in Commercial Multiuser Environments

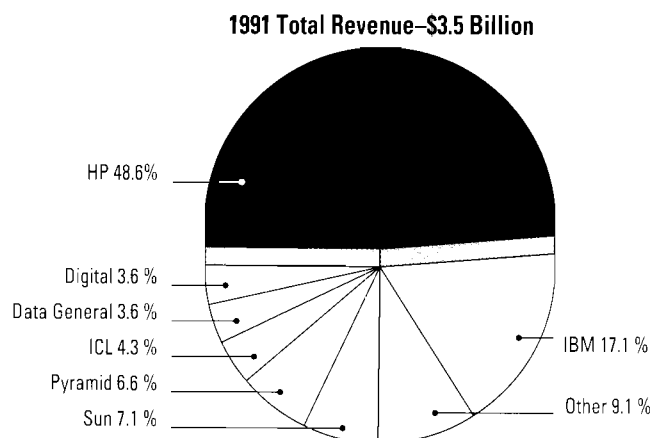


Figure 3 HP dominates the market for commercial multiuser RISC/UNIX.

The completeness of HP's networking products and services is sure to support your broad spectrum of applications and systems. Industry reports consistently note that HP offers the widest range of network protocols in the industry, which enables interoperability with your existing computer networks and helps eliminate costly customization.

Forging cooperative partnerships

At HP, we're committed to forging successful and cooperative partnerships with our customers.

HP has organized itself around key industries to develop the expertise to team with you in identifying your business goals, inhibitors, and critical success factors.

Our field sales force has been extensively trained to understand not just our products, but your business challenges, and to offer long-term solutions that leverage your existing data and applications, while providing a solid foundation for your future.

Best-in-class applications

In order to ensure our customers have the best application to run their business, HP works closely with key software providers to equip our customers with the leading business applications.

Implementation services

Through its Professional Services Organization, as well as relationships with key systems integrators with specialized expertise, HP ensures you of a successful and creative implementation.

Channel of choice

To leverage our capabilities to your further advantage, we've also aligned ourselves with a team of HP Channel Partners that includes distributors, dealers, value-added businesses, systems integrators, and consultants. All because we're interested in developing a mutually beneficial long-term relationship with your company. Consequently, you can acquire the HP product you want from the source that provides you the best combination of price, availability, service, and support.

Providing the safety of a leader

We've built a strong company by devoting ourselves to high-quality products, customer relationships, and support. And the evidence of our success is well documented.

With computer companies today facing insurmountable difficulties, having a financially stable computer partner like Hewlett-Packard is essential to long-term IT competitiveness.

With revenues at \$16.4 billion in 1992, consistent profitability, and R&D expenditures an aggressive 10% of sales, HP's financial stability and technical innovation provide a reassurance that we will continue to provide technology to help solve customers business problems, today and in the future (see figure 4).

Open for business

If you're looking for the one company that provides all of the advantages of UNIX Open Systems and solutions required to run your business profitably, choose HP. HP has demonstrated leadership with our broad offering of HP 9000 Open Systems, rich commercial environment for business applications, superior integrated solutions, premier customer support, and a corporate quality. All of this proves that, as your information technology partner, *HP is open for business...your business.*

"HP is not only defining the standards for excellence that its competitors...especially IBM...are trying to follow, but it has also gained the overwhelming acceptance of the most discriminating judges in the industry...real buyers reengineering their enterprises' mission critical applications to gain an increased competitive advantage."

—Aberdeen Group, February 1992

The Financial Strength of a Leader

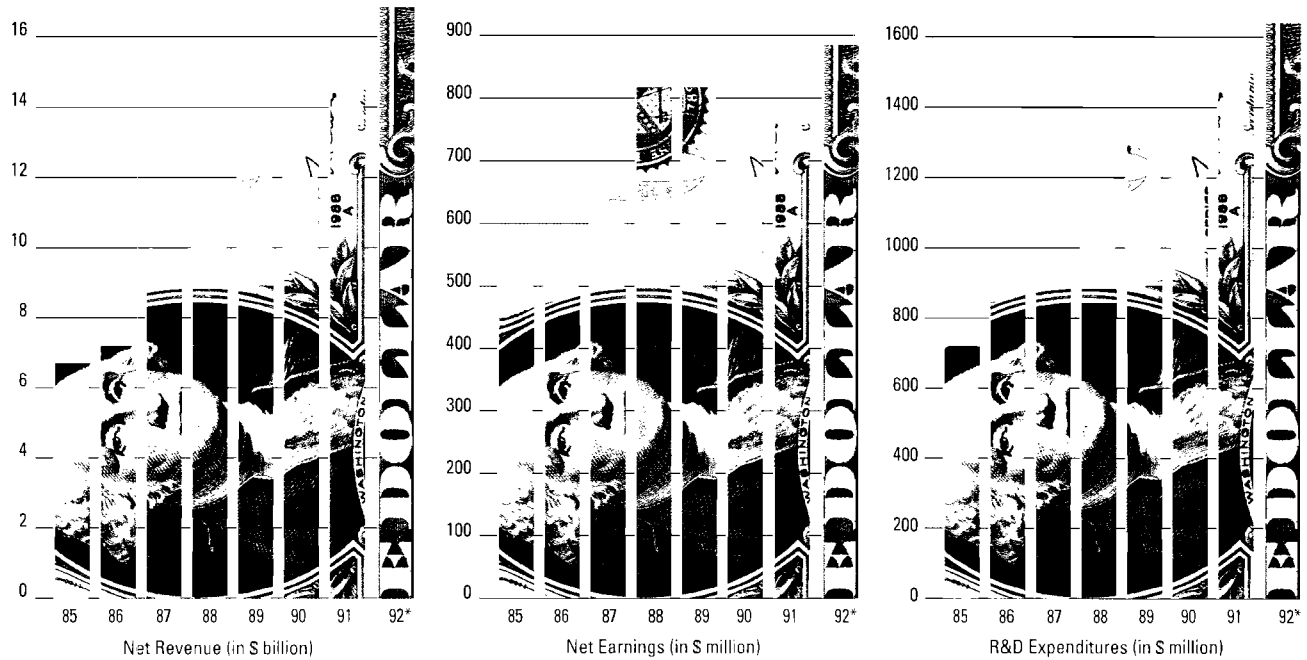


Figure 4 HP's financial strength makes us the safest choice for a UNIX system.

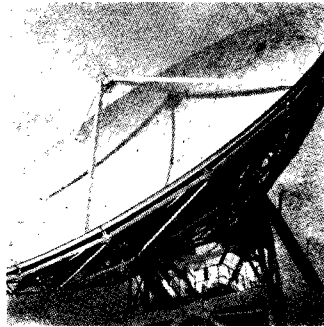
“And, simple as it sounds, it is easy to work with HP: the company knows how to develop and maintain successful business relationships with customers and suppliers.”

—InfoCorp, July 1991

* The figures for 1992 are unaudited. Net earnings for 1992 exclude the effects of one-time accounting charges.

PARTNERS :

Allen-Bradley •
 American Software •
 Andersen Consulting •
 Answer Computer •
 ASK/Ingres •
 Banctec •
 CAP Gemini •
 CGI Group •
 Cincom Systems •
 Collier-Jackson •
 Computer Associates •
 Comshare •
 Consilium •
 Cellular Technical Services •
 CyCare •
 Dun & Bradstreet Software •
 Datalogix Formula Systems •
 EDS •
 Fourth Shift •
 HBO •
 Information Builders •
 Informix •
 Lawson Software •
 Legent Corp. •
 Manugistics •
 McHugh-Freeman •
 Micro Focus •
 Novell •
 ORACLE •
 PDX •
 PeopleSoft •
 Plexus Software •
 PRC •
 Price Waterhouse •
 Progress •
 PSI •
 Ross Systems •
 SAI •
 SAP AG •
 SAS Institute •
 Software AG •
 Software Alliance •
 Sterling Software •
 Sybase •
 Symix Computer Systems •
 Systematics •
 TeleSciences •
 Texas Instruments •
 Unify •
 Xerox Computer Services •



TELECOMMUNICATIONS AT&T

Application:
Network Surveillance System

Benefit:
Revenue enhancement and protection through increased network availability, improved service quality, minimal service disruption, and efficient use of skilled resources. Capital savings through modular architecture, highly reliable equipment and multi-vendor network element support.

"Hewlett-Packard technology is ideal for a company like AT&T which does business all over the world. HP's wide range of compatible systems reduces time-to-market and gives us flexibility to offer a line of operations systems with varying capabilities and capacities."

Linda Nardelli
Manager, Operations Systems

AT&T's TRANSVU II provides sophisticated alarm tracking and network performance monitoring using HP 9000 Series 800 Servers with HP's robust high availability solutions. Also, the Datalogix VCS provides flexible multi-host and inter-host communications. HP's state-of-the-art platform will support AT&T's evolving transmission network.



RETAIL Home Depot

Application:
Store Automation and Point-of-Sales System Network Gateway

Benefit:
Improved customer satisfaction from increased automation allows employees more time with customers.

"Proprietary systems can limit flexibility and growth. We want to keep our application cost-effective and our vendors competitively honest."

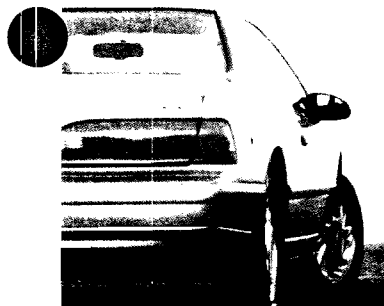
"Home Depot is committed to the concept of Open Systems. We need store automation support and technology from a company that shares that commitment. That led us to select Hewlett-Packard."

Andy McKenna
Sr. VP, Information Services

Home Depot selected HP based on Hewlett-Packard's systems flexibility, price/performance, value, and support.

Advanced technologies like PA-RISC, RDBMS, client-server computing, and network management will streamline operations, improve customer service, and enable Home Depot to react more quickly to changing customer needs.

Hewlett-Packard for Success



AUTOMOTIVE **Ford Electronics**

Application:

Inventory Management...Local Location Tracking System

Benefit:

Improved quality tracking and inspection, reduced work-in-process (WIP), parts substitutions, and fewer changeovers from inventory shortages.

"HP's leadership position in Open Systems is strategically right for us. Their hardware and software are very good at communicating with different vendor's equipment."

Larry Granger
Manager, Information Systems

Reaching over 99 percent inventory accuracy allowed Ford's North Penn plant to move closer to just-in-time operation with its suppliers. Key to this success were the HP 9000 systems and an inhouse "Local Location Tracking System."

Ford Electronics and Refrigeration Corporation has a well-deserved reputation for quality. Logically, it turned to another high-quality vendor for its computer systems and related expertise in configuring advanced computer technologies:
Hewlett-Packard Company.



PACKAGED GOODS **Chesebrough-Pond's USA**

Application:

Consumer Information System

Benefit:

Aids in the effective resolution of all consumer issues, minimize liability, contribute to operating division product support, and assist the corporation with an accurate assessment of consumer perceptions about their products.

"Chesebrough-Pond's USA recognized that in order to address the challenges that we face in utilizing information systems effectively, dramatic information technology changes were needed. We selected Hewlett-Packard to provide the Open Systems architecture and solutions, because they understood our business, and were willing to make the investment, creating a strategic alliance between our two companies to achieve a competitive advantage."

Gene Goodmaster
Director, Management Information

Implementing HP's Open Systems client-server architecture, which embraces industry standards and adheres to the corporate IT policies, will improve customer service, brand loyalty, and the company image while providing critical information across the enterprise.

SOLUTION CATEGORIES:

- Accounting
- Aerospace
- Application Development
- Artificial Intelligence
- Automotive
- Banking/Insurance
- Chemical/Pharmaceutical
- CASE
- Construction
- Corporate Services
- Data Communications
- Distribution for Resource Planning
- Education
- Electronics
- Energy
- Financial Services
- Food and Packaged Goods
- Government/Nonprofit
- Graphics
- Health Care Information Systems
- Hotel Management
- Human Resource Management
- Languages/Operating Systems
- Legal Services
- Libraries
- Logistics
- Manufacturing Execution Systems
- Marketing, Sales & Service
- Materials Resource Planning
- Math/Statistics
- Media
- Office Information
- Oil and Gas
- Payroll
- Project Management
- Property Management
- Public Utilities
- Publishing
- Quality Control
- Real Estate
- Retail Trade
- Securities
- Software Engineering
- System Management
- Telecommunications
- Transportation
- Utilities/User Interface
- Voice Communications
- Warehouse Management
- Wholesale Distribution

The Right System to Meet Your IT Needs

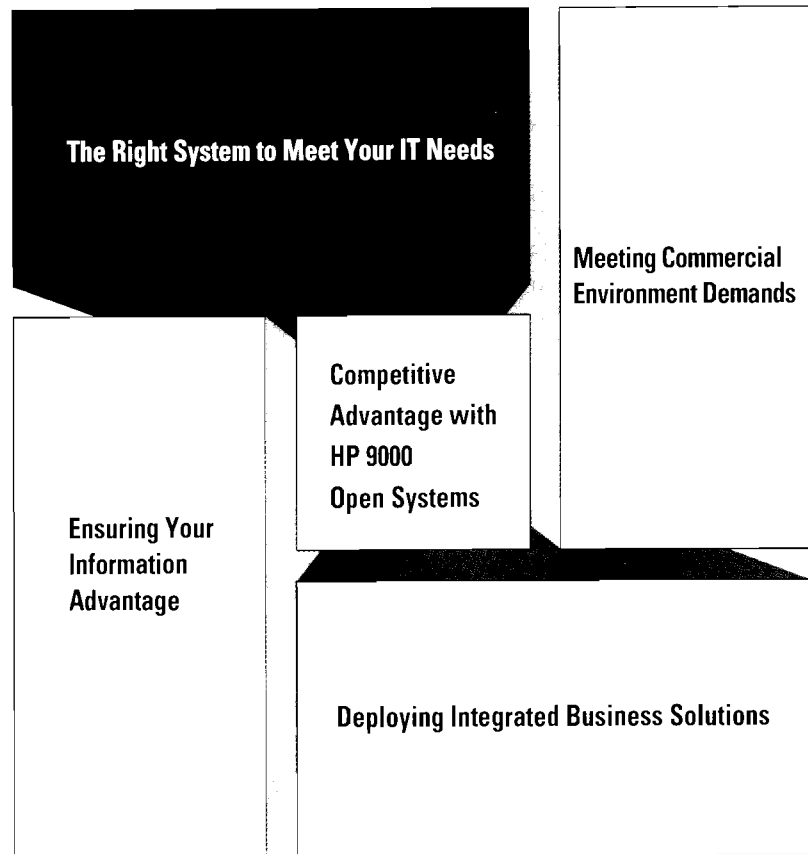
Section 1.

**Broadest
System
Offering**

**Flexible
Networking
Solutions**

**Full Client
Choice**

**Superior
Peripherals**



The following sections of this guide are targeted at Information Technology (IT) professionals for a more comprehensive technical overview of the HP 9000 Business Server Solutions.

The HP 9000 family represents complete business solutions offering a depth and breadth of enabling technologies for your data processing environment, including:

- The most extensive line of compatible UNIX-based RISC servers and workstations in the industry—with high performance, modularity, and object-code compatibility from desktop to data center.
- Excellent multivendor networking—for communication over

local- and wide-area networks, giving you easy access to IBM, DEC, and other vendors' systems throughout your distributed environment.

- The widest selection of Independent Software Vendor (ISV) application solutions—including thousands of business applications across a range of functions and industries.
- A comprehensive line of all the supporting components needed to build a complete client/server solution, including workstations, PCs, terminals, X-terminals, mass storage, and printers.

This section will focus on the flexibility HP offers in choices of hardware from servers and clients to peripherals, and the networking capabilities to suit your business enterprise.

A System Suited to Every Environment

No matter whether your organization is a small department, a branch office, a large distributed or centralized computing environment, you can find an HP 9000 Series 800 Business Server that meets your needs (see figure 1.1).

With systems supporting up to 4500 users, HP 9000 Business Servers are suitable for everything from small work groups to large data centers. In addition, a variety of packages and configurations enables you to take advantage of HP 9000 premium performance in client/server or traditional host/terminal environments.

Integrated Business Servers

The HP 9000 Series 800 Models F/G/H/I Class Business Servers are designed to provide the most powerful, reliable performance for

diverse application areas in a multiuser, multitasking environment. These servers deliver industry leading performance—from 30 TPS to over 184 TPS.

Corporate Business Servers

The HP 9000 Corporate Business Server 890s are the industry's most robust and expandable high-end UNIX servers for diverse and demanding data center applications. In particular, these high-end servers provide the most cost-effective computing alternative to proprietary mainframe computers, with performance close to 600 TPS at a fraction of the cost.

Symmetric multiprocessing as your needs grow

The HP 9000 Corporate Business Server 890 supports tightly coupled symmetrical multiprocessing, allowing economical,

modular growth of processing power as your business needs grow. HP's high-end UNIX server offers a transparent multiprocessing implementation that provides both superior on-line transaction processing performance and industry leading batch throughput.

HP 9000 Business Servers support a wide variety of performance and expandability alternatives to easily map into your business with the best investment protection in the industry to grow with you as your business grows. Furthermore, the HP 9000 family is aggressively priced to bring you an unsurpassed value. Thus, with the HP 9000 Series 800's unique combination of technology, the opportunity is available to make a tremendous impact in meeting your IT needs.

Choose the HP 9000 Series 800 That Best Meets Your Needs

← Branch Department Corporate →																	
	 F Series			 G Series			 H Series				 I Series			 Corporate Servers			
HP 9000 Series 800 Business Servers	F10	F20	F30	G30	G40	G50	H20	H30	H40	H50	I30	I40	I50	890 1 CPU	890 2 CPU	890 3 CPU	890 4 CPU
Relative Performance	1.0	1.7	2.0	2.0	3.0	4.9	1.7	2.0	3.0	4.9	2.0	3.0	4.9	5.3	8.9	13.22	16.4
Maximum Memory (MB)	384	384	384	512	512	512	768	768	768	768	768	768	768	2048	2048	048	2048
Maximum Disk (GB)	42	42	42	100	100	100	178	178	178	178	178	178	178	1300	1300	1300	1300
Available I/O Slots	2	2	2	4	4	4	8	8	8	8	12	12	12	112	112	112	112
	Integrated low end to midrange Ideal for office/department environments Small footprint Integrated system Easy installation													High end Designed for data center environments Maximum configurability Modular design Upgradable to multiprocessing systems			

Figure 1.1 Choose the HP 9000 Series 800 that best meet the needs of your company within the branch, department, and corporate organizations. The HP 9000 Series 800 is the broadest family of commercial UNIX servers with systems supporting thousands of users.

The Advantages of PA-RISC Servers

PA-RISC Delivers Top Reliability and Performance

HP 9000 Business Servers are all based on HP's leading-edge Precision Architecture RISC (PA-RISC) first introduced in 1986. Seven generations of the PA-RISC architecture have consistently delivered top price/performance solutions to HP 9000 customers. PA-RISC provides businesses with the highest performance possible for an integrated circuit technology at a fraction of the cost of other architectures.

PA-RISC has the richest instruction set, offering distinct advantages to commercial users (see figure 1.2). HP's use of CMOS VLSI technologies enables entire CPUs to be integrated onto a single chip, and contributes to reducing costs and increasing reliability. PA-RISC also preserves your investment with forward-compatibility to each successive generation of systems and architecture improvements.

PA-RISC is supported by a worldwide consortium, the Precision RISC Organization (PRO), whose core members include: Convex, Hewlett-Packard, Hitachi, Hughes, Mitsubishi, Oki, Sequoia, Stratus, Winbond, and Yokagawa. This increases the availability of PA-RISC systems across a broad range of industries while further extending our Independent Software Vendors' offering.

*"There is no **single** reason why PA-RISC systems have been so successful. Clearly HP is listening to its customers and prospects and responding."*

—InfoCorp

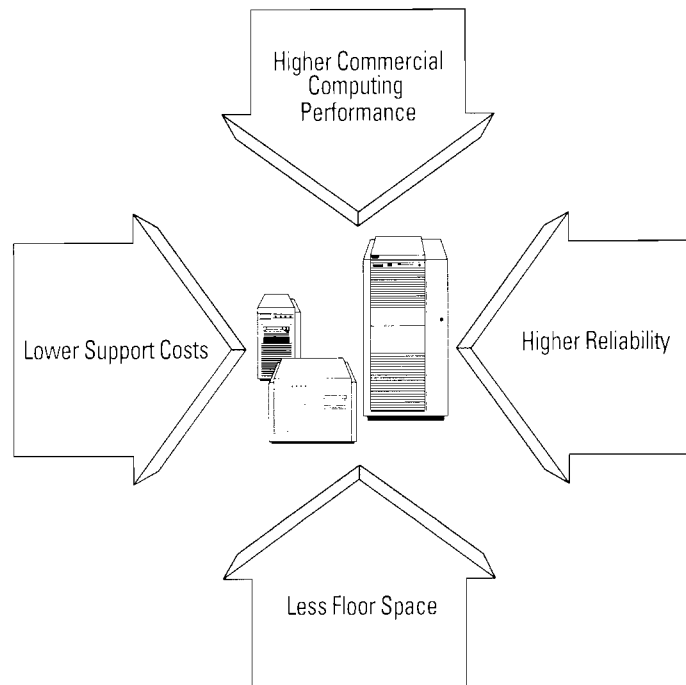


Figure 1.2 HP brings the advantages of PA-RISC to its entire HP 9000 Series 800 family of business servers.

PA-RISC: Designed for commercial computing

While most RISC architectures were designed primarily for engineering applications in technical environments, PA-RISC was designed from the beginning for both the commercial and technical marketplace.

HP analyzed millions of lines of code from a variety of applications, including business and corporate computing environments. Then we implemented the most critical instructions directly into hardware. We combined this reduced instruction set with optimizing compilers to deliver systems with the best performance.

PA-RISC is also designed to support large amounts of main memory (up to 4 Gbytes today) and virtual addresses up to 64 bits, making it ideal for the most demanding commercial applications.

Lower cost of ownership

PA-RISC, together with advanced VLSI technology, dramatically reduces the number of components required for a single system. Consequently, HP 9000 Series 800 Business Servers are smaller and take up less floor space, consume less power, and require less cooling than competitive systems—which reduces your cost of ownership while increasing overall system reliability.

The combined result of PA-RISC performance, high reliability, and lower support costs provides a demonstrable overall lower cost of computing compared with equivalent systems from IBM (see figure 1.3).

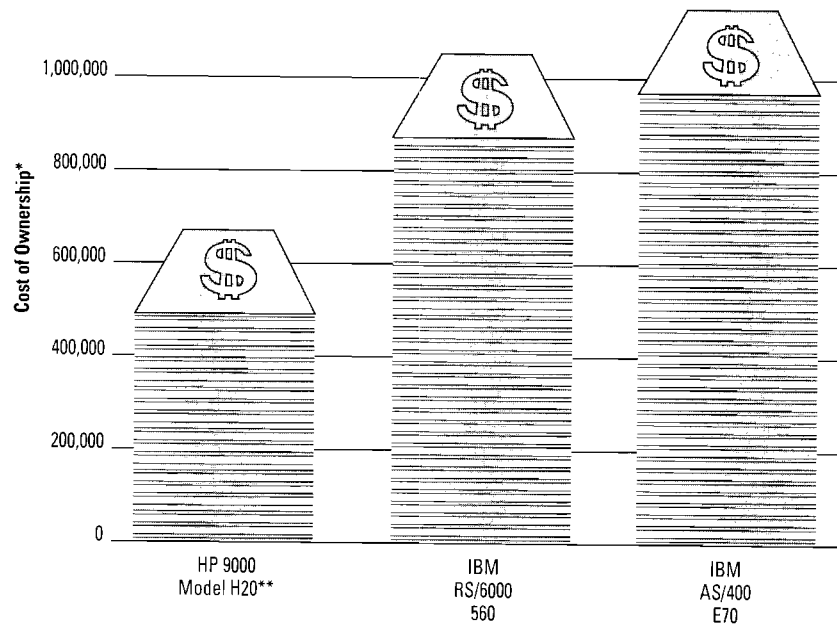
Backed by the commercial RISC system leader

History clearly demonstrates HP's strong success with RISC for the commercial marketplace:

- In 1986, we became the first major vendor to deliver a commercially available RISC-based system.
- We have the largest market share of RISC-based systems in the world (see figure 1.4)¹

With HP's RISC leadership, you can count on our continued enhancement of system throughput and our commitment to object-code software compatibility for years to come.

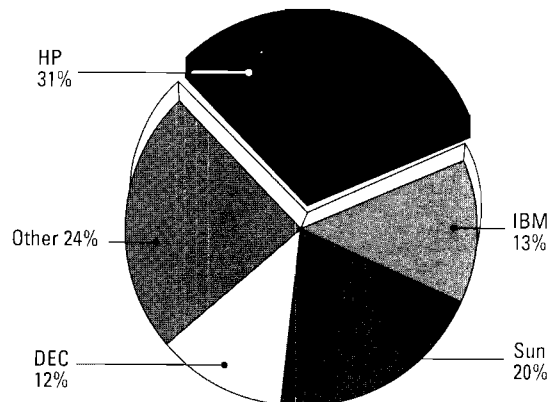
Lower Overall Cost of Ownership



*Based on like configurations over a 5-year period and includes hardware, software, and support.
 **Comparable performance on the HP 9000 Model H20 to IBM RS/6000 560.

Figure 1.3 HP's PA-RISC design is one reason the cost of ownership of HP 9000 Series 800 Business Servers is significantly lower than comparable commercial systems from IBM.

Largest RISC Market Share



Total Revenue = \$18.5 B

Figure 1.4 HP's #1 ranking as the largest manufacturer of RISC-based systems means you have the backing and commitment of the industry leader!

¹ Market share based on revenue dollars of RISC desktop and multiuser systems; Computer Intelligence InfoCorp, March 1992.

A Long-Range Growth Path Protects Your Investment

HP's commitment to object-code compatibility and hardware upgradeability gives you a long-range growth path without switching architectures or rewriting applications.

All HP 9000 Series 800 models are based on the PA-RISC architecture and use the HP-UX operating system. This provides you the object-code compatibility that protects your investment in hardware, software and training. Averaging over 60 percent improvement in performance capability from year to year, our PA-RISC architecture has the strength to keep pace with your performance growth needs. What's more, HP's use of standardized peripheral interfaces also protects your investment in disk drives, tape drives, and printers.

Performance advantages for years to come

Because HP's advanced implementation of PA-RISC provides a powerful platform for future generations of even higher performing business servers, we can preserve your data processing investment for years to come.

Smooth upgrades

When you are ready to upgrade your system, HP provides you the simplest and most comprehensive upgrade program in the industry.

The HP 9000 Series 800 Models F/G/H/I Class Business Servers provide 100 percent investment protection for all your hardware such as memory, I/O cards, disk and backup storage devices. You can span a performance range from low-end to high-end with no painful system swaps! All Model F/G/H/I servers offer processor board upgrades that can be performed on-site in just about an hour. Further, you maintain software compatibility as you grow.

"We were impressed as we got more familiar with Hewlett-Packard, with the range of products and the ability to scale from a system that would go in our smallest hotels and be affordable to a system that had the features and processing capability to work well in our larger hotels...even as we're adding feature and function down the road."

—Richard Nauman, Chief Information Officer, ITT Sheraton

And if your performance and capacity growth needs take you beyond the end of the line for F/G/H/I Class servers, HP offers you return credits for your system towards the purchase of our higher-end HP 9000 Model 890 Corporate Business Servers. We also give you credit for your software. Once on our HP 9000 Model 890 multiprocessing platform, you can continue to grow by simply adding a processor board. No board or system swap required! (See figure 1.5.)

Suited to Enterprise-Wide Networks

HP 9000 Business Servers make it easier for MIS organizations to effectively implement and manage enterprise-wide distributed computing networks using a full range of enhanced networking capabilities, including:

- A comprehensive framework for heterogeneous multivendor topologies.
- Flexible network management solutions to improve day-to-day network operations by controlling network faults, configurations, performance, and security.
- A comprehensive set of system administration tools to control system installation, operations, storage, configuration, and usage.
- Performance management and capacity planning tools and services to optimize system and network performance and user productivity.

Upgrade Systems as Your Needs Grow

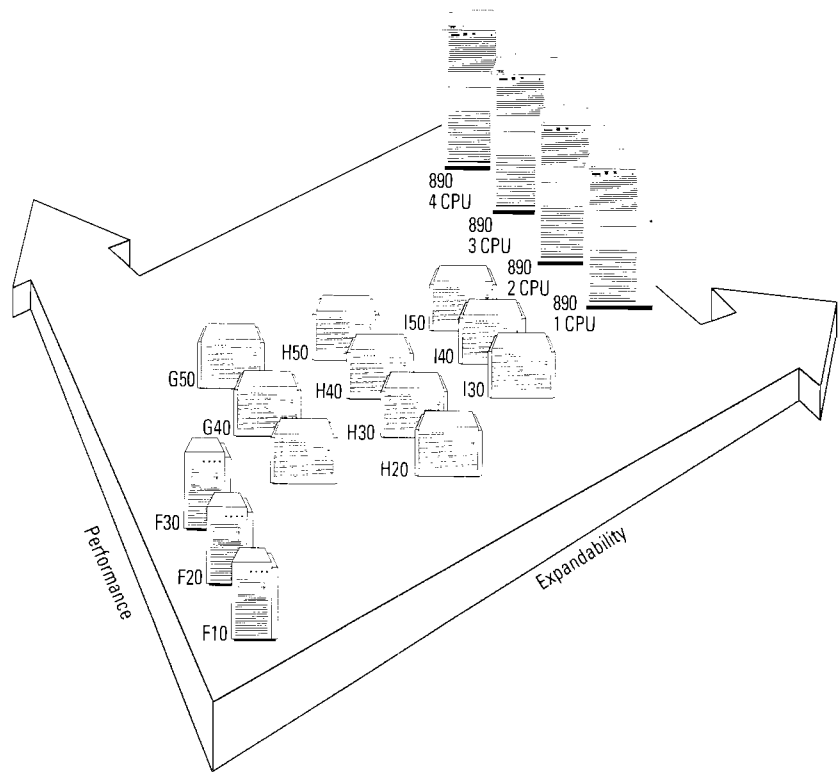


Figure 1.5 The HP 9000 Series 800 family protects your investment by providing convenient scalability for improved performance and expandability as your business grows.



“The state was choosing between the IBM RS/6000 and the HP 9000 Series 800. Our overriding consideration was HP’s long-term knowledge of networking in the UNIX environment. In terms of technical resources that can support a large project of this type, HP simply has more experience and knowledge.”

—Rolen Yoshinaga, Director of MIS, Utah Office of Courts

Networking Solutions for Open Environments

HP 9000 Business Servers fit into your existing environment through the widest range of industry and de facto standard networking products (see figure 1.6). These capabilities allow current systems to communicate with each other, without losing the flexibility to grow as new technologies evolve. And network application programming interfaces help you customize applications to meet specific business needs.

HP's industry-leading networking products for the Series 800 give you seamless connectivity to multivendor networks of IBM, DEC, or other UNIX and proprietary systems. Whether you are using a PC to access a local file server or a workstation to transfer data across the globe, you have complete control of your data.

HP's networking products provide the following (see figure 1.7):

- A networking foundation—the enterprise-wide building blocks needed for robust communication links and mission critical response time.
- Mainframe communications—linking Series 800 Business Servers to mainframe environments and IBM midrange systems.
- End-user access and integration—effectively integrating terminals, PCs, Apple Macintoshes, and workstations.
- Server-to-server communications—linking Series 800 Business Servers to other mid-range systems using standards-based networking.
- System, network, and performance management tools—giving you comprehensive control over your network.

HP 9000 Series 800 Networking

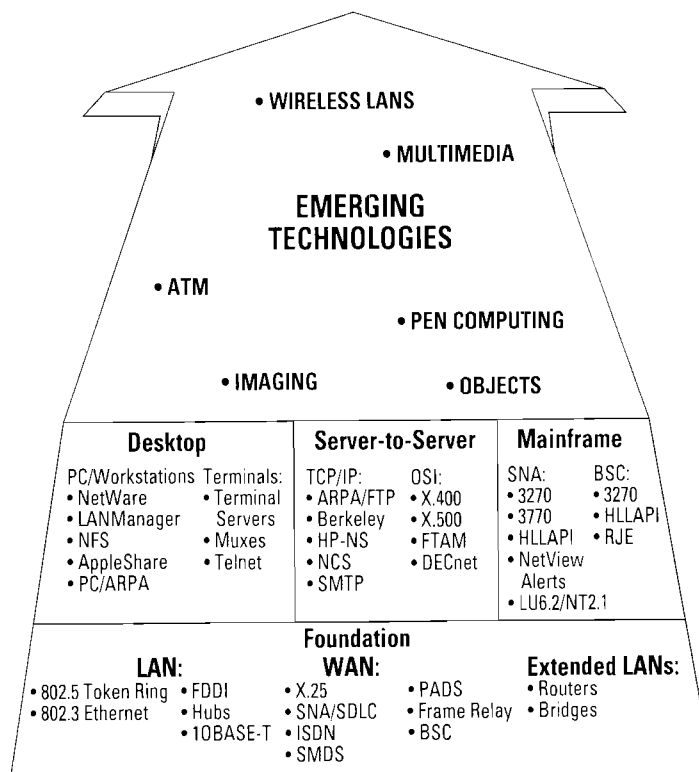


Figure 1.6 HP 9000 Series 800 Networking provides you with the newest technologies for your networking requirements to connect what you have with what you need.

Networking foundation

For local area connectivity, HP offers industry-standard 802.3/Ethernet, 802.5/Token Ring, and FDDI adapters. If you already have a Token Ring Network installed at your site, an HP 9000 Series 800 Business Server can easily be integrated.

HP's Fiber Distributed Data Interface (FDDI) represents the standard for data communications over high performance/high bandwidth local area networks, and combines large capacity with long distance operation.

"HP's strong commitment to networking technology and to open, multivendor solutions, plus its sensitivity to user requirements for distributed computing, place the company in an excellent position to compete in client/server and enterprise networking."

—Charlie Robbins, Aberdeen Group, September 1991

HP 9000 Networking: Communication for all Environments

HP uses standards-based wide area networking protocols, such as X.25, ISDN, SMDS, and Frame Relay to enable you to transparently share, exchange, and transfer information between systems worldwide. HP also offers a full range of internetworking devices for extended LAN communications.

Mainframe communications

In distributed environments, HP 9000 Business Servers make mainframes more effective. Our seamless communication with IBM mainframes and peer systems uses a full range of communications links and services.

HP SNAplus products reduce costs by creating flexible standalone or gateway configurations to IBM systems. They support both hierarchical and peer-to-peer communications within your IBM environment. And they provide network alerts to simplify network management.

Desktop integration

HP's versatile end-user access offerings enable you to easily integrate a variety of clients such as terminals, Apple Macintoshes, PCs, X-terminals, and UNIX workstations.

HP 9000 Business Servers connect to standard PC LAN environments and offer a variety of ways to integrate PCs and build client/server applications. We offer industry-leading solutions such as Novell NetWare and Microsoft[®] LANManager/X. HP's compatibility with the widest range of standard network operating systems gives your business the flexibility it requires.

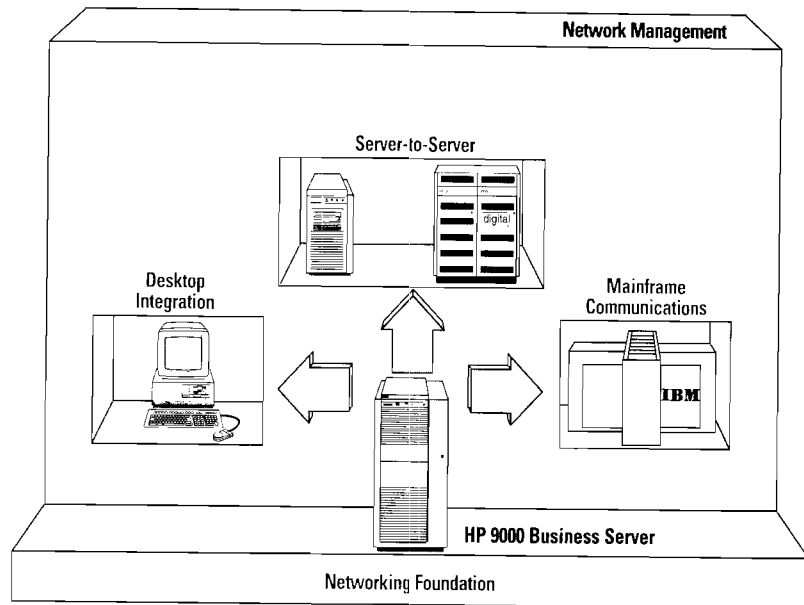


Figure 1.7 HP's networking solutions for Series 800 Business Servers allow you to communicate within distributed, multivendor environments.

For UNIX workstations, HP 9000 Series 800 Business Servers support Network File System (NFS), which enables integration and file sharing.

And for Apple Macintosh networks, Pacer Software, Inc., an HP Channel Partner, offers a variety of products that enable HP 9000 Series 800 systems to function as file, print, and database (DAL) servers within Macintosh networks.

Server-to-server communications

Server-to-server communication products enable Series 800 systems to communicate with

systems from other vendors, including IBM, DEC, and SUN. Server-to-server connectivity enhances communications for distributed applications such as electronic mail and Electronic Data Interchange (EDI).

With HP's industry leading X.400 backbone, you can bridge e-mail applications from multiple vendors into an effective corporate-wide communication network.

Other services that support server-to-server communications range from ARPA services such as Berkeley Sockets, FTP, and Domain Name services to a complete set of OSI services, such as X.400, X.500, and FTAM.

HP 9000 Supports Your Choice of Clients

HP 9000's support of a wide range of desktop alternatives, together with its broad line of HP 9000 Series 800 Business Servers, provides a client/server integration unmatched in the industry (see figure 1.8).

HP 9000 client support includes PCs, workstations, X-terminals, Macintoshes, and terminals. This means you can leverage your existing investments in clients, while maintaining flexibility to choose those in the future which best match your needs.

Economical and reliable PCs

HP provides a comprehensive line of industry compatible and reliable personal computers with true multivendor capability, making them ideal as clients. The HP Vectra PC family offers expandability, superb security and ergonomics, and leading system and graphics performance for a full range of office productivity or technical applications. HP's aggressively priced PCs have not come at the expense of quality, performance, or the features you want.

With the scalability and upgradability of our PCs, you can always count on having the latest and greatest to support your increasingly demanding office environment.

Innovative workstations

As part of a complete UNIX client/server solution, HP Apollo 9000 Series 700 workstations bring an unprecedented amount of computational power to the desktop or deskside. Using the same PA-RISC architecture and HP-UX operating system as

Series 800 systems, Series 700 workstations deliver industry-leading performance, brilliant 2D and 3D graphics—all within an easy-to-use environment that offers the best price/performance in the industry.

With the award-winning user interface HP-VUE (which looks and feels like Windows for the PC) and the wide availability of the most popular productivity software, HP's Series 700 workstations are as friendly as your PCs. Yet, these offer built-in networking, true multi-tasking and high-end graphics capabilities beyond what PCs can do.

With the HP workstations' seamless integration into your existing computing enterprise, you can take full advantage of the emerging client/server computing model. While the HP Series 800 is the business server platform of choice for companies moving to a UNIX-based Open Systems environment, the Series 700 is the user platform (client) of choice. Users can take full advantage of the distributed processing capabilities and graphical desktop clients.

Workstation X Window performance at X-terminal prices

The HP 700/RX family of monochrome, greyscale, and color graphical X stations, with their industry-leading ease of use and flexibility, provides a more affordable alternative for bringing the power of network computing to every desktop.

HP VUE/RX, the X-terminal industry's only local user environment, lets users manage and navigate through multiple

workspaces with the push of a button. It's like having several X stations on your desk at once. Multiple workspaces allow users to logically group applications and to unclutter busy displays into more readable working areas. HP is the leading supplier of color X-terminals in the world.

While the X station offloads the host of user environment and window management functions, the host is freed up to run applications. This allows customers a streamlined form of client/server computing where the client and server resource usage is optimized.

Ergonomic terminals

Additionally, HP also offers a comprehensive line of terminals as clients, which embrace everything from ergonomics to economics, readability to reliability, and flexibility to ease of use.

The HP terminals feature the highest combined level of compatibility available today. Also featured are an impressive flexibility in host and printer connectivity, including autoranging power supply for global connectivity.

These terminals more than maintain the Hewlett-Packard hallmark of outstanding reliability with astounding Mean Time Between Failures (MTBF) reaching over 100,000 hours. This means more uptime, more productivity, and a lower cost of ownership. HP has terminals with superior display for reduced eye strain, while maintaining full compliance with international safety and low-emissions standards.

HP's Comprehensive Line of Clients

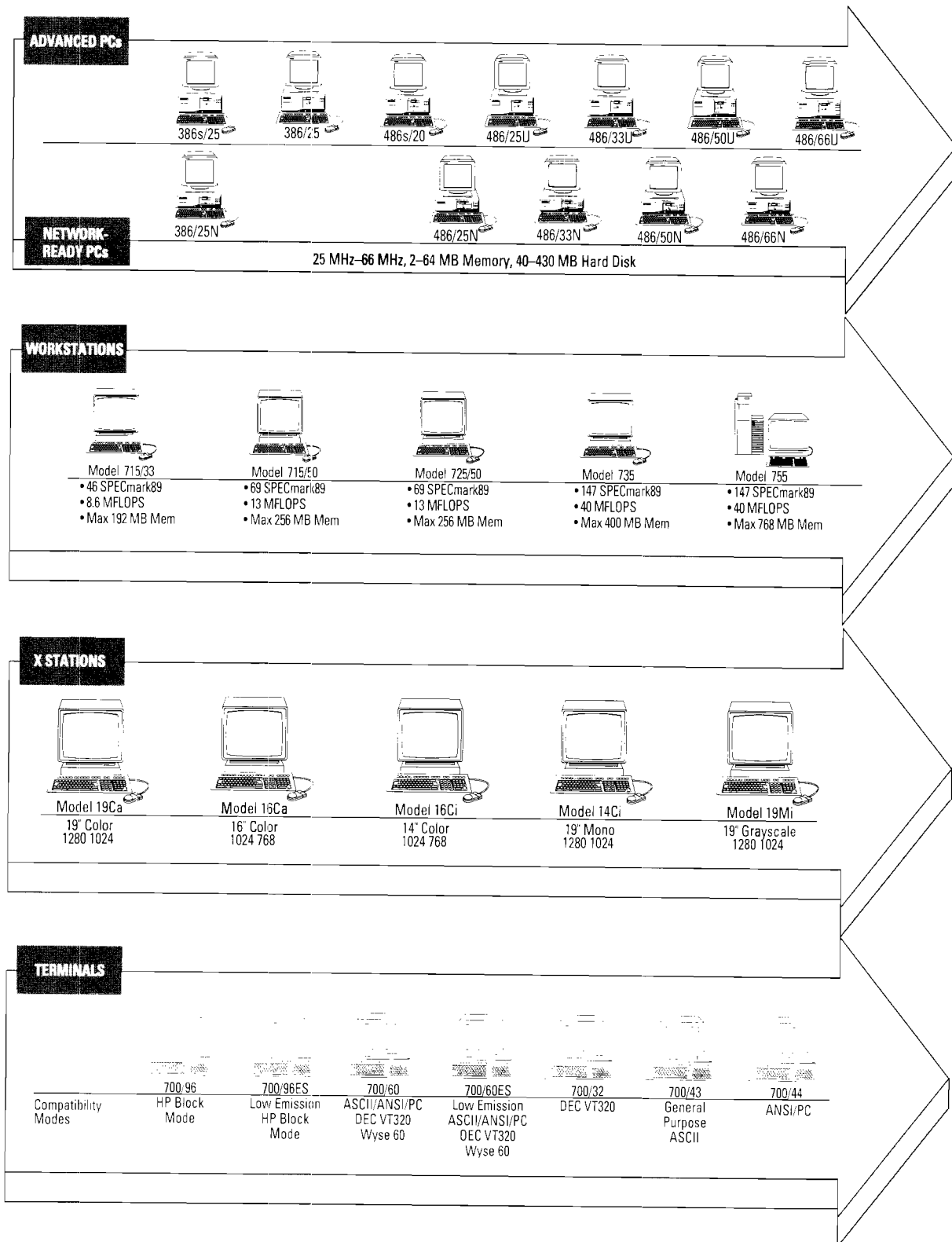


Figure 1.8 HP offers a comprehensive line of clients for a complete client/server solution.

A Matching Line of Superior Peripherals for the HP 9000

HP also designs and manufactures a broad range of fast, reliable, cost-effective computer peripherals and subsystems tuned to match the HP 9000 product family (see figure 1.9). HP peripherals incorporate advanced technology for superior performance and high reliability to meet specific customer needs and applications.

Storage solutions

HP's disk and mass storage systems offer renowned reliability, performance, large capacities, configuration flexibility, and a small footprint at competitive prices.

These small footprint disk systems minimize the space used in data centers while maximizing disk capacity. In fact, using HP's disk arrays, one 19-inch standard cabinet can provide 27.2 GBytes of data storage.

Range of backup solutions

Backup solutions are available in a variety of technologies to meet specific customer needs and applications.

HP's tape drives provide off-line storage at a low media cost. Available today are 1/4-inch cartridge tapes for low cost, 1/2-inch tapes for high speed and industry-standard formats, and Digital Audio Tape (DAT) for unattended backup.

The HP family of optical drives provides vast amounts of reliable, low-cost storage for unattended backup and on-line archive applications.

HP has also partnered with StorageTek to support IBM 3480 compatible tapes on HP 9000 Series 800 Business Servers.

World leading printers and plotters

As a leader in the printing industry, HP offers a full line of reliable printers, including the well-known HP LaserJet printer series, which can now be used in local area networks, as well as the cost-effective HP DeskJet printers and HP PaintJet color printers product families. For production printing, the F100 printer offers a 100-pages-per-minute solution.

HP offers line impact system printers for commercial, industrial, or data processing environments with power paper stackers for unattended printing and multi-part forms.

HP's serial printers are designed for multiuser environments as well as dedicated printers for transaction applications.

In addition, HP offers a full line of pen and electrostatic plotters.

A Full Range of Peripherals for HP Servers

Desktop to Data Center Peripherals

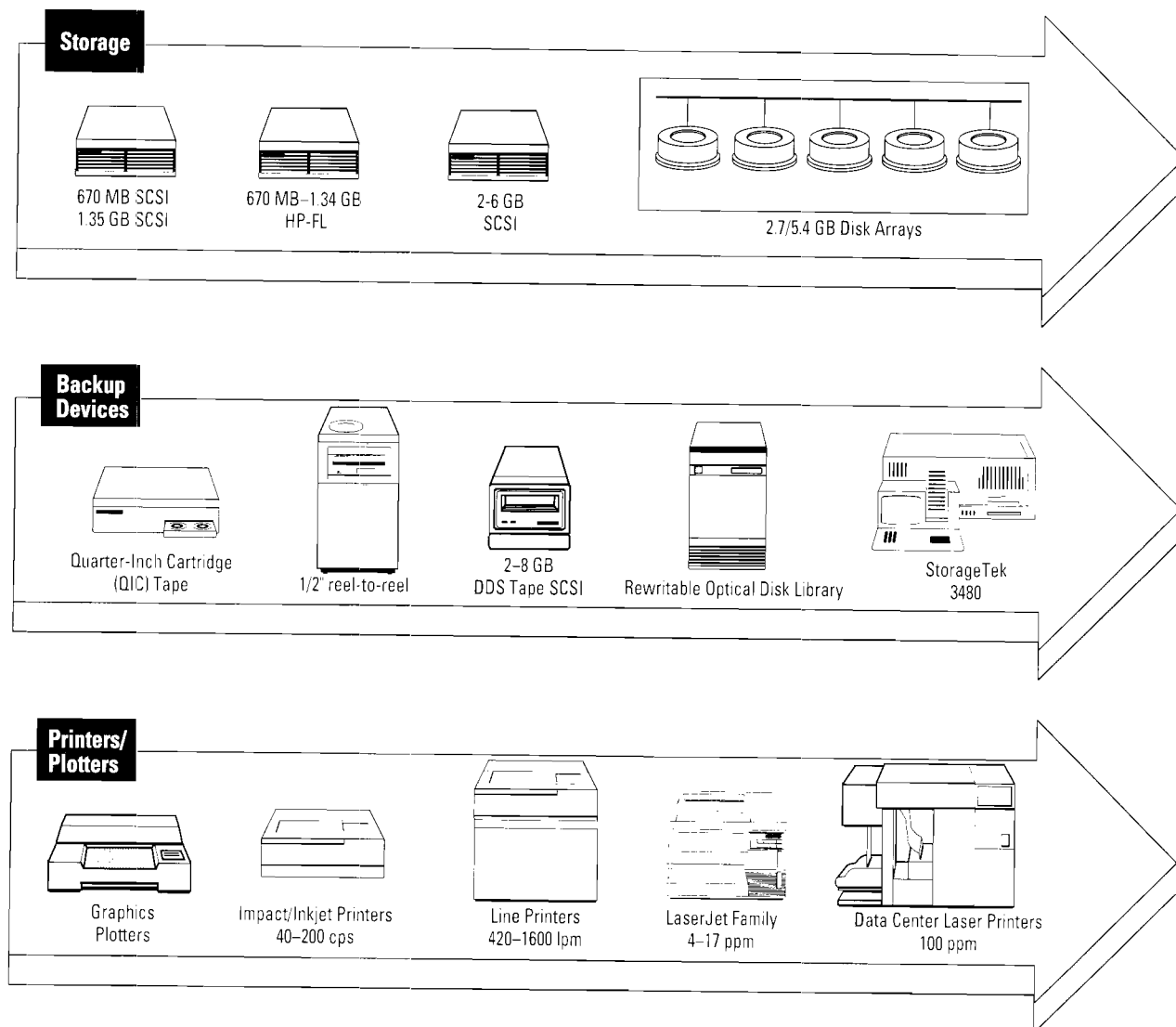


Figure 1.9 HP's complete line of peripherals complement HP 9000 Series 800 Business Servers in performance and reliability.

Meeting Commercial Environment Demands

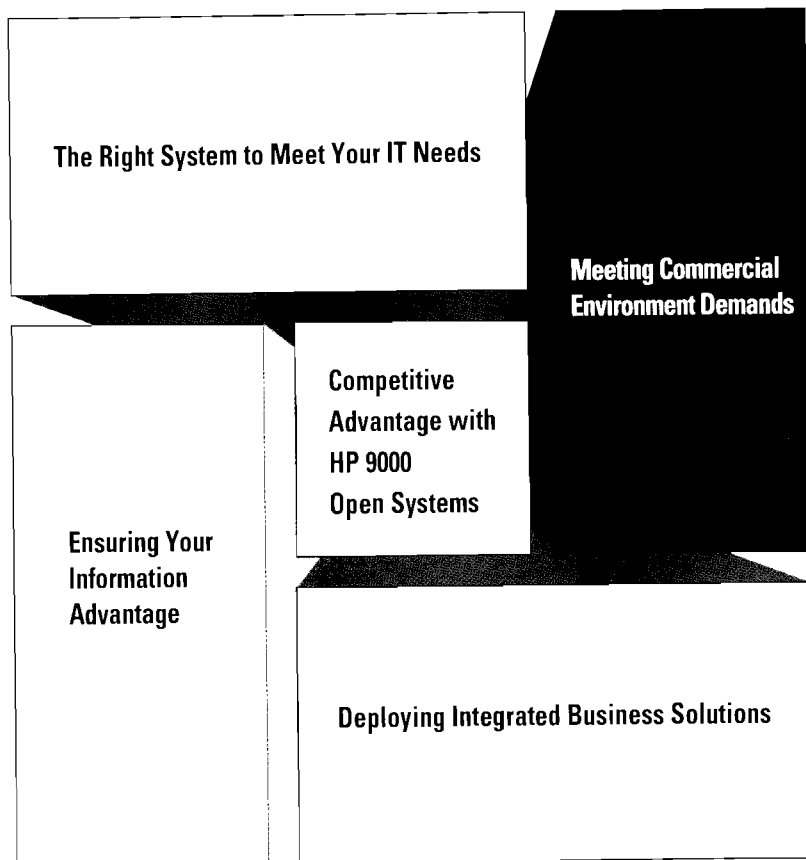
Section 2.

**Rich Operating
Environment**

**Distributed
Computing**

**High Availability
and Security**

**System and
Network
Management**



In the Open Systems arena, HP's combination of servers, networking, clients, and peripherals is unparalleled.

Computing solutions encompass more than hardware, software, and networking. An equally important component to a successful computing enterprise is an operating environment enriched with the functionality required for the demands of business computing.

HP 9000 Business Servers provide a computing environment that addresses business critical issues. The foundation begins with our robust operating environment. As HP's UNIX foundation is further enhanced with superior high availability, network and system management, security, performance, distributed computing, and transaction processing, the HP 9000 Business Servers can meet even the most demanding commercial requirements.

A Robust Operating Environment

With business today looking at issues such as downsizing, Open Systems, client/server architecture, and cost reductions balanced by increased performance, UNIX is becoming the operating system of choice for most companies.

The HP 9000 operating system, HP-UX, provides a flourishing environment within a base of standards for superior interoperability and portability.

HP's commitment to standards

That Open Systems permits interoperability and portability is not just by chance. It can be explained in a single word. Standards.

HP is committed to the top industry standards (see figure 2.1). It is through the diligent efforts of these standards committees, with HP as a major player, that UNIX has become the standard bearer for Open Systems. HP-UX has gained a strong presence in the commercial marketplace.

HP-UX is a superset implementation of AT&T's UNIX System V, incorporating the best capabilities of Berkeley 4.3, plus value-added features from HP and the Open Software Foundation[™] (OSF.) The unique combination of standards and technology within HP-UX improves interoperability performance and system management, while facilitating adaptation of software to meet the needs of international markets.

An X/Open branded solution

The HP 9000 family is X/Open^{*} branded for XPG3, the open system portability standard backed by OSF, UNIX International (UI), and major computer vendors, including HP, IBM, DEC,

HP Demonstrated Commitment to Industry Standards

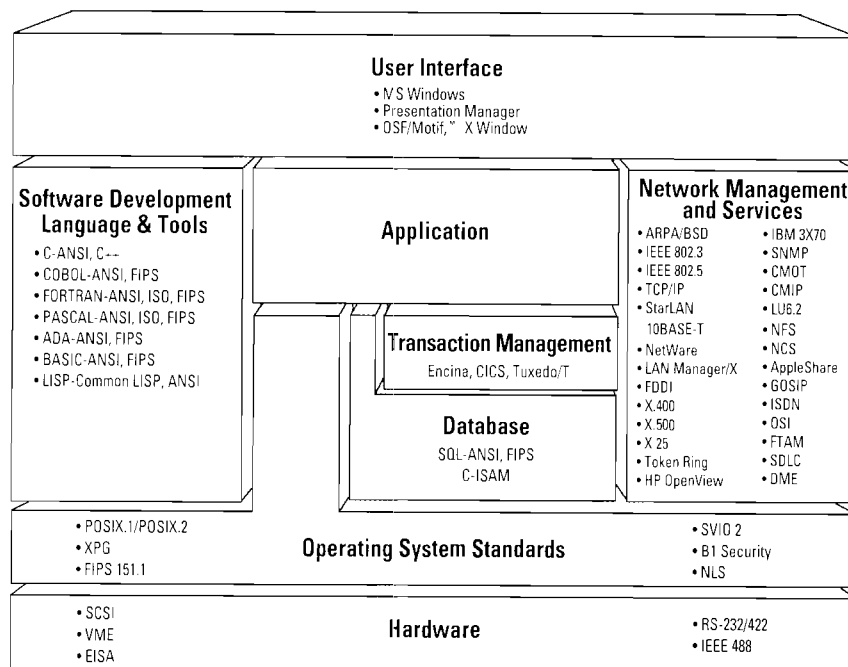


Figure 2.1 HP fortified the HP-UX computing environment, within a base of standards, with enhanced commercial capabilities essential to performance and productivity.

NCR, and Sun. HP has endorsed XPG4 with a commitment to comply by early 1993.

XPG extends multivendor portability across a broad computing environment to many other systems. So if you need to add or move applications, you don't have to rewrite programs, reorganize data, or completely retrain employees.

Versatile operating environment

The power and versatility of HP-UX and its broad range of utilities and communication features also make it excellent for program development. Coupled with tools from HP's leading CASE partners, HP-UX offers a productive development environment for programmers.

HP-UX is easier to use than other UNIX operating systems, incorporating unique capabilities that enable you to automate procedures and save time.

For example, users with workstations or X-terminals can also take advantage of HP's award-winning Visual User Environment (VUE), a point-and-click desktop manager, built on key industry standards such as OSF/Motif and the X Window system.

A terminal session manager enhances productivity for users connected to HP 9000 Business Servers via ASCII terminals or PCs. Users can participate in as many as ten concurrent sessions...which might include access to applications on the host, a mail session, a word-processing session, a database session, and more.

* X/Open is a trademark of X Open Company Limited in the UK and other countries

To save you further time and trouble, integrated Series 800 Business Servers arrive with the operating system preloaded, enabling the server to start up automatically during system installation.

HP-UX localization allows worldwide implementation

HP systems work wherever you do. Our HP-UX products support a wide range of languages, including French, German, Italian, Spanish, and major Asian languages, such as Japanese, traditional and simplified Chinese, and Korean.

HP's Native Language Support (NLS) provides the tools you need for developing international software. NLS supports multiple languages, enabling application

Optimized Commercial Processing Performance

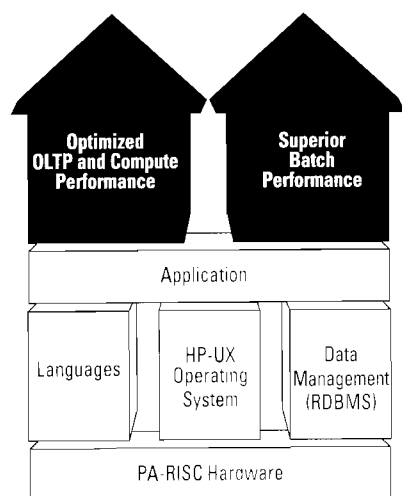


Figure 2.2 HP 9000 Series 800 Business Servers integrate performance enhancements at every level of the environment to give you superior OLTP and batch performance.

Industry-Leading Transaction Performance

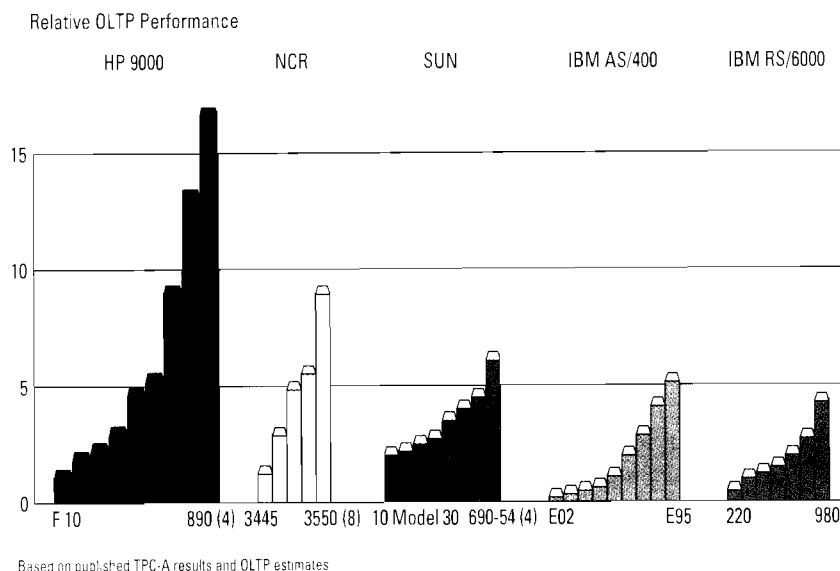


Figure 2.3 The above chart shows HP as the only major vendor that offers a single coherent platform spanning from desktop to datacenter.

developers to localize software for multiple national markets quickly and easily. OSF adopted NLS as their cornerstone for internationalization technology.

Databases Tuned for Maximum Commercial Performance

PA-RISC and HP-UX are well tuned with major database products to provide both optimized on-line transaction processing performance and superior batch performance. In addition, tuned performance enhancements are integrated at all levels of the system (see figure 2.2).

Today's relational database management system architectures involve either multiple database processes or a single, multi-threaded database serving

multiple users. For both architectures, IIP's unique features ensure maximum throughput and efficiency.

IIP's performance leadership is evidenced by the TPC-A benchmark, recognized as the industry's most comprehensive measure of overall commercial throughput. Based on a real commercial application, TPC-A is a complete system-level benchmark that exercises all system components.

The TPC-A benchmark and OLTP estimates show that the IIP 9000 Series 800 Business Servers demonstrate a far broader range of commercial performance than systems from IBM, DEC or SUN (see figure 2.3). In fact, results show that HP high-end systems are more powerful than the largest RS/6000, AS/400, or SPARCserver systems.

Leading Distributed Computing Solutions

The Series 800 provides a solid foundation for distributed, client/server applications in an open environment. HP's Distributed Computing Environment (DCE) is the industry's most comprehensive implementation of the Open Software Foundation's (OSF) DCE suite. In addition to a robust and high performance offering, HP DCE also offers industry leading development, debugging, and management tools as well as comprehensive support, training, and education.

With HP's DCE products, customers can have enterprise-wide, fully distributed applications with security, resource management, and file sharing handled transparently and automatically. The Distributed Management Environment (DME) is the framework for distributed, heterogeneous system and network management (see figure 2.4). Full data integrity in distributed OLTP applications is ensured on the HP Series 800 with a suite of transaction processing monitor technologies.

Robust Transaction Management

Ensuring data integrity in a distributed environment requires transaction process management technology. Hence, distributed OLTP computing environments can be greatly enhanced with the use of transaction processing monitors that increase data integrity and system performance. It should come as no surprise that the industry's leading TP monitors are available on the HP 9000 platform.

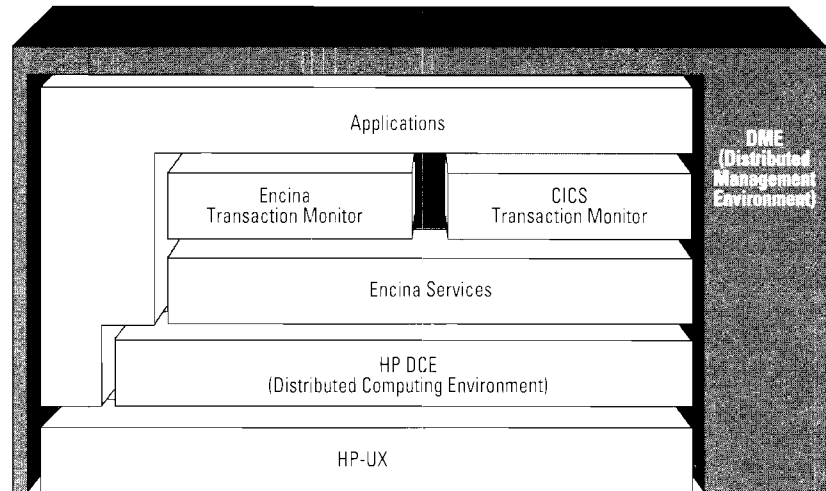


Figure 2.4 These cornerstone technologies provide a foundation for HP's distributed client/server environment.

Encina

HP has endorsed and will license Transarc's Encina, a transaction manager for heterogeneous distributed OLTP environments. HP's Encina offering will operate on a foundation of the Distributed Computing Environment from OSF.

CICS for HP-UX

CICS is the dominant transaction monitor in traditional IBM environments and has recently been licensed to HP by IBM. IBM chose HP as the first non-IBM platform for CICS because of HP's leading market position in Open Systems. CICS on HP-UX will allow the

many businesses who have CICS applications and expertise in-house today to easily migrate and enjoy the open flexibility of the HP 9000 Series 800 platform, while leveraging their CICS investments in applications and people.

Additional transaction processing solutions

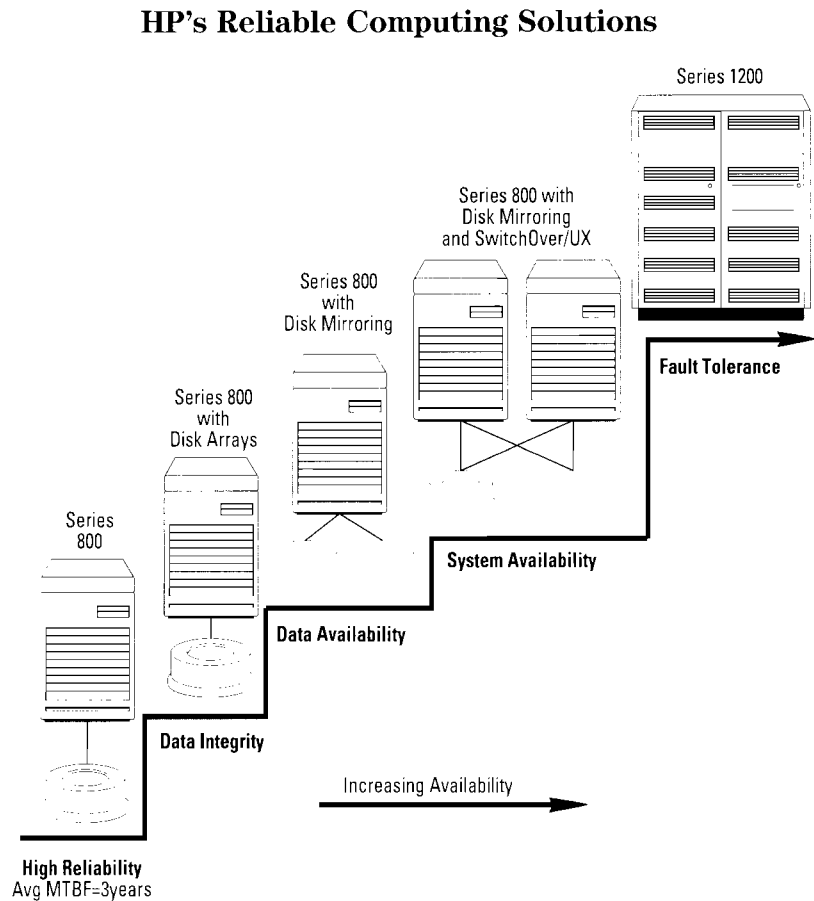
USL's Tuxedo System/T and NCR's TopEnd transaction processing monitors are also available for the HP 9000 through Independent Technologies, Inc. Integrus and VSystems also offer CICS emulators for the HP 9000 Business Server.

High Availability and Security

HP 9000 Business Servers bring traditional UNIX capabilities up to commercial standards, with a complete line of high-availability solutions ranging from high-quality, reliable systems to fault-tolerant computing systems.

HP's complete line of high availability, data integrity, and security solutions meet your mission-critical needs for data security and system availability:

- Security solutions provide added system security, combining flexibility with accountability to safeguard your data.
- Power-fail auto-restart, disk arrays, transparent disk mirroring, and automatic system recovery capabilities ensure high availability and data integrity for a wide range of environments.
- Fault tolerance is available for uninterruptible on-line processing and maximum availability.

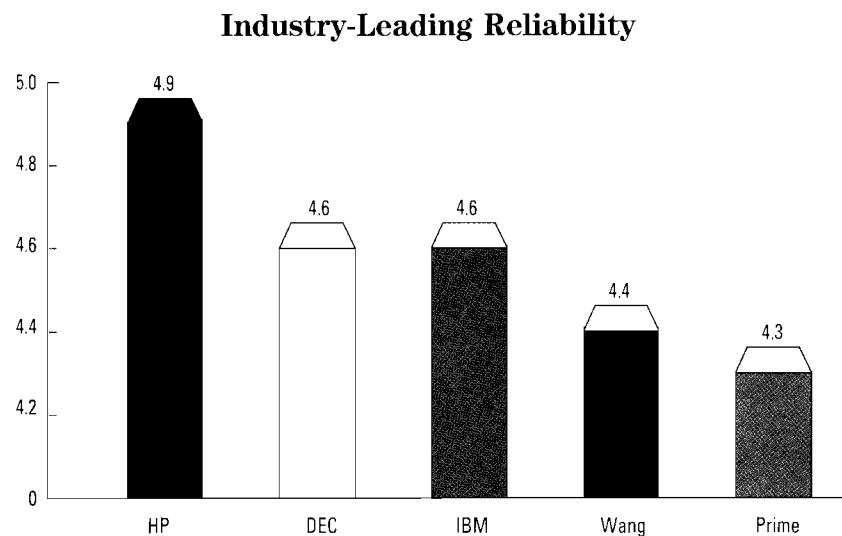


At HP, we recognize that in new, distributed client/server environments, data may be distributed and accessed across a wide variety and geography of systems. This makes the systems availability and security of data more important than ever.

Enhanced availability and data integrity

Processing mission-critical applications efficiently requires systems with high availability and data integrity. Unplanned downtime can impact a company's return on investment (ROI) with missed business opportunities, delayed or wasted labor, and disruption to schedules. HP 9000 systems answer the availability challenge with a choice of solutions to protect your investments in existing hardware and software (see figure 2.5).

Figure 2.5 HP lets you match your availability requirements with a variety of reliable computing solutions. Figures are based on the average reliability of system components.



Based on U.S. user ratings of mini computers. Datapro 1991, Computer Users Survey, October 1991.

Figure 2.6 As independent studies show, HP leads the industry in reliability.

HP Provides Effective Automatic Recovery Solutions

Start with HP's industry-leading, highly reliable Series 800 Business Servers, and increase system availability within the same server family as your needs grow. Or, for continuous operations, choose from HP 9000's robust fault-tolerant Series 1200 family.

Highly reliable systems

HP's leading-edge Precision Architecture RISC (PA-RISC) and advanced VLSI technology dramatically increase reliability. The mean time between failures (MTBF) for systems averages three years. And uptime typically exceeds 99.7 percent. As a result, HP 9000 Business Servers keep your business running smoothly (see figure 2.6).

HP-UX, the industry's most reliable computing environment, also contributes to highly reliable systems. Intensive and thorough testing before all major releases of our HP-UX operating system ensures that customers can develop and run applications with confidence.

Powerful recovery capabilities prevent data loss

To eliminate data loss from power interruptions, HP offers power-fail recovery products that preserve essential data through battery backup, and then automatically restart operation after power is restored.

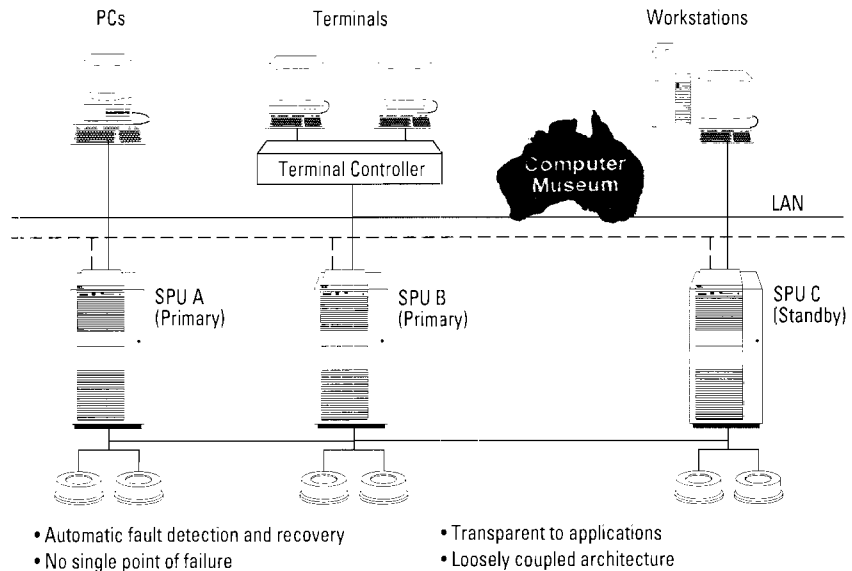


Figure 2.7 HP SwitchOver/UX significantly decreases unplanned server downtime due to processor related problems.

Increased data integrity

HP's Disk Arrays protect data and allow uninterrupted access to data in the event of a disk failure. A failed disk drive may be replaced online and the data automatically restored to the new drive without user interruption.

Disk mirroring, available with HP's MirrorDisk/UX, prevents data loss by maintaining up to three copies of data on separate disks. That way, your data is still accessible after any single disk failure. And you can perform on-line backups to maximize uptime.

What's more, each of these capabilities is transparent to the software running on the system.

Automatic system recovery increases uptime

For those mission-critical applications requiring nearly continuous uptime, HP offers an automatic system recovery capability called HP Switchover/UX. You can run mission-critical applications on a primary system, while a standby system, which can also be used for less critical applications, monitors the primary system's health. If the primary system should fail, the standby system takes over automatically (see figure 2.7). A single standby system can monitor up to seven primary systems. Again, these capabilities are transparent to the software running on the system.

"The Hewlett-Packard Business Servers provide us with a very reliable platform for our business and technical applications."

—Klaus Stadler, Manager, Technical Development, BASF, November 1991

HP Series 1200 for Complete Fault Tolerance

Fault-tolerant systems (HP 9000 Series 1200)

For demanding on-line transaction processing applications, take advantage of the HP 9000 Series 1200 family, a scalable high-performance fault-tolerant solution designed for commercial environments. An application currently running on an HP 9000 Series 800 Business Server requires only minimal code modifications and recompilation to run on Series 1200 fault-tolerant systems.

The HP 9000 Series 1200 is based on a multiprocessing architecture with automatic fault detection and transparent fault recovery. This design allows uninterrupted processing and on-line CPU, disk, and input/output expansion—critical features for businesses that cannot afford anything less than 100 percent computing availability (see figure 2.8).

Increased information security

HP's enhanced operating system effectively addresses commercial security requirements. HP-UX incorporates features such as auditing, a protected password database, and extensive documentation to help users and systems administrators maintain a secure operating environment. It also provides Access Control Lists to give end users the flexibility to authorize or restrict file access on a need-to-know basis (see figure 2.9).

HP-UX is designed to meet the C2 level of security as defined by the Department of Defense (DoD). For customers with more restrictive and complex security requirements, HP provides an enhanced "multi-level" secure version of HP-UX called IIP-UX BLS, which exceeds the DoD requirements for a B1 rating.

What's more, security software tools are available that automate the process of identifying and correcting security violations and vulnerabilities in standalone or network environments. Examples of leading Independent Software Vendors that IIP-UX currently support include: SecureMax/UX from DeMax Software, Security Toolkit from Raxco, and CA-Unicenter from Computer Associates. In addition, HP is addressing distributed environment security challenges through its OSF Distributed Computing Environment (DCE) offering.

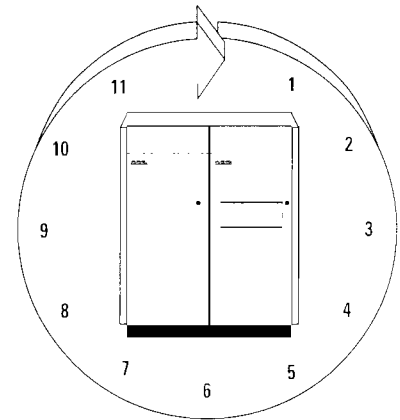


Figure 2.8 The fault tolerant design of the HP 9000 Series 1200 virtually eliminates the risk of system failure.

Enhanced Security for Commercial Environments

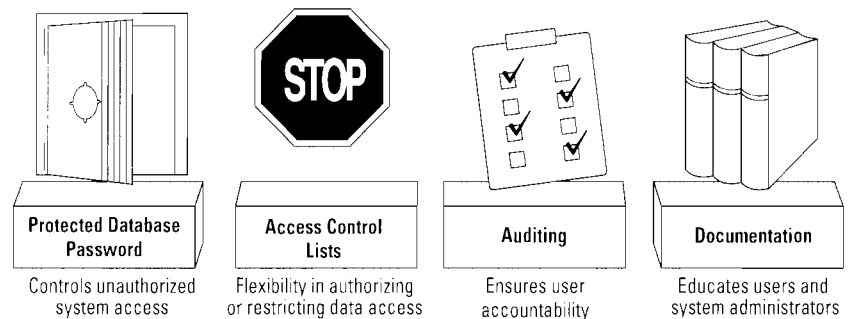


Figure 2.9 HP-UX security solutions provide added UNIX security, combining flexibility with accountability to safeguard your data.

"The Department's requirement for multiple levels of security on the same system is a high priority, and HP's B-level security, UNIX-System-based solution met our security needs."

—Tony Skinner, Australian Diplomatic Communications Network Project Manager, Australia Department of Foreign Affairs and Trade

Powerful System and Network Management

As computing power continues to migrate from centralized to distributed environments towards client/server environments, the need to simplify network and system integration becomes increasingly essential. To address this new paradigm, HP provides a comprehensive set of integrated systems and network management tools called HP OpenView. The unique and powerful features of OpenView have earned this product recognition as one of the top 20 products of the past 20 years.* The award recognized HP OpenView's significance in setting a new direction for the industry and establishing a de facto standard.

HP network management tools are designed to facilitate corporate planning and resource allocation.

HP's Integrated Network Management: The Quickest and Smoothest Path to DME

OSF's Distributed Management Environment (DME) will answer a huge challenge by providing a unified approach to managing systems, networks, and applications in multivendor, heterogeneous networks. Components of the HP OpenView Distributed Management Platform are key components of DME and allow you to purchase with confidence, solutions based on DME-selected technologies today.

The HP OpenView Network Management Architecture (NMA), for example, provides a modular distributed network management

solution for managing an entire network of multivendor computers and devices (see figure 2.10).

HP OpenView NMA features include:

- Management of TCP/IP, SNMP, Novell, and OSI networks
- New product development based on a comprehensive and open standards-based architecture, ensuring interoperability for today's and tomorrow's products
- An intuitive graphical user interface accepted by OSF
- Hardware independence, with HP OpenView available on HP-UX, MS-DOS[†], IBM, Sun, and Groupe Bull systems.

HP's Comprehensive Network Management Products: Quickest Path to DME

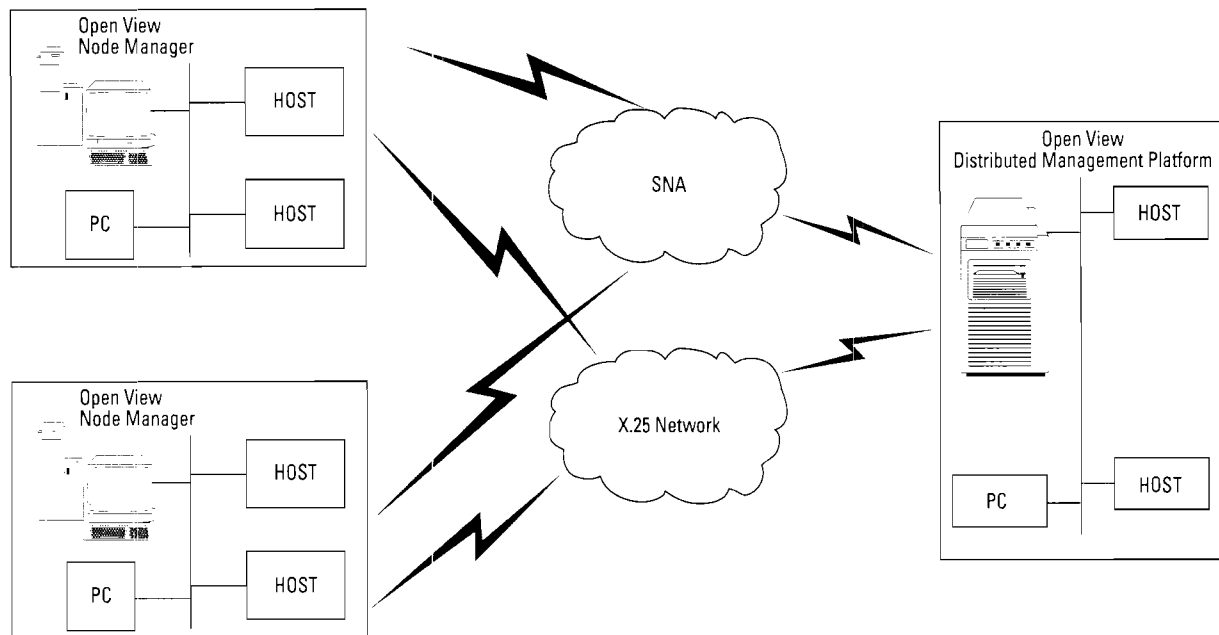


Figure 2.10 HP's comprehensive network management capabilities handle everything from simple, local-area networks to complete enterprise networks.

* Data Communications, DataCom User Survey, September 1992

Network Management with HP OpenView

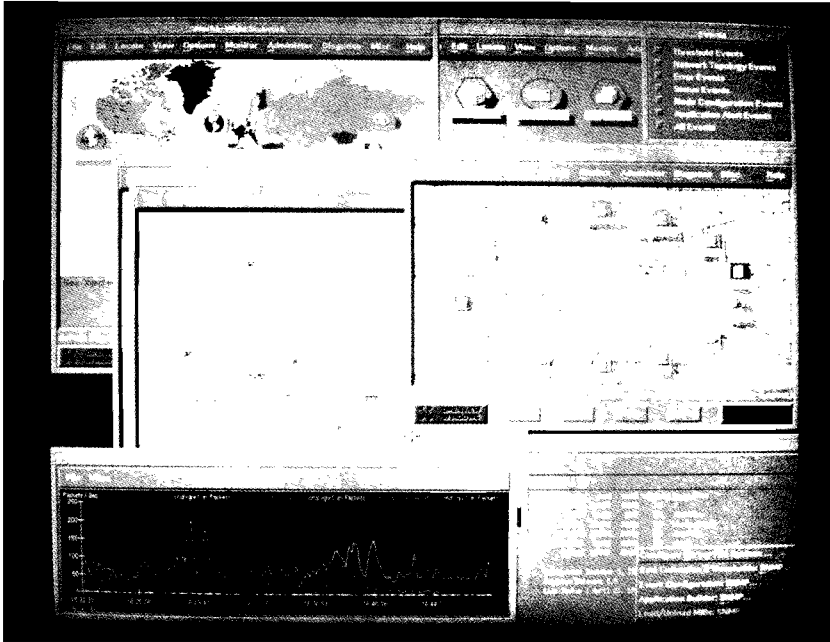


Figure 2.11 HP OpenView network management Windows-based screens simplify network management.

Powerful local network management

The HP OpenView Network Node Manager, which works on the Simple Network Management Protocol (SNMP) standard, enables a system administrator to configure, troubleshoot, and monitor performance for a network of TCP/IP nodes—all from a central workstation. The administrator can retrieve information from all TCP/IP hosts or devices on the network and display a network map, events, trends, and statistics graphically.

HP OpenView's platform supports many applications, including OpenSNA from Peregrine Systems, which provides direct management of SNA networks from HP OpenView 3.0.

Other HP OpenView products extend the power, resources, and security of HP 9000 Business Servers to PC users on local area networks.

And since all these capabilities are available on an economical HP 9000 Series 800 Business

Server, instead of a mainframe, you can reduce your overall network management expense.

Centralized enterprise network management

The HP OpenView suite of network management utilities lets you use a Series 800 Business Server to host multiple network management applications. As a central point of administration, the HP OpenView platform integrates and routes management information transparently across the network, over routers and bridges, and stores it for immediate or deferred analysis or reporting.

Using dynamic network mapping to locate and display all devices on the network, system administrators can maximize network availability, isolate and correct problems, and dramatically reduce administration time.

Graphical user interface provides consistency

HP OpenView incorporates a graphical user interface based on OSF/Motif. By providing an open view of the entire network, including all types of vendor and network elements, this interface enables the network manager to see the interaction between multiple components of the network and control different subnetworks through multiple windows and multiple displays as desired (see figure 2.11).

“HP excelled not just in price/performance but in quality of support, integration, and communications expertise.”

—Ken Richardson, Technology Infrastructure Unit Project Manager, United Kingdom Post Office

Integrated System Management

HP OpenView gives you a foundation for complete system management. Using HP OpenView System Manager, a data center operator can manage networked systems from a single console so remote sites can run completely unattended. With industry endorsements from OSF, IBM, Groupe Bull, and others, it brings together the products, partnerships, and expertise needed to manage performance, backup, and operations control.

Computer Associates partnership

Through HP's strategic partnership with Computer Associates (CA), the largest software vendor in the world, the HP 9000 Series 800 family has become the first UNIX platform to take advantage of CA's rich data center systems management solutions, CA-UNICENTER for UNIX.

CA's UNICENTER for UNIX is a comprehensive, integrated solution that addresses fundamental management areas, including security, control and audit; automated storage management; automated production control; performance management and accounting; and data center administration.

Obtaining Timely Performance Information

To maximize productivity from your existing hardware, software, and staff, you need concise, timely performance management information to help you anticipate problems before they arise and plan for future applications with confidence.

HP performance solutions reduce information overload. Instead of burdening you with reams of performance data, they provide concise reports with meaningful recommendations. And presentation-quality graphic overviews help you analyze situations quickly and easily.

Monitoring and diagnostic solutions resolve performance problems

HP's on-line performance monitoring and diagnostic products help you isolate and resolve system performance bottlenecks.

HP GlancePlus/UX gives you the system activity information you need to quickly identify and restore satisfactory service levels when occasional problems occur.

HP's diagnostic solution, HP LaserRX/UX, combines historic performance data collection with graphic analysis software to help you analyze current and past system bottlenecks, manage service levels, and control resource costs (see figure 2.12).

HP Performance Monitoring Solutions

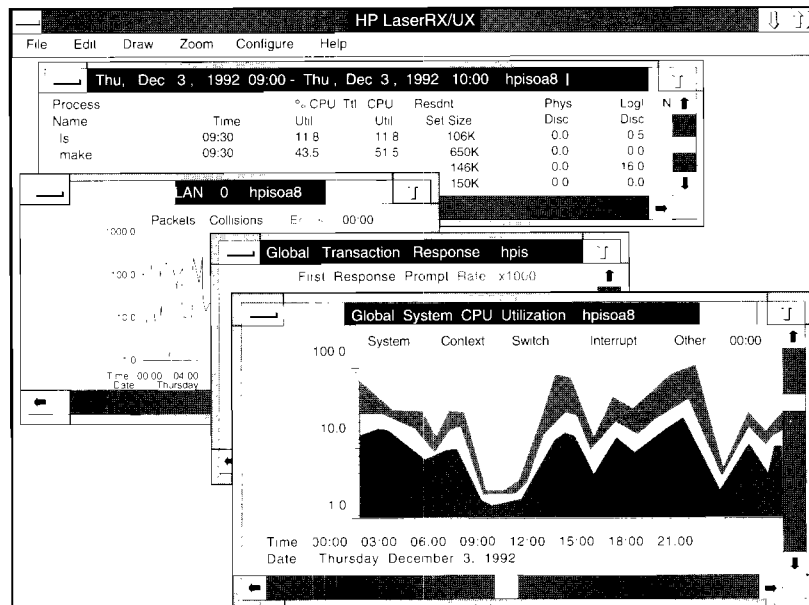


Figure 2.12 Interactive performance monitoring software can provide quick and easy access to dynamic information regarding system performance and resource utilization.

HP OpenSpool/UX Leading Open Systems Spooling Based on DME Standards

Capacity planning with confidence

With HP capacity management solutions such as HP RXForecast, you can analyze workloads, forecast system resource requirements, and predict future performance.

Enterprise performance management

HP PerfView provides centralized performance management of distributed systems using management-by-exception techniques. Both graphic and textual notification appear on the HP OpenView map. In addition, the graphical user interface can be used to characterize and isolate performance problems. If you require more detail, HP GlancePlus can be used within the same user interface.

HP PerfView, together with HP's other performance management products, helps you to identify and correct existing and potential performance problems before users notice.

Cost-Effective Operations Control

Although the UNIX operating system provides scripts and commands to manage jobs, schedule production, and control spooling, HP and independent

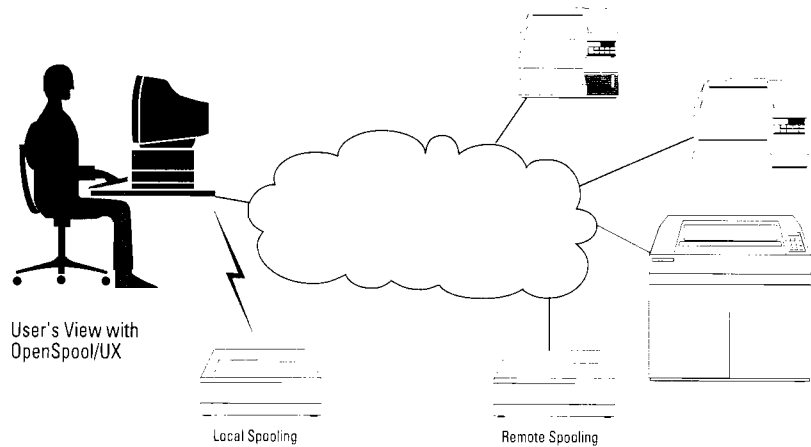


Figure 2.13 HP OpenSpool/UX provides sophisticated spooling capabilities while hiding the complexity of the network.

software vendors offer a variety of prepackaged, easy-to-use, and easy-to-administer commercial solutions that enhance the UNIX environment.

For example, HP's innovative and standards-based spooling software, HP OpenSpool/UX, enables users to easily perform complex local and remote spooling procedures (see figure 2.13). OpenSpool/UX is the only commercial spooler available based on MIT's Palladium Toolkit selected by the OSF for DME. Together with HP LAN Manager/X, or HP NetWare/9000, HP OpenSpool/UX provides networked spooling for PCs.

Versatile Backup Facilities

To protect data against loss, reduce the system manager's archiving responsibility, and give users more control over archiving and retrieval of files, HP offers a set of backup solutions that enhance basic UNIX commands and capabilities.

HP OmniBack is a full-featured and versatile central and network backup system that can automate backup operations across a distributed network.

"Hewlett-Packard has learned from its history of extremely high customer satisfaction what users need and want in a commercial system."

—Aberdeen Group

High-Performance Backup with HP OmniBack/Turbo

System administrators can manage backup from any of the nodes on the network. HP OmniBack also provides sophisticated journaling and scheduling capabilities.

HP OmniBack/Turbo is the industry leading high performance backup solution with a backup rate of up to 15 to 25 Gbytes per hour. Rewritable optical library systems support lets you perform unattended backup and recovery of up to 2000 Gbytes of data (see figure 2.14).

Powerful System Administration

As systems grow in complexity and size, simplifying system administration becomes more essential. To manage HP 9000 Business Servers, HP's powerful Motif-based System Administration Manager (SAM) enables you to perform system administration tasks quickly and easily (see figure 2.15).

SAM's powerful features include:

- Context-sensitive help...simplifies operation for novice system administrators
- Information validity check—protects against potentially harmful errors
- Customization/extensibility—enables system administrators to perform tasks specific to their environment.

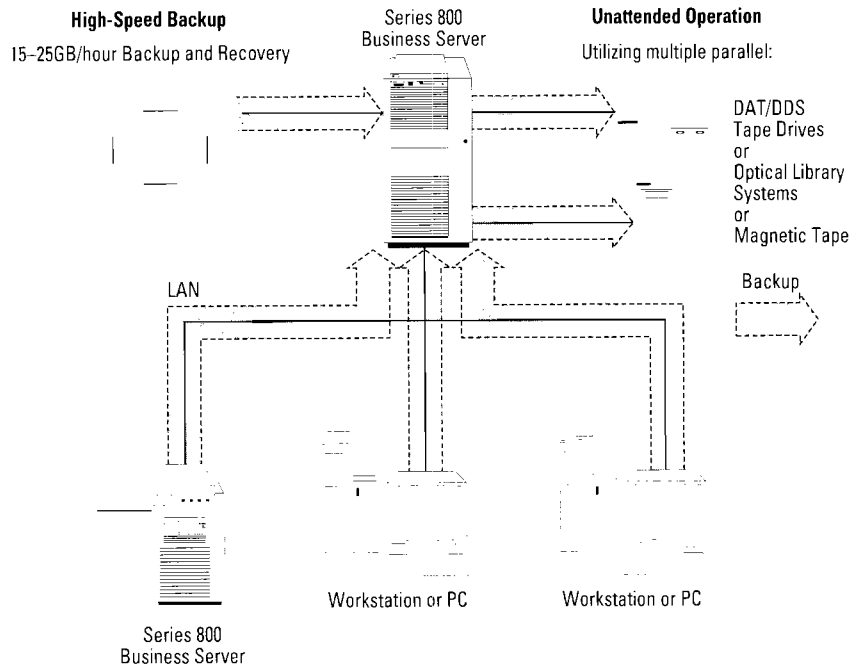


Figure 2.14 Our versatile HP OmniBack/Turbo solution delivers the high performance backup and recovery capability you need.

HP's Powerful System Administration Manager

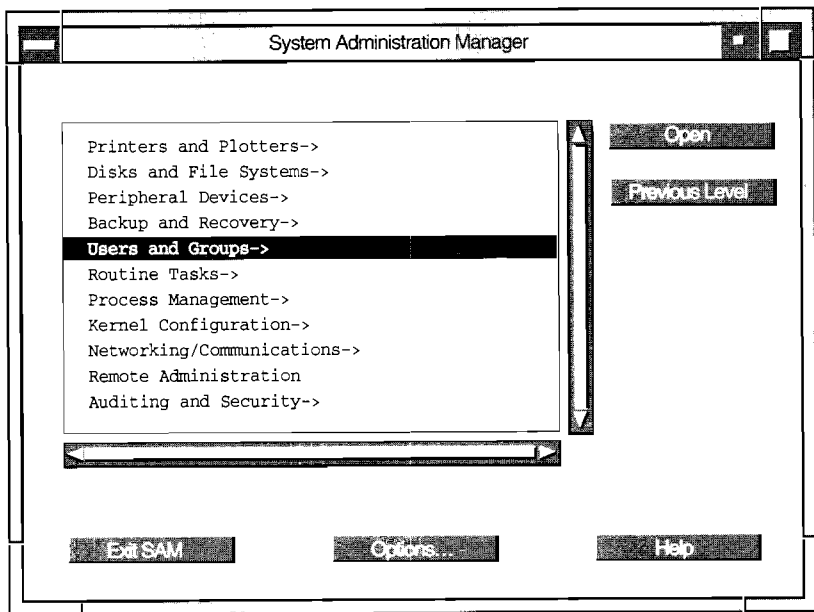


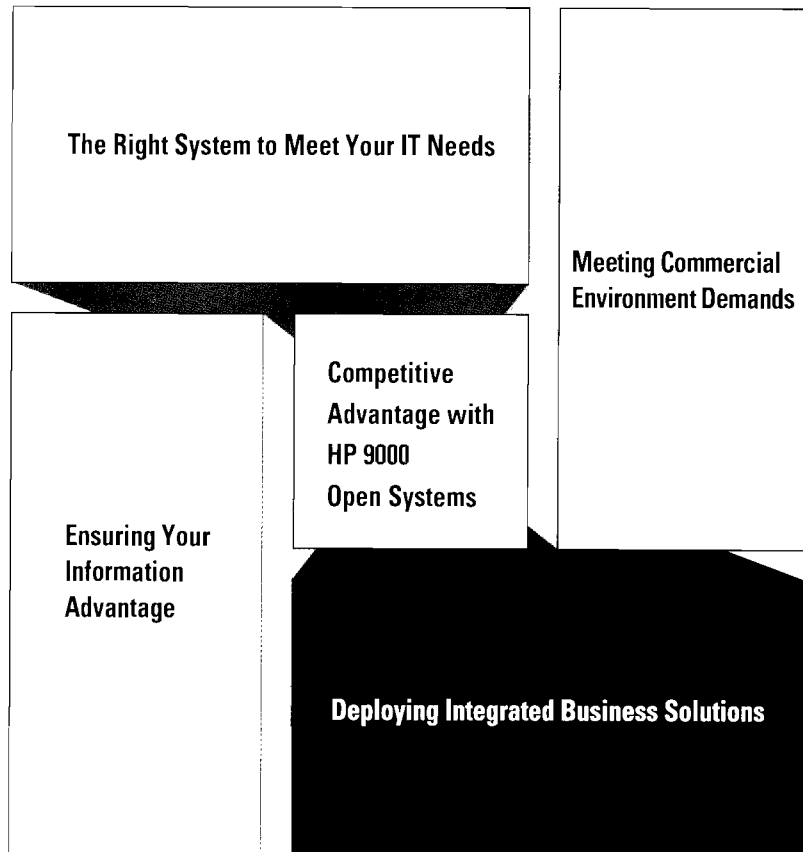
Figure 2.15 SAM's easy-to-understand interface helps expert and novice system administrators with a variety of system administration tasks.

Deploying Integrated Business Applications

Section 3.

**Best-in-Class
Industry
Applications**

**Superior
Application
Development
Environment**



The HP Business Systems provide a leading technology foundation for implementing a successful IT strategy. Yet it takes the right applications to attain the full payoff of your computing environment.

Your business applications are valuable strategic assets. Because HP understands the critical nature of building and deploying these applications, we offer leading business solutions on our systems, a superior development environment for productive in-house application design, and best in class data management solutions and performance.

Best-in-Class Industry Applications

No single computer company working alone could ever hope to create all the solutions for all markets. To give you a wide array of choices for business solutions, HP has formed strategic alliances with the industry-leading independent software suppliers, systems integrators, and resellers in the industry. Our partners have already recognized the growing demand for Open Systems applications on the UNIX operating system. And we're proud that most software leaders moving to UNIX have chosen HP as their first port.

Currently, we have over 2000 such relationships providing more than 5000 application packages, including applications for client/server environments. You also have access to over 3000 applications for the PICK environment. And the list keeps growing. Rapidly.

For example, in the accounting application marketplace, HP has partnerships with the top six leading application vendors: Computer Associates, Dun &

Bradstreet Software, Lawson, Oracle, Ross Systems, and SAP. Also, 5 out of the 10 industry-leading human resource applications run on our platforms. These examples demonstrate how HP, working closely with the industry leaders, ensures that their customers have access to best-in-class commercial solutions. (Refer to pages 8-9 for a partial list of key HP Channel Partners and application categories.)

The strength of HP's value-added business program and market leadership have made us the most attractive system VAR platform in the industry for over five years. As a result, HP is adding new ports of applications for the HP 9000 Series 800 platform at the rate of over 50 per month.

No other UNIX systems provider has as many application solutions for commercial users as HP. Only Hewlett-Packard gives users the best choice in solutions and applications.

Mainframe solutions

Many market-leading solutions, previously available only on proprietary IBM mainframes or DEC systems, can now be found on HP 9000 Series 800 Open Systems. So whether you want to downsize or decentralize your manufacturing, accounting, or other departments to a Series 800 system, you can be confident you'll find the highly recognized, high-quality solutions you need.

The catalyst for industry-leading applications moving to the HP 9000 platform is our industry leading value-added program for HP Channel Partners.

Availability of robust foundation software

Key software partnerships in the area of CASE, system management, and networking enhance Series 800 capabilities to value-added businesses and end users alike. And as the market for client/server applications grows, aggressive programs targeted at Channel Partners will enable them to take advantage of HP's client/server technologies.

"In looking for a strategic Open Systems vendor to form the broadest business relationship we have ever entered, HP was the natural choice. HP is a proven market leader in delivering commercial Open Systems based on a UNIX system."

—Charles B. Wang, Chairman and CEO, Computer Associates

Superior Application Development Environment

Whether your environment is traditional host/terminal or client/server, HP offers a range of choices to optimize productivity for commercial application development. HP's offering includes the industry's top databases, languages and tools, and a set of best-in-class Computer Aided Software Engineering (CASE) solutions.

Close Working Relationships with Top-Tier RDBMS Suppliers

HP's close marketing and engineering relationships with top-tier RDBMS suppliers give you faster availability and higher performing RDBMS releases on the HP 9000 Series 800 platform. These relationships have proved mutually beneficial and have resulted in optimally tuned databases for PA-RISC and HP-UX.

HP supports every leading Open Systems database product in the industry, including:

- ADABAS
- ALLBASE/SQL
- Cognos
- Focus
- Informix
- Ingres
- Interbase
- Oracle
- Progress
- Starbase
- Sybase
- Unify

Best-in-Class Application Development Tools

Tools for building new applications and maintaining existing ones play a crucial role in diminishing a backlog of application projects. For development, HP focuses on helping you manage

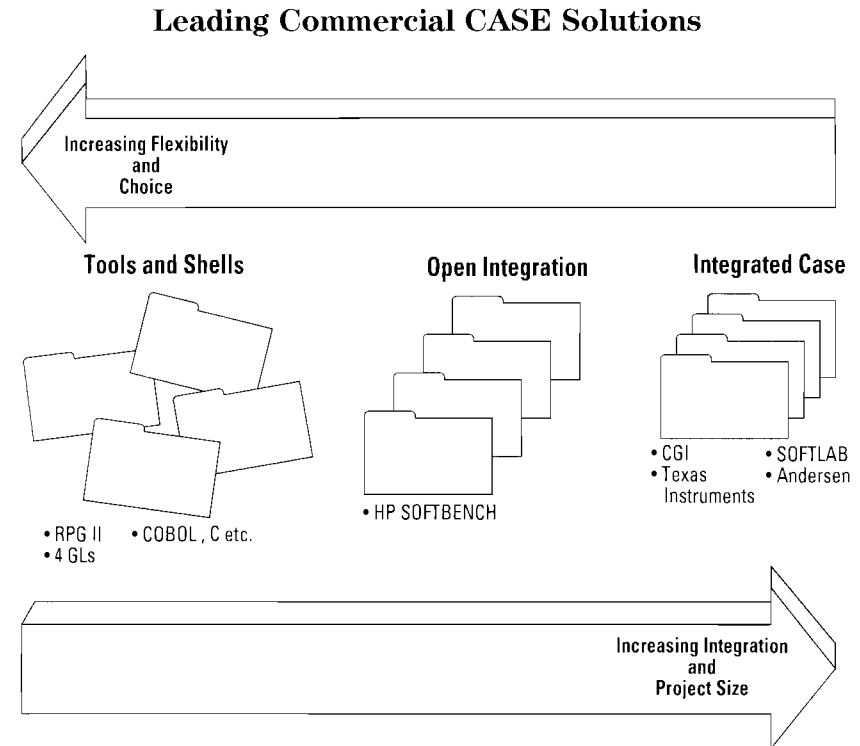


Figure 3.1 HP's comprehensive commercial CASE offering positions HP 9000 Business Servers at the forefront of the commercial UNIX marketplace.

the productivity and predictability of the software development lifecycle. HP offers a set of well-known, best-in-class commercial CASE tools categorized by development activity (see figure 3.1).

Tools and shells

Tools and shells are used for porting code from other platforms (Ex. from RPG to C), writing basic code, or for simply running existing code. This environment includes languages and 4GLs. HP's languages offer a high level of standards-compliance and code optimization for efficient run-time performance on our PA-RISC architecture.

The HP 9000 Series 800 supports all major languages including:

- HP COBOL/HP-UX based on MicroFocus COBOL/2
- C/ANSI C
- C++/HP-UX
- HP Pascal/HP-UX
- FORTRAN 77/HP-UX

Industry-leading 4GLs

HP supports 4GL tool environments from Cognos, Focus, Informix, Ingres, Oracle, Progress, Sybase, Unify, and various other independent tools vendors.



Open integration environment: HP Softbench

HP's windows-based tool integration framework, called HP Softbench, creates a unifying environment for companies developing applications in C, C++, or COBOL. HP Softbench integrates a variety of existing development software tools without modification. These tools assist in the construction, test, and maintenance phases of the software life cycle, while the integration platform provides the communication framework for ISV tools covering other phases of the cycle.

HP Softbench allows a programmer to pick and choose from among a broad range of software incorporating the latest development software technology.



Integrated CASE

HP supports a fully-integrated CASE environment for commercial development through leading products on the market from Texas Instruments, CGI Systems, Inc., Softlab, and Andersen Consulting.

These solutions automate the entire application lifecycle, linking tools and data across the life-cycle stages.

Andersen Consulting

Andersen Consulting has selected HP as the first UNIX target platform for their integrated-CASE product, FOUNDATION for Cooperative Processing. This is the first full life-cycle CASE that can be used to develop and generate complete client/server applications.

Texas Instruments

IEF, from Texas Instruments, is one of the leading integrated CASE (I-CASE) software solutions available today. Developers can use an HP 9000 Series 700 or PCs for software planning and design to target Series 800 Business Servers. IEF supports C and COBOL code generation and hooks to Oracle and Ingres RDBMS. Support for other RDBMS transaction monitors will be available soon.

CGI Systems, Inc.

CGI Systems, a premier integrated-CASE vendor, allows developers to take advantage of the Series 800 as a development or target environment. CGI's product, PACLAN/X, supports the Oracle and Informix RDBMS. PACLAN runs on PC LANs, and PACBASE runs on IBM mainframes.

Softlab

Softlab, another premier integrated-CASE vendor, offers Maestro II, which supports Series 800 Business Servers with PC clients. With Maestro II, the Series 800 can be used as a development and target environment.

*"Oracle uses the
HP 9000 as our UNIX
development environ-
ment because it is our
best selling multiuser
UNIX system and pro-
vides the capabilities
our users demand."*

—Jerry Baker, Sr. VP, Products Division,
Oracle Corporation

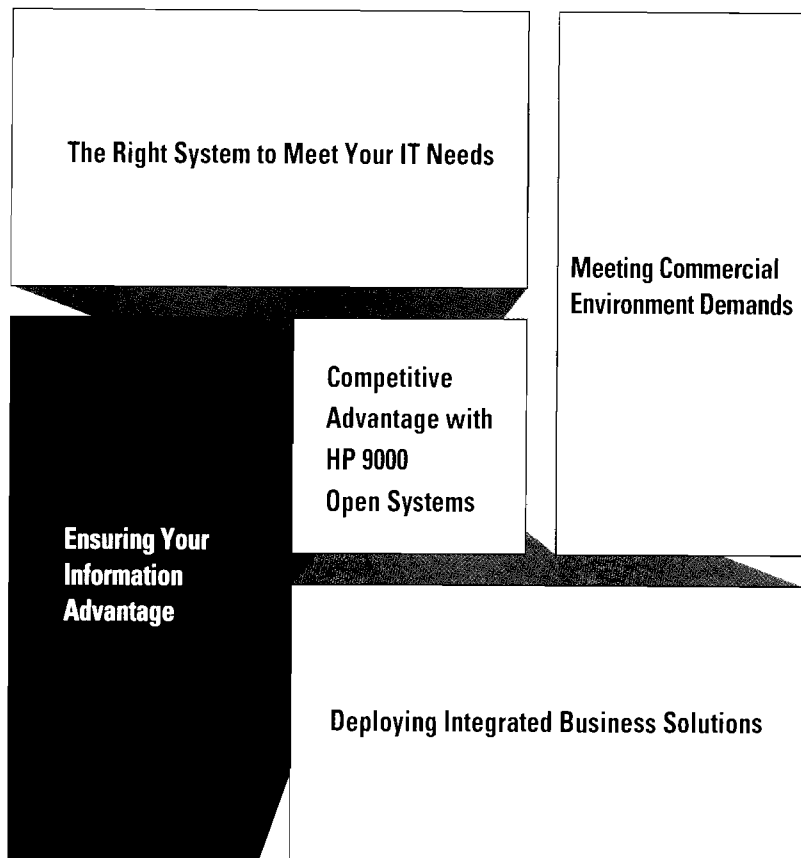
Ensuring Your Information Advantage

Section 4.

**The Mainframe
Alternative
for Data Center
Computing**

**Client/Server
Computing**

**Premier
Customer
Service and
Support**



Hewlett-Packard's unique combination of open computing products is unsurpassed in the industry. However, in order to ensure that your business goals are met, the key is a creative and successful implementation.

Although the hardware, software, and networking products are critical components of your information system solution, it is the creative implementation of this technology that dictates your success or failure in achieving a competitive advantage from your technology investment. Also, your ability to have expert support and services accessible anytime of day and anywhere in the world is crucial to your ongoing operations.

HP will assist you in the development of a leading-edge commercial implementation to ensure your information advantage.

Among a wealth of programs offered by HP are two which address the fundamental computing paradigm shifts taking place today: one, the migration toward a more cost-effective alternative to proprietary mainframes and two, the move toward an efficient distributed client/server environment. Furthermore, HP assures your successful execution with round-the-clock world-class services and support.

The Mainframe Alternative for Data Center Computing

Demands of the 90's have forced businesses to look for ways to re-engineer their operations for greater efficiency and competitive advantage. The migration of applications from large proprietary mainframes to flexible, cost-effective and distributed Open Systems has become the most effective response in addressing these needs. The prerequisites for moving these mainframe data centers to Open Systems include robust performance, commercial functionality, and quality support.

"There is no way you can spend over a million dollars on mainframe hardware and software and expect to stay competitive."

—Dr. Graham Free, GM of Information Services, Hamersley Iron.

HP 9000 Business Servers fulfill all these requirements, with the added benefits of offering mainframe-class solutions in an open environment without mainframe-class costs. Thus, HP is truly the open alternative to mainframe computing.

Mainframe-class performance...at a fraction of the cost

HP's high-end Series 800 Corporate Business Servers use HP's PA-RISC and symmetric multiprocessing to achieve true mainframe-class commercial throughput with performance and price/performance advantages that will continue long into the future.

In addition, Series 800 Business Servers are available at a fraction of the price, with significantly lower support costs and less floor space requirements than traditional mainframes. As a result, most companies investing in mainframe alternatives typically achieve at least 50 percent reduction in the overall cost of ownership.

Commercial functionality for the data center

HP's full complement of commercial features meets the needs of today's data centers. Companies with mission-critical information systems can take advantage of HP's complete data center offerings (see figure 4.1).

Everything You Need for Data Center Computing

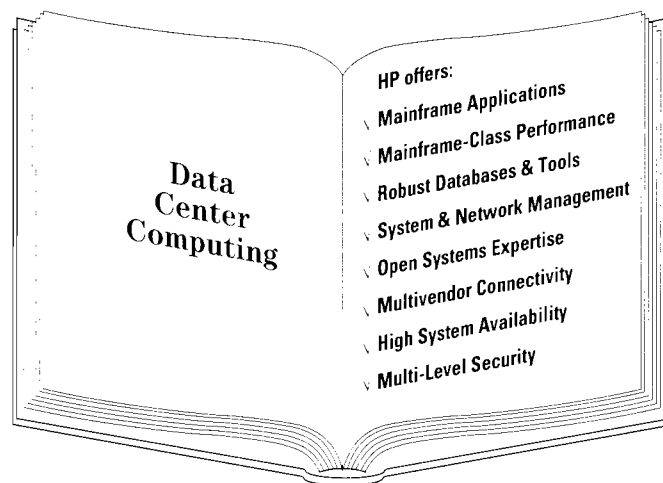


Figure 4.1 HP 9000 Series 800 Business Servers have the mainframe applications, performance, and commercial functionality for data center computing.

"You go to someone and say, 'I've got a computer system that costs one-fifth of an IBM system,' and you get their attention."

—Robert Herwick, Analyst, Hambrecht & Quist

HP technical expertise can get you from here to there

Often, the biggest question about moving your data center to Open Systems is where to begin. That's where HP's Mainframe Alternative Program can assist you. We have years of experience building and implementing Open Systems. And we have the comprehensive support and range of services your business needs. IIP understands the transition process and can ensure a smooth migration that will help you protect your investments in existing data center applications.

Choosing a first step:

HP's Mainframe Alternative solution uses innovative products and concepts coupled with industry-leading software to help you move to an Open Systems environment. Every solution is flexible, modular, and customized to meet your specific needs. We have identified several methodologies to get you started. (See figure 4.2)

Transfer

A simple cost-effective transfer of your existing applications to an HP 9000 Business Server protects your investment in user training and allows you to offload system resources. For example, you could offload your application development function to an HP 9000 and still continue to use the development tools with which you're comfortable from past development on mainframes.

Moving Applications from Mainframes to Open Systems

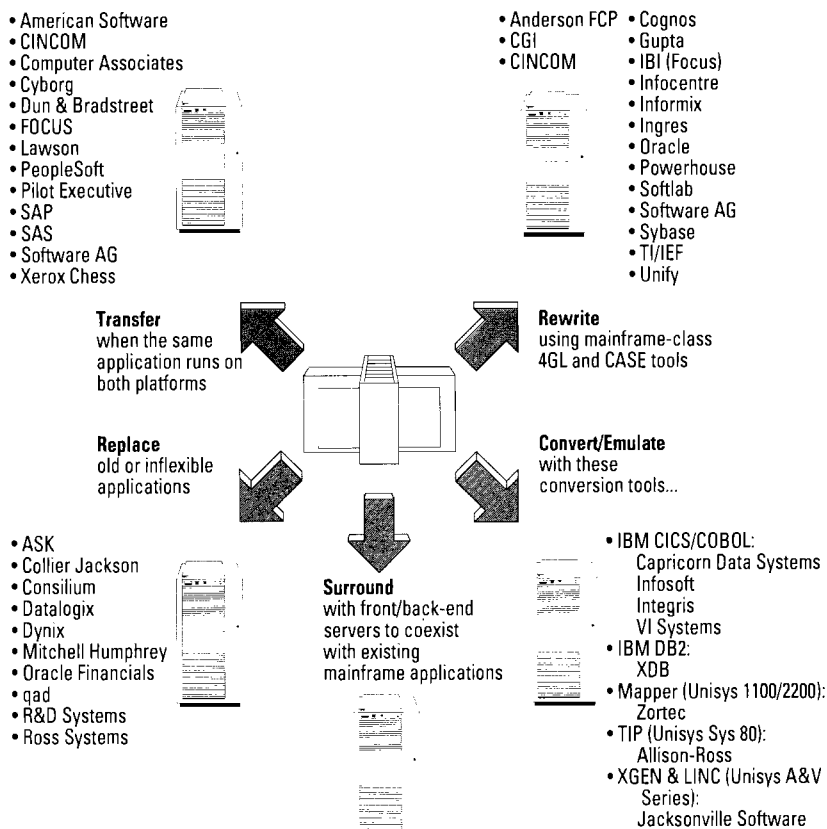


Figure 4.2 HP helps protect your investments in existing data center applications.

"HP has become a leading supplier of UNIX systems to mainframe customers on the strength of its broad line of RISC computers, respected UNIX program, quality and customer support."

—UNIXworld, June 1992



Replace

State-of-the-art third-party packages like Oracle Financials, Datalogix, and SAP, etc. are ideal solutions on the HP 9000 to replace outdated mainframe applications that aren't meeting your demanding business needs.

Rewrite

HP offers best-in-class 4GLs and CASE tools to help you develop customized applications that will ensure the leading edge over your competitors.

Convert/Emulate



HP has developed partnerships with many conversion tool vendors who will convert or emulate your existing custom-written applications to the HP 9000 operating environment. Your investment in applications and training is protected, and you can immediately take advantage of a low-cost, high-performing solution.

Surround

HP's wide range of mainframe communications products provide the capability for HP 9000 Business Servers to seamlessly coexist with your existing mainframes. For example, use an HP 9000 Business Server as a front- or back-end application server to your mainframe. With the added muscle of an HP 9000, you can dramatically improve productivity by adding in new functionality to existing applications.

HP...The right choice

Regardless of the mainframe alternative path you choose, HP has the data center experience to assist you in obtaining your information technology goals. HP 9000 Business Servers provide all the power you need to manage large data center applications and all the capabilities you demand in multi-vendor environments. For mainframe performance at a fraction of the cost, there's only one solution—the HP 9000 Business Server family.

“The RISC processors HP is coming out with are so fast and powerful that, for the money, you can't justify maintenance costs on larger systems anymore. You just gotta change. Otherwise, you are throwing your money away.”

—Kevin Mead, Director of MIS, Paragon Steakhouse Restaurants Inc., *InfoWorld*, 8/24/92

Empower Your Organization with Client/Server Computing

Companies are reacting to the competitive pressures today by creating empowered organizations. They are pushing the authority and shared responsibility for decision-making lower into the organization, eliminating idle time, and ensuring that decisions are made with local customer requirements in mind.

For an organization to be empowered people must have access to the information they need to make sound business decisions that are in the best interest of the company. The best way to make that information available is by moving the source of the information and the tools to use it closer to the user.

The client/server computing model — the notion of a system that requests services, *the client*, and a system that fulfills services, *the server* — is ideal for making both tools and information available to those who need it.

HP's view of client/server computing

HP's client/server strategy is to provide a set of tools and solutions that make it easy for customers to move to a distributed Open Systems computing environment at their own pace. In addition to offering a complete client/server computing solution, HP has broadened the definition of client/server computing to include the following characteristics.

First, client/server solutions must encompass a wide variety of open technologies based on industry and defacto standards. The HP model blends the full complement of technologies needed for the creation and delivery of client/server solutions — advanced

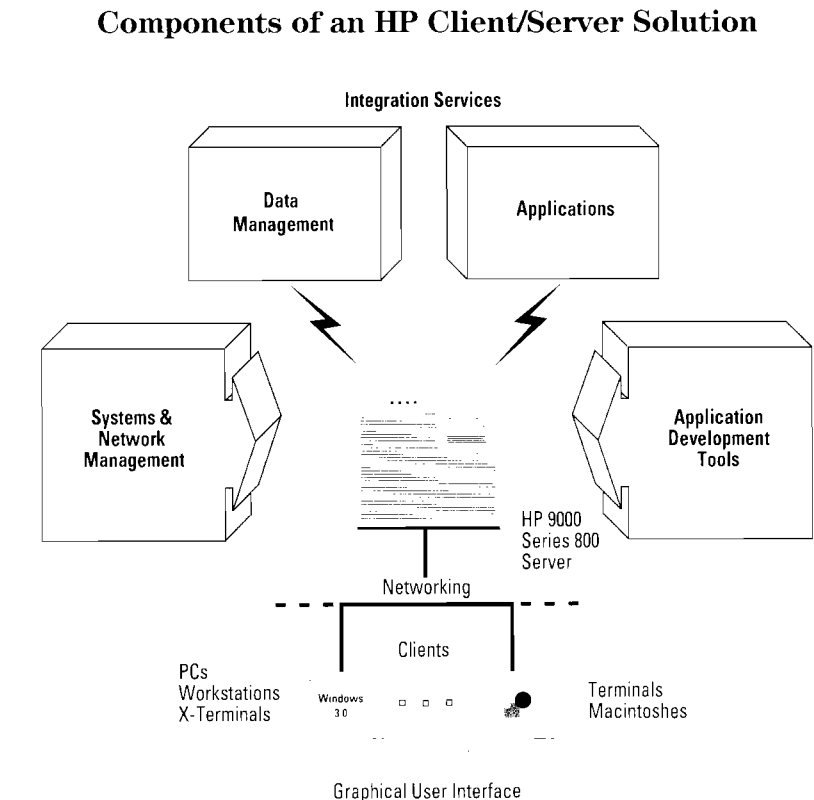


Figure 4.3 HP provides a broad offering of components for a complete client/server solution.

GUIs, networking technology for communicating locally and around the world, object oriented programming, and 4GLs.

In addition to these, HP recognizes the need for “middleware” and DCE and DME components, such as remote procedure calls, license management services, and software to integrate applications. In fact, seven key HP technologies have been chosen to be core components of the OSF's DCE and DME standards.

Second, client/server models must not require you to throw out everything you already have. HP recognizes that companies already have millions of dollars invested in technology. HP allows a client/server computing model to be built on our information structure by redefining where and

how the processing of information takes place — that is, moving it closer to the person who needs the information.

Finally, the client/server model must add real value to the existing investment, such as:

- Improved user interfaces and faster learning
- Easier access to existing data and applications while maintaining data integrity and
- The ability to integrate data from a variety of incompatible sources and transform it into useful information.

HP's offering meets all of these requirements, and HP is convinced that the client/server model is key to successfully rightsizing your information technology investment (see figure 4.3).

An Example of an HP Client/Server Solution

HP Cooperative Computing Solutions provide a suite of integrated, client/server-based solutions to improve knowledge-worker productivity, enhance communications, and provide flexibility in managing critical information (see figure 4.4).

Enhancing strategic application areas

Using these client/server tools, HP helps companies reshape business processes and enhance strategic application areas, including customer service, new product development, accounting, marketing and other areas where it's essential to provide easy access to information across a variety of systems.

HP Cooperative Computing Solutions effectively integrate HP 9000 servers, operating system, networking, software applications, and services from

HP into a single-solution package with HP worldwide support. This enables your business to leverage its existing IT investments, utilize existing data sources, effectively manage the environment, and provide users with access to critical information.

Getting started immediately

At the core of HP Cooperative Computing Solutions, the HP Enterprise Information Server provides the foundation for client/server applications. Based on the powerful HP 9000 Series 800 Business Server, the HP Enterprise Information Server protects hardware and software investments by managing client resources and providing network, database, and application connectivity to IT systems. Since the server is pre-loaded with application software and comes equipped with system management tools for better client management, software distribution, print spooling, and PC backup, you can take advantage of client/server productivity immediately.

“HP listened to our needs, described how their client/server computing products could help, and worked with us to make our customer service project a success.”

—Win Wade, VP of Technical Services,
U.S. West Communications

HP's Cooperative Computing Solution Strategy

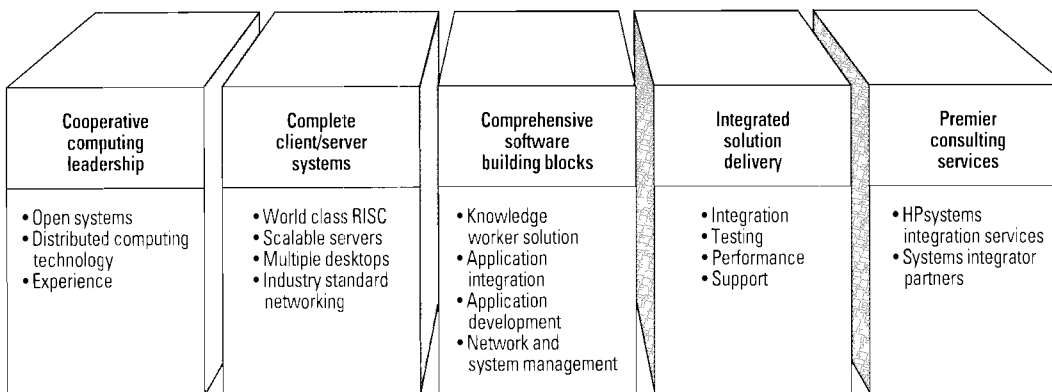


Figure 4.4 HP delivers integrated client/server solutions.

Empowering users

The HP Cooperative Computing Solution for Knowledge Workers comprises more than 35 component products developed both by HP and leading third-party software suppliers. By integrating HP and third-party applications, this unique solution enables business professionals to access, communicate, and report information quickly and easily.

It also provides document and text management, electronic mail, and business process automation. And it supports a broad range of clients—including DOS, MS Windows, and HP NewWave Personal Computers, as well as Apple Macintosh workstations, UNIX workstations, and terminals.

Software applications and tools are consolidated on a CD-ROM for backup media. Future releases and upgrades from HP and third parties are controlled and synchronized through a single source—HP.

Application integration

Since rewriting existing applications may not always be cost effective, new applications must be integrated within a network of homogeneous computer systems to take advantage of new client/server technologies.

The HP Software Integration Sockets family of application integration tools integrates new or existing software applications among IBM Mainframes, DEC VMS systems, IBM AS400s, and HP 9000 and HP 3000 systems, to name a few. This unique family of products facilitates the transport, translation, and manipulation of data between applications, while providing a consistent yet flexible integration methodology.

Network and system management

Managing a diversity of computing systems and networks is a big challenge. HP offers significant productivity benefits to system and network managers through HP OpenView and a robust set of tools for managing a diverse client/server environment.

Integrated solution delivery

HP's Cooperative Computing Solutions are delivered in one package shipment. This package contains products from many third-party companies and HP divisions—32 software products are preloaded onto the server disk! Software applications and tools are consolidated on the CD-ROM for backup media. Future releases and upgrades from HP and the third parties are controlled and synchronized through a single source—HP.

"HP's Cooperative Computing strategy is extremely complementary to Verity's strategy of providing business professionals with intelligent tools for easy access to the right information at the right time, on their desktop."

—Laura G. Cory, Senior VP of Marketing, Verity.

Professional Services Tailored to Meet Your Needs

To help you get the most from your HP equipment and related software, HP Professional Services cover a breadth of strategic technology areas including Open Systems migration, information management, multivendor integration, networking, and performance management.

HP's Open Systems Roadmap simplifies your IT implementation

The HP Open Systems Roadmap offers a systematic approach and methodology for implementing IT solutions, which addresses planning, development, implementation, and support. By following the HP Open Systems Roadmap (see figure 4.5) your business gains an open, flexible, modular, and customized solution.

The following areas are addressed in HP's Open Systems Roadmap to ensure a successful transition to Open Systems:

- Information systems strategy
- Information technology strategy
- Transition planning
- Development/pilot
- Enterprise-wide implementation/deployment
- Implementation and proliferation
- Support/management

HP Open Systems Roadmap

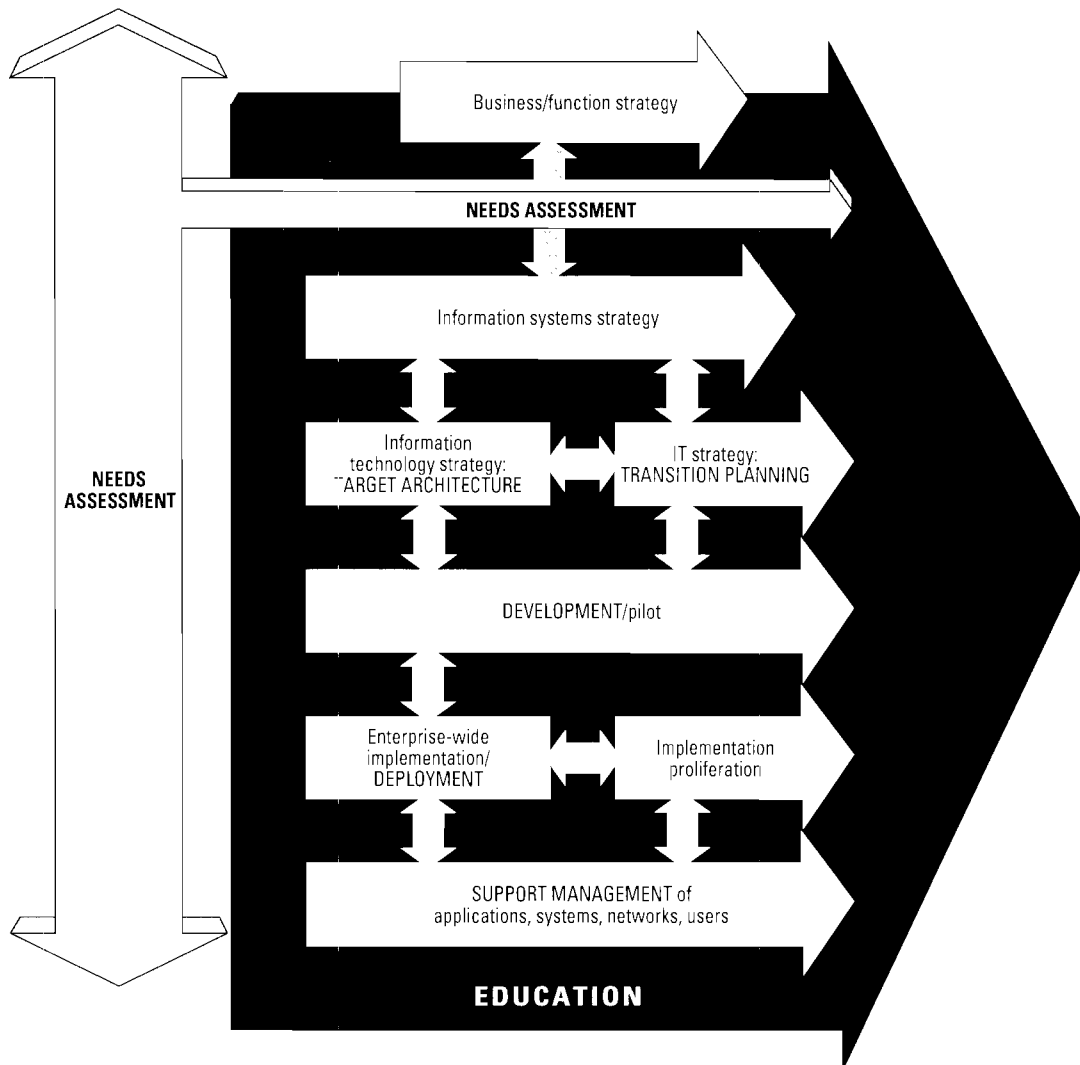


Figure 4.5 HP professional services consultants use the Open Systems Roadmap to plan and implement your migration to Open Systems while leveraging your existing resources and minimizing the impact on your organization.

Major Professional Service Programs

The following are some examples of our service programs from HP's Roadmap to Open Systems.

Open Software Environment services

For companies who experience roadblocks between where they are today and greater application choice, interoperability, and portability of Open Systems, HP offers Open Software Environment (OSE) services. OSE Services, which are designed to help companies move to Series 800 Open Systems, include:

- Review of your current IT environment
- Development of a custom IT architecture
- Analysis of how current Open Systems technologies fit your business needs
- Recommendations for a pilot and implementation plan.

Mainframe Alternative services

It's clear that HP 9000 systems provide "mainframe class" performance and offer the software solutions necessary to support large environments. To help companies select the right route for migration, and assist in moving to the HP 9000, HP Professional Services also offers Mainframe Alternative (MFA) consulting services.

MFA begins with a comprehensive needs assessment to understand your specific requirements.

It's our goal to:

- Help you begin to reduce IS/IT operating costs
- Lower the risk of attempting a migration on your own
- Manage the transition from a mainframe environment to the HP 9000 Open Systems environment.

Once we understand your needs, HP defines the target architecture and develops a transition plan, in which HP Professional Services will act as prime contractor and project manager.

Knowledge Worker Professional Services

HP's Knowledge Worker Professional services package consulting time and system integration services to help businesses optimize:

- Document and text management
- Multi-vendor electronic mail integration
- Enterprise information systems
- Workflow automation.

HP services, based upon a set of field-tested tools available from select HP channel partners, not only propose an optimum customer solution, but also deploy pilot and final implementations.

Comprehensive networking services

HP Professional Services offers a wide range of network services to help you link HP 9000 Business Servers within your workgroup, departmental, company-wide, or global multivendor networks.

Professional Services offer a full range of support services that cover your network's complete life cycle...from planning your IT architecture through final implementation support, including:

- Network logical design
- Network physical design
- Network implementation
- Network performance monitoring, diagnostics, capacity planning and optimization
- Network management.

HP's network specialists can also analyze and recommend customized network solutions to meet your multivendor communication needs.

Performance Consulting services

HP Performance Consulting services provide tailored and fixed-price solutions for your performance and capacity management requirements. Knowledgeable HP performance consultants help you optimize the performance of your current systems and applications, as well as develop plans to meet future business and user requirements. And HP performance consultants are available to assist you in modeling your system, so you can confidently forecast future requirements.

In addition, to augment HP's offering, a select group of systems integrators has been selected to provide complementary services.

Premier Customer Support

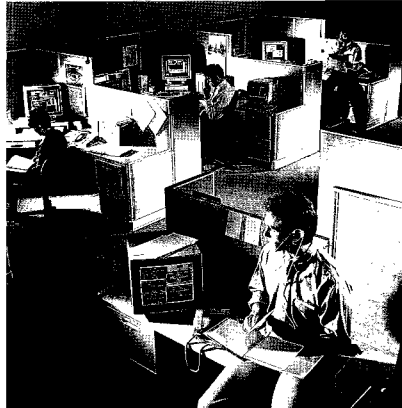
Educational services for novices and experienced professionals

The move to open, client/server computing can significantly change operations throughout your organization. To help you get started quickly, HP offers a wide range of courses tailored for experienced professionals as well as novices.

HP's Open Systems support curriculum includes:

- Overview courses on Open Systems concepts, capabilities, and standards
- Hands-on demonstration workshops with the latest Open Systems technologies
- Implementation classes for specific Open Systems solutions.

Courses are available at any of our HP Customer Education Centers worldwide. Optionally, an experienced HP instructor can conduct classes or customized training at your facility or at a nearby HP sales office.



HP's industry-leading support programs, backed by state-of-the-art technology, enhance your return on investment

Industry-Leading Support

At HP, our established international leadership in customer support satisfaction, backed by state-of-the-art technology, enhances your return on investment. With over 400 service locations worldwide, we offer a breadth of industry-leading support programs to help protect your information advantage.

Flexible hardware support

HP's hardware support services—ranging from hardware maintenance to disaster recovery to data center relocation—help keep HP 9000 Business Servers running at peak performance levels, whether you have a single site or a distributed worldwide network.

HP Response Center engineers use advanced diagnostic technology to return your system to normal in the event of unplanned downtime. And, if the need arises, you can depend on HP's escalation management process to coordinate all necessary HP resources for a speedy resolution.

HP also offers a comprehensive, integrated support package called HP Premier Account support, which provides all the training, hardware, software, and network support your business needs.

Versatile software support alternatives

- All HP 9000 Business Server customers receive free, electronic software support for the first year. This gives you access to HP's on-line support database for up-to-date support information and recommended problem solutions based on other customers' experiences.
- Comprehensive software maintenance provides unlimited telephone assistance through the HP Response Center for fast problem resolution.
- Personalized software support assigns a trained HP support consultant to your business, who can provide customized software recommendations.
- Where appropriate, HP also offers self-maintenance support which delivers current, comprehensive support information through access to HP's support database. In addition, HP provides a software license for updates to your HP software.
- HP also offers a powerful combination of valuable support information retrieval software and large storage capabilities from compact disk read-only memory (CD-ROM) technology.

HP Computer Museum
www.hpmuseum.net

For research and education purposes only.

Participate in the Future: Next Steps to Success

The future of enterprise computing is distributed Open Systems. The cost benefits and the flexibility offered by Open Systems are causing more and more organizations to begin migrating to an open computing strategy.

Hewlett-Packard is your best partner for an Open Systems solution. By partnering with HP, your business can prosper by becoming more responsive, more effective, and more profitable. HP is eager to work with you in making your future a success. For further details on how you can enhance your business operations with HP's Open Systems solution, the following alternatives are available:

1. Contact your HP sales representative or local HP sales (see back cover) office for more information on how to implement the strategic change most cost-effectively in your enterprise with HP 9000 Series 800 Business Servers.
2. Request specific product literature from your HP sales representative, or use HP's automated support fax program, HP FIRST (Fax Information Retrieval Support Technology) to have literature faxed directly to you.

HP FIRST:

To have an index of available product literature or specific literature faxed directly to your fax machine, follow these steps:

- a. *Dial (800) 333-1917 from any touch-tone phone. This number is available 24 hours a day worldwide. The computer will have a voice menu to prompt you to enter the numbers corresponding to the specific category you need.*
- b. *Select option 1 to access HP FIRST and receive faxed information on Hewlett-Packard products.*
- c. *Select option 3 to put you into the Computer Systems area.*
- d. *Select option 2 to download the index, or if you know the identification number for the piece of literature for which you are looking, select 1 and enter the 4-digit ID number.*
- e. *In minutes, a fax will be delivered to your fax machine.*

*"HP's implementation of Open Systems solutions can enhance your company's information advantage. As your information technology partner, **HP is open for business...your business.**"*

—Wim Roelandts, Vice President, Computer Systems Organization,
Hewlett-Packard Company

Think again.



For the location of the nearest sales office call:

United States of America:
1-800-637-7740

Canada:
Hewlett-Packard Ltd.
6877 Goreway Drive
Mississauga, Ontario L4V 1M8
(416) 678 9430

Japan:
Yokogawa-Hewlett-Packard Ltd.
15-7 Nishi Shinjuku 4 Chome
Shinjuku-ku
Tokyo 160, Japan
(03) 5371 1351

Latin America:
Hewlett-Packard
Latin American Region Headquarters
Monte Pelvoux No. 111
Lomas de Chapultepec
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(525) 202 0155

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(03) 895 2895

Asia Pacific:
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89 Queensway
Central, Hong Kong
(852) 848 7777

Europe/Africa/Middle East:
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CH-1217 Meyrin 2
Geneva, Switzerland
(22) 780 81 11
European Multicountry: 41 22 780 81 11
Middle East and Africa: 41 22 780 71 11
European Headquarters: 41 22 780 81 11
Refer to country phone numbers

For direct country contact call:

Austria: 43 222 2500-0

**East Central Europe, USSR, and
Yugoslavia:** 43 222 2500-0

Belgium and Luxembourg:
Customer Information Center
32 2 761 34 00

Denmark: 45 45 99 10 00

Finland: 358 0 88 721

France: 33 1 69 82 60 60

Germany: 49 6172 16 0

Greece: 30 1 68 28 811

Hungary: 38 61 55 84 72

Iceland: High Performance Systems hf.
354 1 67 10 00

Ireland: 253 12 88 33 99

Israel: Computation and
Measurement Systems (CMS) Ltd.
(03) 5380 333

Italy: 39 2 92 19 91

Netherlands: 31 20 547 6911

Norway: 47 2 87 97 00

Poland: 48 22 36 83 00

Portugal: 35 1 1301 73 30

Russia: 007 95 923 50 01

Slovenia: 38 61 55 84 72

Spain: 34 1 626 16 00

Sweden: 46 8 750 20 00

Switzerland:
41 57 31 31 11 (Head Office)
41 22 780 41 11 (Suisse Romande)

South Africa: HiPerformance Systems
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Turkey: 901 1 175 29 70

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