

**Sales Guide
November 1993**

**HP Internal and
Channel Partner
Use Only**

HP 9000 Series 800 Business Servers



**New
12-Way SMP T500 System
and MFA Program Enhancements**

**HP 9000
OPEN FOR
BUSINESS**

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The HP 9000 Series 800 Sales Guide: Your Guide to Continued Sales Success!

The Mainframe Alternative momentum continues to build, and HP is perceived as a leader in the MFA market. Many industry consultants have written favorable reports on HP's Mainframe Alternative program. For example,

"Only Hewlett-Packard with its HP 9000 Series 800 has a complete solution for downsizing and/or re-engineering the data center."

"HP has also emerged as the best positioned open systems, client/server vendor in the industry."

Summit Strategies 1993

Due to your strong consultative and solution selling strategies, we are winning hundreds of MFA new businesses. This has helped GSY finish the 1993 fiscal year at 110% of quota, which is a growth rate of 33% over last year. Thanks to all your hard work, HP continues to grow over twice as fast as the UNIX® market. Therefore, extending our lead as the #1 commercial UNIX provider.

This product introduction is geared towards giving you products that strengthen our leadership in open systems and client/server solutions. We are introducing a new high-performance Corporate Business Server, the HP 9000 Model T500. The T500 is positioned as the best mainframe alternative in the industry. We are also introducing new solutions in the other major areas of our MFA strategy such as system management, mainframe-class applications, MFA migration tools, and MFA professional services and support.

Congratulations on your great performance. We are in a great position to continue to gain market share in 1994. We have the best solutions in the industry and the best Sales Force and Channels to win business. This Sales Guide contains information about our new products, programs, and solutions that help ensure your continued success.

Thanks for your efforts, and Good Selling!



Carol Mills
General Manager
General Systems Division

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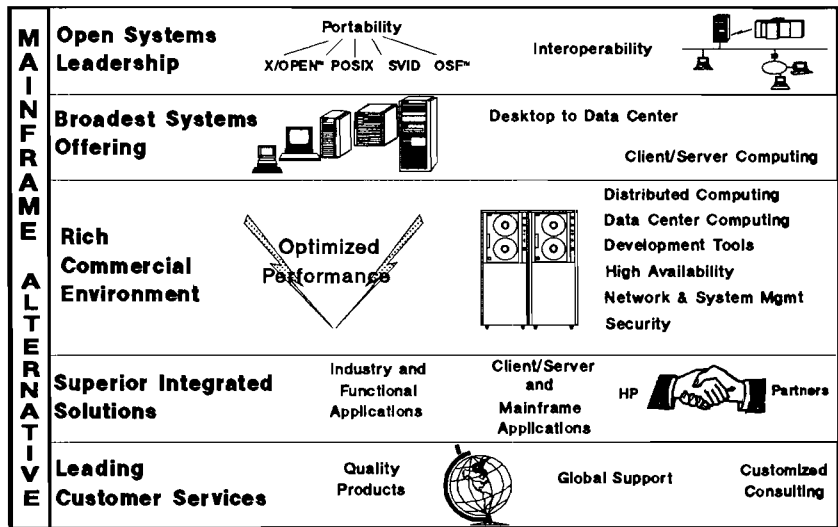
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Positioning HP's MFA Program within Our Open for Business Strategy

HP's "Open for Business" strategy and framework continues to be a successful tool to communicate our complete offering with one consistent message. With each sales guide, the product, programs, and enhancements introduced have built upon and enhanced the framework's five strategic areas of focus. The Mainframe Alternative strategy maps in well with this framework and will be used to summarize the specific products and programs announced. A more detailed description can be found at the beginning of each chapter.



Figure 1.1 HP 9000 Open for Business and MFA Framework



OSF is a trademark of the Open Systems Foundation, Inc. in the U.S. and in other countries.
X/Open is a trademark of X/Open Company Limited in the U.K. and in other countries.

Open Systems Leadership

HP is the strategic choice for those who want to implement computing strategies based on open systems. HP is the only major vendor whose strategic offering is based completely on open systems. HP's continuing commitment to standards has been demonstrated by our recent leadership of the COSE process which defined the Common OS API specification. This initiative will greatly enlarge application portability between UNIX-based systems. This will allow MFA customers to move confidently into the new open systems world while benefitting from genuine portability and interoperability in a multivendor environment.



The HP 9000 Series 800 offers more interoperability than anyone in the industry! We can integrate in more ways with more environments than any other vendor.

Many MFA customers are looking at protecting their investment in 3270s by using HP Channel Partner solutions to interactively log onto both the IBM host application and the HP 9000 system's application. These HP Channel Partners provide solutions for Reverse Pass Through and Physical Unit 4/5 (PU 4/5) Emulation. Often companies need to exchange information and transfer extremely large files at very high speeds between HP and IBM systems. If a company would like to move towards open systems, they can use TCP/IP between their HP and IBM as a high-speed alternative. We describe these TCP/IP solutions.

Broadest System Offering

The HP 9000 Series 800 Server family, together with the Series 700 Workstations, represents the most extensive line of compatible UNIX Systems in the industry, ranging from desktop to data center. The wide array of products results in a client/server platform unmatched in the industry and allows us to offer a variety of MFA solutions now and in the future without software compatibility issues.



HP further expands and strengthens its large-scale Server family by introducing the HP 9000 Corporate Business Server T500. The HP 9000 Model T500 more than doubles the OLTP performance of the Model 890, up to 1600 TPS. And triples the number of processors supporting up to 12-way SMP. The HP 9000 Model T500, like the Model 890, has the processor, memory, and I/O infrastructure to support mainframe-level performance and configurability.

New peripherals are also available including 8-mm tape support, 3480-format tape support, and Fast/Wide differential SCSI.

Rich Commercial Environment

This is a true MFA differentiator for the Series 800 versus other UNIX systems. By providing the full range of commercial functionality required in the data center, HP is uniquely positioned versus other UNIX vendors. The Series 800 Business Servers are optimized for commercial applications to give your customers the best performance for their money. HP has the most robust set of system management tools available on UNIX. Also, HP implements leading-edge technology in integrating information between centralized databases and the desktop so your customers can make informed decisions in a timely fashion. All of this further enhances HP MFA solutions.



Several new announcements reinforce HP's lead in providing MFA solutions. For example, HP is introducing several new data center solutions. These include the AdStar Distributed Storage Manager for automated, highly reliable, high-performance network-based backup and archiving. Best/1 for HP-UX that enables centralized performance management and capacity management in distributed UNIX environments. And finally, Sterling Software NQS/Exec which provides intelligent network batch job scheduling.

Finally, HP MPower, a media enriched communications offering that integrates HP's user environment with multimedia technologies, is available on the Series 800.

Superior Integrated Solutions



HP continues to lead the industry with the most comprehensive portfolio of integrated solutions in the UNIX marketplace. HP has become the first port for mainframe application vendors (Computer-Associates, Dun & Bradstreet, Cincom, SAP, Lawson, PeopleSoft, etc.) who want to establish their solutions in enterprise UNIX environments. Our newest relationships include Walker Interactive, CODA Inc., and Continuum Company. Walker Interactive develops and markets integrated financial and business control software to Fortune 1000 companies that typically run their operations on mainframe computers. CODA Incorporated is a leading provider of financial accounting software for the midrange marketplace. The Continuum Company is the largest insurance software company worldwide and provides software solutions and services to over 300 insurance companies. We welcome these companies to our Channel Partner program.

These are only a few additions to the fast growing number of solutions on the Series 800. HP continues to be recognized for the quality of our Channel Partner solutions, which also positions HP as a leader in MFA alternatives.

Leading Customer Services

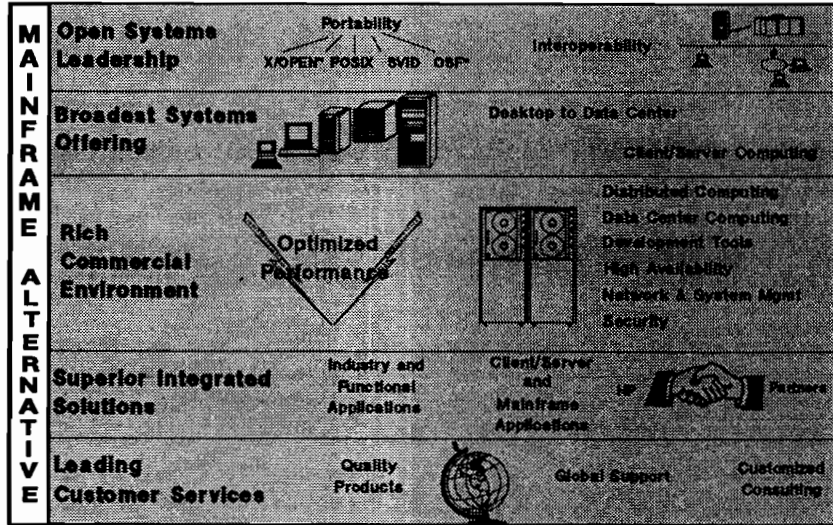


HP ranked #1 in customer service and support for the tenth (10) straight year (according to the most recent Datapro survey). HP's Professional Services Organization (PSO) focuses on comprehensive consulting services that help customers get the most from their investment in information technology. To assist customers in moving to open systems with the HP 9000, HP offers Mainframe Alternative (MFA) Professional Services. These consulting services are designed to help customers select the right route for migration, and then assist them in the transition to the HP 9000 open systems environment. For those customers considering the move to open systems, their overall IT architecture will be affected by the move. HP Information Technology Strategy (ITS) Professional Services provide consulting to help develop an appropriate architecture, or validate the customer's existing architecture, and assist in a smooth transition to open systems. In support of the PROFS Migration Program, consulting is available for customers replacing PROFS applications, or those with multiple non-integrated e-mail systems. HP Information Integration (II) Professional Services provide presales consulting and systems integration, document and text management, data warehousing, and decision support systems.

In addition, HP offers Premier Account Support for high-end accounts and customer educational courses tailored for data center/MIS managers and their staffs.

Open Systems Marketing Program

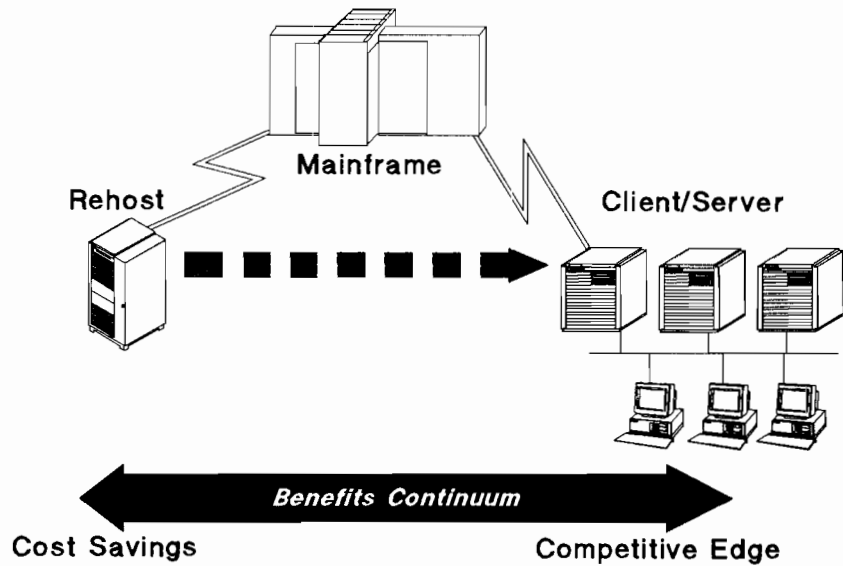
Figure 2.1



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Mainframe Alternative

Figure 2.2 Migration Alternatives and Drivers



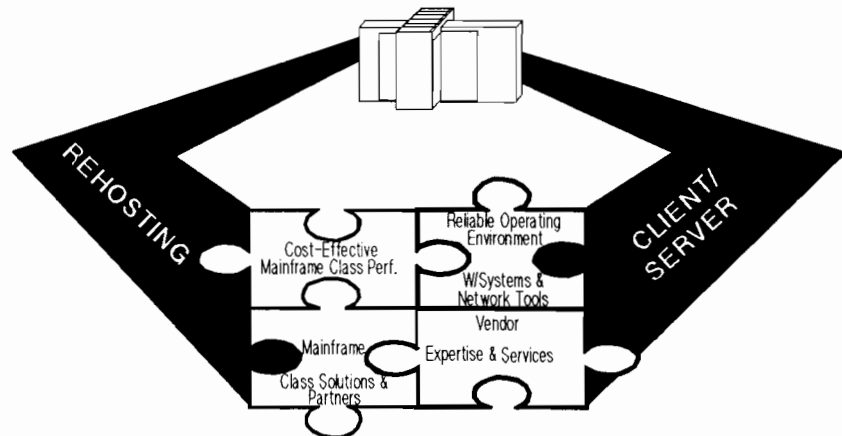
Customers who are moving applications from their mainframes are falling into two camps. The first are those whose primary concern is cost savings. These customers are not interested in reengineering applications but want to move the same applications that are running on their mainframes to less expensive platforms. These customers tend to have smaller systems, i.e., IBM 43XX and 308X's. On the other end of the spectrum are the customers for whom information technology is a true competitive advantage. For these customers, cost savings may be an interest, but their primary driver is the business benefits that they will receive from moving to a more flexible client/server or distributed architecture.

Many customers have set the end goal of reengineering their applications, but don't want to change too many things at once and so choose instead to rehost their application to an open systems platform before reengineering it to a client/server model. (HP is doing this with our order processing application which is going from mainframe to an HP 3000 via a rehost and then to an HP 9000 after being reengineered).

Other customers when moving to client/server environments do not abandon their mainframes, but keep them functioning in a three-tiered architecture, i.e., using the mainframe as a database server. These customers add new functionality to their mainframe applications through open systems servers that "surround" the mainframe and work with legacy applications or legacy data that still resides on the mainframe.

Figure 2.3 Hewlett-Packard Puts the Pieces Together

Whether Rehosting or Rearchitecting with Client/Server, Customers Require:



Regardless of the method by which customers are moving applications off their mainframes, there are a number of requirements that they are looking for from the solutions vendor with whom they choose to “right size.”

1. The replacement platform must be ‘mainframe class,’ having the performance capability, expandability, and reliability that data center customers are used to. (Our Corporate Business Server T500 is the highest performing RISC system on the market. We have added reliability and expandability features/options and can interoperate with a number of data center peripherals—3480 tape drives, silo libraries, high-speed data center printers, and now 3270 investment protection.)
2. A reliable operating environment is essential. This applies to the operating system as well as the systems management and network management capabilities. (The HP-UX operating system has been named by Datapro as the most reliable UNIX operating system. We have supplemented our UNIX offering with systems and network management tools for traditional mainframe software vendors such as CA, Legent, Sterling, Boole and Babbage, etc.)
3. Mainframe alternative customers are looking for robust applications that are suitable for running billion dollar companies. Many traditional mainframe software vendors are either porting their mainframe products to UNIX or are looking for a competitive advantage themselves by rewriting their applications in a client/server mode. Many companies are recognizing that these third-party packages are much more robust than they were 10 or 15 years ago when they first had to make “make or buy” decisions about software. HP leads the industry in the number of mainframe applications that have been ported to UNIX. A compelling example of HP’s leadership in this area is the fact that IBM’s DB2 and CICS products are being ported to HP prior to any other open systems platform. As you work with MFA prospects, identify applications on their mainframes which have been ported to HP. These migrations tend to be the easiest and have the quickest sales cycle.

4. Although companies can see significant cost savings and business advantages from moving off their mainframes, they recognize that there still is an element of risk involved in making a change. These companies want to know that they are working with a vendor that has expertise in the type of migration that they are considering. Over the past few years, HP has been involved in hundreds of mainframe alternative migrations. HP's Professional Services has reliably and repeatedly helped customers work through their information technology challenges. Our consultants have been peaked in MFAs, client/server, and distributed technologies. In addition, we have partnered with numerous systems integrators to deliver quality MFA implementations.

'94 GSY Focus

HP has been conducting extensive research to determine the most appropriate ways to focus our MFA resources for the next few years. Our findings indicate that for large, complex mainframe installations, typical of our target accounts, there will be three waves or cycles in which MFA is adopted by these customers. While there will certainly be exceptions to these generalizations in individual account situations, these observations are representative of the overall marketplace. In the next few years, many customers will begin to offload or surround their mainframes with systems for *decision support and information analysis*. Secondly, many customers have already begun a gradual movement of *mission-critical OLTP systems* off the mainframe and onto platforms like the HP 9000. Finally, there will be an ever-increasing movement toward *re-engineering core systems to the cooperative processing*, client-server model, which will probably peak in the latter half of the decade. As a result of these findings, GSY will be introducing focused programs in 1994 to target key opportunity areas.

Initially, we will focus on three cross-industry areas. The first of these, OpenWarehouse, is attractive for two primary reasons: It is often non-intrusive to a customer's existing mainframe architecture and it is considered low-risk, high-return by many companies. The second cross-industry opportunity, Financials/Accounting, is an area in which HP's Channel Partners are particularly strong, and the application is considered to have moderate risk by most customers. Finally, CICS on HP-UX provides HP a window of opportunity to transfer/migrate in-house developed solutions and key channel partner packages to the HP 9000. We will also be closely aligned with industry marketing to focus on key opportunities such as MRP/ERP and Telecom Billing, both of which are generating tremendous customer interest. Finally, we will continue to pursue opportunities to fully replace lower end systems (43XX, 308X, Bull, Honeywell) whenever possible.

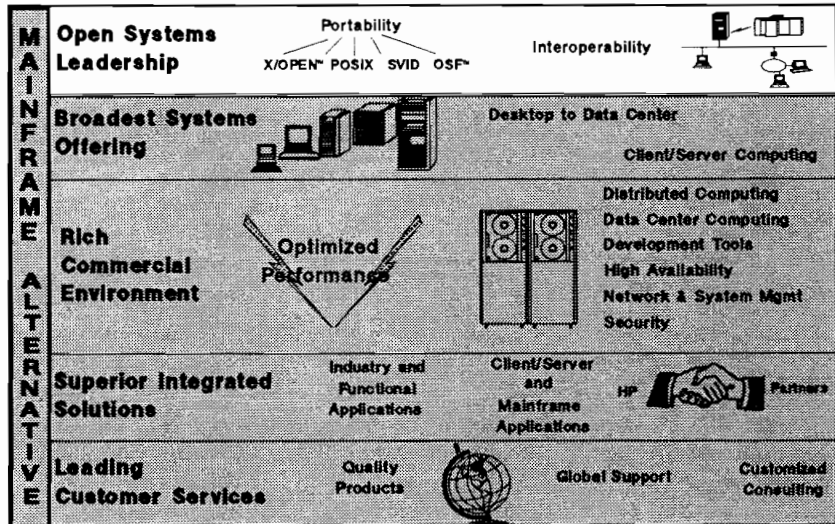
Look for further information and sales tools in the coming months.

For More Information

The MFA Hotline has been replenished with the latest slide presentations, success stories, and sales tools. Refer to the hotline for more information on anything relating to the MFA program.

Open Systems Leadership

Figure 3.1 HP 9000 Open for Business Framework



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The COSE Common OS API Announcement

On 1st September, more than 75 of the UNIX industry's leading participants, including systems suppliers and software developers, announced agreement on a comprehensive draft specification defining a set of Common OS APIs for UNIX-based operating systems. This single common API specification will enhance the portability of UNIX system-based applications, while maintaining the ability for vendors to innovate in performance and functionality (e.g., High Availability) to the benefit of their customers.

The specification is a superset of XPG4, OSF AES, and SVID 3 Level 1 APIs and includes additional APIs commonly used in software vendors' applications, such as Reno networking sockets from BSD. To ensure "completeness", the Common OS API set was tested against 50 real life applications. This "completeness", together with the support of the overwhelming majority of systems vendors, means that software developers will be able to achieve meaningful portability between brands of UNIX implementing this standard through a simple recompile.

The draft specification will be reviewed by both OSF and UNIX International, before submittal to X/Open at the end of 1993. X/Open will then put it through a fast track review process to approve a final standard by the middle of 1994. Following the development of X/Open verification test suites, branding should be available for UNIX-based operating systems by the end of 1994. Ownership of the specification will be solely with X/Open.

HP-UX on the Series 800 is XPG4 and SVID 2 compliant. AES and SVID 3 Level 1 were already planned for 1994. Therefore HP is in an excellent position to drive aggressively towards full implementation of the Common OS API set through 1994. It is intended that HP-UX will be branded as soon as X/Open makes the appropriate verification suites available.

The Implications

Hewlett-Packard is in a very strong position, following this announcement. We believe that the move towards unification will grow the overall UNIX market and the commercial server segment in particular. Growth will be fuelled by the increased attraction of software developers and customers away from proprietary environments. As the market leader in this segment, growing at over twice the market rate, the Series 800 will gain more than any other platform in unit sales, clearly providing the most attractive business opportunity for application vendors. In turn, this will benefit Series 800 customers by further extending the range of leading commercial applications available to them.

The Common OS API announcement has had a significant impact on System V.4. Novell/USL's strong participation in this COSE process and support for X/Open's control of the standard has effectively signalled the end to USL's previous policy of driving for an implementation-based approach to UNIX standards centered on System V.4. In effect System V.4 has become irrelevant as a UNIX-based standard.

The implication for end users and software developers alike is that they should start to withdraw System V.4 from their requirements specifications and start replacing it with the API specifications that will eventually become XPG4+ (i.e., the Common OS API set).

Furthermore, customers and software partners should recognize that maintaining a commitment to System V.4 as a requirement specification may actually lead them down a path that moves away from industry-wide compatibility and denies them the benefits available from functionality and performance innovations that will be delivered by the rest of the UNIX industry.

Competitive Analysis

Sun is claiming that since Solaris supports SVID 3 it is much closer to the draft Common OS API specification than HP-UX or AIX. Sun will try to encourage software developers to commit to Solaris because of this.

HP's counter is that Sun is not even XPG4 compliant yet, nor AES. Solaris has just as far to go as HP-UX. Unigram.X, dated September 6-10, 1993 reported a SunSoft spokesman:

"SunSoft's Solaris 2.x is '95% compliant' with the combined UNIX API" and "will be 100% compliant by the release we're planning in October 1994" according to the firm's Dave Richards."

Software developers will have no time-to-market advantage with Sun. Instead they should focus on their best business opportunity, which as we have seen will be clearly with the Series 800. Solaris has only attracted 600 applications to date, many technical. End users are attracted by application availability. The Series 800 platform is more appealing for customers because of the availability of over 5000 applications including all the leading commercial solutions. Any developer moving to the UNIX world will prefer to support the market leader, the Series 800.

IBM's ability to comply with the specification is similar to HP's with the Common OS API specification. However, IBM is not XPG4 compliant yet and is unlikely to comply before the second half of 1994.

DEC is not XPG4 compliant. Alpha's market share with OSF/1 is so small, with such limited application availability, that it is unlikely to attract software developers to its platform from this announcement.

Microsoft's key competitive advantage with NT, namely source code compatibility across multiple architectures, has been severely blunted by this announcement. With the Common OS APIs, UNIX will be able to offer the same level of portability, but with many more benefits:

- Maturity and robustness of UNIX implementations, especially with HP-UX's solutions in mission critical commercial environments.
- Innovation in functionality and performance available to users through multiple, system supplier implementations.
- An OS API standard owned by X/Open, not a single proprietary vendor.

Mainframe Connectivity: 3270 Solutions

Protecting Customer's Investment in 3270s

One-Minute Sale

In a predominantly IBM site, 3270 terminals will be distributed on many desktops. Customers looking at re-hosting applications often find that the cost of replacing their 3270 terminals cannot be justified. Customers may need to interactively log onto both IBM host application and onto the HP 9000 system's applications. Various methods exist to allow 3270 terminals to access the HP 9000 system:

- **Reverse Pass Through**
- **Physical Unit 4/5 (PU 4/5) Emulation**

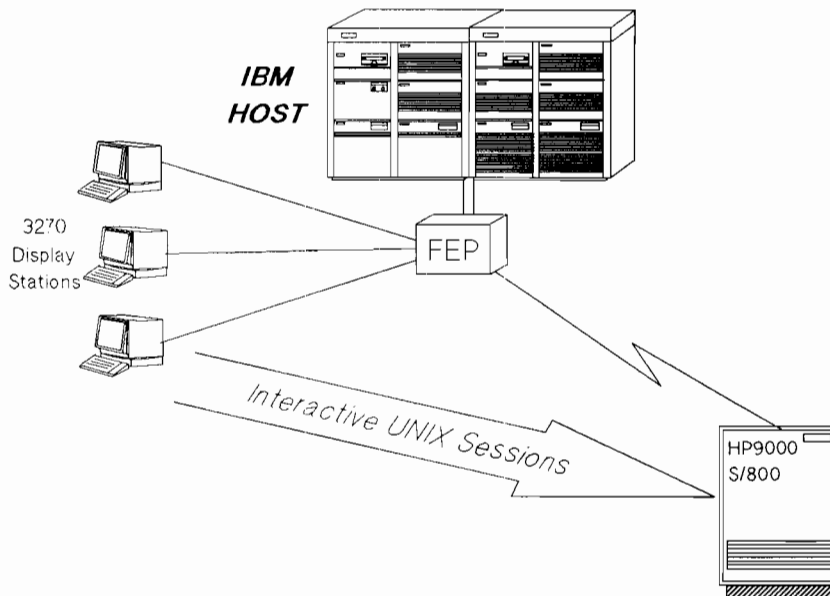
Reverse Pass Through Solutions

Reverse Pass Through is the ability through software running on IBM and HP systems to allow a 3270 user logged on to an IBM mainframe to initiate an interactive session with an HP system. This means that all 3270 users that want a UNIX session will "pass through" the IBM host to get to the HP system. This solution is best for users who access the IBM mainframe often, and plan on occasionally accessing the HP system from their 3270s. This alternative requires that the IBM host is always part of the network. Maximum number of sessions supported and performance are typically limited because of overhead constraints.

Haltek Limited

One alternative for Reverse Pass Through software is offered through a third-party channel partner called Haltek Limited. (See Figure 3.2). Contact Ron Moore at Custom Data Services (U.S. Distributor) at (410) 247-0886 or contact Manny Sayanos in Australia at Haltek at 61-3-521-1752.

Figure 3.2 Reverse Pass Through

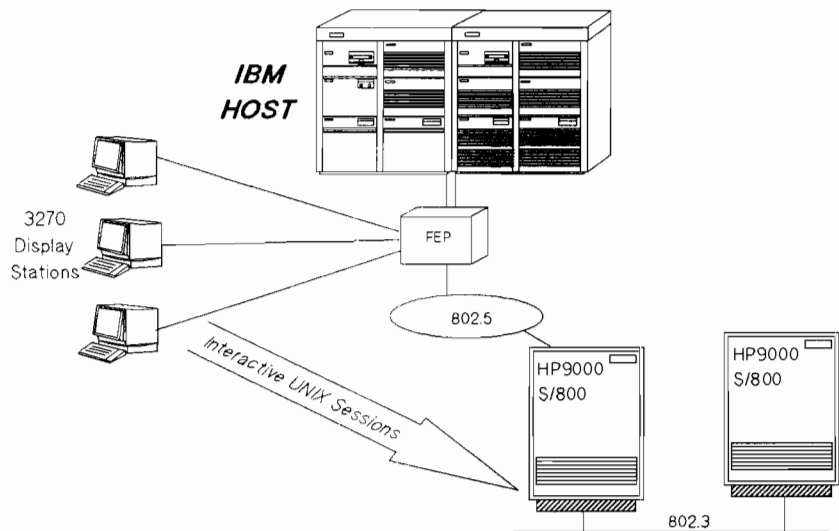


OpenConnect Systems (OCS)

Another 3270 investment protection alternative comes from the HP third-party channel partner OpenConnect Systems (OCS). The OpenConnect/Telnet Server II solution consists of a server software component that runs on the HP 9000 Business Server and OCS client software which resides on the IBM host. This solution is similar to the Reverse Pass Through solution in that the IBM host is required in the network to allow 3270 access to UNIX applications. IBM 3270 devices log into the IBM mainframe first, then users are routed through the front-end processor, over the token ring, through the HP 9000 Business Server, and across the TCP/IP network to log into a server that may be on the LAN. Contact Catherine Kingeter in the U.S. at (214) 888-0435.

Figure 3.3 3270 Investment Protection

OpenConnect Systems II Solution

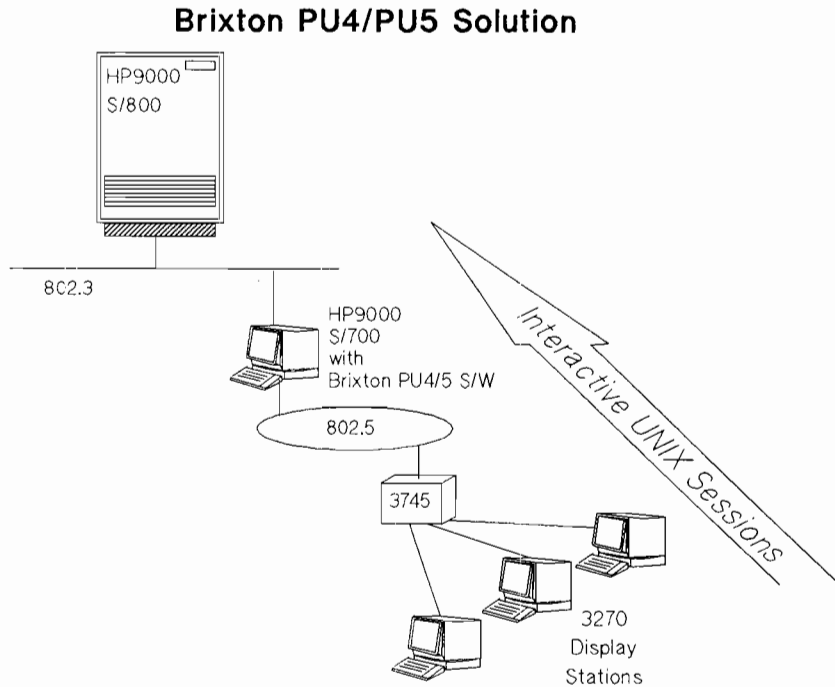
**PU 4/5 Emulation**

Another method for 3270 terminals to access HP systems is by having HP act as the master of the SNA network, similar to an IBM mainframe. The IBM equipment used to "control" the network is deemed Physical Unit 4 and Physical Unit 5 (PU4 and PU5). This method can be used in environments where the IBM mainframe will be removed from the network. HP can emulate a PU 4/5 using two alternatives.

Brixton Solution

HP Channel Partner Brixton Systems, Inc. has a product that runs on the HP 9000 Series 700 today that can emulate the major features of a PU 4/5. Using this Series 700 as a front end to the HP 9000 Corporate Business Server will allow several 3270 sessions to access HP applications. Maximum number of sessions supported and performance are typically limited because of overhead constraints. Brixton's solution fits in well with those customers who require fewer than 200 sessions. Contact Tim Hamilton at Brixton in the U.S. at (617) 661-6262 ext. 110.

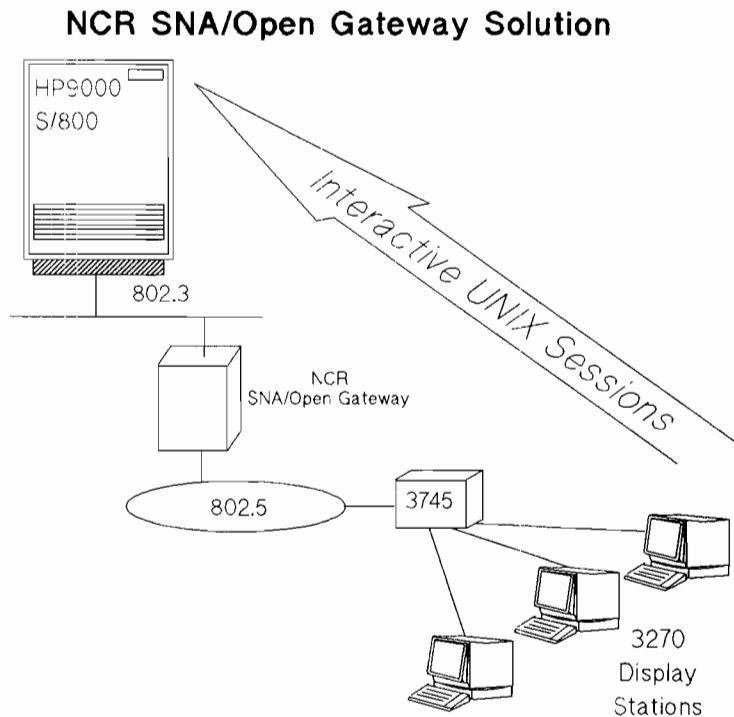
Figure 3.4 3270 Investment Protection



NCR SNA/Open Gateway Solution

A hardware solution exists from NCR called the SNA/Open Gateway. This is preconfigured front-end processor that will allow 3270 devices to access non-IBM systems and 3270-like applications. The solution consists of a front-end processor known as a gateway and an HP 9000 Business Server. The server runs a set of software modules that provides an API library for applications to be accessed by the 3270 devices. This solution has the capability to support over 200 concurrent (up to 4500) UNIX sessions from 3270 terminals. Contact Erika Eastman, IND Product Marketing Manager at (408) 447-2654.

Figure 3.5 3270 Investment Protection



High-Speed Alternatives to Mainframes

One-Minute Sale

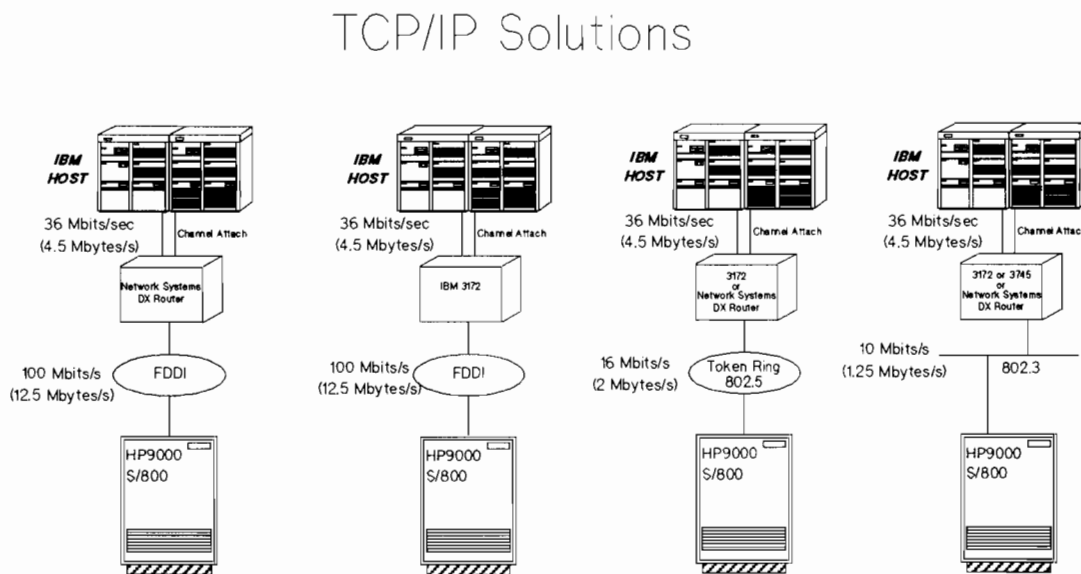
Often companies need to exchange information and transfer extremely large files at very high speeds between HP and IBM systems. Multiple alternatives exist for high-speed communications. A choice of technologies must also be made.

TCP/IP High-Speed Alternatives

If a company would like to move toward open systems, they can use TCP/IP between their HP and IBM as a high-speed alternative.

TCP/IP over Ethernet's standard defines a theoretical maximum speed of 10M bits per second. TCP/IP over token ring defines theoretical speeds of 4 or up to 16M bits per second. TCP/IP over FDDI's standard defines theoretical speeds of up to 100M bits per second. These are all LAN-based solutions, so the two systems must be physically located near one another. These are theoretical maximum speed limits. Be aware that actual speed will vary greatly depending on many factors such as line noise, systems overhead, and file size.

Figure 3.6 High-Speed Alternatives



Note: Speeds are theoretical maximums defined by specs of the media.
Actual speeds will be slower.

IBM can connect into any of the above LANs through channel connection which defines theoretical speeds of up to 4.5 Mbytes per second (or 36M bits per second). A networking hardware component is required to be installed between the channel and the LAN. You can use IBM's 3172 Interconnect Controller model 002 or 003. Another solution is from an HP Channel Partner, Network Systems Corporation. Their DX router product helps offload the host by taking care of some activities that the host typically handles, specifically polling.

You can also move TCP/IP traffic from an HP system over an Ethernet/802.3 LAN to an IBM mainframe through an IBM 3745 Communications Controller (or Front End Processor).

If the IBM mainframe is running the AIX/370 operating system, the Network System's DX router can take advantage of a function called "striping" in which the router can divide packets from the FDDI ring and alternate those packets over 2 channels into the IBM. This can effectively double the throughput. Striping is not supported on MVS or VM operating systems.

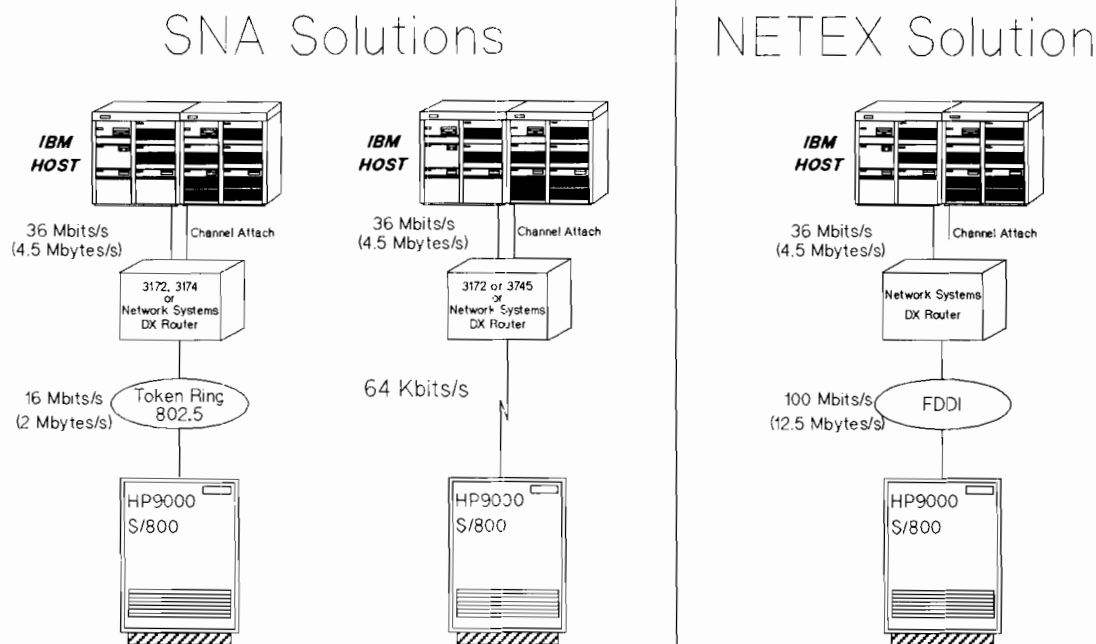
SNA High-Speed Alternatives

If a company wants to use SNA services between HP and IBM such as LU 6.2, 3270, or RJE, a few choices exist. The protocol for SNA over SDLC is designed to run at maximum theoretical speeds of 64K bits per second. If the HP and IBM are physically close to each other, SNA over token ring can support speeds up to 16M bits per second theoretical data transfer rate. HP's SNAplus products are used to accomplish this.

Network Systems High-Speed Alternative

Network Systems Corporation has a high-speed solution available that they call NETEX. This solution consists of Network Systems' proprietary stack called NETEX which has software residing on the IBM mainframe, the DX router, and on the HP 9000 Business Server. The NETEX stack reduces much of the overhead found in a typical TCP/IP file transfer, hence allowing the disk-to-disk transfer to be completed at a faster rate. Contact Kevin Marschel (HP Channel Account Manager) at (612) 641-9678.

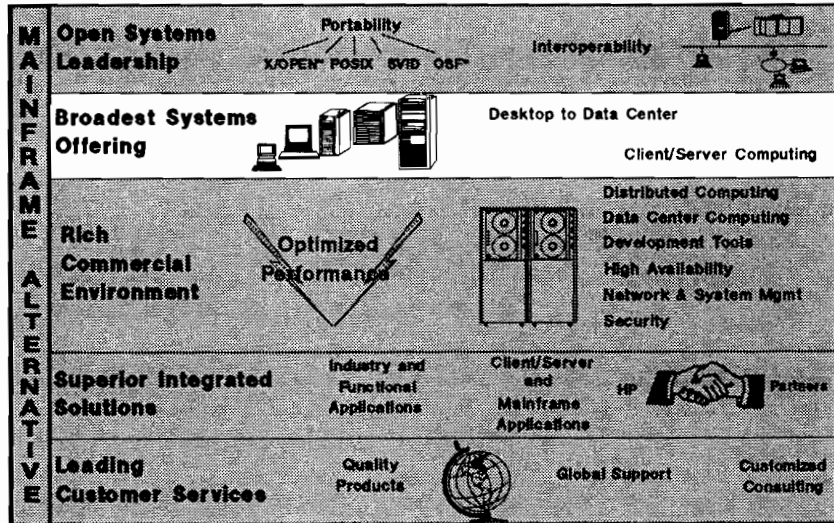
Figure 3.7 High-Speed Alternatives



Note: Speeds are theoretical maximums defined by specs of the media. Actual speeds will be slower.

Mainframe Class Systems and Peripherals

Figure 4.1 HP 9000 Open for Business Framework



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X/Open is a trademark of X/Open Company Limited in the U.K. and in other countries.

New HP 9000 Corporate Business Server Model T500

One-Minute Sale



New High-Performance Corporate Business Servers

HP has turned up the performance volume vs. the competition!

HP further expands and strengthens its industry-leading, high-end Business Server family with the introduction of the HP 9000 Corporate Business Server Model T500. This high-end server provides an in-cabinet performance upgrade to the current HP 9000 Corporate Business Server Model 890. The Model T500, like the Model 890, has the processor, memory, and I/O infrastructure to support mainframe-level performance and configurability.

The HP 9000 Corporate Business Server Model T500 extends the capability of the current high-end system, the Model 890, with the following:

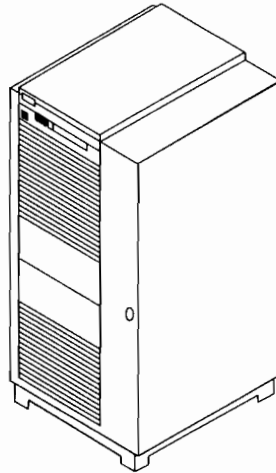
- Improved price/performance of up to 50%
- More than doubles OLTP performance—up to 1600 TPS with 8 processors
- Triples the number of processors supported—up to 12-way SMP
- Improved processor chip technology—90 MHz PA-7100 CPU chip for improved corporate performance
- Increased disk capacity supported for Models T500 and 890—up to 1900 GB disk storage
- Support for Fast/Wide differential SCSI connections for Models T500 and 890
- Added device driver for support of 3480 backup devices for Models T500 and 890
- Easy-to-use ordering menu structure with factory integration options
- Field installable CPU upgrades available for Models 890 and T500 for investment protection
- Optional HP PowerTrust Rackmounted Uninterruptible Power Supply

With increased performance and high-end expandability, the Model T500 is the highest performance UNIX-based OLTP and batch server in the industry and the best mainframe alternative solution!

Product Description

The HP 9000 Corporate Business Server Model T500 utilizes the same high-performance system infrastructure as the Model 890. The air-cooled cabinet and peripheral expansion bays are the same as the Model 890, as well as the proven HP-PB (HP-Precision Bus) I/O bus architecture. The Model T500 uses the new high-performance 90 MHz PA-7100 chip, also found in the recently introduced HP 9000 Series 800 Models G/H/I 60 and 70 Servers.

The HP 9000 Corporate Business Server Model T500 can expand up to a 12-way Symmetric Multi-Processing system. An 8-way SMP system will be available in December 1993; availability of the 12-way will be following shortly. The new systems allow up to 2 CPU chips on a single processor board. Field upgrades are available from the Model 890 to the Model T500 as well as field upgrades for add-on CPUs for the Model T500. The T500 uses the same memory arrays as the Model 890. The 128 MB and 256 MB memory array prices have been reduced by approximately 29% to help you sell more effectively in large memory configurations.

Figure 4.2 High-End Corporate Business Server T500

- 90 MHz PA-7100 chip
- Expandable from 1–12 Way Symmetric Multiprocessing
- Maximum 2 Gbytes memory and 1900 Gbytes disk storage
- Supports up to 4500 terminals
- > 2× OLTP performance of 890

Performance Scalability

The uniprocessor HP 9000 Corporate Business Server T500 has a PA-7100 chip which is 50% faster in terms of integer and floating-point performance (as measured by the SPEC benchmarks) than that of the Model 890. The SPEC_int92 benchmark correlates well with single-threaded or batch-oriented applications. The 8-way processor Model T500 has more than twice the performance of the 890 4-way, in terms of both SPECrate_int92 and Transactions Per Second (TPS).

The following table describes some introductory performance information that has been achieved by the Model T500. Performance numbers are subject to change. Please consult PowerTools or the GSY Hotline for the most up-to-date performance information.

# CPUs	1	2	4	8	12
SPECrate_int92	1,888	3,691	7,145	13,697	16,513
SPECrate_fp92	3,563	6,969	13,631	23,337	34,734
OLTP TPS*	300	530	960	1,630	2,000
OLTP relative Scaling*	1.0	1.7	3.2	5.4	6.7

Please refer to the performance section in this guide for more details about Model T500 performance.

* See note on performance numbers below. Note that scaling beyond 4 CPUs is based on HP-UX 10.0.

Note on performance numbers:

In this document and elsewhere, you may find that performance results, stated in terms of TPS, TPC-A, and relative OLTP performance, may not always be consistent.

Relative OLTP performance numbers are the appropriate comparison to use when sizing systems for an OLTP environment. They provide a comparative measure of the various boxes when the overall system has been fully tuned and optimized for OLTP applications.

TPS numbers are best used when doing high level comparisons with competitors, such as Sun, who frequently quote estimated TPS numbers that are unsubstantiated with a TPC-A disclosure. TPS results typically refer to best-case transactions per second in an OLTP environment. The TPS numbers in this guide refer to estimated or actual,

but unpublished, ORACLE7 TPS in a client/server configuration under optimal conditions. These results may or may not exist as actual TPC-A numbers now or in the future and should not be positioned as such unless the number has been published as an official TPC-A result. Please refer to Figures 8.1 and 8.2 for information on performance, which can help you size systems versus the competition.

Software and Peripheral Compatibility

The HP 9000 Corporate Business Server Model T500 product family utilizes the HP-UX 9.04 version operating system software. The HP-UX 9.02 version can be run on the Model T500 with up to 4 CPUs total. The HP-UX version 9.04 is required to run the Model T500 in up to 12-way configurations.

All software that was supported on the HP 9000 Corporate Business Server Model 890 as well as the rest of the Series 800 family is fully object code compatible with the new Model T500 system. All peripherals supported on the Model 890 are supported on the Model T500 as well. Both the Model 890 and the Model T500 support HP-FL, and the single-ended SCSI II interconnects for mass storage, backup, and hardcopy peripherals. In addition, with the HP-UX release 9.04, both systems will allow support for the Fast and Wide differential SCSI II technology. The recently introduced F/W differential SCSI II disk arrays are the ideal complement to the Model T500 for demanding database applications. Please refer to the F/W SCSI section in this guide for more information.

Product Configuration

The base product configuration for the HP 9000 Corporate Business Server Model T500 is the same as the Model 890 except for the following:



- Powerfail battery backup replaced by optional UPS
- 2 CPUs per system board, up to 12 CPU SMP supported
- 256 Mbytes of memory standard with SPU
- No HP-FL card standard with base configuration

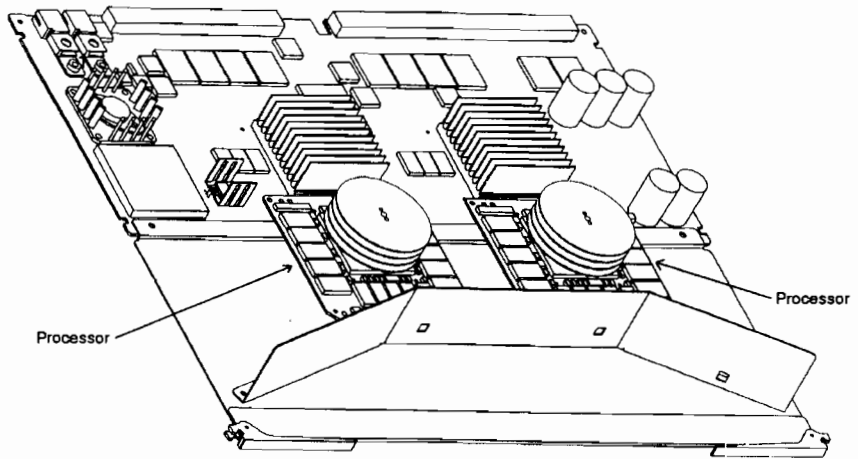
HP PowerFail battery backup functionality is no longer included in the HP Corporate Business Server, beginning with the Model T500. Instead, the Model T500 supports the new rackmountable HP PowerTrust Uninterruptible Power System (UPS), a superior solution. By using the UPS, if a powerfail occurs, the system remains up and running for 15 minutes. If power is restored within that time, there is no interruption to user service. The UPS is an optional product and is not required to be purchased as many data centers already have full UPS functionality.

The Model T500 supports up to two 90 MHz PA-7100 CPUs per system board. To upgrade from a 1-way system to a 2-way system, support personnel will simply pull out the board, plug in an additional CPU module onto the same system board and re-insert the system board. The next CPU upgrade will require a new system board with one more CPU module. Up to 6 total system boards (with 12 CPU modules) are supported. The T500 bundles 256 Mbytes of memory in the base SPU configuration. This is an increase of 128 Mbytes compared to the Model 890.



The HP-Fiber Link (HP-FL) card is not bundled into the base configuration. Instead, the customer has a choice between HP-FL, single-ended SCSI-2, and new F/W differential SCSI-2.

Figure 4.3 Model T500 System Board with Two Processors



HP 9000 Model T500 system board with two processors.

T500 Positioning with the Model 890

The Model 890 will be replaced by the Model T500 with the exception of the lower priced single-processor version. Aggressive field upgrades are available to move customers from the 890 to the T500. Return of the 890 processor boards is required to receive this upgrade product. The 1-CPU 890 price has been reduced to position it as the entry level price point for the Corporate Business Server platforms. The T500 systems should be bid instead of the 890 systems in all cases except for those deals where competitors, such as Sun, are bidding low entry-level price points. Incentives such as an extra 128 Mbytes of memory and more performance are built in to help you sell up to the T500 single CPU system.

New Menu Structure

The HP 9000 Model T500 is ordered through a new Structured Solution Product (SSP) menu. This will allow a check list type ordering structure consistent with the rest of the Series 800 family. This menu structure also allows factory integrated systems to be shipped to customers for maximized customer satisfaction.

Please find the SSP menu for the Model T500 in the latest November 1993 Price/Ordering Guide. When ordering the new T500, please access the SSP Hotline for the most up to date copy of the menu.

Memory Pricing

Memory pricing for 64, 128, and 256 MB cards for the Corporate Business Server have been reduced by up to 29%. Please see the Price Guide for details.

Where to Sell the Model T500

The T500 is designed to handle corporate level commercial applications including transaction processing, general ledger, securities trading, order processing, payroll and decision support as well as technical environments.

Beating the Competition

DEC

Digital positions its DEC 7000 AXP systems against competitors' data center servers with RISC architectures and the DEC 10000 AXP systems as enterprise compute servers competing against mainframes.

*Weaknesses***Beating DEC**

When competing against DEC, emphasize the following points:

- OpenVMS is still a proprietary operating system which locks customers into a proprietary DEC operating environment.
- Users of OpenVMS AXP are unable to take full advantage of Alpha's 64-bit capabilities due to limitations imposed by the OpenVMS operating system, which still offers only 32-bit support. Digital has admitted that it will not extend full 64-bit control to OpenVMS in the near future; indeed, it is increasingly likely that the vendor will develop an entirely new operating system consisting of OpenVMS APIs on a foreign microkernel.
- DEC's product sales have been consistently declining for the last 6 quarters. Demand for both their VAX and Alpha AXP products is weak.
- DEC's OSF/1 operating system is immature, unproven and lacks the key features required for commercial data center applications. Symmetrical MP support and high availability features are still not available and will not be until about summer of 1994.
- DEC's Alpha AXP architecture is poor in OLTP applications as measured by their Oracle TPC-A results. Their 200 MHz based uniprocessor system performs only at 258 tpsA with Oracle compared to close to 300 tps for the uniprocessor T500, which only uses a 90 MHz processor.
- The T500 outperforms both the DEC 7000 and 10000 in all relevant performance benchmarks (see Figure 8.2).
- For OLTP applications, the Model T500 has an average 40% price/performance advantage over the DEC 7000 and 10000. For technical server environments, the Model T500 has about a 10% price/performance advantage.
- Since the Alpha AXP-based systems are fairly new, very few applications are available for these platforms. The HP 9000 family has over 5000 applications shipping in volume today. DEC has about 800.
- Lockout specs for HP to keep DEC out:
 - audited TPC-C numbers
 - audited TPC-A numbers above 700 tpsA
 - proven UNIX-based SMP
 - 12-way SMP support
 - proven references for large UNIX-based applications
 - Fast/Wide differential SCSI support

For more information on DEC, please see PowerTools.

Sun

Beating Sun's SPARCcenter 2000

When competing against the SPARCcenter 2000, emphasize the following points:

- Challenge Sun to produce references of customers running mission-critical production-level applications on SC2000s with greater than 4 CPUs. Can Sun produce references with over 100 concurrent users? 200 concurrent users? with greater than 80 GB of online storage? Most likely Sun will have a tough time finding high-quality references of satisfied customers with such configurations.
- HP's Corporate Business Servers are proven mainframe class systems with audited performance numbers that are the best in the industry. As of this writing, the T500 has over 4 times the performance of the SC2000 with 8 CPUs. The SC2000 is barely in the same class as the T500!
- The T500 has about a 50 to 100% performance advantage in single threaded applications such as batch workloads (payroll, MRP, billing, printing, and system backups).
- The HP-UX operating system is proven, highly reliable, highly functional and is fully binary-code compatible with all previously introduced Series 800 systems for complete investment protection. Solaris 2.x is none of the above. Solaris 2.x still does not have a stable SMP operating environment.
- Although Sun has recently expanded their service and support organization, it is still unproven in the data center. Supporting business-critical applications in the data center is very different than supporting workstations and file servers.
- Remember to use the single CPU Model 890 as a low-end entry price point to compete against the SC2000 entry configuration with 2 CPUs.
- Sun still does not offer any Sun supplied disk arrays or a Fast/Wide differential SCSI-2 interface (20 MB/s) to peripherals.

Pyramid

The MIServer-ES Series, designed in office, departmental, and corporate data center configurations, provides a platform with numerous applications including high-performance database management and online transaction processing (OLTP). The ES Series is designed for enhanced I/O performance in OLTP and relational database management (RDBMS) applications.

- The ES Series can be configured into large SMP configuration of up to 24 MIPS-based R3000 CPUs. Multiple ES Series SMP systems may be combined into clusters using the ORACLE Parallel Server and multi-hosted SCSI disks.

When competing against the ES-Series emphasize the following:

- Uniprocessor performance: Multi-CPU MIServer-ES series systems are optimized for OLTP. Tasks such as batch programs will not experience very high performance compared to the T500.

- HP has a long and successful story to tell in the telecom industry as the large-scale provider for commercial and compute-intensive systems in that sector. AT&T is still one of our largest customers.
- HP has a strategic advantage over NCR with our premier ISV relationships with database and commercial UNIX vendors. NCR has had to form an organization solely dedicated to repair damaged relationships with ISVs which resulted from continual product release delays. NCR is not a first tier port for the majority of ISVs.

IBM

Currently, the RS/6000 does not have a system that can compete directly with the HP 9000 Model T500. The RS/6000 product line does not have the performance and expandability of HP's high-end systems. The RS/6000 Model 990 can barely match the performance of the HP 9000 Model I60. Use the T500 and 12-way SMP support to lock IBM out of high-end sales opportunities.

For more information on IBM, please see PowerTools.



Selling the Benefits of the Series 800 Uniprocessor and SMP Advantage

One-Minute Sale

With the HP 9000 Corporate Business Server T500, you now have an unbeatable performance message for your customers. These systems provide industry-leading performance in each of the performance-critical server environments important to your customers. These environments include:

- Database server (OLTP and batch)
- File server
- Compute server
- Software development server

The HP 9000 Performance Advantage

Balanced performance across all of these environments is only achievable by delivering two key ingredients: powerful uniprocessors and symmetrical multiprocessing capability. While most vendors can deliver one or the other, only Hewlett-Packard delivers both.

Hewlett-Packard's strategy is to build the most powerful uniprocessor practical, then add SMP to reach the highest performance levels. This is the only strategy that provides optimum performance across all key server environments.

Why Customers Need Both Fast Uniprocessors and SMP

At one end of the spectrum are single-threaded applications that are difficult or impossible to parallelize. This includes typical batch (e.g., print jobs, payroll applications) and decision support applications, database loads, backups, single-user applications, and single-user software development environments. **In these single-threaded environments, regardless of how many processors are in a system, the customer will only achieve the performance of one processor!** The benchmark SPECint92 is the best measure of single-threaded performance in commercial environments.

At the other extreme are environments that are easily parallelizable. Very few application environments exist here. Vendors with poor uniprocessor performance are attempting to overcome their disadvantage by parallelizing typically single-threaded applications like batch processing through complex solutions such as parallelizing compilers. With HP's strong uniprocessor performance, such complex solutions are unnecessary. SPECrate_int92 is the best measure of easily-parallelizable environments.

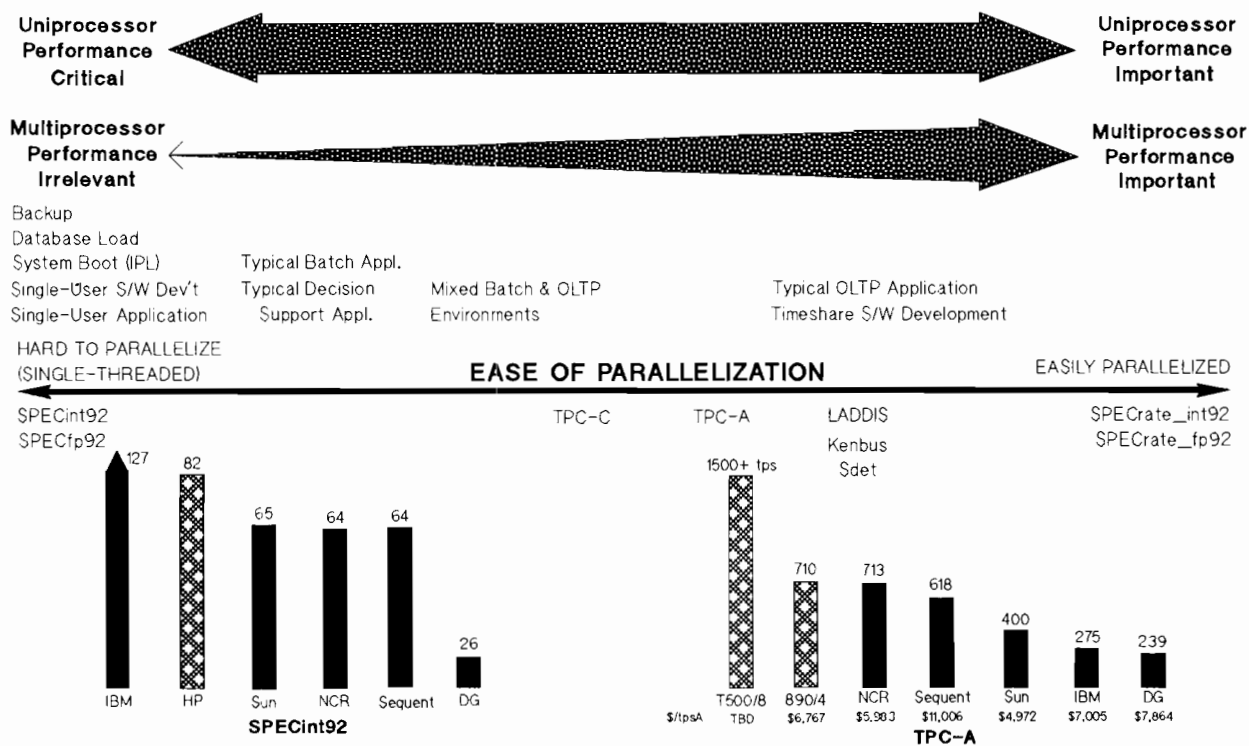
Most customer environments fall in between these extremes. Typical OLTP applications, time-shared software development, and mixed batch and OLTP environments require strong uniprocessor performance and will take some, but not full, advantage of multiple system processors. Benchmarks that represent these common environments include TPC-C, TPC-A, LADDIS, Kenbus, and Sdet.

The bottom line for your customers is that performance in virtually every server environment is critically dependent on uniprocessor performance. For MFA customers and other large environments requiring performance greater than that available with one processor, multiprocessor capability also becomes important. Only the HP 9000 delivers both. Only the Series 800 delivers optimal performance across all environments from batch to OLTP.

For More Information

For more details on the Model T500 and competitive benchmark results, consult the latest UNIX Systems—Performance Quick Reference Card available on PowerTools and from Comacs. Benchmark executive summaries are also available on PowerTools and HP FIRST. For a list of all performance-related white papers, slides, and benchmark results, access "PerfDir" from the GSY Hotline or PowerTools.

Figure 4.4 Strong SMP and Uniprocessor Performance Is Critical to Your Performance



New Series 800 Peripherals and Accessories



New Lower Disk and DAT Pricing

The new prices of the SE SCSI 1 GB and 2 GB disks are respectively 26% and 24% lower than before. This makes HP's overall system cost even more competitive against all major competitors, especially in large configurations. This, coupled with HP's high quality and high performance gives HP an edge over IBM, NCR, DEC and Sun.

In addition, as the result of improved manufacturing efficiencies we now have the opportunity to aggressively price the 4 mm DDS DAT drive. The respective 14% and 32% price drop on the 2 GB and 2-8 GB drives gives (1) a new lower entry price point for customers who want this state-of-art backup technology and (2) a much lower price point for the data compression DAT that meets the ever increasing need for high volume backup. Now, HP has the most competitive storage solution in the marketplace.



Fast/Wide Differential SCSI-2

Leapfrogging Sun and IBM, HP's new Fast/Wide Differential SCSI-2 solution provides the fastest standard-based disk I/O interface in the industry. At 20 Mbytes per second peak throughput, F/W/D SCSI is twice as fast as the Fast SCSI-2 that Sun and IBM offer today. The 25-meter cable length also greatly expands the flexibility of SwitchOver and MirrorDisk configurations. The new F/W/D SCSI-2 peripherals that will be introduced in November are the 1-Gbyte external disk drive and the 8-Gbyte RAID 5 or RAID 3 disk array. The new disk array is especially exciting since HP's disk array is one of the first in industry to support F/W/D SCSI-2. The 2-Gbyte F/W/D external disk will be announced and available in January '94. Fast/Wide Differential disk drives cannot be used as internal disk drives on the 8x7, and F/G/H/I servers.

New F/W/D SCSI-2 peripherals:

1 GB disk C3032R/T, C3035R/T, C3036T and C3037U

Disk Array C2440HA/HZ, C2439HA/HZ, C2437HA/HZ, C2436HA/HZ, C2438A and C2435A. For more information on the Disk Array, please refer to F/W SCSI Disk Array Sales Guide (P/N 5091-6460E.)

Supported Systems: 8x7, F/G/H/I and 890/T500

Disk I/O Technology Comparison

	Peak Throughput	Sustained Throughput	Cable Length
F/W/D SCSI-2	20 MB/s	7-10 MB/s	25 meters
Single-Ended SCSI	5 MB/s	1.5-2.5 MB/s	6 meters
HP-FL	5 MB/s	2.5 MB/s	500 meters

Positioning HP's Interface Technologies:

- Sell F/W/D SCSI-2 when the customer has a relatively low price sensitivity but demands absolute high performance or has a large disk configuration or is considering Switchover-type of configuration.
- Sell SE SCSI when the customer wants the lowest cost solution or when the configuration has a mixture of disk drives, tape drives and/or optical devices or the same SE SCSI channel.
- Sell HP-FL when the customer requires a long cable length.
- Move your customers away from HP-IB based peripherals since this interface will be discontinued in the near future.



IBM 3480 Support

With HP-UX 9.04, the Series 800 Business Servers now can share and exchange data with mainframes via IBM 3480-format tape support. Hardware wise, the StorageTek 4220 and 4280 and Fujitsu M2483/85 autochangers are tested and supported under HP-UX 9.04. Fujitsu autochangers are supported primarily in Asia Pacific only. In addition, HP's support and service organization will provide direct post-sales support and service of the StorageTek autochanger. Currently, there is no plan to support IBM's own 3480 tape drive.

Now the software. Unless the application has a built-in conversion tool, many customers will need a file conversion utility to convert data between UNIX data format and IBM Zone Decimal and Packed Decimal format. At present, HP is recommending Sceptre Corporation's REELexchange which is available through StorageTek's network of distributors. The support of a Silo-type of tape library system is scheduled for mid '94 time frame.



8 mm Tape Support

Also with HP-UX 9.04, Series 800 Business Servers can now support the popular 8 mm DAT. The product A3024A has a native capacity of 5 Gbytes and, with data compression, the capacity can be doubled to more than 10 Gbytes. The half-height drive will not be integrated at the factory but will be available for field add-on to 19" racks, minitowers and the 8x7/F/G/H/I server family. Further, the support and service will come from HP directly. With throughput at 500 KB/s, the 8 mm tape drive can be an ideal solution for midsize backup or media exchange with IBM and Sun. HP OmniBack and OmniBack Turbo will support the 8 mm drive at first release.

Positioning Backup Technologies:

	Throughput	GB/hour	Max. Capacity per tape	Rel. price/MB
QIC	240 KB/s	.86	525 MB	3.05
4 mm DDS	183 KB/s	.66	2-8 GB	0.61
8 mm DDS	500 KB/s	1.8	5-10+ GB	1.11
STK 3480	1.8-2.5 MB/s	6.5	2-6 GB	9.77

Positioning HP's Tape Device Technologies

- Sell QIC when customer wants the lowest cost tape drive that has relatively low capacity.
- Sell 4 mm DDS DAT when the customer wants the most cost-effective backup solution.
- Sell 8 mm DAT when the customer has mixed HP, Sun and IBM UNIX installation. Also suitable for high volume and high-speed backup environments where cost is a secondary concern.
- Sell 3480 when the customer needs to exchange data with IBM-compatible mainframe.



HP PowerTrust Family of Uninterruptible Power Supplies

Second to disk failure, dirty power or unscheduled power-off causes more computer systems to go down than anything else. In the past, HP provided battery backup to protect the main memory in the event of a power failure. The new HP PowerTrust UPS goes one giant step beyond that by protecting the SPU and all the associated peripherals. The result is an even higher degree of protection at lower cost.

Two UPS products will be introduced in November: the 600 VA and the 3000 VA. The 600 VA is a standalone unit and is ideal for low-end systems like F and G class servers with few disk drives and tape drives. The 3000 VA is for rackmount only and can support the Model 890/T500 class machines with large configurations. In addition, the 3000 VA unit is classified as "line interactive" which implies continuous power monitoring and conditioning. When properly configured, each unit is guaranteed to keep the system up for at least 15 minutes to allow for graceful shutdown. Please check the configuration guide for appropriate rules.

In addition, the UPS monitoring software that comes standard with HP-UX 9.04 provides convenient and useful features to the system administrator. With the software, system administrators can preprogram the logical procedure to notify users, close off applications, flush the data to disk and gracefully shut down the system. Also, with the software, the UPS can turn off and on the computer system at a preset time to save energy or provide an additional level of security.

In summary, the main selling points of the HP PowerTrust UPS family as opposed to UPSs available from alternate sources are:

- Power monitoring software comes bundled with HP-UX 9.04 to allow for graceful shutdown and timer controlled turn-on and off. The software only works with the HP PowerTrust UPS.
- HP PowerTrust UPS is built to more stringent specifications to deliver more power than other commercially available UPS, customers get more value for their investment.
- HP quality, services, and support.

There are more UPS products planned for the future. In the meantime, do not forget to recommend an HP PowerTrust UPS to any customer who is concerned about system availability, unless battery backup alone is sufficient.

Price Reductions for F, G, H, and I Class Servers

Memory



HP's commitment to deliver superior value extends far past our main-frame alternative offering. This is demonstrated with the repricing of all memory for the Series 800 F, G, H, and I class servers. Price decreases range from 25% to as much as 50% for all SIMM memory modules from 16 to 64 MB! For very large memory configurations, the 128 MB SIMM memory module has also been priced over 32% lower! These new prices will offer a significant advantage over IBM—over a 25% price advantage. When competing against Sun, your large memory configurations using 128 MB SIMMs will now be priced at parity. The new memory prices also reduce the gap between the 4 Mbit DRAM technology and the newer 16 Mbit technology. Previously, the 16 Mbit DRAM used in the 128 MB memory was twice the cost of the rest of the memory offering. Today, only a 35% price differential exists for these new, denser boards that allow you to maximize the amount of memory supported in the G, H, and I class servers. HP's value proposition is to provide customers with the highest quality memory products at competitive prices. Use the new aggressive pricing to beat the competition in those large configuration deals.

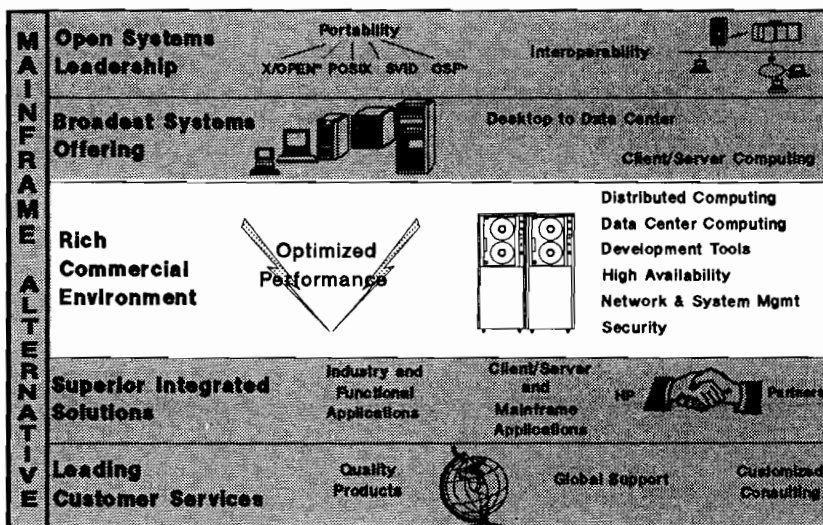
As noted earlier, memory prices for the HP Corporate Business Servers were also reduced by up to 29%.

HP-UX User Licenses

The HP-UX unlimited user license has also been reduced by 33%. This price reduction is in addition to the July HP-UX price changes. The 128- and 256-user levels are being obsoleted, with the unlimited user level becoming the same price as the 128-user price. This HP-UX repricing will help close the gap on software pricing when competing against Sun on large multiuser configurations.

Rich Commercial Environment

Figure 5.1 HP 9000 Open for Business Framework



OSF is a trademark of the Open Systems Foundation, Inc. in the U.S. and in other countries.
 X/Open is a trademark of X/Open Company Limited in the U.K. and in other countries.

New HP Multimedia Solution



One-Minute Sale

HP MPower Now Available on Series 800

HP MPower on the Series 800 is the latest entry to HP's Collaborative Multimedia program. It is a media-enriched communications offering that integrates HP's user environment with multimedia technologies including audio, video, and graphics. HP MPower allows faxing, mailing, and printing of multimedia documents through drag and drop to the Front Panel and real-time shared windows across the network.

HP MPower Benefits

Acting as a server to X-windows clients in a client/server configuration, the Series 800 with MPower supports real-time information sharing among dispersed teams. Functions that are naturally shared, such as fax and printing, can be off-loaded to the Series 800 server, freeing up valuable desktop client resources. HP MPower server provides services including fax, SharedPrint, Font, and HP VUE Utilities.

HP MPower is targeted at workgroups and teams who use UNIX workstations or X-terminals to get their job done and who must communicate information quickly and easily, no matter what format the information is stored in. HP MPower is ideal for the financial services and telecom industries in areas like customer support.

Ordering Information

HP MPower server for the Series 800 is available now.

B3385AA	HP MPower Server License
Opt AH0	Tier 1 license-to-use
Opt AE5	Tier 2 license-to-use
Opt AEP	Tier 3 license-to-use
Opt OGR	Upgrade from Tier 1
Opt OC8	Upgrade from Tier 2

B3386AA	HP MPower Server Media and Manuals
Opt APH	HP MPower for HP-UX 9.0
Opt AA1	Media and manuals—1/2" tape
Opt AAH	Media and manuals—DDS DAT tape
Opt AA4	Media and manuals—QIC tape
Opt AAU	Media and manuals—CD-ROM

For More Information

For more information, consult the HP MPower data sheet (P/N 5091-5338E) or the WSY Hotline.

OpenWarehouse

Program Description

A data warehouse is a decision support database that is maintained separately from an organization's operational databases (such as the sales/order, general ledger, or payroll databases). According to Forrester Research, over 90 percent of Fortune 1000 companies have started or intend to deploy data warehouses. The accompanying system and consulting sales represent a huge sales opportunity for HP. Systems deployed with data warehouses often include very large disk sales (sometimes in the 100's of gigabytes), and successful implementations are often widely replicated within the purchasing company. This is a very hot selling, new market that consists almost entirely of MFA opportunities.

OpenWarehouse, a part of HP's Cooperative Computing Solutions, is HP's data warehousing program. OpenWarehouse is made up of 1) a technical framework, 2) the user's choice of HP-tested and integrated best-of-class components (coming from both HP and third parties), 3) consulting services, and 4) optional solution support. MFA sales of OpenWarehouse are booming with reference accounts including General Mills, Playtex, Proctor & Gamble Far East, and 7-Eleven Japan.

Features and Benefits

The features and benefits of OpenWarehouse can be divided into two groups: 1) generic features and benefits of data warehousing, and 2) specific differentiators of HP's OpenWarehouse.

Generic Data Warehouse Features and Benefits

Features	Benefits
<ul style="list-style-type: none"> End users can generate their own queries and reports 	<ul style="list-style-type: none"> IT departments are relieved of most custom report responsibilities. Decision makers are able to get access to usable information more quickly to help them make faster, better decisions.

OpenWarehouse Features and Benefits

Features	Benefits
<ul style="list-style-type: none"> Factory-based testing and integration 	<ul style="list-style-type: none"> Allows PSO to design and deploy a QUICK, ROBUST customer SOLUTION
<ul style="list-style-type: none"> Single-vendor consulting (HP primes consulting) 	<ul style="list-style-type: none"> Customer deals with one vendor who takes responsibility for the FULL SOLUTION, rather than with many component providers
<ul style="list-style-type: none"> User's choice of best-of-class components 	<ul style="list-style-type: none"> AVOIDS customer LOCK-IN to a particular software product

For More Information

An "OpenWarehouse Sales Guide" is available on the CCSY Hotline, SUBJECT: OWSGUIDE, and on PowerTools. This contains extensive information on data sheets, white papers, success stories, and business development contacts.



Data Center Channel Partner Solutions

Several new channel partners have developed data center management solutions for HP-UX. Many of these companies have well established products for IBM's MVS and VM operating systems. The new vendors include: AdStar (a subsidiary of IBM), BGS, Epoch Systems, and Sterling Software.

A matrix is available (at the end of this section), which details how these solutions "equate" to their MVS-based counterparts. Additional positioning of these solutions will be documented in forthcoming GSY hotlines.

AdStar* Distributed Storage Manager

The AdStar Distributed Storage Manager (ADSM) is an automated, highly reliable, high-performance networked-based backup and archive product. ADSM consists of an MVS- or VM-based backup/archive server, and backup clients for HP-UX, DOS, OS/2, AIX, Microsoft Windows, Apple Macintosh, Sun OS, and Novell. The Distributed Storage Manager is designed to promote data availability, storage management, and data access across heterogeneous network environments.

ADSM benefits those customers who would prefer to centralize data storage on their existing MVS- or VM-based mainframe. Customers familiar with mainframe storage management will feel very comfortable using the Distributed Storage Manager. Minimal training is required to back up HP-UX systems deployed in the data center; in addition, customers can continue to manage the storage in a manner they are already accustomed to.

ADSM comprises three software components, including a server piece for the mainframe that controls backup and archiving functions. The client component resides on a personal computer, workstation, or file server and provides a GUI to let users initiate backups, find files, and request archived data. The third component is the administrator interface.

* AdStar is a trademark of IBM

Features and Benefits

Features	Benefits
<ul style="list-style-type: none"> Automatically backs up data, including files, directories, and access control lists Provides high-data availability through backup-archive server functions, database with recovery log, and mirroring 	<ul style="list-style-type: none"> Protects corporate data stored on workstations and other file servers
<ul style="list-style-type: none"> Allows multiple backup and archive sessions to occur simultaneously Users do not need to know where backed-up or archived data resides 	<ul style="list-style-type: none"> Reduces user and administrator time
<ul style="list-style-type: none"> Archives infrequently used files to free up costly storage resources Provides optional compression feature to reduce network traffic, transmission time, and storage requirements 	<ul style="list-style-type: none"> Reduces number of storage devices, such as tape drives or hard disks

Product Availability

Available on HP-UX 8.02 and 9.0.

For More Information

Contact (800) 4-ADSTAR.



BGS BEST/1

BEST/1 for HP-UX is a software product family that enables centralized performance management and capacity management in distributed UNIX environments. BEST/1 provides capabilities to:

- Collect data on distributed systems and applications
- Analyze workload characteristics and resource usage
- Predict response times and performance bottlenecks

In addition, BEST/1 will use HP's Performance Collection Software, (PCS), as a means of collecting reliable, in-depth historical performance data from HP-UX and other UNIX environments. The combination of BEST/1 product family, HP's Performance Collection Software, and HP's integrated performance-management tools addresses a critical systems-management need in UNIX system-based environments.

BEST/1 has over 30,000 installations worldwide, and has become the de facto standard for capacity management and planning in heterogeneous environments. Customers migrating from mainframe environments will be able to easily learn and use the BEST/1 HP-UX software.

Features and Benefits

Features	Benefits
<ul style="list-style-type: none"> Automated daily reporting Graphical bottleneck detection and analysis Comprehensive "what if" modeling Management reporting on past, present, future 	<ul style="list-style-type: none"> View activity as business-oriented workloads Pinpoint problems and test drive solutions Reduce risks in sizing client/server systems Save money by optimizing resource expenditures

Product Availability

1Q '94.

For More Information

Contact BGS Systems at (617) 891-0000.

Computer Associates

CA-Unicenter 120-day Trial Program Now in Operation

Beginning in mid-July (for the U.S. and Asia Pacific) and early August (for Europe), HP began shipping a copy of CA-Unicenter with all HP 9000 Series 800 Business Server Models G, H, I, and 890.

CA-Unicenter provides a comprehensive, integrated system management solution incorporating security, workload management, storage, and other functions.

The 120-day trial program will allow HP's customers to try-and-buy CA's industry-leading software. CA's systems management solutions are currently installed in over 95% of the MVS installed base. These customers can benefit from the CA-Unicenter software included with the HP 9000 Business Servers.

For More Information

Consult the GSY Hotline, Subject CATRIAL, or contact Don Marchon, HP Channel Partner Representative at (516) 753-3361.



Epoch Systems EpochServ, EpochBackup, EpochMigration

HP has recently partnered with Epoch Systems to provide Epoch's network backup and file migration software on the HP 9000. Epoch Systems is a leading supplier of client/server data management solutions for the enterprise. The company is headquartered in Westborough, Mass., with more than 26 sales and support offices located throughout the U.S., Canada, Europe, and Asia.

EpochServ is an industry leading client/server data management solution. The server-based software includes three modules that enable users to implement a complete enterprise-wide data management solution on a single software platform.

Features and Benefits

EpochServ modules include:

Features	Benefits
Backup/Recovery	Provides automatic on-line backups of the server's files
File Migration	Automatically and transparently manages space on the server's magnetic disks and migrates files across various media to multiple levels of the storage hierarchy
Volume and library management	Controls, schedules, and tracks all removable media and integrates robotic optical disk and tape libraries

EpochServ is the platform on which client-based applications, EpochMigration and EpochBackup provide enterprise-wide backup and recovery. EpochBackup software automatically backs up and restores client files located throughout the enterprise in heterogeneous environments, on a variety of platforms, to an EpochServ-based system. EpochBackup is distinguished from other backup products by its mainframe-class features, including an intelligent auto-scheduler. Other features include robotics and volume management, monitoring, reporting, on-line backups, and self-service recovery.

EpochMigration software provides automated, enterprise-wide migration of client files located in heterogeneous environments, on a wide variety of platforms, to an EpochServ-based server. The software automatically and transparently migrates inactive data from the client's magnetic disks and, ultimately, to optical and tape libraries.

Availability

2Q '94

For More Information

Contact Epoch Systems at (508) 836-4300

Legent Corporation

Legent Corporation is a leading supplier of systems software in MVS and VM environments. Legent has 64,000 products in use at 10,000 customer sites.

Legent is continuing to expand its product line into the client/server management arena; specifically in the areas of performance/resource management, help desk/problem management, and software distribution. Legent and HP had previously announced the porting of Legent's leading configuration/change management solution, Endeavor, to HP-UX; Endeavor product will begin Beta shipments in 1Q '94.

**Performance and
Resource Management**

In September 1993, Legent and HP announced that they will deliver a suite of systems performance and resource management solutions which will link traditional data centers with distributed open systems environments. These solutions will make it easier for customers to manage large, distributed environments. The solutions will ease the problems associated with the coexistence of mainframes and distributed, open systems and will facilitate the migration from mainframes to open systems. Customers will be able to manage the performance and resources of mixed environments from their current LEGENT data center management consoles, leveraging their existing data center expertise and investment. Or they can use HP's performance and resource management tools on HP-UX to manage their mixed environments.



Legent and HP will integrate their leading technologies to provide performance and resource management solutions. In addition, Legent will license, distribute and support HP's portfolio of performance products as part of its enterprise-wide resource management solution. These products include HP PerfView, HP GlancePlus, HP PerfRX, and HP Performance Collection Software.

Working with HP, Legent will begin to deliver a variety of resource management solutions for distributed computing environments, beginning in the first quarter of 1994. The companies will integrate Legent's PARAMOUNT architecture and MVS, SNA, and LAN performance products with HP PerfView and other HP-UX performance management products.

Legent and HP will also jointly develop capacity and IS financial management client/server applications using Paramount and the companies' respective MVS and HP-UX agents, including Legent's MICS and HP's Performance Collection Software products. All of these applications will work with the leading integrated network and system management platforms, beginning with HP OpenView.

Problem Management

In August 1993, Legent signed a letter of intent to acquire Networx, a leading developer of problem management solutions for client/server computing. Networx recently introduced Paradigm, a trouble-ticketing, help desk and inventory management application. Paradigm enables administrators managing networks of varying sizes to respond efficiently and proactively to problems that occur throughout the enterprise. With this acquisition, Legent becomes an HP OpenView Premier Partner. OpenView Premier Partners provide the highest level of integration with the OpenView platform and represent the leading vendors of integrated system and network management. Networx's Paradigm also serves as the base technology for IBM's AIX Trouble Ticket/6000.

For More Information

Contact Rich Roe, HP Channel Partner Representative at (410) 362-7606, or consult the GSY Hotline, Subject LEGINFO.



Sterling Software NQS/Exec

Sterling NQS/Exec is an intelligent network batch job scheduling system that provides workload balancing across a heterogeneous UNIX environments. The system provides the ability to submit requests to queues for execution on any TCP/IP connected device, enabling the optimum utilization of network resources. Sterling NQS/Exec evaluates the job profiles of all user requests, as well as the availability of resources in the cluster. It then automatically routes the job to the appropriate system to achieve the fastest job turnaround.

Sterling Software is a leading vendor of MVS system and application software. Sterling has recently merged with Systems Center, another leading vendor of MVS systems management solutions; together these companies service thousands of MVS customers.

Customers migrating from the mainframe environment require robust batch job scheduling. Sterling provides this capability for the distributed network of heterogeneous UNIX systems.

Features and Benefits

Features	Benefits
• Optimization of UNIX hardware by scheduling jobs during idle cycles	• Increases job throughput
• Automatic batch restart	• Reduces administration time
• Provides a consistent user interface regardless of hardware platform	• Easy to learn and use

Product Availability

Available on HP-UX 8.02 and 9.0

For More Information

Contact Sterling Software at (916) 635-5535.

Table 5.1 MVS vs. Data Center Functionality/HP 9000 "Equivalent"

9/1/93 IBM		MVS/VM System Management Functionality			9000 Solutions by HP			3P Solutions		
Network Mgmt Architecture	Netview	CA	Legent	Boole&Babb	Candle	Other	HP OpenView	Boole&Babbage Command/Post*	Peregrine Systems OpenSNA	Brixton Systems BrxOpenView
Automated Operations/Console Mgmt	Netview	CA-90s Netman	Neispy LanSpy Mics SNA Anal	Net/Alert	AF Operator	Sterling- NetMaster	Network Node Manager SNMP, DM Developers Kit	CA-Unicenter CA-Unipack CA-Opera CA-Netman	CA-Unicenter Heartbeat Tivoli Sentry	CA-Unicenter Heartbeat Tivoli Sentry
Performance Mgmt	RMF	CA-JARS CA-Look CA-Mindover CA-FastDASD	Automate OPS/MVS MultimageMgr Remote Console	Net/Command AutoOperator	AF Operator Omegacenter AF/Operator AF/Remote	4th Dimm-Control Altaii Zack	HP OpenView Operations Center	BGS-Best1/UX* Unison KLA-Express OpenVision OpenV*Perform, OpenV*Trand	BGS-Best1/UX* Unison KLA-Express OpenVision OpenV*Perform, OpenV*Trand	BGS-Best1/UX* Unison KLA-Express OpenVision OpenV*Perform, OpenV*Trand
Backup/Restore								HP GlancePlus/UX HP LaserRX/UX HP RXForecast/UX HP PerfView, PerfRX/UX	HP GlancePlus/UX HP LaserRX/UX HP RXForecast/UX HP PerfView, PerfRX/UX	HP GlancePlus/UX HP LaserRX/UX HP RXForecast/UX HP PerfView, PerfRX/UX
Storage/Archival Management	SMS DF/DSS DF/HSM	CA-Archiver CA-ASM-2 CA-Dynam	MICS/DASD MICS-Stor Mgr ASTEX	DASD Advisor		Sterling DMS/OS Sterling YAM Innovation-FDR	HP OmniStore	Adv SW Concepts NetArchive Epoch Systems Epoch Back HiComp HiBars	Adv SW Concepts NetArchive Epoch Systems Epoch Back HiComp HiBars	Adv SW Concepts NetArchive Epoch Systems Epoch Back HiComp HiBars
Tape Mgmt	TLMS	CA-1 CA-Dynam	EPIC Facilitape Alert					CA-Unicenter SCH ReelLibrarian	CA-Unicenter SCH ReelLibrarian	CA-Unicenter SCH ReelLibrarian
Security Mgmt	RACF	ACF2 TopSecret CA-Examine					HP-UX C2 security HP-UX BLS	AT&T Computer Watch CA-Unicenter Los Altos Technologies	AT&T Computer Watch CA-Unicenter Los Altos Technologies	AT&T Computer Watch CA-Unicenter Los Altos Technologies
Job Scheduling	IMF OPC/A JES2/JES3	CA-7, CA-11 CA-Scheduler SAR, CA-RAPS JOB Trac	EPIC JobTrac			4thDimm Control Altai-Zeke		AIM Job Scheduler CA-Unicenter ICAM JSS/JUNIX	AIM Job Scheduler CA-Unicenter ICAM JSS/JUNIX	AIM Job Scheduler CA-Unicenter ICAM JSS/JUNIX
Print Mgmt	RDMS	CA-Dispatch CA-Dispatcher CA-RAPS	SAR Bundl CMA-Spool	TS-Print Control-D		Levi-VPS 4thDimm-Control	HP OpenSpool/UX	OCSEXPRESS/UX Holland House-Unispool Quest NBSpool/UX SCH Dprint	OCSEXPRESS/UX Holland House-Unispool Quest NBSpool/UX SCH Dprint	OCSEXPRESS/UX Holland House-Unispool Quest NBSpool/UX SCH Dprint
Accounting Chargeback	(SMF records)	CA-JARS CA-RMS	MICS-Actg/Chgbk Komandll			Sterling	HP-UX acctg	CA-Unicenter OCS-Chargeback/UX	CA-Unicenter OCS-Chargeback/UX	CA-Unicenter OCS-Chargeback/UX
Inventory Mgmt	SAA Asset Mgr	CA-Netman				Sterling Peregrine	HP Software Distributor	Tivoli Courier	Tivoli Courier	Tivoli Courier
Help Desk	Info	CA-Netman				Chicago Soft		CA-Unicenter Remedy Action Request	CA-Unicenter Remedy Action Request	CA-Unicenter Remedy Action Request
User Support	TSOE/Info Center	CA-8						Peregrine PRMS	Peregrine PRMS	Peregrine PRMS
SW Config	SMP/E	CA-Librarian	Endevor					Atria ClearCase	Atria ClearCase	Atria ClearCase
Change Mgmt	Info/Sys,Info/Mgt							Legent Endavor	Legent Endavor	Legent Endavor
SW Distribution	DCMF SAA DM		XCOM6.2 XCOM/SDS				HP Software Distributor	Tivoli Courier	Tivoli Courier	Tivoli Courier
Sort/Merge	DF/Sort	CA-Sort				SyncSort		Legent Distribulink	Legent Distribulink	Legent Distribulink
Database Mgt			Insight InZitive			BMC, Platinum		IRI Cosort	IRI Cosort	IRI Cosort
User/Group Mgt	Netview						HP-UX SAM	EcoSystems ECOTools Aston Brooke DBVision	EcoSystems ECOTools Aston Brooke DBVision	EcoSystems ECOTools Aston Brooke DBVision
								Tivoli Works	Tivoli Works	Tivoli Works

Database Partner Update

DB2 on HP-UX!

DB2 is IBM's leading family of database products providing support for both on-line transaction processing (OLTP) and complex query with the level of availability, integrity, performance, and security demanded by today's mission-critical applications. DB2 for HP-UX is a port of DB2/6000, which is based on DB2/2 (DB/2 on OS/2). For application end-users, these three environments will be similar to the DB2 on the mainframe. However, for the database administrators, there will be significant differences.

IBM is porting their DB2/6000 product to non-IBM platforms and the HP 9000 is the first port they are doing. IBM and HP are working together to port and tune the DB2/6000 product to HP-UX. This will be available through IBM; beta availability is targeted for December 1993 with general availability in first half of 1994. Availability of DB2 on the HP-UX platform will enable users to transparently integrate into a DB2 environment and easily interoperate with DB2 applications and data on the mainframe. It will enable users to leverage their investment in the DB2 environment while significantly easing the rightsizing process.

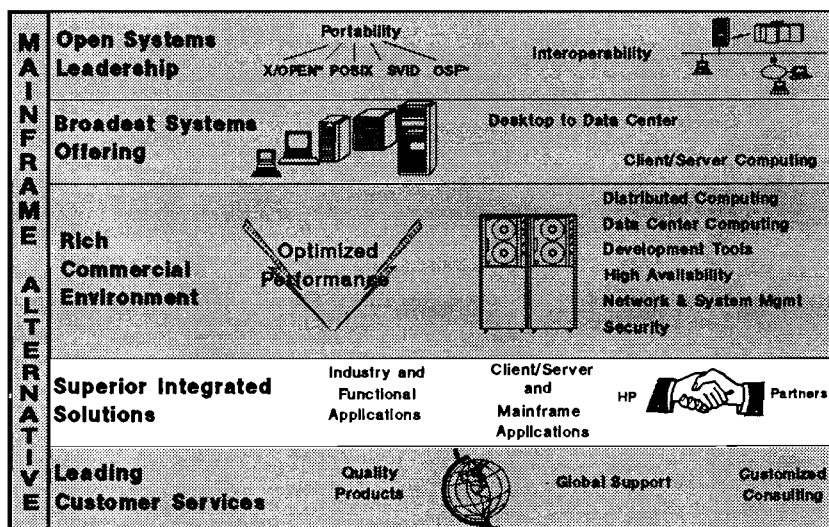
Under the terms of the agreement, IBM and HP will cooperate to port, develop and tune the DB2 product on HP's PA-RISC based HP 9000 systems running the HP-UX operating system.

For More Information

For more information contact Sameer Nadkarni at (408) 447-1201.

Superior Integrated Solutions: Mainframe Class

Figure 6.1 HP 9000 Open for Business Framework



OSF is a trademark of the Open Systems Foundation, Inc. in the U.S. and in other countries.
X/Open is a trademark of X/Open Company Limited in the U.K. and in other countries.

New Mainframe ISVs



Walker Interactive

Company Background

Walker Interactive, headquartered in San Francisco, California develops and markets integrated financial and business control software to Fortune 1000 companies. Walker's customers include airlines, banks, government agencies, insurers, manufacturers, petroleum companies, railways, public utilities, and other large organizations which have typically run their operations on mainframe computers.

Solution Category

Application Solution; cross-industry financial and business applications

Product Information

Walker's integrated product suite includes: accounts payable, accounts receivable, general ledger, asset management, inventory, purchasing, and project cost management. Walker has developed a new Distributed Application Architecture which allows companies to implement open, client/server technologies. Through a series of planned product releases in 1993 and 1994, customers will be able to distribute Walker's graphically-based financial and business applications across platforms including PCs, UNIX servers, and legacy mainframes. In 1992 Walker entered into an agreement with FileNet to integrate imaging capabilities with their applications. Walker will be available under the DB2, Oracle, and Sybase relational databases.

Availability

Walker's products will be available on the HP 9000 Series 800 in Q4'93. The solutions are available in North America, the United Kingdom, and Australia through Walker's direct sales force.

For More Information

Contact Jim Williams, HP Channel Partner Representative at (415) 694-3529.

CODA Incorporated

Company Background

CODA Incorporated is one of the leading providers of financial accounting software for the midrange marketplace. CODA's approach is to deliver relational database design and sophisticated accounting functions. The CODA solution has been selected by over 700 organizations worldwide. The company is based in the U.K. where it is the number one financial accounting application.

Solution Category

Application Solution; cross-industry financial accounting applications

Product Information

CODA's Integrated Accounting System (IAS) was originally designed for the AS/400 and DEC VAX environments. CODA has recently introduced Open Accounting System (OAS) for the HP 9000 Series 800. CODA's solutions offer organizations a single relational database architecture and real-time transaction processing ideal for mission-critical systems. Applications include: general ledger, accounts payable, accounts receivable, budgeting, project accounting, and report writing. CODA's international features are particularly strong and make it a top choice for global companies.

Availability CODA's Open Accounting System is available now on the HP 9000 Series 800. CODA sells through its direct sales force in the United Kingdom, Germany, France, Belgium, Holland, the United States, Canada, Hong Kong, Australia, and Singapore.

For More Information Contact Sue Grubbs, CODA's U.S. Marketing Manager at (603) 647-9600, or contact the North American field headquarters in Manchester, New Hampshire at (603) 647-9600.

Avalon Software, Inc.

Company Background Avalon Software, Inc. develops and markets CIIM, a family of manufacturing, distribution, and financial applications, supported on a multiple database architecture. Specific market niches for Avalon are discrete, repetitive, and job shop. Industry consultants (i.e., Gartner Group) refer to Avalon as a "rising star in the ERP marketplace." With annual license revenue growth of 145%, Avalon was rated by VarBusiness as one of the top ten "Companies to Watch" in 1992. Headquartered in Tucson, Arizona, Avalon has 150 customers worldwide—60% of which are Fortune 1000. Avalon also offers comprehensive support services including consulting services which address the re-engineering of a customer's business processes.

Solution Category Application Solution; ERP manufacturing applications for the Global Fortune 500.

Product Information Avalon CIIM is an integrated client-server ERP manufacturing solution for manufacturing, distribution and financial environments. CIIM runs on both the Oracle and Sybase databases and is developed using the native 4GL tools of the associated database. Unlike many vendors who offer closed, proprietary software solutions CIIM uses off-the-shelf technology provided by Sybase and Oracle. Developing using CASE technology, Avalon provides their customers with CASE diagrams in order to help their customer model applications and quickly adapt to their customer's ever-changing business requirements. In addition Avalon provides application source code for easy customization.

Availability HP and Avalon have been implementing CIIM solutions on the HP 9000 Series 800 for several years. Some customers shared by both Avalon and HP are Motorola, James River, and Pepsi. CIIM is distributed and supported worldwide.

For More Information Contact Tara Gormaly, Avalon Marketing Director at (602) 570-6815 or Pat Kenady, HP Channels Representative at (602) or TN273-8106.



New Conversion Tools

PRISM

Lockheed, Palo Alto, CA offers PRISM, a new software re-engineering service that significantly reduces costs and risk associated with migrating from the IBM mainframe environment to the HP 9000 Series 800 HP-UX environment.

For example, PRISM provides a way to transform traditional IBM mainframe COBOL, FORTRAN, Natural 2, and many other applications to the HP-UX environment. Other IBM environments such as TPF can also be custom re-engineered using the PRISM software service.

PRISM delivers a full range of software re-engineering services and support, such as: software analysis, design recovery, automated documentation, design restructuring, porting, and translation. Lockheed also has an excellent complementary working relationship with the HP PSO.

Because of the availability of a sizable pool of software engineering resources, and the fact that Lockheed is a multi-billion dollar company, Lockheed PRISM can take on very large, complicated projects with Fortune 500 companies. Many of these large projects can take up to 2-3 years to complete. Lockheed provides its customers with the secure feeling that Lockheed PRISM will continue to be enhanced into the future.

For More Information

To find out more about Lockheed PRISM software re-engineering and services contact Bill Archer, Marketing Director, (913) 768-1945.

Note: A complete listing of both mainframe alternative and midrange replacement conversion tools can be accessed electronically using HP Desk. Both the GSY Hotline and the GSY Mainframe Alternative Hotline have the list under the subject index CONVERT.

Information Builders, Inc.

Opportunity to Sell HP-UX in Existing IBI Accounts

IBI is a leader in Fourth Generation Languages on mainframe and midrange systems. With over 1,000,000 users, Information Builders is one of the largest software vendors in the mainframe, DEC and UNIX systems marketplace. Use our relationship with IBI to sell onto IBI's existing installed base of mainframe customers.

IBI provides two products that enable IBM mainframe customers to purchase HP-UX systems: FOCUS and EDA/SQL.

FOCUS is a 4GL language that boasts an installed base of 17% on existing IBM mainframe systems. FOCUS is also portable across more than 35 hardware platforms. Customers that are using FOCUS applications on mainframe systems can easily migrate to HP-UX. By teaming up with IBI, we can provide a solution on HP-UX that requires minimal training or changes, yet provides flexibility and growth.

IBI's Enterprise Data Access (EDA)/SQL is a data enabling technology that allows transparent access to data anywhere in our customer's enterprise. IBI's EDA/SQL product family provides access to over 50 databases, including DB2, IMS, Adabase, ISAM, FOCUS DB, CA Datacom, IDMS, Oracle, Sybase, Informix, and Ingress. EDA/SQL plays an important role in giving customers access to all their existing data as they purchase HP-UX systems.

IBI has an established presence in our target mainframe accounts, and has successfully sold with us into large accounts that are moving to open systems.

For More Information

Contact Brian Di Silvestro at (408) 447-7114 (HP Cupertino) or Brad Wagaman at (201) 599-5498 (HP Paramus)

PROFS Migration

Program Description

Migrating PROFS users to HP OpenMail is a great mainframe alternative opportunity. Connectivity between IBM PROFS and HP OpenMail has been a sales inhibitor for the MFA Program since the program began. Third-party gateway providers have been lined up to remove this inhibitor to provide coexistence: The Boston Software Works and Linkage; but there are other capabilities and services which are needed to truly offload or replace the PROFS VM mainframe.

HP intends to become an expert in PROFS migration to HP's Electronic Messaging Solution on HP-UX. In June, a PROFS Migration program was announced to the analysts, press, and customers. The objectives of this program are to:

- Provide the tools, training, and services to migrate PROFS users to HP OpenMail quickly and safely.

Features and Benefits

Features	Benefits
• HP OpenMail is the superior choice for millions of PROFS and OfficeVision/VM users suffering from high costs and low functionality.	• HP OpenMail combines the flexibility of PC interfaces with the power of a mainframe class environment for a manageable, scalable solution.
• Coexistence tools	• For a phased migration over time
• Migration tools	• Automated movement of PROFS users notelogs, in-trays, and documents to HP OpenMail and HP Document Manager. Moves users quickly and safely.
• Migration Consulting Services	• Structured methodology for planning and implementing migration ensures success.

For More Information

CCSY HOTLINE

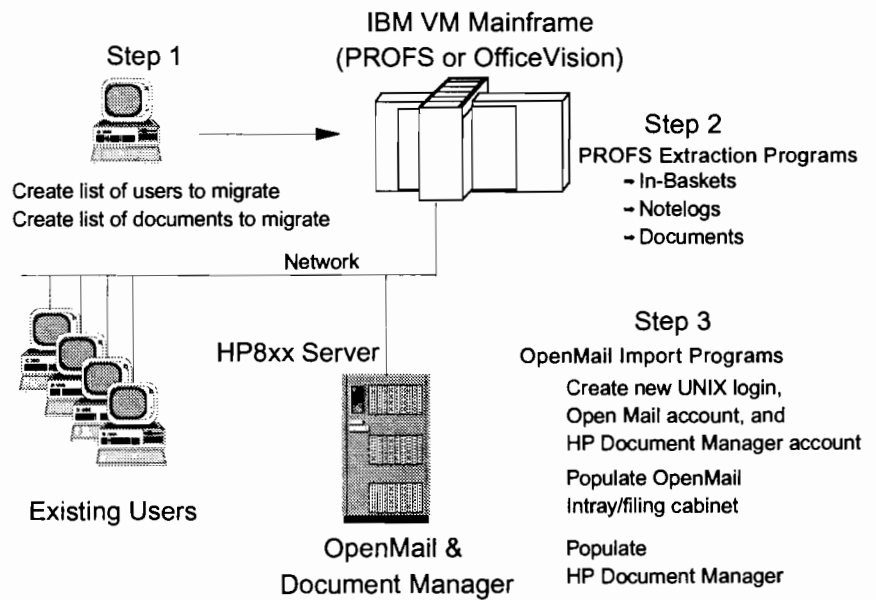
OMPPOFS — PROFS Migration Slide Set
 EMAPRESS — Press Release announcing PROFS Migration Program
 BSWPROD — Boston Software Works Slide Set

LDC

5091-8667E — Gartner Group Reprint: HP Looking to Lure IBM PROFS Users
 5091-8668E — Meta Group Reprint: HP OpenMail: The One to Beat?
 5091-8392E — OpenMail Release B.01 Product Brief
 5091-8393E — OpenMail Release B.01 Technical Data
 5091-8042E — HP Electronic Messaging Solution Note

Contact CCSY Business Development for Factory Assistance

Figure 6.2 PROFS Migration Process



Document/Text Management

Product Description

HP Document Manager is an integral part of the PROFS Migration Program, providing library services to store and retrieve migrated PROFS documents. It enables knowledge workers to quickly find key strategic and tactical information, and clerical workers to efficiently generate, update, and merge important documents. HP Document Manager offers mainframe users an enterprise-wide, robust and manageable solution, at a cost-effective price.

Features and Benefits

Features	Benefits
<ul style="list-style-type: none"> Retrieval is intuitive, based on both external attributes such as author or title, and internal attributes such as user-defined keywords within the document. 	<ul style="list-style-type: none"> Ease of use
<ul style="list-style-type: none"> Superior security features for document control and data integrity. Alerts can be sent to HP OpenView for centralized network and system management. 	<ul style="list-style-type: none"> Ease of management
<ul style="list-style-type: none"> Supports MS-DOS, MS-Windows, HP NewWave, Macintosh, and UNIX desktops. 	<ul style="list-style-type: none"> Choice of clients

Ordering Information

HP Document Manager License-to-Use — B3109A
 HP Document Manager Media and Manuals — B3110A

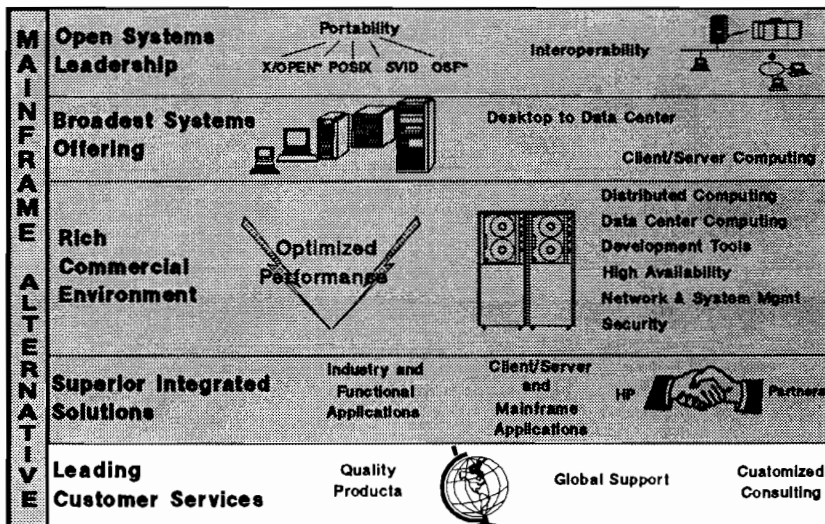
For More Information

Access the CCSY Hotline, CCSY Central or PowerTools for the HP Document Manager data sheet (DTMSDMSN) and slide set (DTMSL3).

Contact CCSY Business Development for Factory Sales Assistance.

Leading Customer Services

Figure 7.1 HP 9000 Open for Business Framework



OSF is a trademark of the Open Systems Foundation, Inc. in the U.S. and in other countries.
 X/Open is a trademark of X/Open Company Limited in the U.K. and in other countries.

HP Professional Services

The PSO's comprehensive consulting services help customers get the most from their investment in information technology. HP's broad range of consulting services — from strategic IT planning to implementation and support — provide customers with expert guidance throughout the entire IT lifecycle. These services provide highly skilled consultants, project-proven methodologies and tools, and global resources that help customers turn IT into a competitive advantage.

To assist customers in moving to open systems with the HP 9000, the PSO offers several Professional Services, including Mainframe Alternative (MFA) Professional Services, Information Technology Strategy (ITS) Professional Services, and Information Integration (II) Professional Services. ITS Services provide consulting to help develop an appropriate architecture, or validate the customer's existing architecture, and assist in a smooth transition to open systems. In support of the PROFS Migration Program, II consulting is available for customers replacing PROFS applications, or those with multiple non-integrated e-mail systems. HP II Professional Services provide consulting and systems integration to complement the sales, installation, and support of e-mail integration, document and text management, data warehousing, and decision support systems. For each of these services, the following summarizes the migration alternative and benefits offered to your customers:

Migration Alternative	HP Professional Service	Benefits
Rehosting applications (Transfer, Replace, Convert)	Mainframe Alternative (MFA)	<ul style="list-style-type: none"> • Reduced costs • Reduced risk • Reduced implementation time • Successful implementation
Re-engineering applications or re-architecting environment	Information Technology Strategy (ITS)	<ul style="list-style-type: none"> • An affordable, flexible, and open information technology architecture • A solution that fits your customer's business plan and satisfies technology needs • A solution that consists of technologies that operate in concert • Investment protection for your customer through interoperability with existing systems
Integrate/Surround	Information Integration (II)	<ul style="list-style-type: none"> • Fast development of prototypes and production applications • Investment protection of new and legacy systems and applications • Flexible open systems based solutions
E-mail Integration or PROFS Migration	Information Integration (II)	<ul style="list-style-type: none"> • Greater efficiency through improved communication flows between E-mail systems and users • Reduced E-mail administration costs

MFA Professional Services

MFA Professional Services are designed to help customers select the right route for migration, and then assist them in the transition to the HP 9000 open systems environment. MFA Professional Services were detailed in The HP 9000 Series 800 Sales Guide: Your Guide to Continued Sales Success! (June 1993, P/N 5091-7225E) and more information is available in the MFA Professional Services Sales Guide (March 1993, P/N 5091-6527E).

HP Information Technology Strategy Services

HP IT Strategy Services help customers plan their new Open Systems environment. This includes technologies, standards, and products involved, as well as the practices and processes to build and manage it. PSO consultants help customers develop a Target Architecture that is a natural fit for HP 9000 Business Servers, since it is not proprietary. These services help establish account control by involving HP in customers' long-term planning, and by influencing selection criteria.

HP IT Strategy Services can help customers implement the technology to achieve such business goals as reduced operating costs, increased company responsiveness, reduced product development cycles, and improved business performance.

PSO IT Strategy consultants have specialized tools, methodologies, and training to perform activities such as:

- Review of a customer's current IT architecture
- Technical overviews on relevant technologies
- Design and/or validation of a customer's target architecture
- Analysis of interoperability requirements
- Recommendation for a software development environment
- Profile of tools and applications
- Prototype of proposed architecture
- Open systems education

HP Information Integration Services

HP Information Integration Professional Services help customers use HP 9000 servers to solve business problems pertaining to:

- Data Integration (access to operation data). Services include:
 - Rapid Application Development
 - Data Warehousing
 - Developing Decision Support Systems
- E-mail Integration. Services include:
 - Integrating multiple E-mail systems via an HP OpenMail backbone
 - Replacement of IBM PROFS systems with HP OpenMail
- Document and Text Management systems, including Imaging.

II engagements usually provide complete running business systems to customers, including Hardware, Systems Software, and Applications Programs. HP consultants can develop these much faster than customers can, sometimes in only a few weeks.

The II PSO teams are capable of all aspects of Systems Integration, from Requirements Analysis, Solution Design, and Validation through Pilot Development, Enterprise-wide deployment, Education, and Support.

HP Educational Services

HP's PSO Education Services team offers industry leading training curricula to help your customers readily make the move to open systems and client server. An effective training plan and executive education can reduce customer anxiety about making the move, increase confidence in the new HP solution, and motivate employees to accept changes in the new IT environments.

A key factor for delivering solutions to mainframe class customers is having the ability to build tailored solutions for these data center/MIS managers and their staffs. HP's expert education consultants can develop tailored or custom training solutions for delivery at a customer's site as well as at over 40 HP education centers worldwide. HP has the capability to:

- Act as prime contractor/project manager
- Integrate third party applications training into total solution
- Tailor existing HP materials for customer needs
- Develop custom material if needed
- Certify and/or test students for retention, learning, or skill transfer
- Provide facilities management, equipment management and/or registration
- Provide courseware licensing (to end-user accounts only)
- Train-the-trainer

New courses include:

Object-Oriented Analysis and Design Techniques (H5851S)

A 4-day course to provide software development professionals with a survey of object-oriented analysis and design techniques. The strengths and weaknesses of three analysis and design techniques: OMT, Grady Booch, and Fusion are identified through this course.

Survey of Distributed Computing Technologies (H5864S)

A 2-day course designed to educate technical professionals on a wide range of open distributed computing technologies. This course will survey today's standards, technologies, tools, and products, and offer information on choosing the best alternatives for the customer's environment.

For More Information

For more information on each of the specific HP Professional Services mentioned, contact your local PSO Manager.

HP Support for High-end Accounts

Premier Account Support is a proactive, personalized, and structured, yet flexible, service and support offering for customers in a data center environment. Hardware is only a minor part of the customer's equation. Premier Account Support emphasizes HP's total data center environment perspective, providing not only for product needs, but for support needs as well.

Sales representatives can offer Premier Account Support in two ways: a fixed-price up front solution or the flexible system support solution. There are three fixed-price up front packages.

- Package 1 includes an enhanced level of complete maintenance, operations, assistance (for example, disaster recovery, performance, and network management reviews), and customer education.
- Package 2 includes an enhanced level of complete maintenance and additional SSO implementation assistance.
- Package 3 includes an enhanced level of complete maintenance.

Sales representatives receive quota credit and commission for each of the fixed-price Premier Account Support Packages. **Remember:** Do not choose support options when ordering Premier Account Support (PAS). This would result in overcharging the customer.

The flexible system support solution, HP System Support service for premier accounts, is available through the HP System Support offering.

All of the solutions offer HP's highest level of complete maintenance coverage.

For More Information

Contact your local System Support Organization Manager.

HP Systems Management Services

HP Systems Management services provide full or partial administration and management of the customer's system environment. The service is designed to be flexible to fit within the customers' environments and meet business needs. HP delivers the service with remote and on-site assistance.

Benefits

- Improved service levels based on customer's business requirements
- Increased user productivity
- Cost reduction
- Higher operating efficiency

There are three types of customers:

- Customers needing assistance managing a data center environment
- Organizations operating a client/server environment
- Customers transitioning to a new platform

All potentially can benefit from Systems Management.

Many organizations are downsizing and need supplemental resources. Other organizations may be growing and need both supplemental staff and technical expertise. Regardless of the environment, all organizations are working hard to reduce costs and expect HP to help accomplish this goal.

For More Information

Contact your local System Support Organization Manager.

Series 800 Product Positioning vs. Competition

Through 9-23-93

	F10	F20 H20	F30,G30 H30,I30	G40 I40	G50 H50 I50	G60 H60 I60	G70(2) H70(2) I70(2)
HP 9000 S800							
IBM	M20 230	355 250	360,365 370,375				
RS/6000	220 23S	550 550L 25S	570 580 970B 980B	58H	590		
Sun SPARC		10/30LC, 1000	10/40 10/51 10/402(2) 2000(2)	10/512(2)		2000(4) 1000(6)	1000(8)
IBM AS/400	F10 F45 F20 F35	F60 F70	F80(2)	F90(3)	F95(4)		
DEC AXP			4610 7610	4620(2)			
Sequent		S2000/750(2)	S2000/750(4)	S2000/750(6)	S2000/750(8)		
Pyramid			MIS-12ES(6)	MIS-12ES(8)	MIS-12ES(12)		
NCR	3445 3447	3450	3525 3455 3520(2) 3550(2)	3525(2) 3455(2) 3550(4) 3520(4)	3550(6)	3525(4)	3550(8)
DG	4100	8500	8500(2)	8500(4)			
AViiON	4300 4600	4320(2) 9500	9500(2)	9500(4)		9500(4)	
Compaq SystemPro		ProLiant 1000/486	ProLiant 1000/5	ProLiant 2000/5(2) 2040(2)	ProLiant 4000/5(4)		
Unisys	A11-211 A11-411 U6000/35	A11-222 A11-422 2200/421	2200/442	2200/462	2200/611ES	2200/622ES	

Note: Transaction performance based on published benchmarks and OLTP estimates. Results subject to change. Customer performance may vary. (#) = number of processors

Through 9-17-93

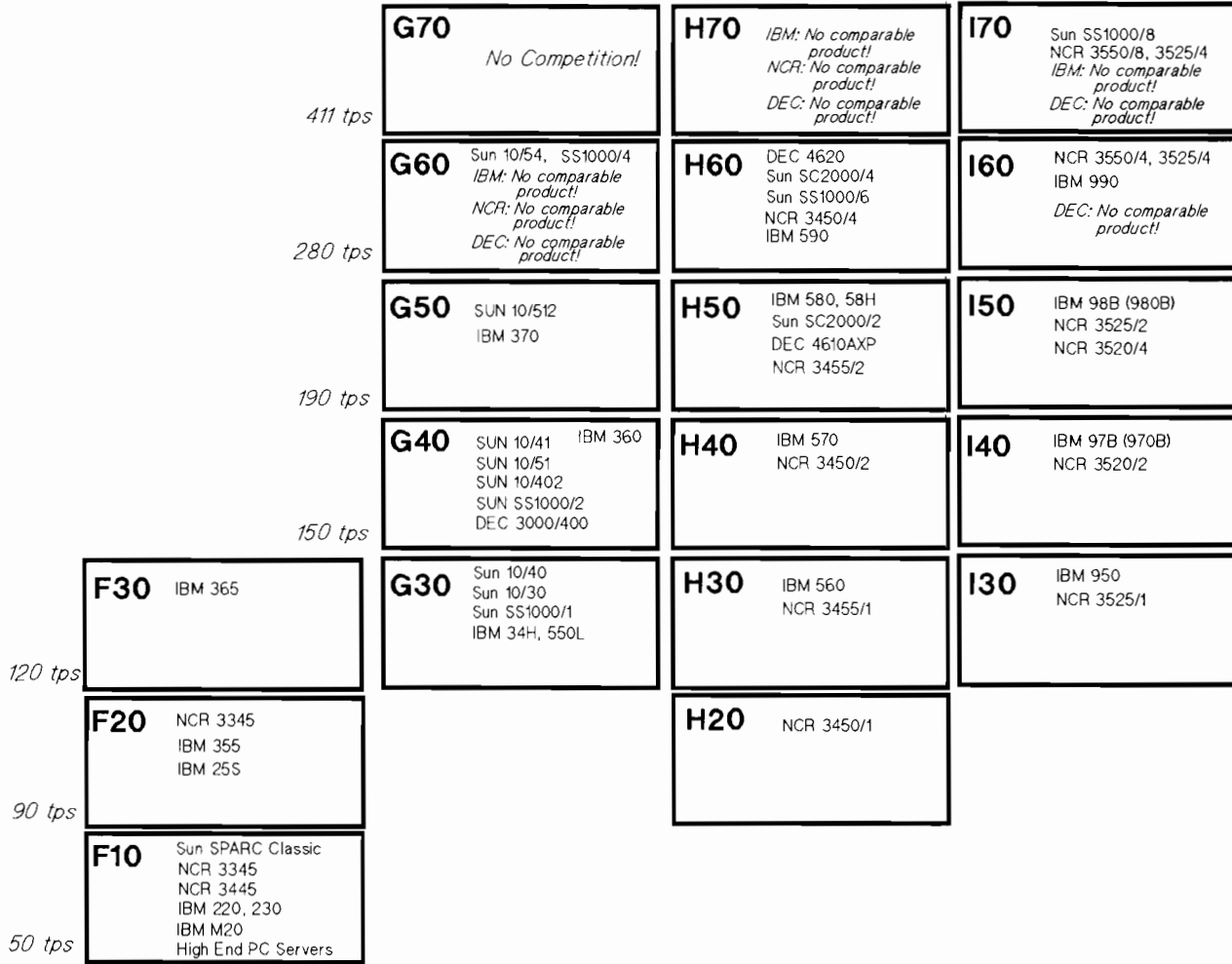
Figure 8.2 High-End Systems OLTP Performance Positioning

	T500	890(2)	T500(2)	890(3)	T500(3)	890(4)	T500(4)	T500(5)	T500(6)	T500(7)	T500(8)
HP 9000 Series 800											
DEC AXP (OpenVMS)	7620(2)	10620(2)	7630(3)	10630(3)	7640(4)	10640(4)	7650(5)	10650(5)	7660(6)	10660(6)	
Sun SPARC-server	1000(6)	2000(4)	1000(8)	2000(6)	2000(8)						
Sequent	S2000/750(8)	S2000/750(18)	S2000/750(12)	S2000/750(32)							
Pyramid	MIS-12ES(6)	MIS-12ES(12)	MIS-12ES(12)	MIS-12ES(20)							
IBM AS/400	F90(3)	F95(4)									
DG AviiON	9500(4)	9500(8)	9500(8)	9500(16)							
NCR	3550(6)	3550(8)	3525(4)	3555(8)							
Unisys	A16-61E	2200/622ES									
IBM Mainframes	9021-340	9121-480(2)	9021-500(2)	9121-570(3)	9021-580(3)	9121-610(4)	9021-660(2)	9021-740(3)			
	3090-180J	3090-200J(2)	3090-200J(2)	3090-300J(3)	3090-300J(3)	3090-400J(4)	3090-500J(5)	3090-600J(6)			

Note: Transaction performance based on published benchmarks and OLTP estimates. Results subject to change. Customer performance may vary. Mainframe comparisons may vary significantly depending on workload. (#) = number of processors

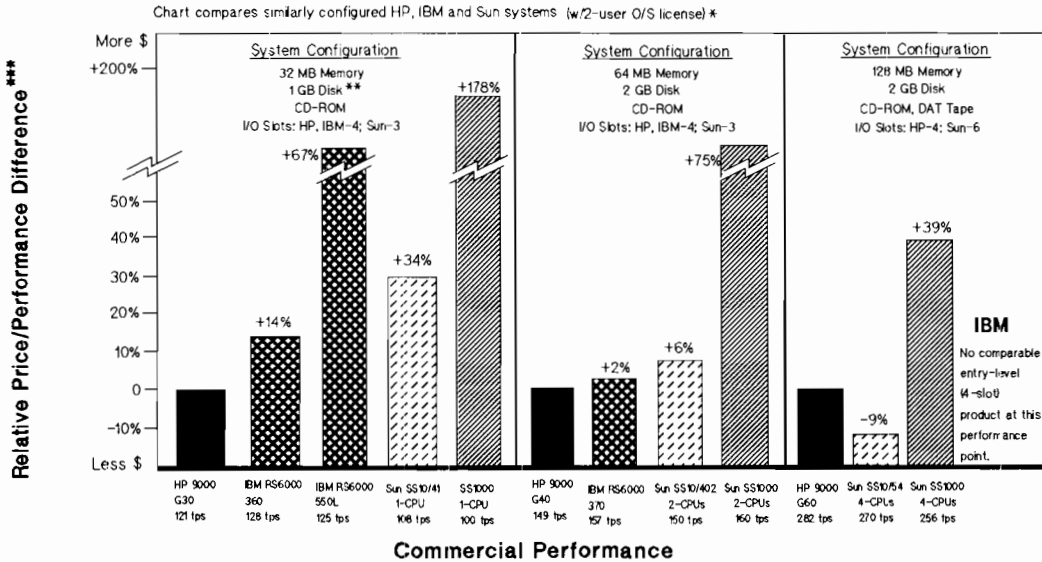
F, G, H, I Competitive Reference

Figure 8.3 F, G, H, I Competitive Reference



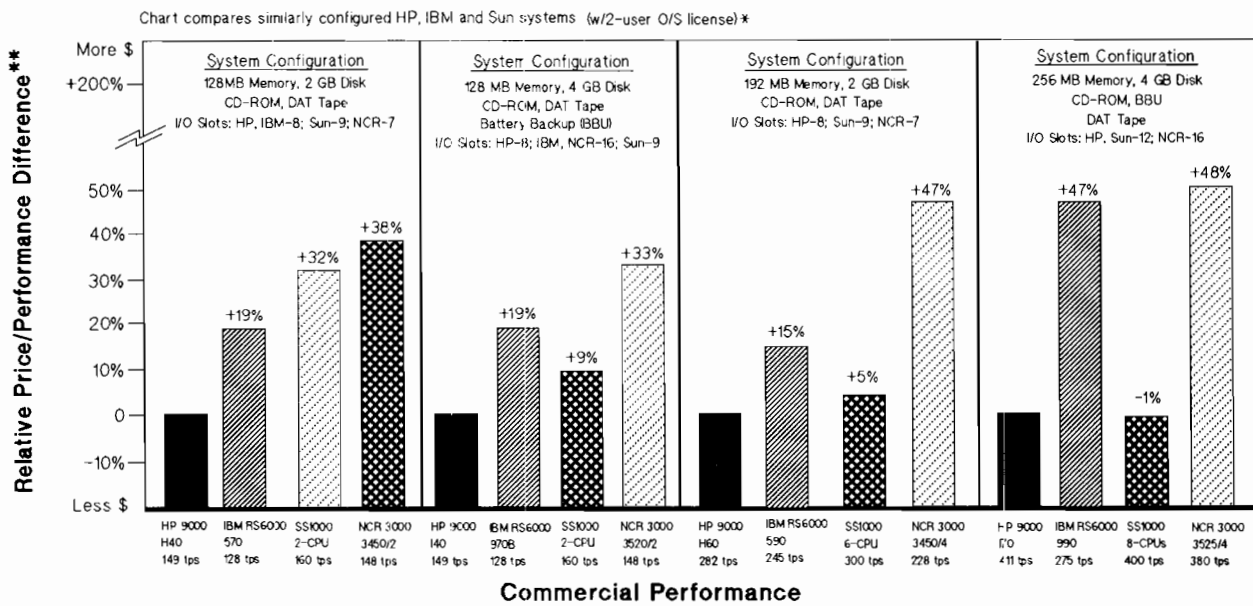
Competitive Configuration Comparisons

Figure 8.4 HP Offers the Best Value for Entry-Level Midrange Systems



* HP configurations include console terminal; Sun configurations include 4mm tape.
 ** IBM 550L w/2 GB Disk
 *** Relative price/performance differences are based on U.S. pricing. Local country pricing may vary.

Figure 8.5 HP Offers Competitively Priced High-Performance Midrange Systems



* HP configurations include console terminal.
 ** Relative price/performance differences are based on U.S. pricing. Local country pricing may vary.

HP 9000 Series 800 Systems Matrix

HP 9000 Series 800 Systems Matrix

SPU Model No.	SPU Product No.	S/W Tier	Single High Slots	Clk Spd MHz	Instr/Data Cache (KB)	Relative** OLTP Performance to F10	Ports Included On LAN-based Personality Card or Included With SPU				SPU Model No.
							SCSI	RS-232	Centronics	LAN	
F10	A2367A	1	2	32	32/64	1	1	2	0	1	F10
F20	A2432A	1	2	48	64/64	1.7	1	2	0	1	F20
F30	A2433A	1	2	48	256/256	2.5	1	2	0	1	F30
G30	A2434A	1	4	48	256/256	2.5	1	2	0	1	G30
G40	A2435A	1	4	64	256/256	3.0	1	2	0	1	G40
G50	A2436A	1	4	96	256/256	3.9	1	2	0	1	G50
G60	A2980A	1	4	96	1024/1024	5.7	1	2	0	1	G60
G70	A2971A	1	4	2 × 96	2048/2048	8.3	1	2	0	1	G70
H20	A2366A	2	8	48	64/64	1.7	1	2	0	1	H20
H30	A2437A	2	8	48	256/256	2.5	1	2	0	1	H30
H40	A2438A	2	8	64	256/256	3.0	1	2	0	1	H40
H50	A2439A	2	8	96	256/256	3.9	1	2	0	1	H50
H60	A2981A	2	8	96	1024/1024	5.7	1	2	0	1	H60
H70	A2970A	2	8	2 × 96	2048/2048	8.3	1	2	0	1	H70
I30	A2365A	2	12	48	256/256	2.5	1	2	0	1	I30
I40	A2364A	2	12	64	256/256	3.0	1	2	0	1	I40
I50	A2363A	2	12	96	256/256	3.9	1	2	0	1	I50
I60	A2982A	2	12	96	1024/1024	5.7	1	2	0	1	I60
I70	A2362A	2	12	2 × 96	2048/2048	8.3	1	2	0	1	I70
890	A1826A	3	14-112	60	4096/CPU	4.8-15.4	1	16	1	1	890
T500	A 2339A	3	14-112	90	2048/CPU	6.0-32.8*	1	16	1	1	T500

The following products are listed for reference only

807S	A1751B	1	2	32	32/64	1	Internal only	8	0	0	807S
817S	A1703A	1	2	48	64/64	1.7	1	8	1	0	817S
827S	A1765A	1	6	48	64/64	1.7	1	8	1	0	827S
837S	A1704B	1	2	48	256/256	2.5	1	8	1	0	837S
847S	A1766A	2	6	48	256/256	2.5	1	8	1	0	847S
857S	A1706A	2	12	48	256/256	2.5	1	8	1	0	857S
867S	A1768A	2	6	64	256/256	3.0	1	8	1	0	867S
877S	A1769A	2	12	64	256/256	3.0	1	8	1	0	877S
887S	A2307A	2	6	96	256/256	3.9	1	8	1	0	887S
897S	A2306A	2	12	96	256/256	3.9	1	8	1	0	897S
808S	A1625A	1	6	16	64	0.17	0	8+2	0	0	808S
815S	A1071A	1	12	16	64	0.17	0	8+2	0	0	815S
822S	A1716A	1	16	25	32	0.35	0	8	0	0	822S
832S	A1044A	2	16	30	128	0.6	0	8	0	0	832S
842S	A1154A	2	16	32	1024	1.5	0	8	0	0	842S
852S	A1155A	2	16	50	1024	2.17	0	8	0	0	852S
825S	A1004A	2	7	25	16	0.28	0	6	0	0	825S
835S/635S	A1035A	2	7	30	128	0.64	0	6	0	0	835S/635S
840S	9741A	5	30	8	128	0.41	0	0	0	0	840S
845S/645S	A1608A	2	6	30	256	0.96	0	6	0	0	845S/645S
850S	9742A	3	10	27.5	128	0.71	0	6	0	0	850S
855S	A1114A	3	10	27.5	256	1.17	0	6	0	0	855S
860S	A1843A	3	10	27.5	1024	1.46	0	6	0	0	860S
865S	A1845A	3	10	50	768	2.14	0	6	0	0	865S
870S/100	A1135A	3	10	50	1024	2.82	0	6	0	0	870S/100
870S/200	A1146A	3	10	50/CPU	2 × 1024	4.2	0	6	0	0	870S/200
870S/300	A1147A	3	10	50/CPU	3 × 1024	5.6	0	6	0	0	870S/300
870S/400	A1148A	3	10	50/CPU	4 × 1024	6.8	0	6	0	0	870S/400

Product numbers for F/G/H/I servers must be ordered with appropriate Structured Solution Product (SSP) part number:

F-Class, P/N A2428A; G-Class, P/N A2429A; H-Class, P/N A2430A; I-Class, A2431A.

* 8 CPU configurations.

** Relative OLTP performance is a general guideline since the factors influencing the performance of an application vary widely. T500 performance beyond 4 CPUs is based on HP-UX 10.0.

HP 9000 Series 800 Systems Matrix (cont'd)

SPU Model No.	Base Memory (MB)	Max. Memory (MB)	Base Internal Disk (MB)	Max. Disk Storage						Max. Total Suppt'd Disk (GB)	Max. Internal Tape Capacity (GB)	SPU Model No.
				Internal SCSI (GB)	F/W SCSI (GB)	Total SCSI (GB)	HP-IB (GB)	FL (GB)	FL Disk Array (GB)			
F10	16	384	566	2	56	42	2.7	n/a	n/a	42	4-8DDS	F10
F20	16	384	566	2	56	42	2.7	n/a	n/a	42	4-8DDS	F20
F30	16	384	566	2	56	42	2.7	n/a	n/a	42	4-8DDS	F30
G30	32	512	566	6	112	70	5.4	21	86	100	4-8DDS	G30
G40	32	512	566	6	112	70	5.4	21	86	100	4-8DDS	G40
G50	32	512	566	6	112	70	5.4	21	86	100	4-8DDS	G50
G60	32	512	566	6	112	70	5.4	21	86	100	4-8DDS	G60
G70	32	512	566	6	112	70	5.4	21	86	100	4-8DDS	G70
H20	64	768	1 GB	6	224	120	5.4	43	173	186	4-8DDS	H20
H30	64	768	1 GB	6	224	120	5.4	43	173	186	4-8DDS	H30
H40	64	768	1 GB	6	224	120	5.4	43	173	186	4-8DDS	H40
H50	64	768	1 GB	6	224	120	5.4	43	173	186	4-8DDS	H50
H60	64	768	1 GB	6	224	120	5.4	43	173	186	4-8DDS	H60
H70	64	768	1 GB	6	224	120	5.4	43	173	186	4-8DDS	H70
I30	64	768	2 x 2 GB	6	224	120	5.4	43	173	228	4-8DDS	I30
I40	64	768	2 x 2 GB	6	224	120	5.4	43	173	228	4-8DDS	I40
I50	64	768	2 x 2 GB	6	224	120	5.4	43	173	228	4-8DDS	I50
I60	64	768	2 x 2 GB	6	224	120	5.4	43	173	228	4-8DDS	I60
I70	64	768	2 x 2 GB	6	224	120	5.4	43	173	228	4-8DDS	I70
890	128	2048	n/a	n/a	1900	168	8.0	330	1300	1900	n/a	890
T500	256	2048	n/a	n/a	1900	168	8.0	330	1300	1900	n/a	T500
The following products are listed for reference only												
807S	16	128	328	1.36		42	2.7	n/a	n/a	42	4-8/DDS	807S
817S	16	192	328	1.36		42	2.7	n/a	n/a	42	4-8/DDS	817S
827S	16	384	328	4.08		70	5.4	21.4	129.6	151.6	4-8/DDS	827S
837S	32	192	677	1.36		42	2.7	n/a	n/a	42	4-8/DDS	837S
847S	32	384	677	4.08		70	5.4	21.4	129.6	151.6	4-8/DDS	847S
857S	64	384	677	4.08		70	5.4	42.8	172.8	178.8	4-8/DDS	857S
867S	64	384	1380	4.08		70	5.4	32.1	129.6	151.6	4-8/DDS	867S
877S	64	384	1360	4.08		70	5.4	42.8	172.8	178.8	4-8/DDS	877S
887S	64	768	1360	4.08		70	5.4	32.1	129.6	151.6	4-8/DDS	887S
897S	64	768	1360	4.08		70	5.4	42.8	172.8	178.8	4-8/DDS	897S
808S	8	32	152	n/a		8.0	8.0	n/a	n/a	8.0	CTD	808S
815S	8	56	335	n/a		8.0	8.0	n/a	n/a	8.0	CTD	815S
822S	8	128	335	n/a		10.6	8.0	21.4	82.3	82.3	DDS	822S
832S	16	128	335	n/a		10.6	8.0	21.4	82.3	82.3	DDS	832S
842S	28	256	670	n/a		21.2	8.0	42.8	168.7	168.7	DDS	842S
852S	64	256	670	n/a		21.2	8.0	42.8	168.7	168.7	DDS	852S
825S	8	192	n/a	n/a		10.6	8.0	21.4	82.3	82.3	n/a	825S
835S/635S	8	192	n/a	n/a		10.6	8.0	21.4	82.3	82.3	n/a	835S/635S
840S	8	96	n/a	n/a		n/a	8.0	n/a	n/a	6.9	n/a	840S
845S/645	32	192	n/a	n/a		10.6	8.0	21.4	82.3	82.3	n/a	845S/645
850S	48	256	n/a	n/a		21.2	8.0	42.8	168.7	168.7	n/a	850S
855S	48	256	n/a	n/a		21.2	8.0	42.8	168.7	168.7	n/a	855S
860S	48	256	n/a	n/a		21.2	8.0	42.8	168.7	168.7	n/a	860S
865S	64	512	n/a	n/a		21.2	8.0	85.8	341.5	341.5	n/a	865S
870S/100	96	768	n/a	n/a		21.2	8.0	85.8	341.5	341.5	n/a	870S/100
870S/200	128	768	n/a	n/a		21.2	8.0	128	514.3	514.3	n/a	870S/200
870S/300	160	768	n/a	n/a		21.2	8.0	128	514.3	514.3	n/a	870S/300
870S/400	192	768	n/a	n/a		21.2	8.0	128	514.3	514.3	n/a	870S/400

HP 9000 Series 800 Systems Matrix (cont'd)

SPU Model No.	Max. SCSI Tape Drives	Max. HP-IB Tape Drives	Max. Centronics Printers	Max. Serial Printers	Max. HP-IB Printers	Max. HP-IB Plotters	Max. I/O and Networking Cards (cont'd on next page)						SPU Model No.
							Max. Parallel Centronics	Max. F/W SCSI	Max. HP-IB	Max. HP-PB FL (28615A)/ PBA-FL (A1749A)	Max. MUX Ports	Max. # of User (via DTC & MUX)†	
890	16	8*	20	250	n/a	8*	20	40	9	40	1024	4500	890
T500	16	8*	20	250	n/a	8*	20	40	9	40	1024	4500	T500

Max. I/O and Networking Cards (cont'd)

SPU Model No.	Max. 802.3 LAN	Max. 802.5 Token Ring LAN	Max. 8-Channel MUX	Max. 16-Channel MUX	Max. 32-Channel MUX	Max. FDDI	Max. X.25	Max. SNAplusLink	SPU Model No.
890	10	5	64	64	64	3	12	12	890
T500	10	5	64	64	64	3	12	12	T500

SPU Model Number	Depth in mm	Width in mm	Height in mm	Weight in Kg	Power Reqmnt. Watts	Heat Diss BTUs Per Hr.	First CPL Date	First Ship Date	Site Prep Included	SPU Model Number
890	905	750	1620	375	2434	8300	5/92	10/92	yes	890
T500	905	750	1620	375	2434	8300	11/93	12/93	yes	T500

1 kg = 2.2046 lbs., 1 mm = 0.03937 inch

Concurrent User Recommendations**

SPU Model No.	SPEC rate_int92	SPEC rate_fp92	Heavy Workload	Medium Workload	Light Workload	SPU Model No.
T500/1	1888	3563	1-120	1-360	1-460	T500/1
T500/2	3691	6969	1-210	1-640	1-810	T500/2
T500/4	7145	13631	1-380	1-1150	1-1470	T500/4
T500/8	13697	23337	1-650	1-1940	1-2480	T500/8
T500/12	16513	34734	**	**	**	T500/12

† Please contact your sales center if customer requires more than 3,000 terminal connections.

* With 2 HP-IB interface cards

** For definitions of workloads and concurrent users, refer to July 1993 Configuration Guide page 116. User recommendations for 5-12 CPU T500 is based on HP-UX 10.0. Contact factory for details.