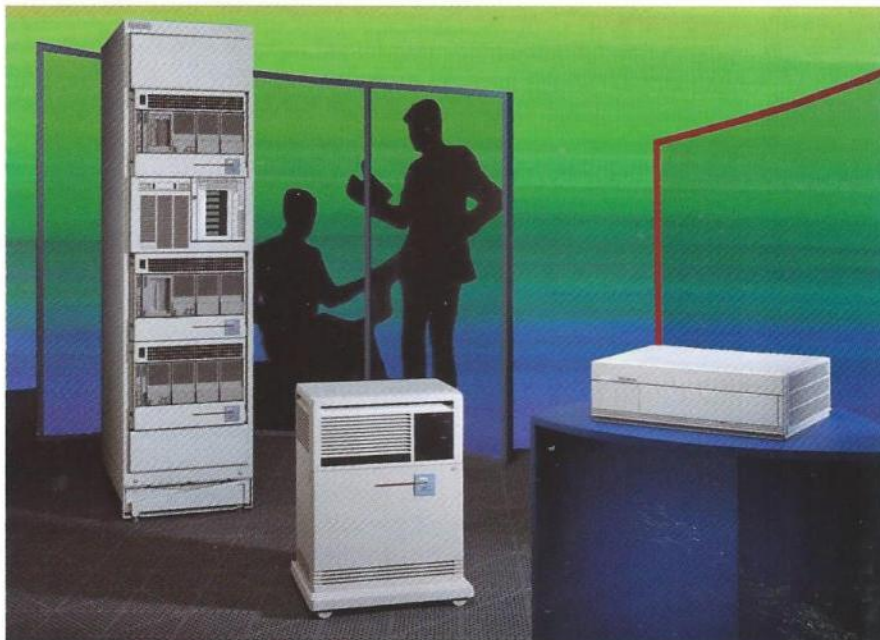


VAX 4000 Family of Systems

Balancing Performance, Value, and Investment Protection

digital



Putting Imagination to Work...

*Implementing
Open Client/Server
Solutions*

The newly extended VAX 4000 family continues Digital's commitment to evolving customer needs while protecting their investments in current systems, applications, and user training. The refreshed VAX 4000 product line boasts a significant increase in CPU and I/O power to yield balanced system performance. The expanded I/O capacity promotes efficiency by streamlining access to critical data. Improved price/performance safeguards budgets, delivering more CPU performance for less money.

Available in desktop, desktide, or rackmount configurations when floor space is limited, VAX 4000 systems integrate easily into centralized, distributed, real-time, or client/server-based environments. Because they are easily expandable, these systems will keep pace with fluctuating business needs and changing computing environments. VAX 4000 systems provide system reliability, functionality, and high availability of systems and data—even on the desktop. And the OpenVMS operating system extends computing capabilities to any desktop device and application needed.

The powerful VAX 4000 systems, featuring the new Model 700A, deliver performance for the most demanding distributed application environments. A solid foundation for your computing needs today, the VAX 4000 family is a sound path for continued growth and investment protection.

VAX 4000 System Highlights

- Safeguarding technology investments
- OpenVMS operating system
- High-performance distributed computing
- Improved I/O performance
- Digital Storage Systems Interconnect (DSSI) technology
- High availability with DSSI clusters
- Low-cost servers for distributed, multivendor environments
- Packaging flexibility

Safeguarding Technology Investments in a Rapidly Changing Environment

VAX 4000 systems allow you to start out small and to upgrade smoothly, as your needs grow, by adding more memory, disks, a faster processor, or additional systems to create a variety of high-performance server configurations.

A VAX 4000 Model 300 system can be upgraded to a Model 500A, 600A, or 700A by a simple exchange of CPU and memory boards. A CPU upgrade is also available to move from the Model 500A to a Model 600A or 700A. Optional high-speed I/O adapters can be added to all VAX 4000 systems for enhanced I/O throughput and performance.

Digital offers a Model 100A upgrade from the VAX 4000 Model 100 or any Q-bus MicroVAX 3000 system. The MicroVAX 3000 becomes a cost-effective expander cabinet for the VAX 4000 Model 100A, while protecting investments in storage and communications options. In addition, investment protection programs are available to provide greater performance and lower operating costs for all systems.

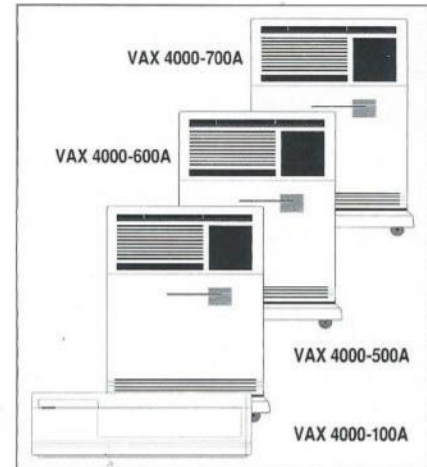
The Alpha-Ready Program ensures that the VAX system purchased today will realize a long viable and economical life — and co-exist with Digital's Alpha AXP systems via networking and DSSI OpenVMS Cluster systems. Investments in peripherals and software will also be protected. And consistent user interfaces will guard investments in personnel and training.

The OpenVMS Operating System: Bridging Generations of Technology

The flexibility and applications portability of open systems are integral to today's operating environment, but not at the expense of availability, reliability, and manageability. Digital's OpenVMS operating system provides both functionality and an open computing environment. No other operating system combines functionality, compliance with key standards, such as POSIX and XPG3 Branding, and a wide range of applications.

Realizing the Benefits of High-Performance Distributed Computing

VAX 4000 systems facilitate the distribution of power once found only in the data center. Now when downsizing, you don't have to sacrifice CPU and I/O performance to realize cost savings. The VAX 4000 systems' features, including advanced I/O subsystems and innovative CPU technology, ensure the benefits of balanced systems: elimination of bottlenecks, enhanced user productivity, maximized user investment, and affordable high availability. VAX 4000 systems offer 24 to 40 times the processing power of a VAX 11/780, the original VAX, in a space saving footprint. With such breakthrough power and a low 5-year cost-of-ownership, these systems deliver outstanding commercial systems performance and industry-leading price/performance.



The VAX 4000 Family of Systems

Improved I/O Performance Across All VAX 4000 Systems

Today, more than 250,000 MicroVAX and VAX 4000 systems are serving multiple business needs in the commercial and technical computing environment. The performance of VAX 4000 systems successfully accommodates the demands of larger and more sophisticated applications, in areas ranging from small business to manufacturing. The entire VAX 4000 family has been optimized for disk and Ethernet performance using dedicated I/O adapters. Each of these adapters is a 10 MIPS RISC processor. With balanced I/O that keeps pace with high-performance CPUs, VAX 4000 systems deliver superior application response time. And, if additional I/O throughput is requested, an option is available that will easily double I/O performance on any member of the VAX 4000 family.

Digital Storage Systems Interconnect (DSSI) Technology

DSSI disk technology provides the key to the outstanding I/O subsystem performance of the VAX 4000 family. Based on VLSI technology, DSSI RF

Series disks deliver industry-leading I/O for distributed applications via the following features:

- A dedicated controller on each disk
- Dedicated cache on each disk controller
- A custom-enhanced I/O bus
- DSSI-to-CPU adapters with Direct Memory Access, minimizing bus latency

These performance features permit applications running on VAX 4000 systems to avoid the queuing and communications bottlenecks that typically occur when multiple disks share a single controller. The intelligence formerly provided by separate controllers has been integrated into DSSI disk technology. As disk storage is added to the system, performance increases linearly.

Meeting the Demand for High Availability with DSSI Clusters

Tasks such as order entry, transaction processing, billing, and inventory control are the lifeblood of any commercial enterprise. For the greatest efficiency and productivity, easy access to critical data is crucial for users. Digital's unique two-system or three-system DSSI OpenVMS Cluster configurations offer high data and system availability and serviceability previously found only in much larger and more expensive systems.

A DSSI OpenVMS Cluster can consist of: A Q-bus MicroVAX 3000 and VAX 4000 systems or VAX 4000, VAX 6000, and VAX 7000 systems and DSSI storage, Ethernet, and the OpenVMS operating system with a Local Area VMScluster license. And for additional computing flexibility, customers can now build mixed architecture clusters comprised of both VAX and Alpha AXP systems, including the DEC 4000 Model 610 AXP system.

DSSI OpenVMS Cluster systems highlights include ability to:

- Be managed as one system
- Grow existing VAX systems
- Deploy applications on the most optimal system configuration
- Act as high-availability server for large numbers of PCs and workstations
- Act as a database server
- Support hundreds of users

High-Performance, Low-Cost Servers for Distributed, Multivendor Environments

Digital's vision of client/server computing addresses the realities of today's multivendor environment. VAX 4000 systems can support OpenVMS, ULTRIX, UNIX®, OS/2™, MS-DOS®, Windows™, or Macintosh® clients. VAX 4000 systems can act as 802.5/Token Ring servers—integrating PC LAN workgroups into an enterprise-wide network. The Q-bus FDDI adapter also provides direct FDDI connectivity to OpenVMS Cluster configurations, to increase communication and networking speed.

The advanced I/O capabilities of the VAX 4000 family make them unsurpassable servers for desktop integration—simpler, faster, and easier to maintain than might have seemed possible. When high availability administrative servers are required, the VAX 4000 family are the systems of choice: power with no compromise on functionality, openness, or performance. And the revolutionary performance, low cost, and high availability of the Model 100A make it an outstanding server for workstations or PCs.

Packaging Flexibility

- *Big Performance in a Small, Open Office Package*
With the OpenVMS operating system already installed, minimum field service required, and no special facilities plans necessary, VAX 4000 systems

offer superb ease of installation and use. Model 500A, 600A, and 700A systems are about the size of a two-drawer file cabinet and simply plug into a standard wall outlet in any office environment. The Model 100A requires minimal space on the desktop. Because a VAX 4000 system does not require special power or room conditioning, it can provide significant annual operational cost savings, along with flexibility in systems location.

- *A Rackmount Tower of Power*
When floor space is at a premium in a computing environment, a rackmount configuration provides the solution. Requiring only inches of vertical rack, cabinet or enclosure space, our cost-effective systems allow the organization of CPUs, CD-ROMs, printers, scanners, test equipment, disk drives, expansion boxes—all in one easily accessible 19-inch-wide EIA rackmount cabinet. A multisystem VAX 4000 DSSI OpenVMS Cluster configuration—complete with disks and tapes—can be stacked in a single cabinet.



- *System Expansion That Keeps Pace with Changing Needs*
VAX 4000 systems afford the flexibility to grow as business needs evolve. Disks and tapes are a uniform height and size, so upgrading storage systems can be accomplished easily. Some storage expansion subsystems supported include SF12, SF200/210/220/400



DECarray Subsystems, R400X and B400X. VAX 4000 systems will enjoy the benefits of StorageWorks subsystems as that family of products evolves.

For More Information

To learn more about the VAX 4000 family of systems or other Digital systems, contact your local sales representative.

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VAX 4000 Specifications

Model	100A	500A	600A	700A
Performance (TPS)	95	116	183	253
Number of Processors	1	1	1	1
CPU Clock Speed	72 MHz	72 MHz	83 MHz	100 MHz
Cache Size	128 KB	128 KB	512 KB	2 MB
In-cabinet CPU Upgrade	Model 300 upgradable to Model 500A/600A/700A Model 400 upgradable to Model 500A/600A/700A Model 500 upgradable to Model 600A/700A Model 600 upgradable to Model 700A			
Q-bus Slots Available	Expansion Cabs	7	7	7
Maximum Memory Capacity	128 MB	512 MB	512 MB	512 MB
Disks for All Systems:	RF 31T (381 MB), RF 35 (852 MB), RF 352 (1.7 GB), RF 36 (1.6 GB), RF 362 (3.2 GB), RF 72 (1 GB), RF 73 (2 GB) and RF 74 (3.6 GB)			
Maximum Disk Capacity	75 GB	151 GB	151 GB	151 GB
I/O Support				
Maximum I/O bandwidth				
DSSI	8.0 MB	16.0 MB	16.0 MB	16.0 MB
Q-bus	3.3 MB	3.3 MB	3.3 MB	3.3 MB
Ethernet	1.2 MB	1.2 MB	1.2 MB	1.2 MB
OpenVMS Cluster Support	Ethernet, DSSI			
Network adapters: Embedded	1	1	1	1
Q-bus	2	2	2	2
DSSI Adapters: Embedded	1	2	2	2
Daughter Card	1	2	2	2
Q-bus	2	2	2	2
Operating Environment				
Temperature	10-40°C (50-104°F)			
Relative humidity	20% - 80%			
Max operating altitude	2,400 m (8,000 ft)			
Power Requirements				
Input Voltage (nominal)	110V/240V	120V/240V	120V/240V	120V/240V
Frequency Tolerance	For all models: 50-60 Hz			
Phases	For all models: single			
Surge Current	2.2/1/1	11.2A/5.85A	11.2A/5.85A	11.2A/5.85A
VAX 100A Physical Characteristics				
Dimensions	Height 14.99 cm (5.90 in)	Width 46.38 cm (18.26 in)		Weight 18.40 kg (40.00 lb)
	Depth 40.00 cm (15.75 in)			
VAX 500A/600A/700A Physical Characteristics				
Dimensions	Height 69.0 cm (27.0 in)	Width 53.0 cm (21.0 in)		Weight 68.0 kg (150 lb)
	Depth 45.0 cm (17.8 in)			