

InfoServer 1000 — Network SCSI Storage Server

Modular Server Enhances Network Focused Solutions

digital



Do you need to share volumes of data with many users? Or support the information needs of users of MS-DOS, Macintosh, OpenVMS, ULTRIX, or any combination of these systems, in a local area network (LAN)? Or are you interested in an efficient way to load software and back up your data? Would you find it beneficial to distribute your company information to 50 or 100 users at once?

Here's a server that provides all of this functionality — and more! The InfoServer 1000 combines fast data access and small size with platform and device independence, serving 50 or more users at once. Working with specialized transport protocols, the InfoServer 1000 makes Small Computer Systems Interface (SCSI) devices appear and perform on a local area network wire as if they were locally attached to virtually any client's system. With client software to complete the connection, the InfoServer 1000 simultaneously serves multiple data formats to their specific client platforms.

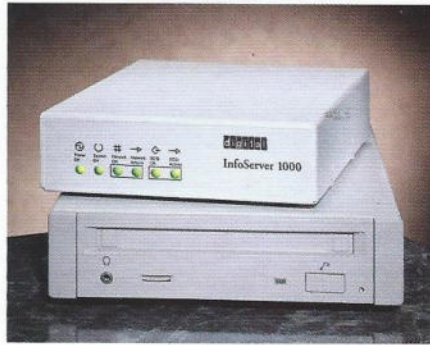
Designed to work in conjunction with SCSI storage devices, the InfoServer 1000 features a unique form factor — industry-standard 5.25-inch — that provides a flexible, modular solution. Digital and other vendors combine the InfoServer 1000 with storage devices to create focused solutions for your specific needs. Virtual storage services from CDs, disks, tapes, and magneto-optical media are packaged in solutions that include a CD-ROM server, a tape/backup server, a CD-ROM mastering station, and an X Window terminal server, among others.

Package Highlights

- InfoServer Local Area CD — Lowest-cost entry-level package provides CD-ROM services to a LAN.
- InfoServer Librarian — CD-ROM server accommodates up to seven CD-ROM readers in a secure cabinet.
- InfoServer System Manager — Distributes new software, information, and updates from CD-ROM, disk, and tape devices from one centralized resource on your network.
- InfoServer Scribe — Server accommodates a choice of desktop SCSI tape devices to provide information backup services.
- InfoServer VXT — X Window terminal server off-loads host systems to provide virtual memory capabilities, boot and font services, and configuration management.
- InfoServer Publisher — CD mastering station is used to create your own CD-ROM databases on CD-Recordable (CD/R) media. Use for software, data, and document distribution.

A Family of Network Storage Solutions

Due to its modular nature and its ability to serve a variety of device types, Digital's InfoServer 1000 is used to create packages for focused solutions. Each package may use different function software, like Disk, Tape, or CD/R Function Access, to provide these services. Each system can add different function access software at a later date to increase capabilities.



InfoServer Local Area CD (LA CD)

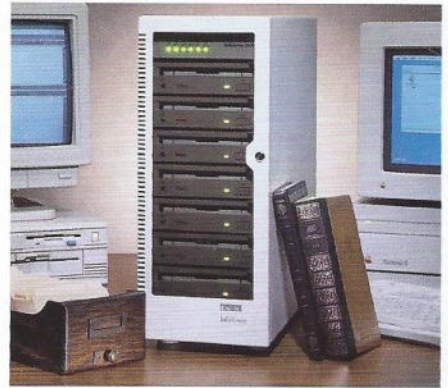
The InfoServer Local Area CD system is the lowest-cost entry-level optical server on the market today. It consists of the InfoServer 1000 and a tabletop CD-ROM drive. By networking the CD-ROM device, the LA CD distributes the cost of expensive databases. Real estate agencies or small law firms can use this system to distribute software and data throughout their offices.

The InfoServer Local Area CD can be expanded as business grows. Six additional storage devices can be added to the LA CD, either as tabletop devices, or, if CD-ROM, combined in an InfoTower CD expansion cabinet.

InfoServer Librarian

The InfoServer Librarian enables large databases to be shared, while keeping them stored in a secure cabinet. Use this package to serve medical databases such as Physician's Desk Reference or to distribute ERIC to education professionals and students. For OpenVMS or ULTRIX system users, the Librarian is an ideal way to serve Digital's Online Documentation Library and Consolidated Software Distribution over the network.

Housed in a new version of the InfoTower cabinet, the InfoServer Librarian is offered in two packages: one with four CD-ROM readers, and the other with seven. With the four-drive version, you can add hard disk and magneto-optical devices external to the InfoTower cabinet, or combine already existing CD-ROM drives into it.



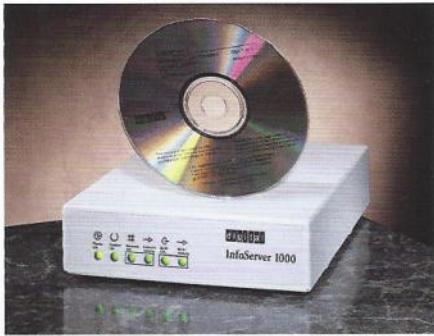
InfoServer System Manager

InfoServer systems support many device types. With the InfoServer System Manager, disk, CD-ROM, and tape services can be provided through one package over the network.

Using appropriate client software, system managers can use this package to provide tape/backup services to their LAN. They can partition the hard disk so that each client, no matter what their platform, has enough disk space. In addition, software and data can be provided by the CD-ROM device.

InfoServer Scribe

If you need efficient tape/backup capabilities, the InfoServer Scribe is designed for you. OpenVMS systems can take advantage of this system's capabilities through the OpenVMS Backup Utility. Using future versions of Norton Backup for Windows, tape backup can be extended to MS-DOS users running Windows and InfoServer Client for DOS V2.0.



The InfoServer Scribe consists of an InfoServer 1000 and Tape Function Access software. It supports one tape device. You can add up to six other devices, including CD-ROM, hard disk, and magneto-optical drives.

InfoServer VXT

The InfoServer VXT can be used to manage X Window work groups across the network. For instance, system managers can customize terminals in a workgroup, create automatic start-up functions, or color-code screens to identify different groups. This server can also be used to boot the X terminals and provide more than 1,000 fonts to their users.

As windowing terminals require local memory to support applications, they rely heavily on the host system for configuration, bootstrapping, and other functions. With the InfoServer VXT system, demands on the host are minimized. The server's virtual memory supplements the physical memory of the X Window terminal.



Specially configured for use with Digital's VXT 2000 and VT1300 X Window terminals, the InfoServer VXT includes VXT and Disk Function Access software, and VXT software. Two packages are offered: one with a CD reader and one without. Since the InfoServer 1000 is network upgradable, only one CD reader on the same LAN is required.

InfoServer Publisher

The InfoServer Publisher lets users create their own CD-ROM databases. Use it to master CD-ROM discs in the file format required and then make the discs immediately available to network users. Staging occurs at the server, using data that has been sent to it from anywhere on the network.

In addition to creating company-specific databases, the Publisher can be used for the creation and distribution of online documentation. And, those who currently use microfiche can use the InfoServer Publisher as an economical alternative for archiving data.

The Publisher's ability comes from an InfoServer 1000 used with the CD/R Function Access software. By adding a hard drive for data staging, a CD/Recordable drive, and a CD reader to test the platter, the user can master a CD.

InfoServer Highlights

- Industry-standard 5.25-inch half-height size allows the InfoServer 1000 unit to easily combine with SCSI storage to create any number of customized solutions.
- Supports up to seven SCSI devices, including CD-ROM, tape, hard disk, and magneto-optical drives.
- Order a "plug and play" packaged system designed to meet specific needs, or as an individual system unit to build your own solution.
- Each package benefits from the InfoServer system's ability to work in a LAN comprised of Macintosh, MS-DOS, ULTRIX, PATHWORKS for DOS, OpenVMS systems, and X Window terminals.
- Each InfoServer 1000 solution is designed for simultaneous access by 50 users. Can be upgraded to serve more.
- Highly scalable — add an unlimited number of InfoServer systems to a network. The InfoServer 1000 is an ideal complement to installed InfoServer 100 or 150 systems, offering duplicate services for failover and load balancing.
- Network upgradable — server software updates can be served from any InfoServer on the network.
- Self-booting server software is factory-loaded in flash memory — no system hard drive required.
- Three Mbytes of adjustable cache memory enhance ability to provide quick data access.

LASTport/Disk — The Technology Behind the InfoServer

How does the InfoServer system provide all of its services to users? The answer lies in the architecture of the system and its software.

The InfoServer system uses the local area system transport (LASTport) networking protocol. LASTport allows the InfoServer to deliver information from its attached devices at the block level. It essentially changes the way that a client accesses information from a server's storage devices. It makes the CD-ROM drives and other storage devices appear to be locally attached to the client system instead of the server. LASTport relies on the client's file structure to interpret data, eliminating a step normally performed by servers. In doing so, it provides a more efficient way to deliver information — one that simultaneously supports many clients with different file structures.

Serving Multiple Operating Systems

InfoServer systems use a client/server relationship. The client requests and the server provides. In this instance, the relationship is "client focused" — whatever can be done in the client's local environment works the same way with the InfoServer. Therefore, clients may use only some or all of the capabilities that an InfoServer provides.

InfoServer client software is available for OpenVMS, ULTRIX, Macintosh, MS-DOS (with NetWare coexistence), and PATHWORKS for DOS platforms. The InfoServer 1000 includes the rights to use up to 50 concurrent connections for Digital-developed clients. This number can be increased via upgrades.

No additional licenses are required for clients. Some client software is an integral part of the operating environment

What is an InfoServer?

Like its predecessors, the InfoServer 100 and 150 systems, the InfoServer 1000 provides powerful functionality and the flexibility to serve in an open network environment. It serves data:

- In multiple formats
- From multiple device types
- To multiple client platforms
- To multiple concurrent connections

The InfoServer 1000 and its packaged solutions provide many of the same benefits offered by other InfoServer systems, including:

Feature	Benefit
▪ Enables storage devices to be shared. Many clients, regardless of the file system used for access, can use its services.	▪ Users of many forms of data in information-intensive industries such as Education, Healthcare, Pharmaceutical, and Government can access simultaneously from one centralized repository.
▪ Supports a heterogeneous environment. Serves data to different client types simultaneously.	▪ Previous investments are protected. Use what you have today, and tomorrow.
▪ Exceptional performance. Uses LASTport protocols to optimize server's ability to transmit data.	▪ Users gain performance comparable to that of a local drive, even over the network. Increases productivity.
▪ Scalable. As the number of storage devices required increases, more servers can be economically added to the network. And, as the number of clients increases, so can the number of clients supported by the server.	▪ Pay only for what you need now. The system can grow as your needs change.

(e.g., OpenVMS and PATHWORKS for DOS); others must be purchased separately as a media kit and installed.

InfoServer Client for DOS

Users of this software can easily take advantage of InfoServer CD-ROM services, considering the vast number of CD applications written for this environment. In addition to accessing information on CD-ROM, these clients can access information located on any hard disk or magneto-optical drive attached to the server. Engineering and other environments use this feature to share infrequently updated material such as engineering specifications or other online documentation.

With InfoServer Client for DOS V2.0, users running Microsoft Windows and

future versions of Norton Backup for Windows can also benefit from the InfoServer system's tape capabilities. By enabling users to back up to a centrally located tape on the network, system managers help users to ensure data integrity and minimize loss.

InfoServer Client for DOS can be used in environments that do not have a network operating system (NOS). In this instance, PCs connected via Ethernet wire use the DOS client software to take advantage of InfoServer services. This client software also coexists with Novell NetWare. It can be used by a variety of MS-DOS systems running in Ethernet environments from Digital and other vendors, including Novell, COMPAQ, IBM, Tandy, Toshiba, Zenith, and Olivetti.

InfoServer Client for Macintosh

With the InfoServer Client for Macintosh software, users can easily access data written for Macintosh systems from CD-ROM, hard disks, or magneto-optical drives. InfoServer Client for Macintosh brings performance improvements to network multimedia applications operating on QuickTime, Apple's widely used multimedia standard.

A simple user interface lets you "point and click" to get to any service available to the Macintosh client. Simple to install, this software functions similarly to other Macintosh software and requires minimal attention from the system manager.

InfoServer Client for Macintosh V1.1 software supports the Kodak Photo CD for single-session access. In addition, Macintosh clients can now use disk service failover and load balancing features provided by InfoServer systems.

With disk service failover, when a service is interrupted, as when a compact disc is removed from a drive, the client attempts to reconnect to the service. If a duplicate read-only service is offered elsewhere on the LAN, the client automatically connects to the duplicate volume. File operations continue as normal, and users experience almost no service disruption.

With disk service load balancing, when duplicate read-only devices are available under identical service names, the client balances the load among the available devices to maintain maximum system performance.

OpenVMS InfoServer Client for VAX and Alpha AXP

OpenVMS InfoServer clients for VAX and Alpha AXP systems take advantage of the InfoServer system's ability to serve CD-ROM, hard drives, magneto-optical, and tape technologies. The InfoServer can be used as an efficient, cost-effective initial system load (ISL) device. Using CD-ROM media, the InfoServer can load multiple OpenVMS systems simultaneously, eliminating the need to purchase a separate load device for each system.

Digital's Consolidated Software Distribution and Online Documentation Library can be served from the InfoServer system. This allows multiple users to receive software updates at once and lowers the cost of providing documentation to everyone. Disk service failover and load balancing are also featured for these clients. Finally, OpenVMS and its Backup Utility can use the tape/backup services offered by an InfoServer system. InfoServer client capabilities are built into the OpenVMS operating systems.

PATHWORKS for DOS (InfoServer) Client

Designed for client/server PC networks, Digital's PATHWORKS products link PCs and give users the capability to share applications, information, and resources. The PATHWORKS for DOS (InfoServer) client provides an optimal solution for librarians, physicians, government officials, business analysts, educators, publishers — anyone who needs to share volumes of common information on DOS systems in a PATHWORKS LAN.

Like the InfoServer Client for DOS, this software lets PATHWORKS users access DOS-based applications written in ISO 9660 and High Sierra formats. Information can be accessed from CD-ROM, hard disk, and magneto-optical drives.

Users of PATHWORKS for DOS (NetWare Coexistence) software can also take advantage of the InfoServer system. PATHWORKS for DOS (InfoServer) Client software is included in PATHWORKS for DOS V4.1 and greater.

InfoServer Client for ULTRIX

With this client, RISC ULTRIX and VAX ULTRIX systems and workstations can access the InfoServer system's powerful storage capabilities. InfoServer Client for ULTRIX, a separate layered product for use with ULTRIX V4.0 or greater, lets users access information from CD-ROM, hard disk, and magneto-optical drives. It supports ULTRIX File System (UFS) and ISO 9660 formats.

With InfoServer Client for ULTRIX V1.1, users gain load balancing and automatic failover features. Refer to the InfoServer Client for Macintosh for a description of these features.

The InfoServer Client for ULTRIX is well-suited to production environments that require ready access to detailed technical information. System managers can take advantage of ULTRIX Online Documentation Library and ULTRIX Consolidated Software Distribution to access documentation and software layered products.

CD Applications at a Glance

Here's a sampling of the thousands of CD-ROMs that can be accessed with InfoServer systems. One CD-ROM stores approximately 700 million characters of digital data, the equivalent of 2,000 floppy disks.

Title	Format
Books in Print	ISO 9660
Computer Select	High Sierra
Consolidated Software Distribution	ODS_2, UFS
DEClearn	ODS_2
Drugdex	ISO 9660
EconLit	ISO 9660, HFS
Ei Energy and Environment	ISO 9660, HFS
ERIC	ISO 9660
Lotus One Source	ISO 9660
Moody's International Plus	ISO 9660
Online Documentation Library	ODS_2, UFS
PsycLIT	ISO 9660
Physician's Desk Reference	ISO 9660

CD-ROM Formats Supported by InfoServer Clients

Each Infoserver client uses its own file system to access data from storage devices attached to an InfoServer system.

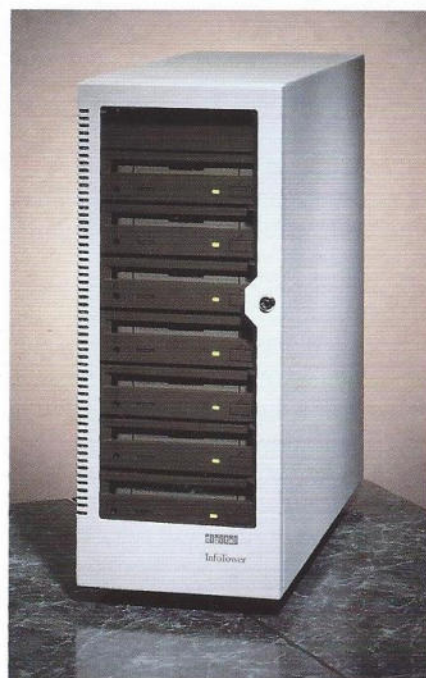
For example, MS-DOS clients read High Sierra and ISO 9660 formats, while Macintosh systems read High Sierra, HFS, and ISO 9660 formats. Because the InfoServer system serves information regardless of format, different clients can access information from a single server.

Two things are generally required to read CD-ROM discs: the raw data and the application or software retrieval engine that is used to display the data to the user. Many times the software retrieval engine is resident on the disc itself.

Systems other than DOS that read ISO 9660 can read this data format but not necessarily execute the application if the software retrieval engine has been written as a DOS application. Users must run MS-DOS via either a hardware or software emulator to execute the applications on those CD-ROMs.

InfoTower Storage Expansion Cabinet

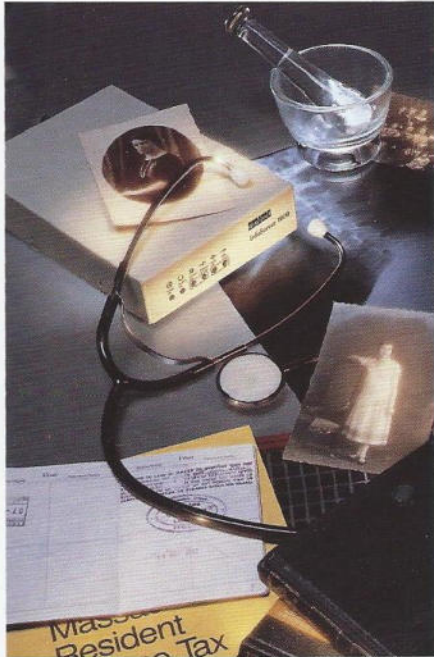
The InfoTower expansion cabinet accommodates up to seven CD-ROM readers. The CD drives feature an eject lever for easy serviceability. The InfoTower cabinet features a windowed door that can be locked to protect valuable CD-ROM investments. Using a single internal power supply and consolidating drives in one package, the InfoTower also provides enhanced cable management. The tower is sold separately to attach externally to an InfoServer system and is offered packaged with four or seven internally mounted RRD42 CD-ROM drives.



Operating System File Format Support

Novell NetWare/DOS PATHWORKS for DOS	Macintosh	ULTRIX	OpenVMS
High Sierra	High Sierra HFS	UFS	High Sierra* ODS_2
ISO 9660	ISO 9660	ISO 9660	ISO 9660*

*OpenVMS recognizes these file formats when used with F11CD, a separate layered product. F11CD is included with InfoServer software.



InfoServer 1000 Specifications

System enclosure	Tabletop and InfoTower
Maximum total drives	7
Ethernet communications	1 SCSI port 1 asynchronous 9600 baud terminal port 1 ThinWire or standard thick wire Ethernet port

Power Requirements

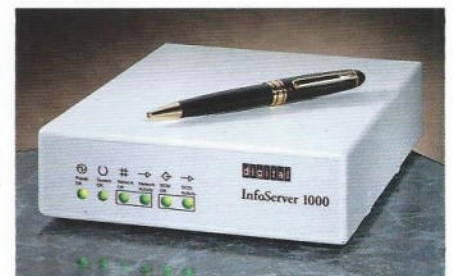
	Tabletop	InfoTower
Nominal voltage	120/240 V auto ranging	120/240 V switch selectable
Power source phasing	single	single
Nominal frequency	50 Hz – 60 Hz	50 Hz – 60 Hz
Voltage range	90 Vac – 135 Vac 180 Vac – 265 Vac	90 Vac – 135 Vac 180 Vac – 265 Vac
Line frequency tolerance	47 Hz – 63 Hz	47 Hz – 63 Hz
Maximum running current	0.7 A @ 110 Vac 0.42 A @ 220 Vac	8 A @ 115 Vac including aux 6 A @ 230 Vac including aux
Maximum power consumption	35 W	307 W

Physical Characteristics

	Tabletop	InfoTower
Height	3.9 cm (1.53 in)	17.78 cm (7.0 in)
Width	14.5 cm (5.7 in)	43.18 cm (17.0 in)
Depth	21.1 cm (8.3 in)	43.18 cm (17.0 in)
Weight	1.25 kg (2.75 lb)	25.45 kg (56.0 lb) loaded

Operating Environment

	Tabletop	InfoTower
Temperature (sea level)	10°C to 40°C 50°F to 104°F	10°C to 35°C 50°F to 95°F
Relative humidity	10% to 80%	10% to 85%
Non-condensing maximum	28°C (82°F)	28°C (82°F)
Maximum operating altitude	2,400 m (8,000 ft)	2,400 m (8,000 ft)



For More Information

For more information on these and other InfoServer packages and products, including the InfoServer System Manager and Publisher systems, contact your local Digital sales office or Authorized Digital Distributor. In the U.S., call 800-DIGITAL (800-344-4825).

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Ordering Information

Description	Order No.
InfoServer Local Area CD	SEAD_-BA/BE
InfoServer Librarian	SEAD_-RA/RE
with 4 CD-ROM drives	SEAD_-SA/SE
with 7 CD-ROM drives	
InfoServer Scribe	SEAT_-AA/AE
InfoServer VXT	SEAV_-AA/AE
CD-ROM reader not included	SEAV_-DA/DE
with a CD-ROM reader	
InfoServer 1000	SEAD_-AA/AE
InfoTower	SZ18A-CA
with 4 CD-ROM drives	SZ18A-DA
with 7 CD-ROM drives	
InfoServer 1000 country kit (for all packages)	SEAKB-**
InfoTower power cord (for international systems)	BN19*-2E
Media and documentation kit for:	
InfoServer Client for ULTRIX/RISC	QA-YSHAB-H#
InfoServer Client for ULTRIX/VAX	QA-YSHAC-H#
InfoServer Client for DOS	QA-YSHAD-HW
InfoServer Client for Macintosh	QA-YSHAE-HB
VXT Software:	
OpenVMS (CD and magtape)	QA-XNGAF-HM
OpenVMS (CD and TK50)	QA-XNGAF-H5
ULTRIX (CD and magtape)	QA-XNGAG-HM
ULTRIX (CD and TK50)	QA-XNGAG-H5
UNIX (CD and magtape)	QA-XNGAH-HM
UNIX (CD and QIC 24)	QA-XNGAH-HP
UNIX (CD and DAT)	QA-XNGAJ-HP

_ = B for ThinWire; _ = C for standard thick wire

Supported media, 5 = TK50, M = 1600 BPI magtape

** AA = U.S.; AC = Canada; AD = Denmark; AE = U.K./Ireland; AG = Germany/Austria; AI = Italy, AJ = Japan, AK = Switzerland, AP = Belgium, Finland, France, Greece, Holland, Norway, Portugal, Spain, Sweden, Turkey; AT = Israel, AZ = Australia, BJ = India

* K = Denmark; A = U.K./Ireland; W = Central Europe; M = Italy; E = Switzerland; H = Australia; S = India; P = Japan. For Israel, use BN18L-2E.

For all except the U.S. variants, a country kit must be ordered. This kit contains the appropriate power cord and documentation.