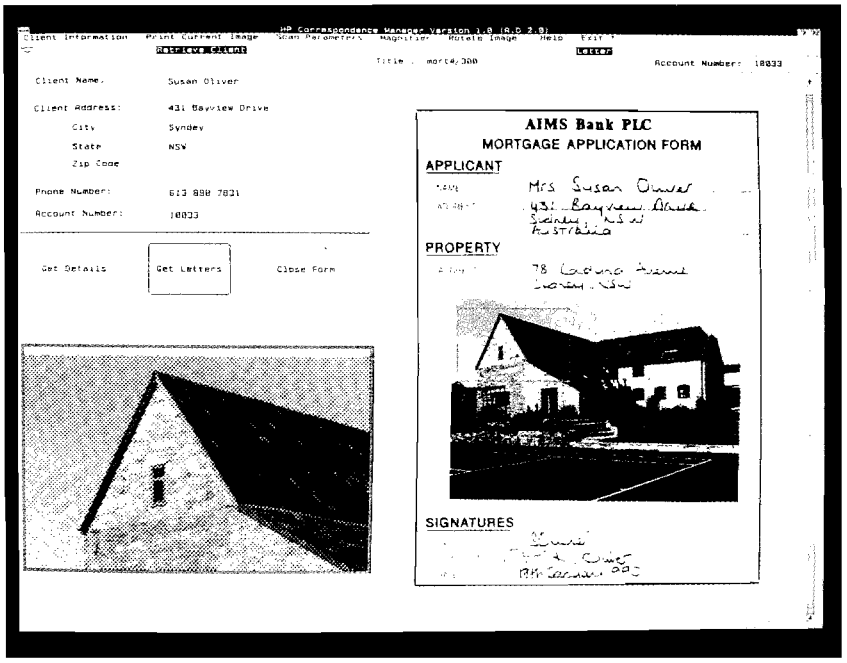
HEWLETT PACKARD

HP NewWave Office for HP-UX
HP Advanced Image Management System

Technical Data

Every organization receives information in the form of paper. How well they manage it can be critical to their success. Some are looking to reduce spiralling costs associated with simply moving paper around the organization. Others want to improve their competitive position, provide a better service and be more responsive to their customers. Such organizations can benefit from implementing Hewlett-Packard's Advanced Image Management System.



End-User Application

The HP Advanced Image Management System comprises industry standard hardware and software based on a Client/Server model. Client personal computers running applications in an MS-Windows® environment are connected to a Dataserver running Unix® via an industry standard Local Area Network (LAN). Each client works individually with the benefits of speed and control, whereas the server handles centralized processing and database storage.

Paper documents such as forms, certificates, vouchers, and letters are passed through a scanner attached to a PC. The document images are captured and converted to image data which is compressed by special compression/decompression hardware and software in the PC. Compressed images are transmitted across the LAN and stored in the database. The images, which are indexed, may now be retrieved and displayed by those users who need to action them.

The HP Advanced Image Management System includes advanced and flexible software development tools that enable developers to design and write application software quickly and efficiently. Hewlett-Packard works closely with third parties to provide customized document image management solutions that best meet the needs of organizations.

System Hardware

The HP Advanced Image Management System supports a wide range of Hewlett-Packard components. Additionally, certain selected third party peripherals are available. The System is scalable and departmental level projects can be implemented and expanded to enterprise-wide, multi-site systems supporting hundreds of users.

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Dataservers

The dataserver is selected from the HP 9000 Series 300, Series 600 and Series 800 range of Unix minicomputers. Choice of dataserver will depend on type of application, performance criteria, and system usage.

The file system and database reside on magnetic disk. A minimum of 300 Mbytes is required[1]. Magnetic disks may be added as required, or the database may be expanded to reside on optical storage.

Optical Storage

Optical devices may be single drives into which optical platters are inserted manually, or they may be jukebox systems containing one or more drives where the platters are automatically changed. Rewritable (magneto-optic) or WORM (Write Once Read Many) devices are available. Up to 338 gigabytes storage capacity is available in a single WORM jukebox. One or more optical drives may be connected via a SCSI interface[2].

Client PCs

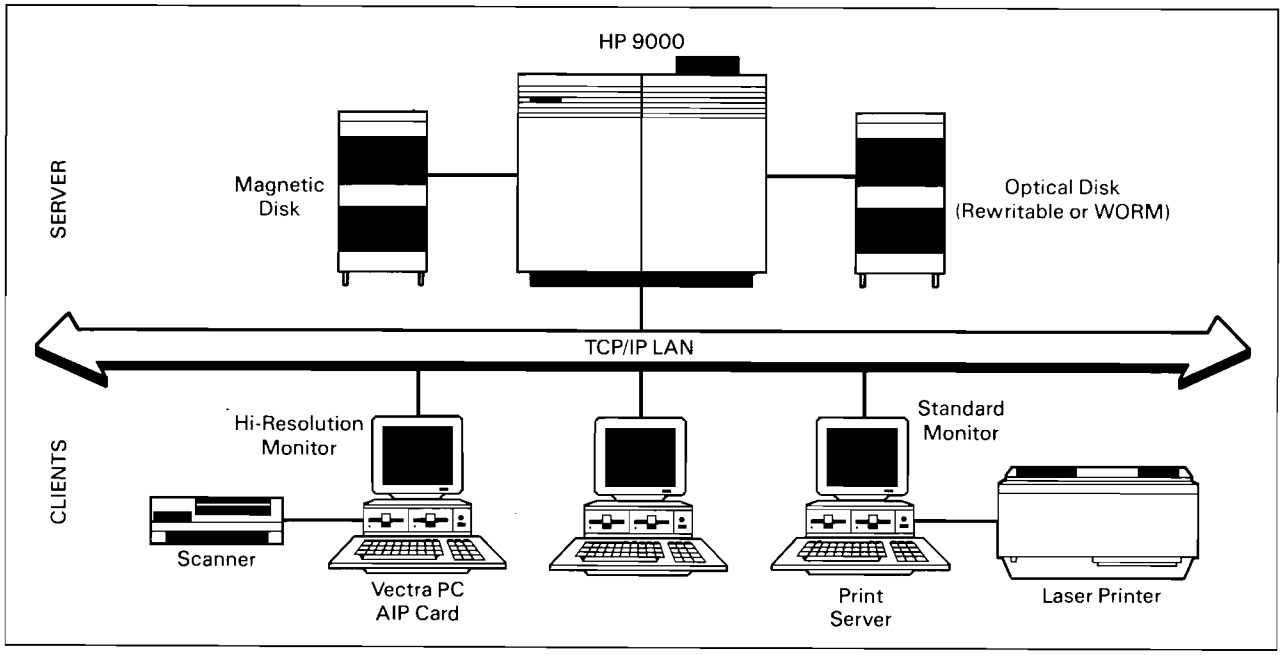
Personal computers are selected from the HP Vectra ES, QS and RS range. It is recommended that each PC has at least 4 Mbytes expanded memory to run in the MS-Windows environment. Each PC is equipped with a mouse and hard disk. The monitor selected for use with the PC will depend on resolution required and application requirements.

Monitors

In order to obtain a high quality image display it is essential to use a high resolution monitor. A 19″ monitor with a resolution of 1664×1200 pixels (110 dots per inch) is desirable. However, resolutions of up to 1280×1024 pixels as provided by certain monitors connected to the HP Intelligent Graphics Controller may be acceptable. In some cases standard VGA may be adequate.

Compression/Decompression Cards

Each PC is equipped with an Advanced Image Processor (AIP) card which performs compression/decompression and scaling of image data. All image data is compressed using CCITT Group 3 or Group 4 FAX algorithms before being transmitted over the LAN. Compression increases the speed of transmission of image data across the LAN and saves storage space in the database. The card provides a minimum of 2 Mbytes image storage, separate from PC memory, to which memory



System Architecture

1 Two disk drives are required with HP 9000 Series 300. One for the file system and one for the database.

2 Please check availability of optical storage for use with the HP 9000 Series 800 and 600 with your HP Sales Representative.

modules can be added. Four Mbytes AIP memory is recommended. Multiple images may be downloaded from the database and stored on the AIP card for speed and ease of access to those images. Video interfaces to scanners and laser printers provide for fast transfer of data to and from those peripherals.

Scanners

Factors involved in selecting a scanner will include speed of scanning required, flatbed or page-feed, double-sided or single-sided and required resolution. Other features to improve the quality of the scanned image such as dithering, dynamic thresholding and half-toning may also be important. Scanners providing scanning speeds of up to 1.3 seconds per page and scanning resolutions of up to 400 dots per inch (dpi) are available.

Printers

Laser printers provide high quality output of images. Printers may be attached to an individual PC or, for a centralized print service, a PC acting as printserver may be attached to the LAN to facilitate decompression and multi-user queuing of image print requests. Eight pages per minute and 40 pages per minute printers are available.

Networks

MS-DOS PCs access the Unix dataserver across an industry standard LAN. A standard Ethernet/IEEE 802.3 LAN interface card on HP 9000 systems enables connections to be made to either StarLAN 10 (twisted-pair) or IEEE 802.3/Ethernet (ThinLAN or ThickLAN) wiring configurations.

A number of PC LAN interface cards from both HP and third parties are supported on the PC client. Please check with your HP Sales Representative for the current list.

System Software

In addition to operating and networking software, HP Advanced Image Management software runs on the dataserver and client PCs.

Dataserver Software

There are three software components providing image management facilities:

- The DataManager is a Relational Database Management System (RDBMS) based on the Structured Query Language (SQL) standard which has been extended to handle large objects such as images. Optionally a development tool (ESQL/C) which allows dataserver programs containing embedded SQL statements to be written is available. During the development of end-user applications, document images may be stored on magnetic or optical storage depending on the amount of storage required.

- The MediaManager controls and monitors optical drives. Resource reservation, scheduling and queuing are transparent to the database management. It has a screen-oriented user interface which shows a complete status of all optical drives.

- The JukeboxManager controls one or more jukeboxes, and is an extension to the MediaManager software. It sends commands to the jukebox to control the robotics. No human operator is therefore needed during normal operation of a jukebox system.

PC Software

Applications are developed on the PC using tools included in the Application Software Development Pack. The main component is the Application Designer which combines a User Interface Builder with a powerful fourth generation language to enable applications to be developed quickly and without the developer requiring a detailed understanding of MS-Windows and the 'C' programming language. For further information refer to the Development Tools data sheet (part number 5959-9663).

When developed the application is installed on an appropriate PC. A low cost Application Software Runtime Pack is installed on the PC to enable the application to run.

Printservers utilize the Printserver Software Pack which manages the queuing of images for printing.

In addition each PC that has an AIP card installed requires the AIP Library Software.

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Networking Software

With HP ARPA Services 2.0/MS-DOS, a PC running MS-DOS can communicate with a Unix dataserver running ARPA/Berkeley services software. The network supports the industry standard TCP/IP transport.

System Components Summary

HP Components

Dataserver hardware and software:

HP 9000 Series 300, 600 or 800
HP-UX Version 7.0 or later
ARPA/Berkeley Services
LAN/9000 Series 800 Link (Series 800 and 600 only)
DataManager software
MediaManager software
JukeboxManager software

PC hardware and software:

HP Vectra ES, QS or RS with 4 Mbytes expanded memory
MS-DOS Version 3.3 or later
MS-Windows Version 2.11
HP ARPA Services 2.0/MS-DOS
LAN interface card
AIP card
AIP Library software
Application Software Development Pack
or
Application Software Runtime Pack
or
Printserver Software Pack

Monitors:

Monochrome and color monitors supported by the HP Intelligent Graphics Controller 10 and Controller 20, and VGA adapter card.

Scanner:

HP ScanJet Plus. Scanning speed 10 seconds per page at 300 dpi. Automatic document feeding accommodating up to 20 pages. Page sizes up to 8.5″×14″.

Laser Printer:

HP LaserJet IID. 8 pages per minute.

Optical Storage[2]:

HP Series 6300 Model 650/A Rewritable Optical Disk Drive. Up to 650 Mbytes per 5¼″ platter.
HP Series 6300 Model 20GB/A Rewritable Optical Disk Library System. Two rewritable optical drives, 32×5¼″ platters, 20.8 gigabytes.

Third Party Components

Scanners:

Fujitsu Models M3094A/B, M3095A/B, M3094E/F, M3095E/F. Flatbed scanners with or without automatic document feeders accommodating up to 50 pages. Document sizes up to A3. Scanning speeds of up to 2.1 seconds per page at 200 dpi. Resolution up to 400 dpi.

Improvision Models PAGS 1000 (single-sided scanner), PAGS 1002 (double-sided scanner). 70 sheet automatic document feeder. Max paper width: 11.85″. Max paper length: 28″ in automatic feed mode. Scanning speeds of up to 1.28 seconds per page at 300 dpi.

Laser Printer:

Ricoh LP4400. 40 pages per minute.

Optical Storage[2]:

Optimem WORM Optical Disk Drives 1000M, 2400M. 12″ platters providing up to 2.4 gigabytes per platter.
Cygnet Series 1800 Jukeboxes featuring WORM Optimem drives. Max 338 gigabytes per jukebox.

Monitor:

Sigma Laserview PLUS Monochrome Display System including adaptor card. Resolution 1664×1200 pixels (110 dpi). 19″ landscape monitor.

PC Development Software:

MS-Windows Development Kit Version 2.1
MS 'C' Compiler Version 5.1

Ordering Information

Please contact your local HP Sales Office for details of the System configuration that would meet your document image management needs.

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2 Please check availability of optical storage for use with the HP 9000 Series 800 and 600 with your HP Sales Representative.