

# Xerox Corporation

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## Transforming Workplaces: The Xerox Vision

The creators of Xerox information systems are in the forefront of those who look beyond the sterile and inefficient routines which are all too common in today's offices. The Xerox 8000 Network's designers envision a workplace in which technology supports the human endeavor, allowing individuals to realize their ideas with maximum imagination and effect.

With the advent of the Xerox 8010 Information System, we invite you to share this vision.

The 8010 functions as a member of the Xerox 8000 Network. With its rapid processing of text and graphic information, compact and secure storage of all relevant data in easy-to-access electronic files, and expeditious exchange of source material and finished documents through electronic mail, the Xerox 8010 is attuned to your increasingly sophisticated work needs.

The complexity and urgency of information exchange as the office of today evolves toward the office of tomorrow make immediately accessible data a necessity. Through electronic mail and electronic filing, the Xerox 8010 is in touch with other installations locally and worldwide. Files, forms, and documents can be retrieved and transmitted for a continuous exchange of ideas and source materials among planners and other professionals.

And, by streamlining the integration of information into documents, the Xerox 8010 frees users from repetitive tasks. Ordinary information processing systems all too often require a keyboard dexterity that is unrelated to real problem solving. For professionals accustomed to dealing with ideas, the use of the Xerox 8010 workstation makes possible easy, on-schedule production of high-quality documents containing complex information. This improvement in the office work flow enhances your sense of accomplishment, and frees time for more creative approaches to your work. You can be sure that an increase in productivity translates into an increase in the individual's value to the organization.

### **Ideas Into Action**

Until now, information systems have often been frustrating for nontechnical users. Complex and unfamiliar programming languages, instructions, and codes

may distract them from the substance of the project.

The developers of the 8010, in bypassing the obstacles of reliance on mechanical keyboard techniques, present an open stage for action within the system's display frame. They designed it so you can directly manipulate and integrate document source material. Your ideas flow onto the screen with the swiftness of thought itself.

The iconographic symbols visible on the muted blue screen of the Xerox 8010 bear labels which identify them as folders, in- and out-baskets, file drawers, and other accessories comprising what amounts to an "electronic desk top." These highly condensed icons make for unprecedented ease in shifting information directly. You can open one or more documents and still move among them at will. Material not displayed on screen at a given moment can be slipped into the appropriate icons, out of sight but still at hand. Later, by "opening the drawer," for example, the contents which have been put aside can be reinstated on the screen.

In addition to its range of icons, the 8010 screen can display two portrait pages side by side or one complete landscape page. As the picture on the right shows, the screen can be divided into several (up to 6) windows for performing multiple tasks or cross-checking document sites against one another.

Objects displayed on the Xerox 8010 screen are freely movable using the hand-held pointer, or "mouse." Xerox was the first to introduce this unique digital pointer to supplement keyboard commands for the control of cursor positioning. The mouse, used to point to anything displayed on screen, performs multiple functions and is as easy to use as pointing a finger, enabling you to sweep from place to place.

Possibly more than any other feature, the mouse earns the "user-friendly" accolade so often applied to this system. The combination of the screen pictographs and the pointing device convert your intent into action almost instantly.

The pointer will also initiate sequences for the relocation, copying, and deletion of material, and retrieval and transmission of documents.

A few hours of training are sufficient preparation for most kinds of document work on the 8010. In addi-

tion, the system features a Help key to answer questions as they come up, and over 20 software instruction modules to assist you with every conceivable applica-

tion. These aids, along with the system's easy, streamlined operation, ensure that your work time will be transformed from the earliest days of using the system.

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## XEROX 8010 STAR INFORMATION SYSTEM - NEW COMPACT DESIGN

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### General Description

Xerox brings you STAR with a new look. The new Xerox 8010 STAR Information System is a modern, compact design with features which make it even easier and more pleasant to use than before. Yet it retains all the operating features and functionality you liked in the former version.

Without diminishing screen image size, the new display is smaller and sleeker. For your viewing comfort, STAR now has a non-glare screen and a swivel base which allows you to adjust the screen horizontally and vertically to the position best for you.

In addition, the new version includes a low-profile, adjustable height keyboard.

Xerox also introduces a more reliable, lighter mouse with this version of STAR. It is an optical mouse which looks the same as the mechanical mouse, until you turn it over. On the underside you will see the "eye" which replaces the metal ball and allows the mouse to glide more freely over the new patterned mouse pad.

We like STAR's new look, and we think you will, too.

### Feature Summary:

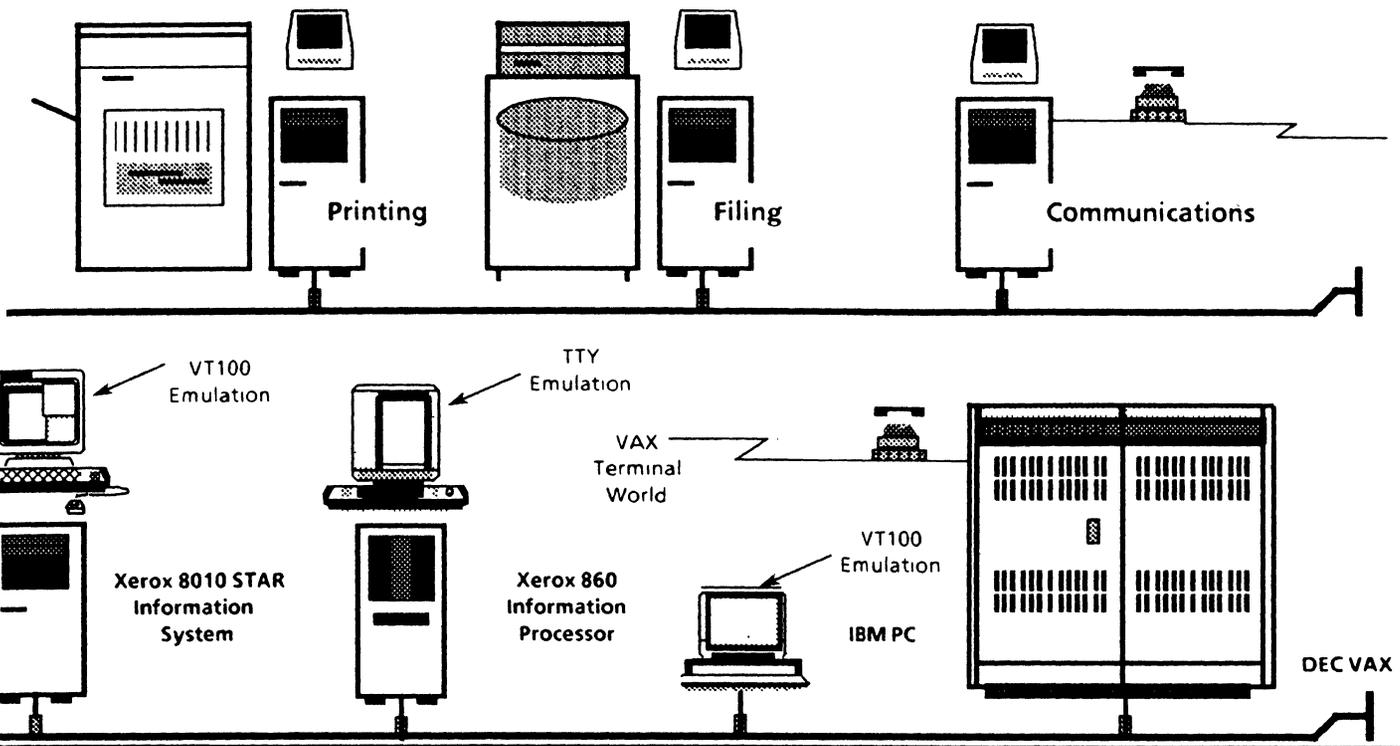
- Sleeker, smaller display housing
- Non-glare screen
- Swivel base, adjustable horizontally and vertically
- Low profile, adjustable keyboard
- Optical mouse
- Same functionality, total compatibility

### Specifications

|  | 10 Mb.       | 42 Mb.       |
|--|--------------|--------------|
| <b>Dimensions</b>                      |              |              |
| Height:                                | 17"          | 17"          |
| Width:                                 | 17"          | 17"          |
| Depth:                                 | 14"          | 14"          |
| Weight:                                | 25 lbs.      | 25 lbs.      |
| <b>Non-Glare, Large Format Display</b> |              |              |
| <b>Low-Profile Keyboard</b>            |              |              |
| Height (Adjustable):                   | 1.5 - 2.5"   | 1.5 - 2.5"   |
| Width:                                 | 18"          | 18"          |
| Depth:                                 | 8"           | 8"           |
| Weight:                                | 5 lbs.       | 5 lbs.       |
| <b>Processor</b>                       |              |              |
| Height:                                | 25"          | 25"          |
| Width:                                 | 12"          | 12"          |
| Depth:                                 | 30"          | 30"          |
| Weight:                                | 120 lbs.     | 120 lbs.     |
| <b>Operating Environmentals</b>        |              |              |
| <b>Display/Keyboard/Optical Mouse</b>  |              |              |
| Temperature:                           | 50° - 90°F   | 50° - 90°F   |
| Relative Humidity:                     | 15% - 85%    | 15% - 85%    |
| Heat Dissipation:                      | 410 BTU/Hr.  | 410 BTU/Hr.  |
| <b>Processor</b>                       |              |              |
| Temperature:                           | 50° - 90°F   | 50° - 90°F   |
| Relative Humidity:                     | 15% - 85%    | 15% - 85%    |
| Heat Dissipation:                      | 2048 BTU/Hr. | 2048 BTU/Hr. |
| <b>Total</b>                           |              |              |
| <b>Heat Dissipation</b>                | 2458 BTU/Hr. | 2458 BTU/Hr. |

**Electrical Requirements:** AC power is obtained from grounded wall outlets. Voltage required at the outlets is 103 to 127 VAC at 60 Hz. One outlet is required. A second power outlet is required for the optional local printer. Nominal current for the workstation is 7.0 amperes.

**NOTE:** Beginning January 1, 1985, the new 8010 non-glare, large format display; keyboard; and mouse described herein will be shipped to fill all U.S. and Canadian 8010 orders, except when orders specify Secure Information Device versions of the 8010 or non-English keyboards. There are no changes in the 8000 Network System Processor which controls the operation of the workstation.



## XEROX NETWORK SERVICES FOR THE DEC VAX

**General Description**  
 This product, XNS/DEC VAX, is a software package developed and sold by Xerox for the DEC VAX. When loaded on a VAX computer, running version 3.4 of the VMS operating system or greater and equipped with an Ethernet controller, the software enables direct connection of the VAX to Ethernet.

A VAX system attached to a Xerox 8000 Network via Ethernet provides:

- access to the VAX from networked workstations.
- access for VAX users to services running on networked servers.

Workstations or terminals which can interface to the VAX on the Xerox Network, thereby enabling VAX access to printing, filing, and communications, are:

- Xerox 8010 STAR Information System with the Asynchronous Communication Protocol option. (VT100 and TTY emulation)
- Xerox 860 Information Processor with the Asynchronous Communication Protocol. (TTY emulation)
- IBM PC or fully compatible equivalent with XNS Software/Hardware Package and Asynchronous Communication Protocol option. (VT100 and TTY emulation)

- VAX terminals interfaced to networked VAX systems by way of communication lines.

Diagnostic software is included in the XNS/DEC VAX package to verify the proper functioning of the Ethernet software, as well as the connection to the network. The hardware requirements to make the connection of the VAX to a Xerox Network are an Ethernet controller board, a drop cable, and a transceiver. XNS/DEC VAX supports the standard 10-Megabit, Unibus-compatible controllers manufactured by Interlan (NI1010A) and DEC (DEUNA).

In addition to acting in essence as a workstation processor, a networked DEC VAX using the XNS/DEC VAX software can act as a server for itself providing its own ECS requirements. This software permits the VAX to communicate with other VAX systems on the internetwork without any intermediary hardware.

XNS/DEC VAX allows Xerox Network workstations access to the many data processing and data base management applications as well as the services available on a VAX system. In reverse, users of information stored or created on a VAX now benefit from the ability to transfer VAX documents to a network server running file service from which they can be retrieved by STAR workstations for enhancement with integrated graphics and advanced formatting techniques.

A networked VAX utilizing XNS/DEC VAX opens the door

to the network for non-networked VAX terminal users and thereby allows them to benefit from Xerox Network Services such as electronic printing, internetwork communications, and electronic file storage.

#### Features and Capabilities

- **PRINTING** - A VAX on the Xerox Network can format text files into Interpress masters and send them to any Xerox server running Print Service on the internetwork. The user may specify:
  - whether single or multiple files are to be handled.
  - paper size (letter/legal/other) designation.
  - copy count designation.
  - portrait or landscape.
  - font class designation.
  - font size designation.
  - optional retention of Interpress master on local disk.
  - stapling and two-sided printing when supported by the printer.
- **FILING** - A user of a networked VAX can establish a connection with any file service on the internetwork. Within this connection, the user can list, delete, store, and retrieve files remotely as described:
  - Files can be moved between the VAX and a file service in both directions preserving attribute information where possible.

All file types transfer without loss of data. (Not all files, however, can be meaningfully interpreted on the VAX; for example, STAR file format is specific to the Star workstation.)

The VAX can retrieve an 860-formatted file from a file service and convert it to a standard VAX text file.

Transferring a plain text file from/to the VAX results in a plain text file at the destination.
  - Drawers, folders, and files contained in a file service may be examined.
- **COMMUNICATIONS** - Using XNS software, a networked VAX can:
  - connect through an External Communi-

cations Server to a computer connected to the ECS (just as a workstation with a TTY or VT100 interface can).

- act as its own ECS, permitting workstations to interact with it using the TTY/VT100 window without having to pass through a true ECS. This also allows direct interaction with another VAX on the network without intermediary hardware.

#### Primary Users

Users of VAX terminals who:

- produce information needed by others.
- need timely information on which to base decisions.
- work on joint projects with individuals, whether in the same department, another building, or another country.
- produce materials that require or would benefit from the improved appearance possible with electronic printers.

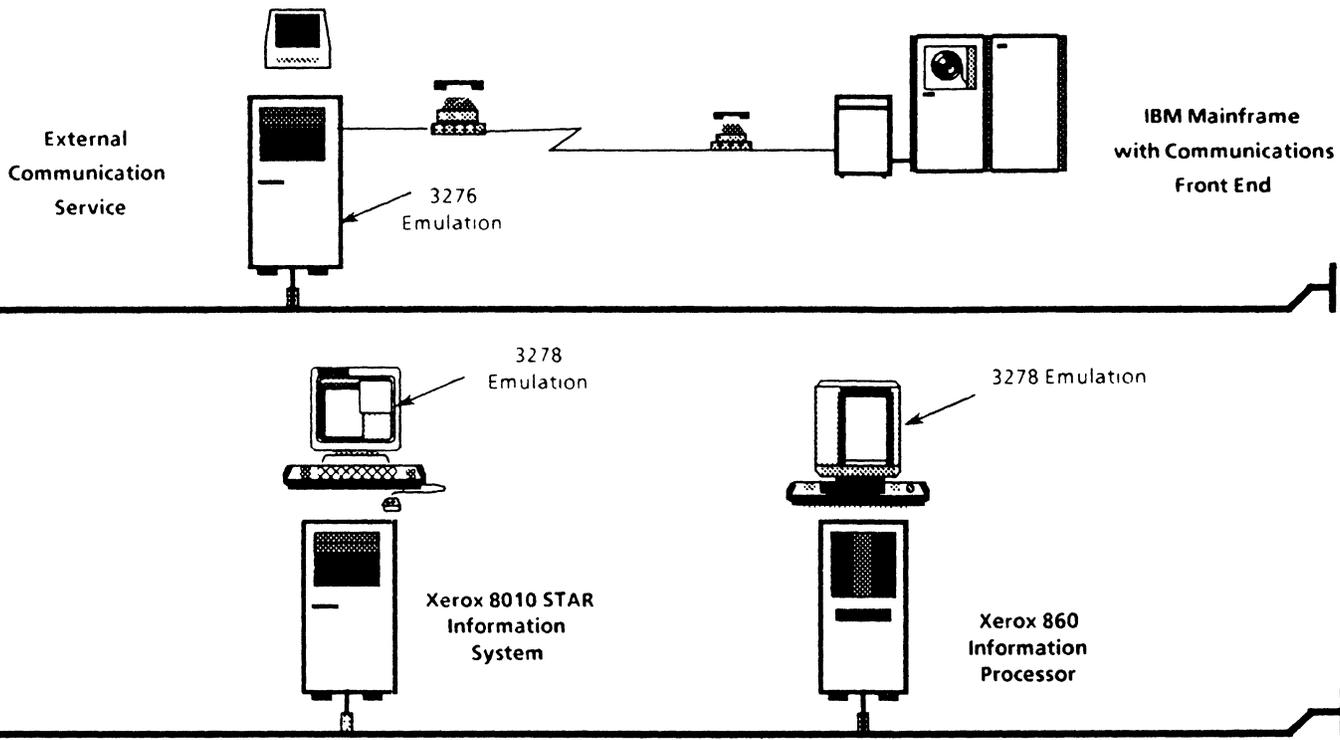
Users of networked workstations such as the Xerox 8010 STAR Information System who:

- require access to high speed data processing and/or data base management applications available on a VAX mainframe system.

#### Benefits Summary

By sharing the Xerox 8000 Network System via XNS/DEC VAX, users of VAX systems can:

- gain access to Xerox network products for high-quality electronic printing and electronic filing.
- via internetworking, share network printing and filing facilities at other locations in their organization.
- via internetworking, connect multiple VAXes one another.
- make use of the unique characteristics of the Xerox STAR workstation, including complex graphics to enhance their documentation.



## XEROX NETWORK SERVICES - IBM 3270 SDLC/SNA COMMUNICATION PROTOCOL

### General Description

The External Communication Service with the IBM 3270 SDLC/SNA Communication option allows a user of the Xerox 8010 STAR Information System or the Xerox 860 Information Processor to emulate an IBM 3278 and access applications and databases in the IBM environment via SNA networks. These workstations have the ability to interchange information between the Xerox and IBM environments while also having access to standard Xerox 8000 Network Services. The External Communication Service allows users to:

- Share physical communication facilities
- Expand traditional access to the cluster controller
- Control access to the cluster controller

The External Communication Service emulates the functionality of an IBM 3276-12 cluster controller and provides a bridge between the SNA and XNS protocols of the IBM and Xerox environments. Up to 8 simultaneous 3278-2 emulation sessions may be established from networked workstations to an External Communication Service.

### Features and Capabilities

- **Physical Communication** - The External Communication Service provides communication through RS-232-C ports via phone lines to a communications front end processor at speeds

up to 9600 baud half, full duplex. The External Communication Service can emulate multiple 3276 cluster controllers, providing simultaneous access to multiple IBM host environments.

Access is supported via the following:

- dedicated leased line facilities.
- manual or auto-dial switched facilities.
- RS-232-C port on Xerox 8000 Network Server.
- additional RS-232-C ports on Xerox 873 Communication Interface Unit.

- **Expanded Access** - In the IBM environment, access to the cluster controller, and therefore, the SNA network, is restricted to those devices which are actually hardwired and dedicated to it. The External Communication Service dynamically allocates usage of its logical device ports as emulation sessions are established. This provides the capability for:

- any authorized user to potentially access the service rather than a restricted group of users.

Another network service, the Internetwork

Routing Service, removes geographic restrictions of networking by allowing devices to communicate with each other as if they were located on a single logical network. Users can:

- access an SNA network from anywhere in the world provided they have an Internetwork link to the External Communication Service supporting IBM 3270 SDLC/SNA Communications Protocol option.
- **Access Control** - If desired, an additional level of security beyond that provided by the host system is available. Access to a particular logical device of the External Communication Service can be optionally restricted to a group of authorized users. This feature allows:
  - the flexibility of easily sharing the same communication facilities, while still providing controlled access.

- in conjunction with the Remote Batch Service, transfer files interactively between the mainframe and the Xerox Network Environment.
- gain interactive access to applications, development tools, and database systems (e.g. DISOSS-PS, PROFS, SPF, etc.).
- maintain a familiar user interface while integrating with workstation paradigms.
- share the resources of the network to access IBM computers in SNA networks for cost-effective information exchange.
- make use of the unique characteristics of the workstations, including complex graphics and windowing, available on the Xerox STAR.
- reduce overall cost per workstation by sharing all network resources.
- maintain investment in existing mainframe resources while making use of workstation features and Xerox Network Services.

#### Primary Users

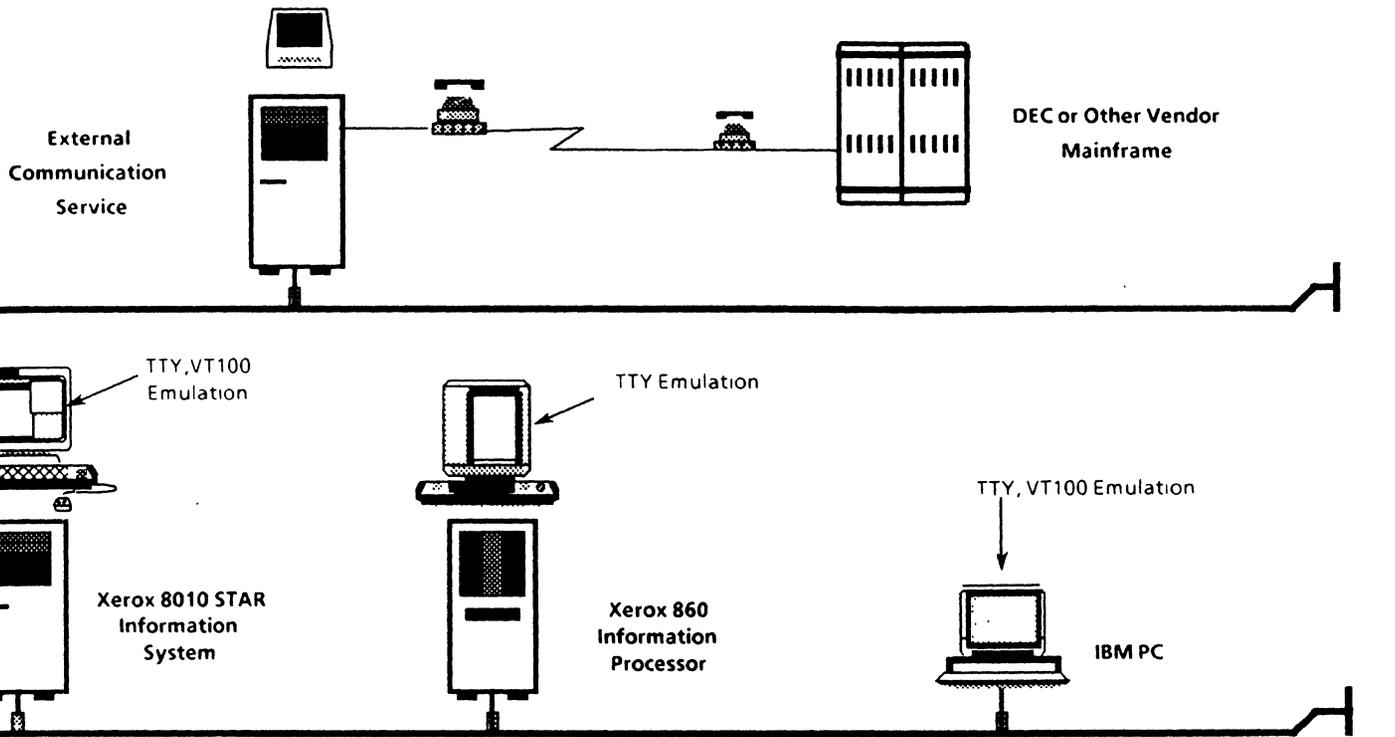
Individuals of an organization who:

- produce information needed by others.
- need timely information on which to base decisions.
- have information located in multi-vendor environments and need to integrate and share this information with others.
- produce materials that could be made more expressive by utilizing workstation features.
- produce materials that require or would benefit from the improved appearance possible with electronic printers.

#### Benefits Summary

By utilizing the 3270 SDLC/SNA Communication Protocol option of the External Communication Service, users of the Xerox 8010 STAR Information System or the Xerox 860 Information Processor can:

- integrate information from the mainframe environment with information obtained from other network workstations and devices and share it via the Xerox Network Services.
- share network facilities at remote host locations.



## XEROX NETWORK SERVICES - ASYNCHRONOUS COMMUNICATION PROTOCOL

### Generic TTY & DEC VT100 Access

#### Description

The Asynchronous Communication Protocol is an option of the External Communication Service, which allows generic TTY and DEC VT100 access to mainframe environments for the Xerox 8010 STAR Information System, the Xerox 860 Information Processor, and the networked IBM Personal Computer or IBM compatible PCs. (The Xerox 860 Information Processor, however, currently supports only the TTY emulation aspect of this option.) Using the Asynchronous Communication Protocol option, networked workstation users can access applications and databases in the mainframe environments via TTY emulation or DEC VT100 emulation. The workstations have the ability to interchange information between the Xerox and mainframe environments while also having access to standard Xerox 8000 Network Services. The External Communication Service, of which Asynchronous Communication Protocol is an optional subset, allows users to:

- Share physical communication facilities
- Expand traditional access to the RS-232-C port
- Control access to the RS-232-C port

The External Communication Service provides a bridge between the Asynchronous TTY and XNS protocols of multi-vendor mainframe and Xerox environments. Each generic TTY or VT100 emulation session established from a net-

worked workstation to an External Communication Service requires the use of an RS-232-C port.

#### Features and Capabilities

- **Physical Communication** - The External Communication Service provides communication through RS-232-C ports via phone lines to a mainframe at speeds up to 9600 baud, full duplex. Workstation users may share these communication facilities to access various host systems or networks. Access is supported via the following:
  - dedicated leased line facilities.
  - manual or auto-dial switched facilities.
  - RS-232-C port on Xerox 8000 Network Server.
  - additional RS-232-C ports on Xerox 873 Communication Interface Unit.
- **Expanded Access** - In most mainframe environments, access to the host is restricted to those devices which are actually hardwired and dedicated to it. The External Communication Service dynamically allocates usage of its logical device ports as emulation sessions are established. This provides the capability for:

- any authorized user to potentially access the service rather than a restricted group of users.

Another network service, the Internetwork Routing Service, removes geographic restrictions of networking by allowing devices to communicate with each other as if they were located on a single logical network. Users can:

- access their host from anywhere in the world provided they have an Internetwork link to the External Communication Service supporting Asynchronous Communication Protocol access.
- **Access Control** - If desired, an additional level of security beyond that provided by the host system is available. Access to a particular logical device of the External Communication Service can be optionally restricted to a group of authorized users. This feature allows:
  - the flexibility of easily sharing the same communication facilities, while still providing controlled access.

#### Primary Users

Individuals of an organization who:

- produce information needed by others.
- need timely information on which to base decisions.
- have information located in multi-vendor environments and need to integrate and share this information with others.

- produce materials that could be made more expressive by utilizing workstation features.
- produce materials that require or would benefit from the improved appearance possible with electronic printers.

#### Benefits Summary

By utilizing the Asynchronous Communication Protocol option of the External Communication Service, users of the Xerox 8010 STAR Information System, the Xerox 860 Information Processor, the networked IBM Personal Computer, or IBM compatible PCs can:

- integrate information from the mainframe environment with information obtained from other networked workstations or devices and share it via the Xerox Network Services.
- share network facilities at remote host locations.
- gain interactive access to applications, development tools, and database systems.
- maintain a familiar user interface, (particularly with VT100 display features) while integrating with workstation paradigms.
- share the resources of the network to access mainframe computers and networks for cost-effective information exchange.
- make use of the unique characteristics of the workstations, including complex graphics and windowing available on the Xerox STAR.
- reduce overall cost per workstation by sharing all network resources.
- maintain existing investments in mainframe resources while making use of workstation features and Xerox Network Services.

# Now, Xerox Network Services For The IBM PC.

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## Xerox Network Services Provide A Whole New Dimension Of Productivity For Personal Computers.

Xerox Network Services provide a whole new dimension of productivity for your IBM Personal Computer. With your IBM PC on the Xerox 8000 Network, you have an efficient way of communicating and an economical way of sharing information and resources throughout your entire company.

## Networking - An Idea Whose Time Has Come.

Xerox now offers the capability to link the IBM PCs in your office directly to your Xerox 8000 Network so they and all your networked Xerox equipment comprise one large, fully-integrated network. When you do that, each piece of equipment can talk to every other piece of equipment. This means individuals who produce information others need and who use information created by others have a fast method of sharing. The network also provides efficient communications via electronic mail between workstations whether they are in the next office, the next building or anywhere in the world.

Networking also produces cost savings through a sharing of resources, resources which can easily be expanded as the number of users on the network grows. Use of innovative, advanced services like electronic (laser) printing and electronic filing become economically feasible when shared among a number of users rather than dedicated to a single workstation. And you can take advantage of the network to send your PC-created documents to the Xerox 8010 STAR Information System for enhancement with integrated graphics and advanced formatting techniques.

## Helps You Start With A Low-Cost Entry Level Network And Expand Economically.

The Xerox Network System can begin as a small, low-cost installation combining workstations with different levels of functionality and be expanded as your networking requirements grow. Large numbers of IBM PC users in your organization can easily and quickly be integrated into your Xerox network, opening a whole new world of resources and information to them.

As your network grows, you will find a wide variety of Xerox workstations designed to provide the flexibility and versatility necessary to match the needs of every user. You can choose from the Xerox 8010 Information Processing System, the Xerox 860 Information Processor, and the Xerox Personal Computers. They all work together on the Xerox network to speed communication and ensure that decisions you need to make can be based on the latest in-

formation available. And now the IBM PC can participate with the Xerox team on the network to bring you these benefits, too.

## Sharing Advanced Xerox 8000 Network Filing, Mailing, Printing, And Communications Services.

The Xerox 8000 Network System's electronic filing, mailing, printing, and communications services extend the reach and productivity of each workstation on your network, including all your IBM PCs. Because these services are shared by all networked workstations, the cost per user is dramatically reduced. Networking becomes a cost-effective tool that helps speed the flow of information throughout your entire company.

## Filing Service.

As a member of the Xerox 8000 Network, your IBM PC has the same access privileges as Xerox workstations, to large capacity (up to 300 Megabytes each) electronic file storage units for direct storage and retrieval of documents. The filing service is easy to use since it operates much like standard office filing procedures, but with greater speed and flexibility. With electronic filing, designated users can access the same information base, and the resulting electronic interchange is a boon to collaborative efforts and the exchange of ideas and information.

Also, as a user of Xerox Network filing services, the IBM PC can utilize the Remote Batch Service. This supports the Interchange

## Specifications

Each package includes the software\* for the IBM PC to access Xerox 8000 Network printing, filing, and mailing services and the Ethernet hardware. Terminal emulation services are available as an option. A diagnostic program is provided to assist with hardware problem solving and network maintenance. Detailed user manuals are included.

\*Developed by 3Com Corporation under license from Xerox Corporation.

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## System Requirements.

|           |  |
|-----------|--|
| Hardware: | IBM Personal Computer, IBM PC XT, or other 100% IBM compatible microcomputer. At least one floppy disk drive. Minimum of 192K RAM. Open slot for an Ethernet connection board (see board specifications) |
| Software: | MS-DOS 2.0 or 2.1  |

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## Ethernet Connection Board Specifications

|                       |  |
|-----------------------|--|
| Size:                 | 10.7 x 33.5 cm (4.2 x 13.2 in.)<br>Requires one IBM PC or IBM PC XT expansion slot     |
| IBM PC Bus Interface: | Uses DMA 1, int 3, I/O address 300-30F (hex)<br>Other configurations jumper selectable |
| Power Requirements:   | 1.4 amps @ 5 volts<br>.5 amps @ 12 volts   |
| Temperature/Humidity: | 0 to 55 degrees C,<br>10 to 90% humidity (non-condensing)                              |

of information between IBM mainframe computers and all users of the Xerox Network filing service via IBM 2770/2780/3780 communication protocols.

## Electronic Mail Service.

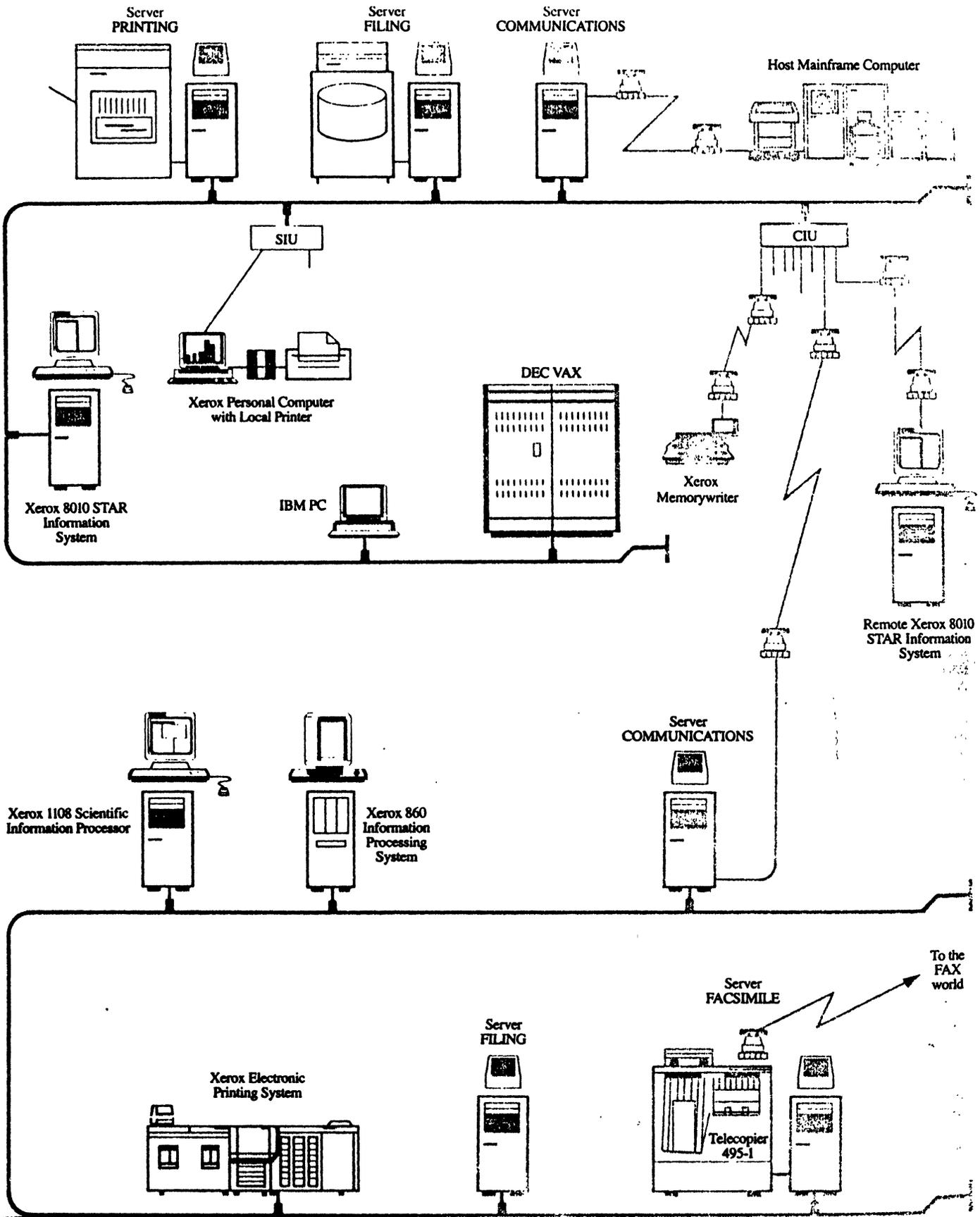
IBM PCs on the net can exchange documents and mail messages with users on the same network or internet. This eliminates the delays of traditional mail and enables users to send and receive mail among themselves at their own convenience.

## Electronic Printing Service.

An IBM PC on the Xerox 8000 Network System can format output created by most PC applications programs and transmit it to advanced Xerox electronic (laser) printers. Because the printing service is a shared resource among all users, it becomes an economical way to give a crisp, sharp, professional look to every document you produce.

## Communications Service.

The IBM PC can take advantage of the communication services provided by the Xerox Network including access to host computers. Offered as a communication option for networked IBM PCs are two modes of terminal emulation to support host computer access, TTY and VT-100. Using the VT-100 emulation, networked IBM PCs can exchange data with Digital Equipment Corporation computers, and TTY emulation opens the door to many application and public data base services for the IBM PC on the network.



Server  
PRINTING

Server  
FILING

Server  
COMMUNICATIONS

Host Mainframe Computer

SIU

CIU

Xerox Personal Computer  
with Local Printer

DEC VAX

Xerox  
Memorywriter

Xerox 8010 STAR  
Information  
System

IBM PC

Remote Xerox 8010  
STAR Information  
System

Xerox 1108 Scientific  
Information Processor

Xerox 860  
Information  
Processing  
System

Server  
COMMUNICATIONS

Xerox Electronic  
Printing System

Server  
FILING

Server  
FACSIMILE

To the  
FAX  
world

Telecopier  
495-1