

SERVER SOFTWARE INSTALLATION

XEROX

Network Administration Library

Changes are periodically made to this document. Changes, technical inaccuracies, and typographic errors will be corrected in subsequent editions.

The content of this booklet is based on the Services 10.0 Release.

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Purpose The Server Software Installation booklet describes how to install or upgrade services on a server.

Intended audience This publication is intended for System Administrators who are responsible for starting up and keeping the network running efficiently.

Before you read this booklet There is some general information about services that you will need to be familiar with before you can understand this booklet. Read the "Services Executive" section in the *Server Operation and Maintenance* booklet, and the *Introduction to Network Administration* booklet. These publications can be found in the *Network Basic Services* volume.

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This booklet describes the steps needed to install software on new Xerox 8000 Network System servers. The procedure for installing additional services to an existing server is described in the "Installing additional services" section.

The appendixes are devoted primarily to handling disks and disk drives. Also, forms you will need to prepare for installation have been included.

CAUTION: It is extremely important that you read and follow the instructions in this book exactly as they are written to avoid the consequences of incorrectly installed services.

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2. **Installation procedures**

Preparing for a server software installation

CAUTION: If this is the first server in an internetwork, and no other server has been installed at any site that is to make up a given internet, you need to create a new organization and a new domain.

You need to choose names for the organization and domain. Then you need to acquire a password (from the Xerox Software Control Center) that lets you introduce the new organization. The password specifically allows only one name that can be more than one word. Only one combination of upper and lower case letters and spaces can be used in the name.

Read the Introduction to Network Administration booklet

This booklet is in the *Network Basic Services* volume of the *Network Administration Library*. Pay special attention to the "Clearinghouse Service," "System security," and "Establishing naming conventions" sections.

Read the Server Operation and Maintenance booklet

This booklet is in the *Network Basic Services* volume. The installation procedures in this section assume you are familiar with the basic techniques described in the *Server Operation and Maintenance* booklet.

Schedule a day for the installation

Prior to the scheduled date, make sure you have done the following:

Read the materials

Completed needed forms (Appendix A of this booklet)

Obtained needed Services System Software diskettes

Note: The actual installation process will take you from 45 minutes to 1 1/2 hours.

Get the correct diskettes

Note that you need a different set of diskettes for a server with a fixed disk than for one with removable disks.

Services System Software # 1 (10, 29, 42 Mb Disks)
Services System Software # 2 (10, 29, 42 Mb Disks)
Services System Software # 3 (10, 29, 42 Mb Disks)

or

Services System Software # 1 (80, 300 Mb Disks)
Services System Software # 2 (80, 300 Mb Disks)
Services System Software # 3 (80, 300 Mb Disks)

Also get the diskettes necessary to install the services options you need. The titles of the available floppies are:

850/860 Gateway Service
Boot Service
Clearinghouse, External Communication, and Server
Monitor Services, Multiport Option
Communications Monitoring Service
File Service
Interactive Terminal Service
Internetwork Routing Service
Mail Service
Print Service
Remote Batch Service

There are also diskettes needed to install fonts. Here is the complete list of font floppy titles:

Xerox Basic Classic Fonts (300 DPI)
Printwheel Fonts (300DPI)
Xerox Math Classic Fonts (300 DPI)
Xerox Modern Fonts (300 DPI)
Xerox Japanese Classic Fonts (300 DPI)
Xerox Japanese Modern Fonts (300 DPI)
Xerox Basic Classic Fonts (200 DPI)
Printwheel Fonts (200 DPI)
Xerox Math Classic Fonts (200DPI)
Xerox Modern Fonts (200 DPI)

Complete forms to register RS-232C ports

If your server is to run a communication service or an option which uses RS-232C ports, complete all applicable port/circuit registration forms. These forms can be found in the backs of the respective booklets.

Decide on names for the server and services

This is part of the information you will need to enter on SSI Form 1, Directory of Services on a Specific Server. Note that these are three-part names. The domain and organization portions of the names should be the same for each of the services and the same as it is for the server.

Obtain Administrative Access to the domain in which the server is registered

As System Administrator for your site, you should already have this status. If you are new to the position, you must arrange with someone who currently has Administrative Access (also known as Admin Access). To extend Admin Access, use the Clearinghouse Service command, **Change Domain Access**.

If you are about to install the first server on your Ethernet, read the instructions below concerning the special steps you need to perform.

Format disk packs if you need to

If your server has removable disk packs (T80 and T300 disk drive options) you must format each disk pack which you plan to use on that server. You will need the T80 and T300 format software which comes on the diagnostic floppy disk.

The Genesis install -- preparing to install your first server on your Ethernet network

Installation of software on the first server on an Ethernet network is called a "Genesis" install. This is because the first server cannot verify that you have Admin Access to the server's domain (as it normally must do before it can make the correct commands available to you).

In a Genesis install, a server cannot reach the necessary Clearinghouse because the domain specified in the server name does not exist or is unreachable because it is at a remote site. The server must grant you temporary access to a limited set of commands so that you can complete the first install at your site and, thereby, make the necessary Clearinghouse domain available to your site.

The following are two cases where you will use a Genesis install:

Case 1 Genesis install: The server which you are about to bring up will be the first Clearinghouse on a given Ethernet that will not be immediately interconnected to any other Ethernet.

Case 2 Genesis install: The server which you are about to bring up is the first Internetwork Routing Service on an Ethernet that will be immediately interconnected to an existing Ethernet.

Case 1 Genesis install preparation

If you are about to do a Case 1 Genesis install, do the following preparation:

1. You will be creating a Clearinghouse Service (CHS) organization. To do this, decide on a name for your organization and then call the Software Control Center. Indicate the exact spelling, spacing, and case of the organization name. Keep the password on

hand for later use. Also decide on the name of your first domain.

Note: As an example of how important format is for a password, a different password is issued for "Acme" than for "ACME."

2. Determine your Ethernet number. Your Systems Analyst will give you this information.
3. Be prepared to enter the exact time and date. You will be prompted for this information during the installation process.

Case 2 Genesis install preparation

If you are about to do a Case 2 Genesis install, do the following preparation:

1. Your server must contain an Internetwork Routing Service. It will also require the External Communication Service if the server is to use the CIU (Xerox 873 Communications Interface Unit).
2. Coordinate with the System Administrator at the site with which you will be interconnecting first. Arrange to be given Admin Access to the domain which you will use for registration of your site's servers, services, users, user groups, etc.

It is possible that your internet community will decide that a new domain (and in rare cases a new organization) must be created for your site's use. In this case, the System Administrator at the site which is remote from you, and to which you will be interconnecting first, will have to create the necessary domain or domain organization combination.

After creating the new domain or new domain and organization, the remote System Administrator must use the **Change Domain Access** and **Change Organization** commands to grant Admin Access to you.

This must be done according to procedures documented in the *Clearinghouse Service* booklet of the *Network Administration Library* prior to your scheduled install date.

In either case, the domain you will use must exist at the remote Clearinghouse Service in advance of your installation activity and you must be given Domain Administrator privileges for it.

3. Determine your Ethernet number. Your Systems Analyst will give you this information or you can call the Software Control Center.
4. Be prepared to enter the exact time and date. You will be prompted for this information during the installation process.

Summary of installation procedures

The step-by-step instructions in this document apply to all types of installs (two Genesis cases and the non-Genesis cases). Therefore, not all steps are appropriate for all installs.

What combination of steps do I need?

Not all of the following steps should be done for all install cases. If you are doing a Genesis install of the first server in a single-Ethernet Network Configuration, use Steps 1-9 and then Step 12.

If you are doing a Genesis install of the first server in an Ethernet that will immediately be interconnected to another Ethernet, use Steps 1-8 and then Steps 10-12.

If you are doing a non-Genesis install, use Steps 1-2, 4-7, and then Step 12.

If the server has a Print Service, Step 13 is required.

If the server has multiple drives and the secondary drives are to be used as File Service devices, Step 14 is required.

A brief description of installation steps

Here is a summary of the installation steps grouped together into phases.

Steps 1, 2, 3, and 4

Insert the installer floppy and boot from it. For Genesis installs, you will need to set the date and time. You will not need to set the time again unless you power down your server. You will then partition the disk into storage areas called volumes, install System Software, and start the system.

Steps 5 and 6

Respond to prompts to select a non-normal startup and interrupt point, and enter the passwords required to select software options. (Enter Ethernet number (in first server cases), log on, or enter Genesis mode where commands are available without logon.)

Step 7

Install and activate software options.

Steps 8-11. Done only in Genesis

This phase takes installers using the Genesis mode through the special steps needed to make the needed CHS domain available to their site. Two cases are described.

Case 1 Genesis install is for the single Ethernet configuration, in which you are installing software on the first server on an Ethernet network that is to remain the only Ethernet network for some time.

- For a single Ethernet network installation, run the Clearinghouse Service, create an organization and a domain, and give yourself access to both. Organization access allows you to add new domains and to delete the last copy of a particular domain.

Case 2 Genesis install is for the internetwork configuration, in which you are adding the first server to an Ethernet network that you plan to interconnect with an existing internetwork.

- For an internetwork installation, run the Internetwork Routing Service (if the Internetwork Routing Service uses a communication interface unit port, run the External Communication Service first), configure the Internetwork Routing Service to connect with a remote Internetwork Routing Service, and start the Internetwork Routing Service circuit to complete the interconnection.

When this phase is complete, you will have logged on and enabled the restricted administrative commands.

Step 12

This is the final phase, during which the services that you previously activated are automatically loaded and run in a special priority order. As each service runs, you are prompted for special first-time initialization information. Providing the information is the final step in installation. Next you need to configure each service for operation as described in the booklets in Volume II of the *Network Administration Library*.

Step 13

This is a font installation step.

Step 14

This is a configuration step for multi-drive servers.

Step 1. Booting the services installer utility and setting the time

Note: Power up the server and the display terminal, then format a disk pack if your server is configured with removable disk drives.

- To power on a processor, hold down the B RESET and ALT B buttons, then press the 0/1 rocker switch on the maintenance panel to the 1 position.
- The display terminal has an ON/OFF rocker switch at the right rear. There is an intensity adjustment at the upper right of the keyboard.

Booting the services installer utility

1. Insert the first floppy disk labeled "Services System Software # 1 (Fixed Disk)" or "Services System Software # 1 (Removable Disk)" into the floppy disk drive.
2. Press both the B RESET and ALT B buttons, release B RESET, wait until 0002 appears in the maintenance panel, then release ALT B.

You should then see:

```
Installer Version 1.0
Copyright (C) 1984, 1985 by Xerox Corporation. All rights reserved.
Processor = 0AA00786AH = 25200074152B = 2-852-157-546
Memory size = 768K Bytes
```

It is possible that you won't see these messages right away. This would be the case if you have just powered up your server and this is the first server on your site. Instead you will first see messages asking you to set the time and date.

Setting the time and date

3. Answer the following time and date prompts. Press <RETURN> after each answer.

```
Locating Time Server. Time is not set.
Time zone offset from Greenwich (-12...12): -8RETURN
Minute offset (0-59): 0RETURN
First day of Daylight Savings Time (0...366): 121RETURN
Last day of Daylight Savings Time (0...366): 305RETURN
Please Enter the date and 24 hour time in form
MM/DD/YY HH:MM:SS
Time: 05/12/86 17:06:38RETURN
Set time to 12-May-86 17:06:38
Okay?: (Y/N): yRETURN
```

Time zone offset. Type:

- 5 for Eastern Standard Time
- 6 for Central Standard Time
- 7 for Mountain Standard Time
- 8 for Pacific Standard Time
- +0 for the United Kingdom
- +1 for Western Europe (excluding the United Kingdom)

Note: There is no default time zone. You must select the one that applies to the geographical area where the server is being installed.

Minute offset. Type 0.

Type the appropriate numbers for the Daylight Savings Time prompts.

Note: The values 121 and 305 are default values for those states within the United States using Daylight Savings Time. If the default value is correct, confirm by pressing <RETURN>. Otherwise, enter one of the following sets of values:

- For portions of the United States without Daylight Savings Time (parts of Illinois and Arizona): 0 and 0
- For Canada: 0 and 0
- For the United Kingdom: 91 and 303
- For Western Europe (excluding the United Kingdom): 91 and 274.

Current date and time. There are four formats you can use:

- MM/DD/YY HH:MM:SS (for example: 07/01/84 16:02:30, using a 24-hour clock).
- MMM D, YY HH:MM:SS (for example: JUL 1, 84 6:02:30, using a 24-hour clock).
- MM/DD/YY HH:MM AM or PM (for example: 07/01/84 4:02 PM).
- MMM D, YY HH:MM AM or PM (for example: JUL 1, 84 4:02 PM).

Multi-drive servers

4. If there are multiple disk drives connected to your server, you will see the following prompt:

Select drive to be used for subsequent operations:

- 1 Drive 1
- 2 Drive 2
- 3 Drive 3

Enter choice number, then press RETURN: [RETURN]

Type **1** and press <RETURN>.

Otherwise, the next prompt is:

```
MAIN MENU:  
1  Services  
Enter choice number, then press RETURN: 1RETURN
```

5. Type **1** and press <RETURN>.

Step 2. Partitioning the server disk

A disk has to be partitioned before it can be used by a server to support services. Partitioning the rigid disk divides the disk space into three storage areas. Two of these areas will contain System Software, once you have installed it. The third area will contain Services Software.

CAUTION: Because partitioning a disk causes all data to be erased, you see a warning prompt and are asked to confirm this procedure twice.

Partitioning the server disk is performed only when the server is installed for the first time. If you need to reload software, do not partition the disk again unless advised to do so by your Xerox representative.

How to partition the server disk

1. When the utility options menu appears, it will look like this:

```
Choices available:
1  Install system software
2  Install System Software for Multiport Option
3  Start System
4  Start System with Remote Debugging enables
5  Start System with Special Debugging
6  Enable Remote Debugging
7  Disable Remote Debugging
8  Partition for Services
9  Return to Main Menu
Enter choice number, then press RETURN: 8RETURN
```

2. Type the number corresponding to the "Partition for Services" prompt and press <RETURN>.

CAUTION: You are prompted to confirm this choice since it will result in destruction of all data on the disk. DO NOT DO THIS STEP UNLESS YOU INTEND TO ERASE ALL THE INFORMATION ON YOUR DISK.

The following confirmation prompt will appear:

```
WARNING - PARTITIONING A SYSTEM DISK DESTROYS ALL CONTENT
Continue? (Y/N): YRETURN
SECOND CONFIRMATION REQUIRED
Continue? (Y/N): YRETURN
Disk Partitioned
```

3. As you can see, you are prompted twice to make sure this is what you really want to do. Enter **Y** and press **<RETURN>** to both confirmation prompts.

Depending on the size of the server's disk, partitioning takes from 3 to 20 minutes.

When the process is complete, the message "Disk Partitioned" is displayed.

Step 3. Installing System Software

After the disk is partitioned, the services installation menu is displayed:

```
Choices available:
1  Install System Software
2  Install System Software for Multiport Option
3  Start System
4  Start System with Remote Debugging enabled
5  Enable Remote Debugging
6  Start System with Special Debugging
7  Disable Remote Debugging
8  Partition for Services
9  Return to MAIN MENU
Enter choice number, then press RETURN: 1RETURN
```

1. Type 1 to "Install System Software" or 2 to "Install System Software for Multiport Option." At this point, you should already have the floppy disk labeled "Services System Software # 1 (Fixed Disk)" or "Services System Software # 1 (Removable Disk)" in the floppy disk drive. Press <RETURN> in response to the "Continue?" prompt.

CAUTION: If you are installing System Software for the Multiport Option, the Multiport Options Board (MPOB) must be in place before installing the System Software.

```
Ready to Install System Software
Continue? (Y/N): YRETURN
Installing System Software (part 1)...
Floppy closed
This Floppy Disk is labeled "Services System Software (Fixed Disk) # 1".
Insert Floppy Disk labeled "Services System Software (Fixed Disk) # 2" in Floppy Disk drive.
Is the required Floppy disk now loaded? (Y/N):
```

2. When prompted, remove the first disk and put the floppy disk labeled "Services System Software # 2 (Fixed Disk)" or "Services System Software # 2 (Removable Disk)" into the drive. Press <RETURN> in response to the "Is the requested Floppy Disk now loaded?" prompt.

```
Is the requested Floppy Disk now loaded? (Y/N): Y RETURN
Installing System Software (part 2)...
Floppy closed
This Floppy Disk is labeled "Services System Software (Fixed Disk) # 2".
Insert Floppy Disk labeled "Services System Software (Fixed Disk) # 3" in floppy disk drive.
```

3. When prompted, remove the second disk and put the floppy disk labeled "Services System Software # 3 (Fixed Disk)" or "Services System Software # 3 (Removable Disk)" into the drive. Press <RETURN> in response to the "Is the requested Floppy Disk now loaded?" prompt.

```
Is the requested Floppy Disk now loaded? (Y/N): Y RETURN
Installing System Software (part 3)...
Floppy closed
System Software Installation Complete.
```

You are now at the end of Step 3.

Step 4. Starting the system

You should be at the Services Installer menu:

```

Choices available:
1  Install System Software
2  Install System Software for Multiport
3  Start System
4  Start System with Remote Debugging enabled
5  Start System with Special Debugging
6  Enable Remote Debugging
7  Disable Remote Debugging
8  Partition for Services
9  Return to MAIN MENU
Enter choice number, then press RETURN: 3 RETURN

```

1. Type the number corresponding to the "Start System" prompt and press <RETURN>. After the system boots, you are asked to select a normal or non-normal server startup:

```

THIS IS THE BOOT DIAGNOSTICS VERSION X.0
THIS CONFIRMS THAT THE NETWORK ADMINISTRATOR DISPLAY IS OPERATIONAL.
Series 8000 Network Services Executive. Version X.X of July 1, 1984 17:26:56
Copyright (C) 1981, 1982, 1983, 1984 by Xerox Corporation
All Rights Reserved
Restart Reason: User Restart
Normal Startup? (Y/N): N RETURN

```

2. Type N to the "Normal Startup?" prompt (for a non-normal startup) and press <RETURN>. The following menu is displayed:

```

Enter interrupt point
1  Interrupt before opening primary volume
2  Interrupt before processing profile
3  Interrupt before running services
Enter choice number: 3 RETURN
Opening volume...initializing...done
User File System not found.
Choose desired action.
1  Create a new User File System
2  Run Scavenger
Enter Choice number: 1
Ready to create a new User File System.
Old User File System content will be lost.
Confirm (Y/N): Y
Creating User File System...

```

3. Type the number corresponding to the "Interrupt before running services" prompt and press <RETURN>. Continue to respond to the prompts displayed.

Step 5. Setting software options

To do this step, you need to know which services will run on the server.

When the server is started for the first time after Services System Software installation, it detects that no options have ever been set and will not proceed with initialization until you enter the necessary passwords.

You will see the following display:

```
Standard Services Software not enabled
Standard Services Software option has not been set
There are no software options enabled on this machine

The Software Serial Numbers for this machine are:

Services Group I: X 245Z CQJP 95VB
Services Group II: Q YXDF ZQKE JZS
Printer Fonts:   Q S45B J5QE SV2H

Software locked on 26-Nov-85 23:51:19
The processor number is 2-852-162-714
The software to be configured on this machine is provided under
a prearranged agreement with Xerox. Attempts to configure any
software not authorized by Xerox will be in violation of the agreement.

Confirm? (Y/N): YRETURN
```

1. Write down the Software Serial Numbers. (They are different from those shown above.) Confirm by typing **Y** and pressing **<RETURN>**.

Next, you are asked to pick one or more product groups from which new options are to be enabled. For example:

```
Product groups to be configured
1 Services Group I
2 Services Group II
3 Printer Fonts
Enter one or more choices:
```

2. Select one or more groups that contain options which you want to enable and press **<RETURN>**. Select multiple groups by separating the choice numbers by commas, or by indicating a range with a hyphen.

Determine which groups you need to select by checking this breakdown of products by group:

Services Group 1

Standard Services Software
Formatting Print Service
Remote Batch Service
Teletex Gateway Service
Electronic Printer Print Service
Facsimile Print Service
Laser CP Print Service
Boot Service
3270SDLC/SNA Communication Protocol
Siemens 8171 Emulation Protocol
3270 BSC Communication Protocol
Asynchronous Communication Protocol
Mail Service
External Mail Gateway
File Service
850/860 Gateway Service
Internetwork Routing Service
 X.25 Communication Protocol
 Clusternet Communication
Interactive Terminal Service
Librarian Service
Adobe Service
Communications Monitoring Service
Network Statistics Service

Note: The Clearinghouse Service, External Communication Service, Server Monitor Service, and Multiport Option make up the "Standard Services Software."

Services Group 2

Fujitsu 6650 Terminal Emulation
Hitachi 560 Terminal Emulation
NEC 6300 Terminal Emulation
Univac 50 Terminal Emulation

Printer Fonts

300 DPI Printer Fonts:

Xerox Classic Fonts (300 DPI)
Xerox Japanese Classic Fonts (300 DPI)
Xerox Japanese Modern Fonts (300 DPI)
Xerox Math Classic Fonts (300 DPI)
Xerox Modern Fonts (300 DPI)
Xerox Printwheel Fonts (300 DPI)
PC Emulation Fonts (300 DPI)
Helvetica 300 Fonts (300 DPI)

200 DPI Printer Fonts:

Xerox Classic Fonts (200 DPI)
Xerox Math Classic Fonts (200 DPI)
Xerox Modern Fonts (200 DPI)
Xerox Printwheel Fonts (200 DPI)
PC Emulation Fonts (200 DPI)

Next, you are prompted to enter up to three passwords, depending on the number of products you chose. For example, if you specified all three groups, you would be prompted for three passwords as follows:

```
Three passwords are required to configure options in those product groups.
Enter password for Services Group I:
Enter password for Services Group II:
Enter password for Printer Fonts:
```

Obtaining passwords

Call the Software Control Center and report the current software serial numbers for the groups containing the options you want. They will give you the necessary passwords.

Return to the server and enter the passwords after the prompts. The new list of enabled options are displayed as follows:

```
Standard Services Software
File Service
Mail Service
```

And this confirmation:

```
Okay to lock this Software now? (Y/N): YRETURN
Locking...
The Software Serial Numbers for this machine are:
Service Group I: PM7GE 9SW
Service Group II: 6 MRYB8JIE
Printer Fonts: Y2LHTJY50 YFAF
Software locked on July 12, 84 15:03:33
The processor number is 2-852-142-839
Configuration completed.
```

If the list matches what you intended to enable, type **Y** after the "Okay to lock this Software now?" prompt and press **<RETURN>**.

If the list is not correct, type **N** to the prompt and press **<RETURN>**. The software will take you back to the context you were in before you invoked the **Set Software Options** command. Call the Software Control Center and verify that you were given the correct password(s), then type **Set Software Options** again.

Step 6. Entering your network number and server name

Your network number

If this is the first server on a new network, then there is no other server from which this one can learn your network number. You are asked to enter it:

```
Network number not available.
Please enter network number
Network number: 1-510RETURN
Server is attached to network number 1-510.
```

If there is another server on your network from which your server can learn the network number, you just see a message containing the network number.

```
Server is attached to network number: 1-510
```

Your server name

Enter a fully-qualified server name and a server description.

This is a critical step since it establishes future protection for that server. Be absolutely sure that the name you enter is correct and that you note the case and spacing you have used. You are prompted to verify it. Recheck and confirm.

CAUTION: If this is a Genesis install (Case 1 or Case 2), the organization component of the fully-qualified name must exactly match the format you specified when you obtained your organization password.

CAUTION: The server name you enter and approve is very important. It determines which domain will be used to verify your Admin Access. The domain needs to exist in the network or you should be prepared to introduce it during Case 1 Genesis installation.

```
Server name not found or invalid.
Please enter fully qualified server name. Caution: the domain and
organization specified will establish the network administrator
access control for this server.
```

```
Server Name: Foxdale:OurDomain:OurOrgRETURN
Server Description: FS-Foxdale, 2nd Floor, East WingRETURN
```

Next, the server will try to register itself. If it can reach the needed domain, it will prompt you to log on. Do so. When your credentials have been authenticated, the server will be registered and the ! prompt will appear. If you are unable to log on, refer to the section below.

Logging on

The following is a display of the logon prompt and registration messages:

```
Logon required to register server in the Clearinghouse Service
Please Logon
User Name: Matthew Bennett :Our Domain:Our OrgRETURN
Password: *****RETURN
Validating server registration... Server Registered.
```

Enter your name and password.

When your credentials have been authenticated, the server will be registered and the ! prompt will appear.

What if the server cannot register itself?

If the server cannot reach a Clearinghouse Service with the domain specified by the server, you will be asked to confirm a prompt to continue.

If you are doing a Genesis install (Case 1 or Case 2), this prompt is normal. Confirm the prompt to continue.

If you are not doing a Genesis install, do not confirm.

```
Cannot find Clearinghouse serving this domain
Continue? (Y/N): YRETURN
```

About Genesis mode

After you confirm the prompt to continue, even though your server cannot register, the server will enter "Genesis mode."

Genesis mode is designed to give you a limited set of Server Administrator commands when the Clearinghouse domain does not yet exist.

Genesis mode commands are:

- Activate Service**
- Deactivate Service**
- Expunge Service**
- Install Service**
- List Executive**
- List Services**
- List Software Options**
- List Volume**
- Logon**
- Proceed**
- Run Service**
- Set Software Options**
- Show Backstop Log**
- Show Logged on User**
- Show Time**
- Start Service**
- Stop Service**

These commands let you perform the steps necessary to install services and to make the appropriate Clearinghouse domain available to your server. You see this message when you enter the Genesis mode:

Cannot find Clearinghouse serving this domain
Server has entered Genesis mode

Proceed to "Step 7. Installing the services."

Step 7. Installing the services

CAUTION: You must complete Steps 1 through 6 before performing this step. As a part of completing Step 6, you have either logged on and enabled or your server has entered Genesis Mode. You should not use this document and these instructions if you just want to add a service to an existing server. Refer to the "Upgrade procedures" section in the *Services 10.0 Release Document*.

You will be repeating these steps for each optional service you install. For example, if your server will run both File Service and Mail Service, you would do the steps twice.

1. Insert the floppy disk for the service you want to install into the disk drive.
2. Type **Install Service** and press <RETURN>.

Note: Always use the **Install Service** command while the server is at the 3rd interrupt point. Although the command is available after the server has completed the non-normal startup, it will not always complete successfully.

The **Install Service** command attempts to copy, from floppy to the server's Primary Services volume, all files which are necessary in order to run a selected service. It does this if that service has been enabled for use on the server and if the service is not currently running.

A service can be reinstalled as long as it is not currently running. The **Install Service** command automatically replaces all rigid disk files that are required for operation of the selected service, whether or not they are newer, the same date as, or older than the floppy versions.

If one or more files which the install operation needs to update are currently loaded, the operation will fail to complete. This failure might be confusing in cases where the service being installed is not actually running.

Some services have files in common. One service which uses the same file as another one cannot be running at the same time as you attempt to install the other service, or the file that is in common cannot be updated.

You will see one or more options that you can elect to install in the following example:

```

Install ServiceRETURN
Installation choices
1 Server Monitor Service
2 External Communication Service
3 Clearinghouse Service
Enter one or more choices: 3RETURN

```

3. Type the number of the service you want to install and press <RETURN>. In this case, type a 3 to install the Clearinghouse Service.

If there is more than one choice, the numbers can be separated by commas, or the first and last number of a sequence of services can be separated by a hyphen (for example, 1,2 or 1-3).

```
Installing Clearinghouse Service...done
Clearinghouse Service: Activate? (Y/N): YRETURN
```

4. Type Y to the "Activate?" prompt and press <RETURN>. Activating a service causes it to be added to the active services list. This means that when a server is restarted, the service will be run automatically.
5. Repeat steps 1 through 4 for each floppy disk from which you need to install a service.

Note: Your server and server software are designed so that multiple services can run on a single server at the same time. But there are some services that cannot run at the same time on the same server.

The External Mail Gateway option, the 850/860 Gateway Service, the IBM 3270 BSC Terminal Emulation, the Facsimile Print Service, and the Remote Batch Service all require use of the server's RS-232C port. For this reason, two of these options or services cannot run at the same time on the same server. You should not activate any two or more of these services at the same time since all services on the active services list are automatically run each time the server completes initialization.

Other combinations of services may not be available due to possible increased response time to user requests. Consult your *XNS Configuration Guide* for more information. If you have further questions, talk to your Xerox Representative or call the Network Support Center.

Multiport Option installation

The Multiport Option is installed just like a service. Follow the steps described above. Until the next time you boot your server (do not do so until you are specifically instructed), the Multiport Option will be listed in a variety of server displays, just as if it were an actual service.

Example If you type the **List Services** command, you will note that the **Multiport Option** appears in the list of installed services. Disregard this temporary condition. As soon as the server is restarted, the **Multiport Option** will no longer appear in these lists of services. You will be able to verify that it is installed on the server by typing the **List Files** command. Note that there is a file called "MultiportSDF.BCD."

When you have installed all the services you plan to run on the server, do the appropriate next step:

- Genesis installs. Proceed to "Step 8. Running and initializing the Clearinghouse Service."
- Normal installs. Proceed to "Step 12. Proceeding."

Step 8. Running and initializing the Clearinghouse Service

This step is for both cases of Genesis installs only. Proceed to "Step 12. Proceeding" if you are not doing a Genesis Install.

Case 1 - Independent network

If you are performing a Case 1 Genesis installation (the case where you are installing software on the first server in a single-Ethernet configuration), continue as follows:

1. Type **Run Service** and press **<RETURN>**.

```
!Run ServiceRETURN
Select Choice
 1 Clearinghouse Service
 2 External Communication Service
 3 Server Monitor Service
 4 Internetwork Routing Service
Enter one or more choices: !RETURN
```

2. Type the number corresponding to the "Clearinghouse Service" prompt and press **<RETURN>**. There is a short delay before the next prompt is displayed.

```
CHS: Normal Startup? (Y/N): YRETURN
Running Clearinghouse Service.
Opening Clearinghouse Service database.
This Clearinghouse Service has not been named. Please enter its name.
Name: OurCHSRETURN
Is this the first Clearinghouse server on the internet? (Y/N): YRETURN
OurCHS is not registered in the Clearinghouse. Registering..
Done. Clearinghouse database open.
Clearinghouse Service functions are now available to network.
Clearinghouse Service run.
```

3. Type **Y** to the "Normal Startup?" prompt for the Clearinghouse Service and press **<RETURN>**.
4. After the Clearinghouse database is initialized, type the name you want to give the Clearinghouse Service and press **<RETURN>**. (Do not type in your domain and organization names.)
5. Type **Y** to the "Is this the first Clearinghouse server on the internet?" prompt and press **<RETURN>**.

Note: Opening the Clearinghouse database typically takes a few minutes.

6. Now, proceed to "Step 9. Adding a Clearinghouse domain and adding yourself as a user."

Case 2 - Part of an internet

Perform these tasks if you are installing the first server at your site and the server will be interconnected with another site.

The purpose of these tasks is to run and initialize the Internetwork Routing Service (and the External Communication Service if you will be using a Communication Interface Unit).

```
!Run ServiceRETURN
Select Choice
1 Clearinghouse Service
2 External Communication Service
3 Server Monitor Service
4 Internetwork Routing Service
Enter one or more choices:
```

1. Type **Run Service** and press <RETURN>.
2. Type the number for the Internetwork Routing Service and press <RETURN>. Run the External Communication Service first if your first circuit uses a Communications Interface Unit.
3. Type **Y** to the "Normal Startup" prompt and press <RETURN>.

Now the External Communication Service (ECS), if you ran it, and the Internetwork Routing Service (IRS) will run through first-time initialization. This process requires that you provide name(s) and description(s) as specified in the following steps.

Note: For complete samples of the initialization messages presented by these services, see "Step 12. Proceeding."

4. If you ran the ECS, type the ECS name and press <RETURN>. If you did not run the ECS, skip to task 6.
5. If you ran the ECS, type the ECS description and press <RETURN>.
6. Type the IRS name and press <RETURN>.
7. Type the IRS description and press <RETURN>.

Note: Enter the service name(s) and description(s) exactly as you entered them on SSI Form 1 , Directory of Services on a Specific Server.

You will see error and warning messages indicating that ports and circuits have not been configured and that the registration cannot occur. These messages are normal.

Now proceed to "Step 10. Adding an Internetwork Routing Service Circuit."

Step 9. Adding a Clearinghouse domain and adding yourself as a user

Do this step if you are installing software on the first server in a single Ethernet network (Case 1 Genesis install).

If you are interconnecting to another Ethernet network in order to make a Clearinghouse domain available (Case 2 Genesis install), proceed directly to "Step 10. Adding an Internetwork Routing Service."

Adding a Clearinghouse domain

1. Type **Stop Service** and press <RETURN>.

```

! Stop ServiceRETURN
Select Choices
1 Clearinghouse Service
Enter one or more choices: 1RETURN
CHS: Stop Immediately? (Y/N): YRETURN
Clearinghouse Service functions are now unavailable to the network.
!
  
```

2. Type the number corresponding to the "Clearinghouse Service" prompt and press <RETURN>.
3. Type **Y** to the "Stop Immediately?" prompt and press <RETURN>.
4. Type **Clearinghouse Service** and press <RETURN>.
5. Type **Add Domain** and press <RETURN>.

```

CHS! Add DomainRETURN
Domain Name: Our Domain:OurOrgRETURN
Organization OurOrg does not exist.
Creating new Organization OurOrg on this CHS. Confirm? (Y/N): YRETURN
Enter password for creating this organization: *****RETURN
Domain OurDomain:OurOrg does not exist.
Creating new Domain OurDomain:OurOrg on this CHS. Confirm? (Y/N): YRETURN
Done
  
```

6. Respond to the prompts by typing your domain and organization names. Remember to use the same domain name you used when you named your server.
7. Confirm with a **Y** and press <RETURN> to create a new organization.
8. Enter the password for creating the organization and press <RETURN>.

Obtain the organization password provided by the Software Control Center. When you type the password, asterisks appear instead of the actual characters.

When you apply for your password, your specification of uppercase or lowercase letters, along with spacing, is significant. A different password is issued for "Acme" than for "ACME." The password issued for "Acme" does not allow you to enter "ACME" as the name of your organization.

It is very difficult to change the organization name once you have created it. Therefore, take care to specify it correctly to the Software Control Center.

9. Type **Y** and press <RETURN> to confirm the creation of the new domain and organization.

CAUTION: Do not type **Proceed** yet. Although this command is available to you, you must not use it until you have registered a user (which will probably be you). This user must also be given Admin Access to the domain and the organization. If you have not done all these steps before typing **Proceed**, you will terminate Genesis. You will not be able to gain access to the new domain and organization unless you begin the installation procedure all over again.

Adding yourself as a user

```

CHS>Add UserRETURN
First Name (and Middle Initial, if desired): Matthew WRETURN
Last Name: BennettRETURN
Password: *****RETURN
Description: System Administrator for OurDomainRETURN
"Home" File Service: FoxdaleRETURN
Alias: MWBRETURN
Alias:RETURN
Warning: No File Service named Foxdale.OurDomain.OurOrg is registered.
Confirm this User information? (Y/N): YRETURN
Done: Matthew W Bennett.OurDomain.OurOrg (User) added.
Add another user? (Y/N): NRETURN
CHS>

```

1. Type **Add User** and press <RETURN>. Respond to the prompts to add yourself as a user of this domain.
2. Type **Change Domain Access** and press <RETURN>. Respond to the prompts to give yourself Domain Administration privileges.
3. Type **Change Organization Access** and press <RETURN>. Specify the new domain name and then the first user's name. Confirm that you are to be granted Admin Access.
4. Type **Start Service** and press <RETURN>.

```

CHS!Change Domain AccessRETURN
Domain Name: OurDomainRETURN
Name: Matthew Bennett:Our Domain:Our OrgRETURN
Admin Access? (Y/N): YRETURN
Done. Matthew W Bennett:OurDomain:OurOrg granted
Admin Access to OurDomain:OurOrg.
CHS!

```

```

CHS!Change Organization AccessRETURN
Organization Name: OurOrg
Name: Matthew W Bennett:OurDomain:OurOrgRETURN
Admin Access? (Y/N): YRETURN
Done. Matthew W Bennett:OurDomain:OurOrg granted
Admin Access to OurOrg

```

5. Type the number corresponding to the "Clearinghouse Service" prompt and press <RETURN>.
6. Type **Logon** and press <RETURN>. You will need to enter your name and password.
7. Type **Enable** and press <RETURN>.
8. Type **Show Logged on User** and press <RETURN> to verify that you have Admin Access. You should be shown to have "System Administrator" status.

CAUTION: If you have properly given yourself administrative access to both the domain and the organization, and you cannot enable, it is possible that there is a mismatch between the name you specified during the **Add Domain** procedure and the name you specified to the prompt for a fully-qualified server name. Type **List Services** and look at the server's fully qualified name. If the server's domain name does not match the domain name you specified during the **Add Domain** operation, refer to Appendix G in this booklet. Do not do Step 9 immediately below, or type **Proceed** until you resolve this mismatch.

9. Type **Register Server** and press <RETURN>. The server should now be able to complete registration. When the server is registered, the message "Validating Server Registration...Server registered" is displayed.

To complete installation, go to "Step 12. Proceeding."

Step 10. Adding an Internetwork Routing Service circuit

Do this step only if you are doing a Case 2 Genesis install (where your server is the first on an Ethernet that is to be interconnected to another Ethernet).

The purpose of this task is to add and start an IRS circuit.

If you are not using a Communication Interface Unit (CIU) for your first circuit, skip tasks 1 and 5.

If your first circuit will not be using an X.25 public data network, skip task 3.

1. Skip this step unless your first circuit is to be established via a CIU. If your first circuit will use a CIU, then continue as follows:
 - a. Type **Stop Service** and press <RETURN>.
 - b. Select to stop the External Communication Service (ECS).
 - c. Switch to the ECS context.
 - d. Type **Add Communication Interface Unit** and press <RETURN>.
 - e. Supply the requested configuration information.
2. Switch to the Internetwork Routing Service context.
3. Skip this step unless your initial IRS circuit will use an X.25 public data network.
 - a. If this first circuit will use a public data network, type **Add X.25 Network** and press <RETURN>.
 - b. Supply the requested configuration information.
4. Do this step regardless of which type of medium (X.25 public data, leased, or switched) you are using for your initial circuit.
 - a. Type **Add Circuit** and press <RETURN>.
 - b. Supply the requested configuration information.
5. Type **Start Service** and press <RETURN>. Specify that the ECS and IRS are to be started.
6. Type **Start Circuit** and press <RETURN> if the circuit is not configured to autostart. At this point, the IRS should be able to establish a connection.
7. Type the **Logon** and **Enable** commands. Verify that your domain access has been confirmed by typing **Show Logged on User** and pressing <RETURN>. If you are known to

be a System Administrator, your domain admin privileges have been confirmed.

8. Type **Register Server** and press <RETURN>.

The server should now be able to complete registration.

Now proceed to "Step 11. Causing your Internetwork Routing Service and External Communication Service to register."

Step 11. Causing the Internetwork Routing Service and External Communication Service to register

This step applies to Case 2 Genesis installs, in which you establish access to the Clearinghouse domain by interconnecting with another Ethernet network.

The goal is to force the Internetwork Routing Service and the External Communication Service to register.

Perform the following steps 1 through 3 to force the External Communication Service to register itself with the Clearinghouse Service.

Perform the following steps 4 and 5 to force the Internetwork Routing Service to register itself with the Clearinghouse Service.

1. Type **External Communication Service** and press <RETURN>.
2. Type **Verify Clearinghouse Entries** and press <RETURN>.
3. Type **Y** to confirm that the name displayed for the External Communication Service is the name you wish to be registered and press <RETURN>.

Note: The ECS should now be able to complete registration. (If the ECS does not verify, it will prompt you to enter the service name and description. After entering the name and description, the Clearinghouse is verified.)

4. Type **Internetwork Routing Service** and press <RETURN>.
5. Type **Register** and press <RETURN>.

The IRS should now be able to complete registration.

6. Now proceed to "Step 12. Proceeding."

Step 12. Proceeding

This is the step where you finish the initialization of your server.

If this is a Case 1 Genesis install, you should have completed Steps 1 through 9.

If this is a Case 2 Genesis install, you should have completed Steps 1 through 9, 10, and 11.

If this is a normal install, you should have completed Steps 1 through 7.

Check now to make sure you have completed all the necessary steps.

Note: If you installed the Multiport Option, you should boot at this time so that this Software (which is not really a service) will no longer be displayed in various service-related messages.

When you boot, confirm the prompt for a normal start up. Wait until the server completes its restart process and displays the > prompt. Then log on, enable, and perform the following steps (if appropriate) on your server.

Each service is listed below in an internally established priority order.

The order in which the services are listed matches that which is applied by the server when it needs to run active service after a server restart. For example, the CHS always runs first, regardless of the other services running on the same server.

CAUTION: If you are doing a case 1 installation, and you are not logged on and enabled at this point, go back to "Adding yourself as a user" in Step 9. "Adding a Clearinghouse domain and adding yourself as a user."

1. Type **Proceed** and press <RETURN>.
2. To finish setting up each service, perform the procedures described in the "Setting up your ... Service" sections in the individual service booklets.

Note: If you are setting up a Print Service, go to "Step 13. Font installation for a Print Service" after setting up all the services.

Note: If you are installing a multiple-drive server, go to the "Step 14. Getting additional drives on line" section after setting up all the services.

Each service that you have activated will run. Most services (except the Server Monitor Service) require that you name them and provide some configuration information.

Clearinghouse Service

The first-time initialization of a second or subsequent CHS in an internet consists of the following:

- There is a pause while the CHS initializes its database.
- The CHS prompts for a name. You are only asked for a "proper" name, not a fully-qualified name.
- There is a pause while the new CHS is added to the distributed CHS database.
- The CHS reports that it is available to the network.

Communication Monitoring Service

The first component of the fully-qualified name. The domain and organization components will default to be the same as the server's. A 40-character description.

Mail Service

The number of pages for the new database. You must specify a number between 1500 and the maximum of 65534. A rule of thumb is to multiply the number of users you need to support by 100 pages, the recommended average mailbox size.

The first component of the fully-qualified name. The domain and organization components will default to be the same as the server's. A 40-character description.

If you enabled the External Mail Gateway option you are asked for line speed and phone number to be applied to the local port.

External Communication Service

The first component of the fully-qualified name. The domain and organization components will default to be the same as the server's. A 40-character description.

You are warned that no ports have been assigned to the ECS. You can assign them later when all co-resident services have completed initialization and the prompt has reappeared. Refer to the first-time startup instructions in the ECS booklet.

You will notice that the ECS validates its entry twice. This is normal for a first-time ECS initialization.

Internetwork Routing Service

The first component of the fully-qualified name. The domain and organization components will default to be the same as the server's. A 40-character description.

You are warned that no X.25 networks or circuits have been defined. This is normal. You can define them later, when all co-resident services have completed initialization and the prompt has reappeared. Refer to the first-time startup instructions in the IRS booklet.

850/860 Gateway Service

The first component of the fully-qualified name. The domain and organization components will default to be the same as the server's. A 40-character description.

You are warned that no configuration data exists. This is normal. You can supply this information later, when all co-resident services have completed initialization and the prompt has reappeared. Refer to the first-time startup instructions in the *850/860 Gateway Service* booklet.

Interactive Terminal Service

You are asked to supply the number of users allowed. The number you supply (1-8) will impose a maximum on the number of users which ITS will support simultaneously.

You are asked to specify the number of file pages per user. The number you supply (40-1250) will be an upper limit on the number of pages which can be allocated from the primary services volume to each active user. This workspace is only used while the user connection is active. Afterwards, ITS releases the space.

The first component of the fully-qualified name. The domain and organization components will default to be the same as the server's. A 40-character description.

File Service

The first component of the fully-qualified name. The domain and organization components will default to be the same as the server's. A 40-character description. Note that this name is applied to the filing volume on the primary drive. When you confirm, the File Service software registers this name with the Clearinghouse. It will apply to the drive #1 filing volume, which is brought on-line and is accessible to network clients as a File Service.

If your server has secondary drives, each of them must be installed as well. See "Step 14. Getting additional drives on-line" after all services have initialized.

Remote Batch Service

The first component of the fully-qualified name. The domain and organization components will default to be the same as the server's. A 40-character description.

You are told that the RBS has failed due to lack of a port entry, a communication partner, and other profile information. This is normal. You can supply this information later, when all co-resident services have completed initialization and the prompt has reappeared. Refer to the first-time startup instructions in the *Remote Boot Service* booklet.

Server Monitor Service

The Server Monitor Service does not verify its registration since it does not have a fully-qualified name.

Print Service

You are asked to specify the printing device that is attached to your server.

Depending on first choice, you may be asked to specify which version of the device you have.

The first component of the fully-qualified name. The domain and organization components will default to be the same as the server's. A 40-character description.

To install fonts on your Print Service, perform "Step 13. Font installation for a Print Service."

Step 13. Font installation for a Print Service

The purpose of this step is to install fonts you have purchased for use on the Print Service.

Fonts are installed from floppy disks.

1. Type **Print Service** and press <RETURN> to switch the context to PS.
2. Insert a font floppy.
3. Type **Install From Floppy** and press <RETURN>. (Refer to the *Print Service* booklet for more information on installing fonts.)

Step 14. Getting additional drives on-line

Follow this step if you installed a File Service on a server which has multiple drives.

Before bringing up drives 2, 3, and 4 of a multi-drive server for remote access, you must first partition, open, and then bring the drives on-line.

1. Boot the Installation Utility floppy disk.
2. When asked which drive is to be brought up, select drive 2, 3, or 4.
3. Select the partition option.

CAUTION: This operation is going to destroy all data on the disk. Make sure this is what you want to do.

When the disk has been partitioned, you can boot again from floppy and partition another drive. When you have partitioned all the disks, proceed to the next step. A server filing volume is automatically established. Repeat the steps for additional drives.

4. Boot the server, confirm a normal startup by typing **Y**, and press **<RETURN>**.
5. Log on and enable.
6. When all services have been run, type **Open Volume** and press **<RETURN>**. Specify the number (2, 3, or 4) of the drive you have just partitioned.

You are prompted to create a new File System or run Scavenger at this point. Respond to subsequent prompts.

6. Change the context to **File Service** and enter the **Online** command. You are prompted to provide a name of the new filing volume. This name will be registered in the CHS as the name of a File Service. Remember that users view each of the filing volumes which you name and bring on-line as separate File Services.

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3. Installing additional services

Before you add a new service to a server, look for service-specific configuration and co-residency guidelines in the *Introduction to Network Administration* booklet.

The installation procedure has two parts. The first part requires no interruption of your server's availability to network clients. You check the current software options and change them if necessary. The second part requires a temporary interruption of your server. It is a good idea to plan your installation during a time that is convenient for your user community.

Procedure

1. Prepare for the installation by obtaining the appropriate floppy for the service you wish to add to your server.
2. Log on and enable.
3. Type **List Software Options** and press <RETURN>. The currently authorized service options, Software Serial numbers, and the processor number are displayed.
4. Look to see if the service you wish to install is listed with the optional features you wish to use.
 - If the service option and/or features are not listed, write down the Software Serial Numbers, the date the software options were last set, and the processor number for the server. Continue with steps 5 through 8.
 - If your current software options are correct, skip to step 8.

An example of the **List Software Options** command is shown below.

5. Call the Software Control Center. Tell them which options you wish to add, and give them the information that you recorded in Step 4. They will give you the password(s) for the options you specified.
6. Type **Set Software Options** and press <RETURN>. You are prompted to enter up to three passwords, depending on the number of groups you selected. Type in the password(s) you received from the Software Control Center.
7. You are shown the options list. If all the listed options are correct, type **Y** to the "Okay to lock this software now?" prompt and press <RETURN>.

!List Software Options**RETURN**

Standard Services Software
Electronic Printer Print Service
Asynchronous Communication Protocol
Mail Service
 External Mail Gateway
Laser CP Print Service
Communication Monitoring Service
Network Statistics Service

The Software Serial Numbers for this machine are:

Services Groups I: G 56BN HJIQ DYMO
Services Group II: K 361J YMJ7 W32J
Printer Fonts: T 134F 7HJN 5CCV

Software locked on 19-Mar-86 7:43:21
The Processor Number is 1-252-149-871

If the listed options are incorrect, type **N** and press **<RETURN>**. The software will take you back to the context you were in before you invoked the **Set Software Options** command. Call the Software Control Center and verify that you were given the correct password(s), then enter the **Set Software Options** command again.

An example of the **Set Software Options** command appears on the next page:


```

!Set Software OptionsRETURN
Standard Services Software
Electronic Printer Print Service
Asynchronous Communication Protocol
Mail Service
    External Mail Gateway
Laser CP Print Service
Communication Monitoring Service
Network Statistics Service
300 DPI Printer Fonts

The Software Serial Numbers for this machine are:

Services Groups I: G 56BN HJIQ DYMO
Services Group II: K 361J YMJ7 W32J
Printer Fonts: T 234F 7HJN 5GCV

Software locked on 19-Mar-86 7:43:21
The Processor Number is 1-252-149-871
The software to be configured on this machine is provided under
a prearranged agreement with Xerox. Attempts to configure any software not
authorized by Xerox will be in violation of the agreement.
Confirm? (Y/N): YRETURN
Product groups to be configured
1 Services Group I
2 Services Group II
3 Printer Fonts
Enter one or more choices: 1, 3RETURN
Two passwords are required to configure options in those product groups.
Enter password for Services Group I: H 7PLQ WK38 2RFARETURN
Enter password for Printer Fonts: P RME4 QHZ4 YCNBRETURN
Standard Services Software
Electronic Printer Print Services
Asynchronous Communication Protocol
Mail Service
    External Mail Gateway
Laser CP Print Service
Communication Monitoring Service
Network Statistics Service
300 DPI Printer Fonts
File Service
    Okay to lock this software now? (Y/N): YRETURN
Locking...
The Software Serial Number for this machine are:
Services Group I: K 481J LO9D 897Y
Services Group II: P K398 MNUP 23WD
Printer Fonts: J U43O NJER 7M78
Software locked on 12-April-86
The Processor Number is 1-252-149-871
Configuration completed.

```

Note: The following steps will require the server to be interrupted for about 15 minutes. You will be booting the server and interrupting the initialization process before the services are run. You may want to do the remaining steps after work hours and warn users about the interruption in advance.

8. Type **Stop Service**. Stop all services.
9. Boot the server while the maintenance panel code displays 0001.
10. Type **N** to the "Normal Startup?" prompt and press <RETURN>.

Note: If you have a single-Clearinghouse internet, or if there is no Clearinghouse on your local network, (you normally access the Clearinghouse via an Internetwork Routing Service circuit), your server will enter Genesis Mode. Skip step 11, as you will not be able to log on, and continue with step 12. The commands required to complete the procedure will be available to you.

If your server has entered Genesis Mode when it should not, do not continue until you determine why the Clearinghouse serving the server's domain is not online. Bring that Clearinghouse online, and then boot the server you are installing, and take a non-normal startup again. Interrupt before running services. Continue with the next step.

11. Log on and enable.
12. Insert the floppy disk for the service you are installing into the floppy disk drive.
13. Type **Install Service** and press <RETURN>. A list of services that can be installed from the currently inserted floppy disk appears.
14. Type the number corresponding to the service you need to install and press <RETURN>.
15. Type **Y** and press <RETURN> after the "Activate?" prompt, unless you do not want the service to be run automatically each time the server completes initialization.
16. Skip this step unless your server is in Genesis Mode.
 - If your server is in Genesis Mode because it has the only Clearinghouse on its internet, follow the "Bringing the local Clearinghouse online" procedure on the next page.
 - If your server is in Genesis Mode because it has the Internetwork Routing Service through which your site normally accesses the Clearinghouse Service, follow the "Bringing the remote Clearinghouse online" procedure on the next page.

Bringing the local Clearinghouse on-line

- a. Type **Run Service** and press <RETURN>.
- b. Type the number corresponding to the Clearinghouse Service and press <RETURN>.
- c. Type **Y** to the "Normal startup?" prompt and press <RETURN>. The Clearinghouse Service will run, open its database, and display a message indicating that its services are now available to the internet.
- d. Log on and enable. Go on to step 17.

Bringing the Remote Clearinghouse on-line

- a. Type **Run Service** and press <RETURN>.
- b. Type the number corresponding to the Internetwork Routing Service (run the External Communication Service first if the Internetwork Routing circuit is established through a CIU port) and press <RETURN>.
- c. Type **Y** to the "Normal Startup?" prompt (for both services, if applicable), and press <RETURN>.
- d. Type **Start Circuit** and press <RETURN>. If the needed circuit is to be autodialed, select the correct phone number.
- e. Log on and enable. Go on to step 17.

Note: If you cannot enable, check your circuit. Contact the remote site administrator if you still can't enable. Once you are logged on, go to step 17.

17. Type **Proceed** and press <RETURN>.

Comment: All currently installed and activated services are run in priority order. The newly-installed services will run through their first-time initialization dialogues, which will require you to stand by to enter a service name and description for each service. Refer to "Step 12. Proceeding" in this booklet for a description of the first-time initialization dialogues.

18. If you just added a new service to your server, refer to the appropriate booklet for the first-time configuration procedures.

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- Boot** Activating the software on a server or workstation by pressing the hardware "boot button" (B RESET on the processor maintenance panel).
- Boot Service** The service that provides the facility for booting software on a server or workstation through the network.
- Clearinghouse** A service that provides the naming facility for the other services and workstations on the internet. The Clearinghouse maintains a system-wide directory function that allows all the system components to locate needed resources and other registered objects.
- Clearinghouse database** The database is organized by domains, which consist of 200-300 users resident in the same geographical location. A domain can reside in multiple Clearinghouses, and each Clearinghouse can hold multiple domains. (See *Domain* for more information.)
- The specialized database held by the Clearinghouse Service, that serves as a global directory for the entire internetwork.
- Clearinghouse Service** (**CHS**) A lookup directory service that maintains a database of all users, services, and servers in a network. The Clearinghouse Service cooperates to provide a single unified database system among other Clearinghouse Services.
- Clearinghouse system** The portion of each Clearinghouse Service database intended to be identical to that of all other Clearinghouse Services existing within the same internet. It contains the names of all Clearinghouse Services and the addresses of the servers that house them, the minimum information that any two database instances must have in common.
- Clusternetwork** A collection of one or more communication circuits. It is assigned a network number which allows remote workstations access to the rest of the internetwork.
- Communication Interface Unit** (**CIU**) The 873 Communication Interface Unit is an optional RS-232C port extender that supports up to eight additional ports. The CIU attaches directly to the network, and can be configured for either asynchronous or bit synchronous communication (TTY, 3270 SNA, or IRS-to-IRS phone communications).
- Database** The permanent stored data.

- Domain** A logical grouping (usually geographical) of registered objects in the Clearinghouse database. Domains serve as units of name, scope, administrative responsibility, and replicated database configuration. The data maintained for a particular domain includes the list of administrators of that domain, plus the names and relevant information about all objects that are registered in the domain.
- Domain Administrator** The System Administrator-assigned access privileges to control the changes to entries within a given domain.
- Note:** Only the Organization Administrator can create a domain.
- Ethernet** A high-speed local area network developed by Xerox that carries information to workstations and servers attached to the network.
- Executive** A program that supports interactive, text-based access to server functions. (The software that allows the user to observe the current activity of a server, or change its current configuration.) The "local executive" is provided at the server terminal. ViewPoint Remote System Administration provides users with a remote executive interface.
- External Communication Service** (ECS) Maintains and initiates emulation sessions between network workstations and various terminals. The ECS emulates three kinds of terminals: 3270 BSC and 3270 SNA synchronous terminals, and standard asynchronous-type terminals. The servers and workstations are enabled by having the different emulation software installed on them.
- Genesis Mode** A state that a server enters when the Clearinghouse is unable to authenticate the user to enable System Administrator capabilities and server initialization when stopped at Interrupt 3. In this case, the user is enabled to access the limited set of System Administrator commands, necessary for making a Clearinghouse domain available. Genesis Mode occurs during the installation of the first server on a network, and on single-server networks after a non-normal server startup and interrupt points 2 or 3 have been taken.
- Initializing** A process that occurs each time services are run for the first time after the server has been booted. The initialization procedure includes the determination of the service name, and configuration information specific to that service.
- Internet, Internetwork** A composite of interconnected networks in which network resources are shared. Any network can have multiple connections to other networks. (See **Internetwork Routing Service** for more information.)
- Internetwork Routing Service** (IRS) Enables all users on a network to access all services (Mail, File, Print), and to communicate with users on other networks. Up to 15 IRSs can be linked together. Any change to an IRS is automatically broadcast throughout the internet.

<i>Interrupt points</i>	Allow the user to change a value that the server applies during initialization. They are available after a non-normal server startup. During initialization, the possible interrupt points are: <ul style="list-style-type: none">• Interrupt before opening primary volume• Interrupt before processing profile• Interrupt before running services Refer to the "Non-normal server startup" section in the <i>Server Operation and Maintenance</i> booklet for further information.
<i>Logoff</i>	The process of stopping a session on a computer system.
<i>Logon</i>	The process of starting a session on a computer system.
<i>Reboot</i>	Restarts the software loaded on the system element by pressing the "boot button" (B RESET on the processor maintenance panel).
<i>Rigid Disk</i>	A hard disk medium used as the main storage device for software and data on the workstations and servers.
<i>RS-232C port</i>	The physical interface between some network citizens and the data communication equipment (usually a modem).
<i>Server</i>	A processor on which one or more services can run.
<i>Service</i>	Software that performs a specific function which runs on a server.
<i>Services System Software</i>	Provides an environment in which one or more of the Xerox 8000 Network System services can operate.
<i>System Administrator</i>	A user with specific network privileges, responsible for setting up and maintaining the network services.

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This section contains the following forms for installing and upgrading server software:

SSI Form 1: Directory of Services on a Specific Server

IRS Form 1: Registering an X.25 Network

IRS Form 2: Registering an IRS Auto-dialed Circuit

IRS Form 3: Registering an IRS Dedicated Circuit

IRS Form 4: Registering an IRS Manually Dialed Circuit

When you plan to install or upgrade software, copy and fill out any of these forms you may need. This will make your entry of parameters at the keyboard faster and more accurate.

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B. Disk pack use and care

The Xerox T80 and T300 disk servers use removable disk packs for storage of data.

The T80 uses packs that hold 80 megabytes (Mb) of data. It is known as an 80 Mb server.

The T300 uses larger packs that hold 300 Mb of data. It is known as a 300 Mb server.

The ability to remove these disk packs gives you versatility in backing up and archiving files stored on your network. But, to use removable disk drives effectively, you need to know about the care and handling of removable disk packs.

About disk packs

Disk packs are a magnetic medium for storing data. The disk packs you will work with come in two sizes: 80 Mb and 300 Mb. The first is used in an 80 Mb disk drive and the second is used in a 300 Mb disk drive. Differently sized disk packs cannot be interchanged.

A disk pack has three main components:

- The storage canister (the clear plastic case covering the platters)
- The disks (platters stacked like phonograph records on a spindle)
- The bottom dust cover

Protecting and storing disk packs

Disk packs are precision devices. Dust and foreign objects interfere with their proper functioning. To prevent damage to the disk, follow these guidelines:

- Always store the disk pack in the canister with the dust cover attached.
- Do not drop a pack or strike it against other objects. Bent disks will not work and may damage the drive.
- Use a pen or felt-tip marker when preparing labels. Pencils and grease pencils can leave a residue. Do not attach labels to the disk pack itself -- attach them to the canister.
- Do not touch the recording surface of the pack. Always use the handle of the storage canister as described in Appendix C, "Installing and removing disk packs."
- Don't store disks near magnetic objects or in direct sunlight. Magnetic objects can change the reliability of the data written on the disk pack. Direct sunlight can cause the temperature of the pack and canister to exceed acceptable levels.
- Store disks flat on shelves or vertically in specially-designed racks. Storage shelves should be located in a relatively clean environment.
- If you store disks in a room other than the one in which they will be used, allow the packs to sit for two hours in the room in which they will be used before you insert them in the servers. This is to ensure the packs are at room temperature.
- Keep the shipping carton in which you received the pack. Use this same carton if you need to return the disk pack.

C. Installing and removing disk packs

Read the following instructions entirely before trying to install or remove a disk pack for the first time.

Installing packs

1. Be sure the disk drive is turned on and has been operating for at least two minutes.
2. Open the lid on top of the drive. The lid's latch is at the top center of the front of the drive.
3. Check the pack area to be certain there are no objects in it.
4. Pick up the disk pack by the handle on the canister. With the other hand, squeeze together the levers in the center of the bottom dust cover. This will release the dust cover. Set the dust cover aside.
5. Lower the disk pack gently into the pack area of the drive. The pack will fit on a spindle that rises up from the middle of the pack area.
6. Turn the handle to the storage canister clockwise until the handle can turn no further. This will lock the platters in. Then lift off the storage canister. It will come away cleanly, leaving the platters in the drive.
7. Close the pack area lid immediately (to prevent entry of dust).
8. Put the canister on the bottom dust cover. Then set the canister and its cover on top of the drive. (There is a slight indentation at the rear of the drive to hold a pack.)
9. Move the Start/Stop switch to the Start position. The green light will blink as the disk starts spinning. In a few seconds, the disk will come up to speed. When the green light stops blinking, the disk drive is ready to use. You can now boot the server using this disk drive.

Removing packs

1. Move the Start/Stop switch to the Stop position. The disk will spin down to halt. Wait until the green light goes off.
2. Open the lid on the top of the drive.

3. Place the storage canister over the disk pack so that the post at the center of the disk fits into the storage canister handle.
4. Turn the canister handle counter-clockwise until you hear a clicking sound. This means that the pack has separated from the spindle. It is now safe to lift the pack out.
5. Lift the pack out of the drive by the storage canister handle. With your other hand, pick up the bottom dust cover and attach it to the canister by squeezing the levers in the center of the bottom dust cover.
6. Close the pack area lid immediately.

D. Formatting removable disk pack

Before you can install software on a removable disk drive, the disk packs must be formatted. To format a disk pack, you will use a tool found on the diagnostic floppy disk for removable disks.

How to format a removable disk pack

1. Insert the disk to be formatted in the disk drive and spin it up. (See Appendix C, "Installing and removing disk packs.")
2. Insert the diagnostic disk in the floppy disk drive of the server processor. Press the B RESET and ALT B buttons at the same time. Release the B RESET button immediately; release the ALT B button when the processor number reads 0005.
3. Type 2 or 3, (depending on your title), and press <RETURN>.
4. Type the appropriate password and press <RETURN>.
5. Enter the number corresponding to "Format disk" and press <RETURN>.
6. Type the number corresponding to the unit you are going to format and press <RETURN>.
7. Type the number of passes you want and press <RETURN>. One pass is sufficient for formatting a disk.
8. Type Y to both confirmation prompts and press <RETURN>. The formatter will ask for two confirmations because formatting a disk destroys any contents already on it. When the message appears that the disk is formatted, it is ready to be used in your disk drive.
9. Type any character and press <RETURN>. You will then return to the test selection menu.
10. Type the number corresponding to the "Exit" option and press <RETURN>.

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E. Protecting and storing Secure Information Devices

This appendix tells you how to protect and store Secure Information Devices (SIDs). These are portable disk drives containing a non-removable (fixed) disk.

SID's come with three capacities: 10 Mb, 29 Mb, or 42 Mb of storage. A Secure Information Device can be attached to your 8010 workstation processor to provide individualized storage for several users of one processor. Only one Secure Information Device may be attached to a processor at any given time.

Secure Information Devices are manufactured with precision. Dust and foreign objects interfere with their proper functioning. To prevent damage to the drive, follow these guidelines:

- Handle the disk drive very carefully. If you have to move it, use its two rigid handles to carry it to its secure storage area. The drive weighs approximately 40 pounds.
- Do not drop the drive or strike it against other objects.
- Store the drive flat on a shelf. The storage shelf should be located in a relatively clean environment. If you are going to stack two or more drives, be sure the shelf can hold the weight.

If a disk drive should fail, the Xerox Technical Representative will turn the failed disk over to you for disposal. This ensures that you remain in total control of your secure data.

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F. Installing and removing Secure Information Devices

This appendix describes how to install and remove Secure Information Devices (SIDs). These are portable disk drives containing a non-removable (fixed) disk. Read the following instructions entirely before trying to install or remove a Secure Information Device for the first time.

Installing a Secure Information Device

1. Place the drive on its tabletop or desktop baseplate near the processor. Don't place it on top of the processor.
2. Seat the drive unit on its baseplate until it locks into place.
3. Attach the two interconnecting harnesses to the drive. (The drive unit connects to the processor by means of these two cables. They have round connectors that are keyed so that they fit only one way. It takes two or three turns of the outer ring to secure the connector in place.)

It is not necessary to turn off the workstation processor while attaching the harnesses.

4. Turn the Secure Information Device drive ON.
5. Now, boot the processor by pressing the B RESET button.

Removing a Secure Information Device

1. Turn the Secure Information Device drive OFF.

CAUTION: Do not pick the drive unit up while its power is on. This could cause a loss of data.

2. Turn off the processor.
3. Detach the two interconnecting harnesses.
4. Remove the drive unit from its tabletop or desktop baseplate using its two rigid handles.
5. Carefully carry the drive unit to its storage area.

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G. Alternate enabling procedures

This appendix provides you with alternate procedures in the event you have not been successful in enabling yourself. If you are not enabled, the exclamation point (!) prompt will not appear.

Did you create the wrong domain?

If you have created a domain that does not match the name you gave to your server, you will be able to log on, but you will not be able to enable yourself. If you discover this error

If you discover this error before typing Proceed

1. Type **Add Domain**. Specify the same domain name that you specified for the server.
2. Add yourself as a user.
3. Give yourself Domain Administrator privileges using the **Change Domain Access** command.
4. Give yourself Organization Administrator privileges using the **Change Organization Access** command.
5. Log on and enable.
6. Type **Proceed**.
7. When the executive prompt returns, direct your commands to the Clearinghouse Service context.
8. Type **Delete Domain** to delete the incorrect domain.

If you discover this error after typing Proceed

1. Reboot the server.
2. Perform a non-normal startup. You will enter Genesis mode.
3. Run only the Clearinghouse Service.
4. Type **Add Domain**. Specify the same domain name that you specified for the server.
5. Add yourself as a user.
6. Give yourself Domain Administrator privileges using the **Change Domain Access** command.

7. Give yourself Organization Administrator privileges using the **Change Organization Access** command.
8. Log on and enable.
9. Type **Proceed**.
10. Delete the incorrect domain.

Did you give your server the wrong domain name?

If you gave your server an incorrect domain name , proceed as follows:

1. Reboot the server.
2. Select a non-normal startup and press <RETURN>. Enter the number corresponding to "Interrupt before running services" and press <RETURN>.
3. When you are prompted, enter the correct, fully-qualified server name. Make sure the domain name is correct.

The server will go through its initialization process, and then return you the the Services Executive prompt.

4. Type **Run Service** and press <RETURN>. Select the number corresponding to the Clearinghouse Service and press <RETURN>.
5. Specify a normal Clearinghouse startup.
6. Log on and enable. If you succeed in enabling, the problem has been resolved.

Did you lock yourself out of the domain?

If you typed **Proceed** before making yourself the Domain Administrator of the domain you just created, you have locked yourself out of the domain. You know this because the server continues to prompt you to log on. This is because it cannot authenticate you as the Domain Administrator for the server's domain. Correct this by repeating the entire installation procedure.

1. Re-partition your disk.
2. Re-install software.
3. Run only the Clearinghouse Service.
4. Apply the same name to the Clearinghouse Service as you gave it during your first attempt.
5. Add the same domain again. (Be sure to give yourself Domain Administrator privileges.)

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