

# INSTALLING ENTIRE NET-WORK

ENTIRE NET-WORK can be installed on a workstation running Windows, Windows for Workgroups, Windows NT, OS/2, or Macintosh System 7. This chapter explains how to install ENTIRE NET-WORK on each of these platforms. The installation procedure is fully automated.

## Before Installing

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Before installing ENTIRE NET-WORK, ensure that the required software is installed and that the hardware requirements have been met. The requirements are listed in the section for each platform.

During the installation procedure, Setup will ask you where (in what directory) you want ENTIRE NET-WORK installed. If you already have an earlier version of ENTIRE NET-WORK, SOFTWARE AG recommends that you install into a new directory. This will allow you to test the new version before switching over from the existing version.

## After Installing

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After installing ENTIRE NET-WORK, you will need to enter the connection information required to configure the node. The first time you start the console, ENTIRE NET-WORK automatically provides a configuration dialog box where you can define the local node and its connections to other nodes. Chapter 3, **Using ENTIRE NET-WORK**, explains how to enter connection information.

## Restricting Access to the Console

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ENTIRE NET–WORK consists of two primary components:

- The ENTIRE NET–WORK kernel runs in the background and has no user interface.
- The ENTIRE NET–WORK console is the graphical user interface that allows you, as network administrator, to monitor and manage the network. You can reconfigure network connections while ENTIRE NET–WORK is up and running, thus preventing disruptions in service.

You may want the user to have access to both the console and the kernel, or you may want to restrict access to the console and provide the user with the kernel only. The ENTIRE NET–WORK installation procedure automatically installs both the kernel and the console.

If you want the user to have the kernel only, install ENTIRE NET–WORK on the user's workstation, and then delete the console executable (CONSOLE.EXE). You will need to define the connections for each user's workstation. The console provides a Configure dialog that allows you to specify the node name and node ID, as well as other information required to define each connection.

# Installing in Windows Environments

This section explains the ENTIRE NET-WORK installation procedure for Windows and Windows for Workgroups.

Also see Chapter 4, **Interfaces**, for information about the SOFTWARE AG product interfaces that are automatically installed in the ENTIRE NET-WORK directory.

ENTIRE NET-WORK fully supports Microsoft Windows for Workgroups Version 3.11 and above. If the ENTIRE NET-WORK kernel is installed on a Windows for Workgroups LAN, other workstations on the LAN can access the kernel by means of NETDDE. NETDDE is provided by Microsoft transparently under Windows for Workgroups.

## Software Requirements

The following software must be installed on each workstation where ENTIRE NET-WORK is to be installed:

- Microsoft Windows Version 3.1 or above, or Microsoft Windows for Workgroups Version 3.11 or above running in enhanced mode
- DOS Version 5.0 or above (Version 6.x is recommended)
- The appropriate communication protocol for your network environment:

Connection Type	Communication Protocol
SPX	Novell Netware Shell Version 3.26 or above with IPXODI.COM.
TCP/IP	Windows Sockets Interface Version 1.1 or above (supported by Novell LAN WorkPlace for DOS Version 4.2 or above, FTP Software, Inc. PC/TCP Network Software for DOS Version 2.11 or above, and NetManage Version 3.1 and above).
DECnet	DEC PATHWORKS for DOS Version 4.2 or above.
LU6.2	Novell Netware for SAA Version 2.0 or above.
NETBIOS	NETBIOS emulation driver.

## NETBIOS over SPX

To use NETBIOS over SPX on a Windows for Workgroups LAN, install the IPX/SPX-compatible transport with NETBIOS. Then follow the steps below:

- ☐ Run the Network setup in the Network group.
- ☐ Choose ‘Add protocol’ to add NETBIOS over SPX.
- ☐ In the Network setup, set ‘Frame type’ to Ethernet II.

## Hardware Requirements

The following hardware is required:

- An Intel 386 or higher CPU PC
- A VGA or higher display adapter
- A Microsoft Windows compatible mouse
- An 80-megabyte hard disk drive with at least 2 megabytes available disk space (additional disk space is required for extensive logging)
- At least 8 megabytes of RAM (random access memory) is recommended; 16 megabytes of RAM is recommended in order to run most client and server applications, including NATURAL. ENTIRE NET–WORK itself uses less than one megabyte of RAM.
- The appropriate LAN adapter for your network environment:

Connection Type	LAN Adapter
SPX	Novell compatible LAN adapter (IBM Token Ring or 3COM 3C503 is recommended).
TCP/IP	Windows Sockets compatible LAN adapter.
DECnet	DEC PATHWORKS compatible LAN adapter (3COM 3C503 is recommended).
LU6.2	Novell compatible LAN adapter (IBM Token Ring or 3COM 3C503 is recommended).

## Installation Procedure

The ENTIRE NET–WORK installation procedure for Windows is fully automated.

1. Insert installation diskette 1 into the selected drive.
2. Start Windows.
3. In the Windows Program Manager, choose Run from the File menu.
4. Type the drive (A: or B:) and SETUP.EXE in the Command Line box. For example:

**A:SETUP.EXE**

5. Choose OK.

Setup prompts you for the following information:

- ☐ Where do you want ENTIRE NET–WORK installed?

Enter the path where you want Setup to install ENTIRE NET–WORK, or press ENTER to accept the default path (C:\WCP221).

- ☐ What is your registration information?

Enter your user name, organization, and registration number. (If this install is an upgrade, user name and organization are filled in for you.) The registration number is contained in your installation kit.

- ☐ Do you want the required variables added to your AUTOEXEC.BAT file?

For a description of these variables, see the section **Modifying the AUTOEXEC.BAT File** on page 28.

- ☐ Do you want the ENTIRE NET–WORK programs added to the Program Manager?

If you select Yes, Setup creates the Program Manager folder and the icons for ENTIRE NET–WORK. If the ENTIRE NET–WORK icons already exist, they are replaced, not duplicated.

6. The installation procedure is complete. Reboot your computer.

## Modifying the AUTOEXEC.BAT File

Setup asks if you want the required environment variables added to your AUTOEXEC.BAT file.

### If You Select Yes

If you select Yes, the following variables are added automatically and your original AUTOEXEC.BAT file is saved:

- SET SAGNW environment variable. SET SAGNW points to the directory where ENTIRE NET-WORK is installed. For example:

**SET SAGNW=C:\WCP221**

- SET SAGNET environment variable. SET SAGNET defines the location of SAGNET.CFG, the ENTIRE NET-WORK connections configuration file. For example:

**SET SAGNET=C:\WCP221\SAGNET.CFG**

- The location of the ENTIRE NET-WORK executables is added to the PATH= or SET PATH= statement, provided your PATH statement does not exceed 127 characters. For example:

**SET PATH=C:\;C:\DOS;C:\WINDOWS;C:\WCP221**

- If you wish to define separate user directories, you will need to add the SAGNWUSER variable manually. For example:

**SET SAGNWUSER=C:\WCP221\username**

*Note:*

*If you are using LU6.2 connections, you will need to add the SAGSNA environment variable to the AUTOEXEC.BAT file. See the section **LU6.2 Configuration** on page 29.*

### If You Select No

If you select No, Setup creates a sample file and saves it in the installation directory as AUTOEXEC.WCP. After ENTIRE NET-WORK is installed, you can use AUTOEXEC.WCP to replace your existing AUTOEXEC.BAT.

## Font File

Setup copies a small font file called 6X10.FON to your ENTIRE NET-WORK directory.



To use this font in the ENTIRE NET-WORK console

- ☐ Start Windows and run the Control Panel.
- ☐ Select Fonts and install the 6X10.FON font from the ENTIRE NET-WORK directory.

## LU6.2 Configuration

If you are using LU6.2 connections, you will need to add the SET SAGSNA environment variable to your AUTOEXEC.BAT file after ENTIRE NET-WORK is installed. The SET SAGSNA environment variable defines the location of the LU62.CFG configuration file for LU6.2. For example:

**SET SAGSNA=C:\WCP221\LU62.CFG**

## File Server Configuration

If ENTIRE NET-WORK is installed on a file server, follow the steps below.

1. Define the drive or directory where ENTIRE NET-WORK is installed as 'shared'.
2. The configuration files CONFIG.NWW and NETWORK.CFG cannot be shared. Create a separate copy of these files for each user.
3. The configuration file SAGNET.CFG can be shared or copied for each user. See the AUTOEXEC.BAT file examples on page 30.
4. Edit the SAGNET.CFG file(s) and change the path for each ENTIRE NET-WORK driver (protocol handler) to point to the correct drive. That is, change the drive to match the one used for the permanent connection to the file server.
5. Edit each user's AUTOEXEC.BAT file and change the ENTIRE NET-WORK variables to point to the correct drive.

## AUTOEXEC.BAT Examples

The following are examples of the AUTOEXEC.BAT file when SAGNET.CFG is shared and when SAGNET.CFG is not shared. ENTIRE NET-WORK is installed in the directory **R:\WCP221**.

### Example 1 : SAGNET.CFG is Shared

When SAGNET.CFG is shared, CONFIG.NWW and NETWORK.CFG are placed in the user's directory and SAGNET.CFG is placed in the ENTIRE NET-WORK directory.

The user's AUTOEXEC.BAT file contains the following statements:

```
SET PATH=%PATH%;R:\WCP221  
SET SAGNW=R:\WCP221  
SET SAGNET=R:\WCP221\SAGNET.CFG  
SET SAGNWUSER=R:\WCP221\username
```

### Example 2 : SAGNET.CFG is Not Shared

When SAGNET.CFG is not shared, CONFIG.NWW, NETWORK.CFG, and SAGNET.CFG are all placed in the user's directory.

The user's AUTOEXEC.BAT file contains the following statements:

```
SET PATH=%PATH%;R:\WCP221  
SET SAGNW=R:\WCP221  
SET SAGNET=R:\WCP221\username\SAGNET.CFG  
SET SAGNWUSER=R:\WCP221\username
```

*Note:*

*SAGNWUSER points to the location of the CONFIG.NWW and NETWORK.CFG configuration files. When SAGNWUSER is defined, the user's log file is automatically placed in the user's LOG directory, that is, \WCP221\username\LOG.*



## Converting Version 2.1 Configuration Files

After installing ENTIRE NET-WORK, you will need to define the connections between the local node and all partner nodes.

If you are upgrading from ENTIRE NET-WORK FOR WINDOWS Version 2.1, you may automatically convert your Version 2.1 configuration files to ENTIRE NET-WORK Version 2.2 configuration files instead of redefining existing connections.

The ENTIRE NET-WORK Version 2.2 installation procedure installs a DOS program named SAGCVT.EXE in the same directory where ENTIRE NET-WORK is installed. After completing the installation procedure, you may run the SAGCVT program to convert your Version 2.1 configuration files to Version 2.2 configuration files.



To execute the SAGCVT program, enter the following at the DOS prompt:

**SAGCVT source-directory target-directory**

where **source-directory** is the PATH where the ENTIRE NET-WORK FOR WINDOWS Version 2.1 configuration files are located and **target-directory** is the PATH where ENTIRE NET-WORK Version 2.2 is installed.

The following examples illustrate the use of the SAGCVT program.

### Example 1

In this example, the following configuration is assumed:

- ENTIRE NET–WORK FOR WINDOWS Version 2.1 is installed in the directory C:\WWI211. The configuration files NETWORK.CFG and SAGNET.CFG are located in the same directory.
- ENTIRE NET–WORK Version 2.2 is installed in the directory C:\WCP221. The configuration files NETWORK.CFG and SAGNET.CFG are located in the same directory and have not been modified since ENTIRE NET–WORK Version 2.2 was installed.



To run the SAGCVT program, enter the following at the DOS prompt:

**SAGCVT C:\WWI211 C:\WCP221**

A message informs you that the files NETWORK.CFG and SAGNET.CFG have been converted. The converted files can now be used by ENTIRE NET–WORK Version 2.2.

### Example 2

In this example, the following configuration is assumed:

- ENTIRE NET–WORK FOR WINDOWS Version 2.1 is installed in the directory C:\WWI211. The NETWORK.CFG file is located in the same directory. The configuration SAGNET.CFG file is located in the C:\WWI211\USER directory.
- ENTIRE NET–WORK Version 2.2 is installed in the directory C:\WCP221. The NETWORK.CFG file is located in the C:\WCP221 directory. The SAGNET.CFG file has been moved from the C:\WCP221 directory to the C:\WCP221\USER directory.

The SAGCVT program must be run twice.

1. First, run SAGCVT to convert the the NETWORK.CFG file:

**SAGCVT C:\WWI211 C:\WCP221**

A message appears to inform you that the NETWORK.CFG file has been converted.

2. Then run SAGCVT to convert the SAGNET.CFG file:

**SAGCVT C:\WWI211\USER C:\WCP221\USER**

A message appears to inform you that the SAGNET.CFG file has been converted. The converted files can now be used by ENTIRE NET–WORK Version 2.2.

## NETACC

The NET-WORK ACCESS client interface, NETACC, is an extension of ENTIRE NET-WORK for PCs running under Windows or Windows for Workgroups Version 3.1 or above. For additional information, see the section **NET-WORK ACCESS** on page 19.

*Note:*

*NETACC is currently not available with ENTIRE NET-WORK for the OS/2, Windows NT, or Macintosh platform.*

After ENTIRE NET-WORK is installed, you can configure your system to force client requests to use either ENTIRE NET-WORK or NET-WORK ACCESS exclusively. See the section **Search Order** on page 36.

## Requirements

NETACC requires one of the following runtime environments:

- TCP/IP, supporting the Windows Sockets Interface Version 1.1 or above;
- DECnet, provided by DEC PATHWORKS for DOS Version 4.2 or above.

## Installation

NETACC comprises the DLLs (dynamic linked libraries) listed below. These DLLs are installed automatically when ENTIRE NET-WORK is installed, and are placed in the ENTIRE NET-WORK directory.

DLL	Content
ADALNK_C.DLL	NETACC runtime module.
ACCSOCK.DLL	TCP/IP Windows Sockets protocol handler.
ACCDEC.DLL	DECnet protocol handler.
NETACC.CFG	NETACC runtime module configuration file.

## Configuration

To configure NETACC, modify the configuration file NETACC.CFG. All parameter specifications must be placed after the (Configuration) topic. Each line entered must be terminated with a carriage return or line feed.

In addition to the following parameter descriptions, also see the information provided in the NETACC.CFG file.

The NETACC.CFG parameters are as follows:

Parameter	Description
HostName	The name of the server node, i.e., the OpenVMS or UNIX machine where the NET-WORK ACCESS server is running. Maximum length is 8 characters, and value must be alphanumeric. This parameter is required and must match the NETACS_DOMAIN parameter specification for the NET-WORK ACCESS server component (NETACS) on the server node.
NodeName	The node name of the local (client) node. Maximum length is 8 characters, and value must be alphanumeric. This parameter is required.
Protocol	The name of the protocol handler to be used. This parameter is optional; if specified, value must be either TCP or DECnet. The default value is TCP.
LogName	A user name that identifies the source of each transaction sent to ADABAS. This parameter is optional. Maximum length is 8 characters, and value must be alphanumeric. The default value is TTYxxxxx.
Address	<p>TCP/IP or DECnet address. This parameter is optional. If no value is specified, then a Domain Named Server or local HOSTS file is used to resolve the HostName field address.</p> <p>Under TCP/IP, address is in the form xxx.xxx.xxx.xxx, where xxx is a decimal number in the range 0 – 255.</p> <p>Under DECnet, address is in the form xxx.yyy, where xxx is a decimal number in the range 0 – 255 and is the area; yyy is a decimal number in the range 0 – 255 and is the node.</p>

Parameter	Description
Service	<p>TCP/IP or DECnet service. This parameter is optional.</p> <p>Under TCP/IP, service is the TCP/IP port where the NET-WORK ACCESS server is listening. If no value is specified, a default value is calculated by adding the ASCII value for each HostName character, including blank character padding out to eight character positions; this sum is then added to 1023.</p> <p>Under DECnet, service is the Object Name of the NET-WORK ACCESS server. If no value is specified, the default value is DOMAIN.</p>
LUSize	<p>The maximum size, in bytes, of buffers that can be sent and received. This parameter is optional. If specified, the value can be in the range 8192 – 65000. The default value is 32768.</p>
Trace	<p>Turns trace dumps on or off. This parameter is optional. If value is set to YES, trace is turned on; otherwise, trace is turned off.</p> <p>When trace is turned on, the file NETACC.LOG is created in the directory specified by the SAGNWUSER environment variable, if it is defined; if SAGNWUSER is not defined, the file is created in the directory specified by the SAGNW environment variable.</p>

## Search Order

When a client application, such as a NATURAL program running on a Windows node, issues a request to an ADABAS server on an OpenVMS or UNIX node, the ADALNK interface is called. ADALNK may use either NET-WORK ACCESS or ENTIRE NET-WORK to access the requested server, as follows:

- If the NET-WORK ACCESS components NETACC and NETACS are properly configured, the request goes to NETACS on the OpenVMS or UNIX node. If the requested ADABAS server is available, processing continues normally. If the requested ADABAS server is not available, the appropriate error code is returned to the client that issued the request.
- If the NET-WORK ACCESS components are not properly configured, the ADALNK interface determines whether ENTIRE NET-WORK is operational on the Windows node. If ENTIRE NET-WORK is operational, ADALNK determines whether the requested ADABAS server is available. If the requested ADABAS server is available, processing continues normally. If the requested ADABAS server is not available, the appropriate error code is returned to the client that issued the request.

You can force client requests to use either NET-WORK ACCESS or ENTIRE NET-WORK exclusively.



To use NET-WORK ACCESS exclusively, simply do not start ENTIRE NET-WORK.



To use ENTIRE NET-WORK exclusively, do one of the following:

- ☐ Remove all of the configuration settings in the NETACC.CFG configuration file; or
- ☐ Rename the NETACC runtime DLL ADALNK\_C.DLL to ADALNK\_C.SAV.

# Installing in Windows NT Environments

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This section explains the ENTIRE NET–WORK installation procedure for Windows NT and the post-installation configuration requirements. Also described are several procedures that are specific to ENTIRE NET–WORK on the Windows NT platform.

## Software Requirements

The following software must be properly configured and operational:

- Microsoft Windows NT Version 3.5 or above;
- The appropriate communication protocol for your network environment:

Connection Type	Communication Protocol
SPX	Novell Netware Shell Version 3.26 or above with IPX.COM loaded.
LU6.2	Microsoft SNA Server Version 2.1 or above for Windows NT
TCP/IP	Windows NT Sockets Interface and TCP/IP Services
NETBIOS	Windows NT NETBIOS Services

## Hardware Requirements

The following hardware is required:

- An Intel 486 33Mhz or higher CPU PC.
- A VGA or higher display adapter.
- A Microsoft Windows compatible mouse.
- An 80-megabyte hard disk drive with at least 4 megabytes available disk space (additional disk space is required for extensive logging).
- At least 16 megabytes of RAM (random access memory); 32 megabytes is recommended.

- The appropriate LAN board or adapter for your network environment:

Connection Type	Requirement
Token Ring	IBM Token Ring Board
Ethernet	3COM 3C503 Ethernet Adapter
Serial	IBM SDLC Adapter
SLIP	RS–232 Port

## Installation Procedure

You should be logged on as the administrator or have full administrator rights when installing ENTIRE NET–WORK under Windows NT.

The ENTIRE NET–WORK installation procedure for Windows NT is fully automated.

1. Insert Installation Diskette 1 into the selected drive.
2. In the Windows NT Program Manager, choose Run from the File menu.
3. Type the drive (A: or B:) and SETUP.EXE in the Command Line box. For example:

**A:SETUP.EXE**

4. Choose OK.

Setup prompts you for the following information:

- ☐ Where do you want ENTIRE NET–WORK installed?

You can enter the path where you want Setup to install ENTIRE NET–WORK, or press ENTER to accept the default path (C:\WCP221).

- ☐ What is your registration information?

Enter your user name, organization, and registration number. The registration number is contained in your installation kit.



- ☐ Do you want the ENTIRE NET-WORK programs added to the Program Manager?

If you select Yes, you will be asked whether or not the ENTIRE NET-WORK program manager group should be common.

If multiple users will be logging in and security is an issue, then do not make the ENTIRE NET-WORK Program Manager group common. For added security, configure ENTIRE NET-WORK to start automatically at boot time (see the section **Configuring Nodes for Automatic Startup** on page 48.)

5. The installation procedure is complete. Reboot your computer.

## Font File

Setup copies a small font file called 6X10.FON to your ENTIRE NET-WORK directory.



To use this font in the ENTIRE NET-WORK console

- ☐ Click on the Control Panel icon.
- ☐ Select Fonts and install the 6X10.FON font from the ENTIRE NET-WORK directory.

## ADALNK

The following ADALNK modules are installed during the installation procedure, and should be moved from the installation directory to the correct path, i.e., the path that points to the ENTIRE NET-WORK directory:

- ADALNK.DLL
- ADALNK\_X.DLL

## Configuration Requirements

After installing ENTIRE NET–WORK, you will need to add the information required to define each ENTIRE NET–WORK node. To do this, you will need to know

- the number of ENTIRE NET–WORK kernels that will be running on the computer; and
- the Domain, Node Name, and Node ID for each kernel (as defined in the NETWORK.CFG kernel configuration file).

If ENTIRE NET–WORK is installed on a file server, see the section **File Server Configuration** on page 41.

### Running Only One Node

If you are running only one ENTIRE NET–WORK kernel on the computer, and there is no requirement to start it automatically at boot time, then

- the registry keys described in this section are not required;
- the environment variables SAGNW, SAGNET, SAGSNA and SAGNWUSER can be used instead; and
- the domain.nodename option can be omitted when starting the kernel or the console from the Windows NT command line (see the section **Starting a Kernel** on page 49).

The environment variables have the same meaning and values as the registry keys. If used, they should be added under the Environment key. See the section **Additional Registry Information** on page 46.

### Running More Than One Node

If you are running more than one ENTIRE NET–WORK kernel on the same computer, you will need to edit the Windows NT Registry and add the registry key values. See the section **Adding Registry Keys** on page 43. In addition, the following rules **must be** observed:

1. There must be a unique NETWORK.CFG and CONFIG.NWW configuration file and a unique log path for each ENTIRE NET–WORK node.
2. The Domain, Node Name, and Node ID values defined in the NETWORK.CFG file must be unique.
3. In the SAGNET.CFG configuration file, you are not allowed to have two or more protocol handlers running the same protocol address and the same protocol service. The protocol service must be different. You will need non-shared SAGNET.CFG files for each ENTIRE NET–WORK kernel running on the computer.

## File Server Configuration

If ENTIRE NET–WORK is installed on a file server, follow the steps below:

1. Define the drive or directory where ENTIRE NET–WORK is installed as ‘shared’.
2. The configuration files CONFIG.NWW and NETWORK.CFG cannot be shared. Create a separate copy of these files for each user.
3. The configuration file SAGNET.CFG can be shared or copied for each user. See the AUTOEXEC.BAT file examples on page 42.
4. Edit the SAGNET.CFG file(s) and change the path for each ENTIRE NET–WORK driver (protocol handler) to point to the correct drive. That is, change the drive to match the one used for the permanent connection to the file server.
5. Edit each user’s AUTOEXEC.BAT file and change the ENTIRE NET–WORK variables to point to the correct drive.
6. Edit the Windows NT Registry and add the registry key values for each client node. See the section **Adding Registry Keys** on page 43.

## AUTOEXEC.BAT File Examples

The following are examples of the AUTOEXEC.BAT file when SAGNET.CFG is shared and when SAGNET.CFG is not shared. ENTIRE NET-WORK is installed in the directory **R:\WCP221**

### SAGNET.CFG is Shared

When SAGNET.CFG is shared, CONFIG.NWW and NETWORK.CFG are placed in the user's directory and SAGNET.CFG is placed in the ENTIRE NET-WORK directory.

The user's AUTOEXEC.BAT file contains the following statements:

```
SET PATH=%PATH%;R:\WCP221  
SET SAGNW=R:\WCP221  
SET SAGNET=R:\WCP221\SAGNET.CFG  
SET SAGNWUSER=R:\WCP221\username
```

### SAGNET.CFG is Not Shared

When SAGNET.CFG is not shared, CONFIG.NWW, NETWORK.CFG, and SAGNET.CFG are all placed in the user's directory.

The user's AUTOEXEC.BAT file contains the following statements:

```
SET PATH=%PATH%;R:\WCP221  
SET SAGNW=R:\WCP221  
SET SAGNET=R:\WCP221\username\SAGNET.CFG  
SET SAGNWUSER=R:\WCP221\username
```

*Note:*

*SAGNWUSER points to the location of the CONFIG.NWW and NETWORK.CFG configuration files. When SAGNWUSER is defined, the user's log file is automatically placed in the user's LOG directory, that is, \WCP221\username\LOG.*

## Adding Registry Keys

This section uses an example to explain how to add the registry keys required to configure multiple ENTIRE NET-WORK nodes.

The example is based on the following assumptions:

- Two ENTIRE NET-WORK kernels will be run on the same computer.
- The first node, USA.USER1, uses a Domain entry in the NETWORK.CFG configuration file.
- The second node, USER2, does not use a Domain entry.
- USA.USER1 uses SNA Server LU6.2 connections; USER2 does not.
- ENTIRE NET-WORK is installed in the default directory, i.e., C:\WCP221.

## Registry Entries

The ENTIRE NET-WORK installation program automatically adds the following entry to the Windows NT registry:

```
HKEY_LOCAL_MACHINE
  SOFTWARE
    Software AG
      NET-WORK
```

1. Under the **NET-WORK** registry key (shown above), start the Windows NT registry editor and add the following registry keys with a class type of REG\_SZ:
  - domain.nodename or
  - nodename (if there is no domain defined for this node).

The domain.nodename registry keys for the two nodes in the example configuration are added as follows:

```
HKEY_LOCAL_MACHINE
  SOFTWARE
    Software AG
      NET-WORK
        USA.USER1
        USER2
```

2. Under each domain.nodename registry key, define the information specific to each node. The following table describes the keys that must be added. All keys are type REG\_SZ.

Key Name	Description
SAGNW	Path where ENTIRE NET–WORK is installed. Required.
SAGNET	Path where the SAGNET.CFG configuration file is stored. Required.
SAGNWUSER	Path for logging; also where the NETWORK.CFG and CONFIG.NWW configuration files and the log files are stored. Required if more than one ENTIRE NET–WORK kernel is run on the same computer. Must be unique for each node.
SAGSNA	Path for the SNA Server LU6.2 configuration file. Required if SNA Server LU6.2 connections are used.
START	YES or NO specifies whether or not this ENTIRE NET–WORK node will be started at boot time. Required.

The keys for the two nodes in the example configuration are added as follows:

```
HKEY_LOCAL_MACHINE
  SOFTWARE
    Software AG
      NET–WORK
        USA.USER1
          SAGNW=C:\WCP221
          SAGNET=C:\WCP221\USER1\SAGNET.CFG
          SAGNWUSER=C:\WCP221\USER1
          SAGSNA=C:\WCP221\USER1\LU62.CFG
          START=YES
        USER2
          SAGNW=C:\WCP221
          SAGNET=C:\WCP221\USER2\SAGNET.CFG
          SAGNWUSER=C:\WCP221\USER2
          START=YES
```

### Separate Directories

1. A separate directory is created for each node. The directories for the two nodes in the example configuration are:

**C:\WCP221\USER1**  
**C:\WCP221\USER2**

The C:\WCP221\USER1 directory contains:

- a copy of the SAGNET.CFG and LU62.CFG files to define the connections for this node;
- a CONFIG.NWW console configuration file; and
- a NETWORK.CFG kernel configuration file, where the following information is defined:

**Domain=USA**  
**NodeName=USER1**  
**NodeID=0**

The C:\WCP221\USER2 directory contains:

- a copy of the SAGNET.CFG file to define the connections for this node;
- a CONFIG.NWW console configuration file; and
- a NETWORK.CFG kernel configuration file, where the following information is defined:

**Domain=**  
**NodeName=USER2**  
**NodeID=0**

2. A separate log directory is created for each node. This is the directory where the ENTIRE NET-WORK log files will be located. The log directories for the two nodes in the example configuration are:

**C:\WCP221\USER1\LOG**  
**C:\WCP221\USER2\LOG**

## Additional Registry Information

This section describes registry information that is automatically added to the Windows NT registry during the ENTIRE NET–WORK installation procedure.

You need not change or edit this information unless

- you manually change the location of ENTIRE NET–WORK from where it was originally installed; or
- the registry becomes corrupted, and you do not wish to re-install ENTIRE NET–WORK.

### Registry Entry One

```
HKEY_LOCAL_MACHINE
  SYSTEM
    CurrentControlSet
      Control
        Session Manager
          Environment
```

The path where ENTIRE NET–WORK is installed is defined by the key value Path under the Environment key.

If you are using the environment variables SAGNW, SAGNET, SAGSNA and SAGNWUSER, they should be added under the Environment key. (See the section **Running Only One Node** on page 40.)



Registry Entry Two

HKEY\_LOCAL\_MACHINE  
SYSTEM  
CurrentControlSet  
Services  
EventLog  
Application  
ENTIRE NET-WORK

The following registry key values are defined under the ENTIRE NET-WORK key:

Key Name	Type	Value
EventMessageFile	REG_EXPAND_SZ	C:\WCP221\USRES.DLL
TypesSupported	REG_DWORD	0x7

Registry Entry Three

HKEY\_LOCAL\_MACHINE  
SYSTEM  
CurrentControlSet  
Services  
NET-WORK

The following registry key values are defined under the NET-WORK key:

Key Name	Type	Value
DisplayName	REG_SZ	ENTIRE NET-WORK
ErrorControl	REG_DWORD	0x1
ImagePath	REG_EXPAND_SZ	C:\WCP221\SAGSRV.EXE
ObjectName	REG_SZ	LocalSystem
Start	REG_DWORD	0x3
Type	REG_DWORD	0x110

## Configuring Nodes for Automatic Startup

A Windows NT Service Control program is installed during the ENTIRE NET–WORK installation procedure. This program can be used to start one or more ENTIRE NET–WORK node(s) automatically at boot time.



To configure ENTIRE NET–WORK nodes for automatic startup, follow the steps below:

*Note:*

*Do not perform this procedure until you are sure that ENTIRE NET–WORK is operational and properly configured.*

- ☐ Configure the Session Manager:
  - Double-click the Control Panel icon.
  - Double-click the Services icon.
  - Select ENTIRE NET–WORK from the Services list box.
  - Click the Startup... button.
  - Select Automatic from the Startup Type list box.
  - Select System Account from the Log On As list box.
  - Check Allow Service to Interact with Desktop under the System Account.
  - Click the OK button to save your changes.
  - Click the Close button in the Services dialog.
- ☐ Locate the Windows NT Registry entry shown below:

**HKEY\_LOCAL\_MACHINE**  
**SOFTWARE**  
**Software AG**  
**NET–WORK**

- ☐ Under the NET–WORK key, set the START key value to YES for each ENTIRE NET–WORK node to be started automatically.

Provided there are no configuration errors, these nodes will be started automatically the next time Windows NT is started. Each node will be properly shut down when Windows NT is shut down.

## Starting and Attaching to a Kernel

You can start and attach to an ENTIRE NET-WORK kernel from the Windows NT command prompt. The start and attach functions also can be added to your Program Manager.

*Note:*

*In the following instructions, the domain.nodename argument is not required if you are running only one kernel and you are using the environment variables instead of the registry entries (see the section **Running Only One Node** on page 40).*

## Starting a Kernel



To start a kernel, enter the following at the command prompt:

**START WCP221/WNT.EXE/N domain.nodename**

where “domain.nodename” is the domain and node name for the kernel; if there is no domain, enter the nodename only.

For example:

To start the kernel USA.USER1, enter the following:

**START WCP221/WNT.EXE/N USA.USER1**

To start the kernel USER2, enter the following:

**START WCP221/WNT.EXE/N USER2**

## Attaching to a Kernel

Using registry entries, the Windows NT console can access any kernel that is running.



To attach to a kernel, enter the following at the command prompt:

**CONSOLE /N domain.nodename**

where “domain.nodename” is the domain and node name for the kernel; if there is no domain, enter the node name only.

For example:

To attach to the kernel USA.USER1, enter the following:

**CONSOLE /N USA.USER1**

To attach to the kernel USER2, enter the following:

**CONSOLE /N USER2**

## Checking for Errors at Windows NT Boot Time



If ENTIRE NET–WORK is configured to start automatically at boot time and startup errors occur, check the following two locations for the cause of the startup error.

- ☐ Check the Windows NT Event Logger, as follows:
  - Start the Windows NT Event Viewer.
  - Select Application from the Log Menu.
  - Locate “Source of ENTIRE NET–WORK” to view any additional information.
- ☐ Check the ENTIRE NET–WORK log file(s) to find out which node produced the startup errors.

## Installing on a Macintosh Computer

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This section explains the procedure for installing ENTIRE NET-WORK on a Macintosh computer.

Also see Chapter 4, **Interfaces**, for information about the ADALNK interface that is automatically installed in the ENTIRE NET-WORK folder.

### Software Requirements

ENTIRE NET-WORK requires a Macintosh System 7.1 or above and AppleEvent Manager 1.0.1 or above. This configuration can be obtained with any one of the following System Software installations:

- System 7.5 (unless AppleScript is specifically not installed)
- System 7.1.2 (must be installed from AppleScript Scriptor's Kit)
- System 7.1.1 (unless AppleScript is specifically not installed)
- System 7.1 (requires that AppleScript 1.1 also be installed)

ENTIRE NET-WORK also requires MacTCP Version 2.0 or above (TCP/IP Connection for Macintosh). The Macintosh System 7.5 includes MacTCP, and is recommended.

### Hardware Requirements

- The recommended amount of RAM (random access memory) is 1000K for the ENTIRE NET-WORK kernel and 1000K for the ENTIRE NET-WORK console.
- At least 2 megabytes available disk space is recommended (additional disk space is required for extensive logging).

## Installation Procedure



Use the following steps to install ENTIRE NET–WORK:

- ☐ Insert the installation diskette into the selected drive.
- ☐ Double-click the diskette icon to display the ENTIRE NET–WORK folder.
- ☐ Drag the ENTIRE NET–WORK folder to the desired location, which should be on a local disk.

The ENTIRE NET–WORK folder and its contents are automatically copied to the selected location. The folder contains the files listed below, which must be kept together.

The installation procedure is complete.

## Files

The following files are used by the ENTIRE NET–WORK kernel, and must reside in the same folder:

- ENTIRE NET–WORK kernel
- ENU.INF
- ENU.MSG
- NETWORK.CFG
- SAGNET.CFG

The ENTIRE NET–WORK console must be in this same folder during the initial configuration. When it starts, the kernel will create a LOG folder inside this folder, and the log files will be placed there.

The console will create a file named ENTIRE NET–WORK Preferences in your system's Preferences folder. This file contains information about window sizes and positions, product registration, and other options that you set using the console.

## Configuration

When ENTIRE NET–WORK is initially installed, it is not yet configured. When you start the console for the first time, you will be asked to enter the information required to define the local node and at least one connection. See the section **Getting Started** on page 63.

After entering this information, you may want to place an alias to the ENTIRE NET–WORK kernel in your Startup Items folder so that it will be started whenever you boot your Macintosh. The kernel is a background-only application. It presents no user interface, and is not visible while it is executing. Its memory is included in the memory attributed to “System Software”.

Because AppleEvents are “network aware”, you can run client applications or the ENTIRE NET–WORK console on a Macintosh other than the one where the kernel is installed. The following two tasks are required on the kernel Macintosh:

- Use the “Sharing Setup” Control Panel to turn on program linking.
- Then use the “Users and Groups” Control Panel to define users who will be allowed to access the kernel Macintosh. Each user must also have program linking enabled.

*Note:*

*You should not enable program linking for the <Guest> user.*

## File Server Considerations

If you are installing ENTIRE NET-WORK on a file server in order to share ENTIRE NET-WORK among multiple users, note the following information about the configuration files:

- NETWORK.CFG cannot be shared.  
NETWORK.CFG is the kernel configuration file, which maintains user preferences for the kernel as well as the local ENTIRE NET-WORK node information.
- SAGNET.CFG can be shared or set for each user.  
SAGNET.CFG is the connections configuration file.

In order to maintain multiple NETWORK.CFG files for different user machines, ENTIRE NET-WORK allows you to place them in different folders within the folder containing the kernel. These folders are identified using the Macintosh Name (from the Sharing Setup Control Panel) as the folder name. In a shared installation, ENTIRE NET-WORK looks for its configuration file as follows:

- If the NETWORK.CFG file is found in the same folder as the kernel, it is used. Otherwise, ENTIRE NET-WORK searches the kernel folder for a folder with the same name as the Macintosh Name. If found, the NETWORK.CFG file must be in this folder.
- If the SAGNET.CFG file is found in the same folder as the NETWORK.CFG file, it is used. Otherwise, the SAGNET.CFG file must be in the same folder as the kernel.

Aliases are fully supported for NETWORK.CFG, SAGNET.CFG, and any Macintosh Name folders.

The following considerations apply to other kernel files:

- ENU.MSG and ENU.INF must be in the same folder as the kernel.
- A LOG folder is created in the same folder as the NETWORK.CFG file, and log files are placed in the LOG folder.



# Installing in OS/2 Environments

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This section explains the ENTIRE NET–WORK installation procedure for OS/2.

Also see Chapter 4, **Interfaces**, for information about the SOFTWARE AG product interfaces that are automatically installed in the ENTIRE NET–WORK directory.

## Software Requirements

The following software must be installed on each workstation where ENTIRE NET–WORK is being installed:

- OS/2 Version 2.1 or above
- The appropriate communication protocol for your network environment:

Connection Type	Communication Protocol
SPX	Novell Netware Requester for OS/2 Version 2.0 or above.
TCP/IP	IBM TCP/IP for OS/2 Version 2.0 or above is recommended. FTP Software, Inc. PC/TCP Network Software for OS/2 Version 1.3 or above also may be used.
DECnet	DEC PATHWORKS for OS/2 Version 2.0 or above.
LU6.2	IBM Communications Manager (CM/2) Version 1.0 or above.
NETBIOS	Novell or IBM NETBIOS emulation driver.

## Hardware Requirements

The following hardware is required for each node where ENTIRE NET-WORK is being installed:

- An Intel 386 or higher CPU PC
- A VGA or higher display adapter
- An OS/2-compatible mouse
- A 200-megabyte hard disk drive with at least 2 megabytes available disk space (additional disk space is required for extensive logging)
- At least 8 megabytes of RAM (random access memory) is required; 16 megabytes of RAM is recommended in order to run most client and server applications, including NATURAL. ENTIRE NET-WORK itself uses less than one megabyte of RAM.
- The appropriate LAN adapter for your network environment:

Connection Type	LAN Adapter
SPX	Novell compatible LAN adapter (IBM Token Ring or 3COM 3C503).
TCP/IP	IBM compatible LAN adapter (IBM Token Ring or 3COM 3C503); or FTP Software, Inc. compatible LAN adapter (3COM 3C503).
DECnet	DEC PATHWORKS compatible LAN adapter (3COM 3C503).
LU6.2	IBM CM compatible LAN adapter (SDLC, IBM Token Ring).
NETBIOS	Novell or IBM compatible LAN adapter (IBM Token Ring or 3COM 3C503).

## Installation Procedure

The ENTIRE NET-WORK installation procedure for OS/2 is fully automated.

1. Insert Installation Diskette 1 into the selected drive.
2. Start the OS/2 Full Screen mode.
3. Type the drive (A: or B:) and SETUP at the command line prompt and press ENTER. For example:

**A:SETUP**

4. If ADABAS is installed and running on the OS/2 machine where you are installing ENTIRE NET-WORK, shut it down by entering the following command:

**ADACNTRL END**

*Note:*

*If you install ENTIRE NET-WORK while ADABAS is running, the installation procedure will work correctly; however, the ADABAS modules may not be installed.*

5. Setup prompts you for the following information:
  - ☐ Where do you want ENTIRE NET-WORK installed?  
You can enter the path where you want Setup to install ENTIRE NET-WORK, or press ENTER to accept the default path (C:\WCP221).
  - ☐ Do you want the required variables added to your CONFIG.SYS file?  
For a description of these variables, see the section **Modifying the CONFIG.SYS File** on page 58.
  - ☐ Do you want the ENTIRE NET-WORK program group added to the Desktop Manager?  
If you select Yes, Setup creates the program group automatically. If the ENTIRE NET-WORK program group already exist, it is replaced, not duplicated.
6. The installation is complete. Reboot your computer.

## Modifying the CONFIG.SYS File

Setup asks you if you want the required environment variables added to your CONFIG.SYS file.

### If You Select Yes

If you select Yes, the following variables are added automatically and your original CONFIG.SYS file is saved:

- SET SAGNW environment variable. SET SAGNW points to the directory where ENTIRE NET-WORK is installed. For example:

**SET SAGNW=C:\WCP221**

- SET SAGNET environment variable. SET SAGNET defines the location of SAGNET.CFG, the ENTIRE NET-WORK connections configuration file. For example:

**SET SAGNET=C:\WCP221\SAGNET.CFG**

- The location of the ENTIRE NET-WORK executables is added to the LIBPATH= statement. For example:

**LIBPATH=C:\;C:\OS2;C:\WCP221**

- If you wish to define separate user directories, you will need to add the SAGNWUSER variable manually. For example:

**SET SAGNWUSER=C:\WCP221\username**

*Note:*

*If you are using LU6.2 connections, you will need to add the SAGSNA environment variable to the CONFIG.SYS file. See the section **LU6.2 Configuration** on page 59.*

### If You Select No

If you select No, Setup creates a sample file and saves it in the installation directory as CONFIG.WCP. You can use this file to replace your existing CONFIG.SYS after ENTIRE NET-WORK is installed.

## LU6.2 Configuration

If you will be using LU6.2 connections, you need to add the SET SAGSNA environment variable to your CONFIG.SYS file after ENTIRE NET-WORK is installed.

The SET SAGSNA environment variable defines the location of the LU62.CFG configuration file for LU6.2. For example:

**SET SAGSNA=C:\WCP221\LU62.CFG**

## File Server Configuration

If ENTIRE NET-WORK is installed on a file server, follow the steps below:

1. Define the drive or directory where ENTIRE NET-WORK is installed as 'shared'.
2. The configuration files CONFIG.NWW and NETWORK.CFG cannot be shared. Create a separate copy of these files for each user.
3. The configuration file SAGNET.CFG can be shared or copied for each user. See the CONFIG.SYS file examples on page 60.
4. Edit the SAGNET.CFG file(s) and change the path for each ENTIRE NET-WORK driver (protocol handler) to point to the correct drive. That is, change the drive to match the one used for the permanent connection to the file server.
5. Edit each user's CONFIG.SYS file and change the ENTIRE NET-WORK variables to point to the correct drive.

## CONFIG.SYS File Examples

The following are examples of the CONFIG.SYS file when SAGNET.CFG is shared and when SAGNET.CFG is not shared. ENTIRE NET–WORK is installed in the directory **R:\WCP221**:

### SAGNET.CFG is Shared

When SAGNET.CFG is shared, CONFIG.NWW and NETWORK.CFG are placed in the user's directory and SAGNET.CFG is placed in the ENTIRE NET–WORK directory.

The user's CONFIG.SYS file contains the following statements:

```
SET PATH=%PATH%;R:\WCP221
SET SAGNW=R:\WCP221
SET SAGNET=R:\WCP221\SAGNET.CFG
SET SAGNWUSER=R:\WCP221\username
```

### SAGNET.CFG is Not Shared

When SAGNET.CFG is not shared, CONFIG.NWW, NETWORK.CFG, and SAGNET.CFG are all placed in the user's directory.

The user's CONFIG.SYS file contains the following statements:

```
SET PATH=%PATH%;R:\WCP221
SET SAGNW=R:\WCP221
SET SAGNET=R:\WCP221\username\SAGNET.CFG
SET SAGNWUSER=R:\WCP221\username
```

*Note:*

*SAGNWUSER points to the location of the CONFIG.NWW and NETWORK.CFG configuration files. When SAGNWUSER is defined, the user's log file is automatically placed in the user's LOG directory, that is, \WCP221\username\LOG.*

## Converting Version 1.1.4 Configuration Files

After installing ENTIRE NET–WORK, you will need to define the connections between the local node and all partner nodes.

If you are upgrading from NET–WORK FOR OS/2 Version 1.1.4, you may use a conversion program to partially convert your Version 1.1.4 connection definitions to ENTIRE NET–WORK Version 2.2 connection definitions.

The conversion program SAGCVT.EXE is installed in the same directory where ENTIRE NET-WORK is installed. You can use this program to convert TCP/IP and NETBIOS connection definitions. The program does not convert LU6.2 connection definitions. It performs only a partial conversion for SPX connections, i.e., node name is not available in the Version 1.1.4 definition and must therefore be changed manually in the Version 2.2 definition.



To execute the SAGCVT program, enter the following at the OS/2 full-screen prompt:

**SAGCVT source-directory target-directory**

where *source-directory* is the PATH where the Version 1.1.4 configuration file CONFIG.WOS is located and *target-directory* is the PATH where the Version 2.2 configuration file SAGNET.CFG is installed. If CONFIG.WOS has been renamed, you will need to specify both the directory and the file name in the source-directory path.

The following example illustrates the use of the SAGCVT program.

## Example

In this example, the following configuration is assumed:

- CONFIG.WOS is installed in the directory C:\WOS11.
- SAGNET.CFG is installed in the directory C:\WCP221 and has not been modified since ENTIRE NET-WORK 2.2 was installed.



To run the SAGCVT program, enter the following at the OS/2 prompt:

**SAGCVT C:\WOS11 C:\WCP221**

Upon completion, a message informs you that SAGNET.CFG has been converted. The following types of changes must be made manually, using the configuration dialog in the ENTIRE NET-WORK 2.2 console (see the section **Configuring Connections** on page 93):

- If you are using SPX, change the node names as appropriate.
- If you are using LU6.2, enter the configuration parameters as appropriate.