



BY JOHN E. JOHNSTON

# Z.E.N.works — Zero Effort Networking for Users: Part I — Installing and Preparing Your Environment

The most time-consuming aspect of managing a network is desktop maintenance.

However, as this site found out, many aspects of workstation management can be centralized with Z.E.N.works from Novell.

**THE** most time-consuming aspect of managing a network is desktop maintenance. Workstations constantly require attention. New applications need to be added. New versions of software need to be installed. Workstation problems need to be diagnosed and corrected. The sheer number of workstations that require support make workstation management an enormous undertaking. Many companies have hundreds, even thousands of workstations to support.

Z.E.N.works (Zero Effort Networking for Users) from Novell uses the NDS (NetWare Directory Services) to store information about your users, workstations and applications, centralizing many aspects of workstation management. Some of the capabilities of Z.E.N.works include the following:

- ◆ centralized distribution of software
- ◆ remote control support for your help desk personnel
- ◆ centralized workstation configuration policy enforcement
- ◆ ability for users to roam from one PC to another while retaining their customizations
- ◆ workstation hardware inventory

This article, the first in a multi-part series, shows you how to install Z.E.N.works and prepare your network and workstations for the implementation of ZEN. Future articles will examine remote control, hardware inventory and automatic software distribution as well as other functions of Z.E.N.works.

## PREREQUISITES

The following prerequisites are required

on your file server(s) and workstations in order to install and utilize Z.E.N.works:

- ◆ NetWare 4.11 or higher
- ◆ 125MB of disk space available on the server
- ◆ 32MB of available RAM on the file server
- ◆ Z.E.N.works client software on all participating client workstations

**Note:** *Z.E.N.works has the potential to substantially increase the disk space required to store your NDS. Novell recommends that the SYS: volume be at least 4GB and that print queues also be moved off of the SYS: volume.*

## INSTALLING Z.E.N.WORKS

The following steps can be performed to install Z.E.N.works:

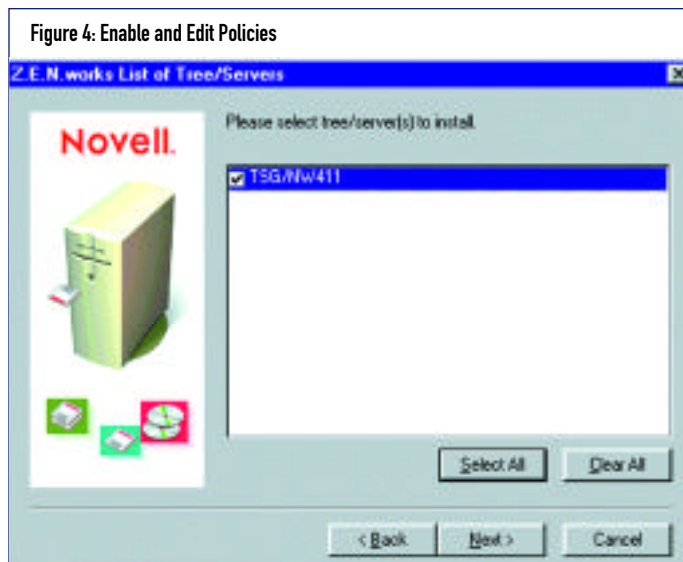
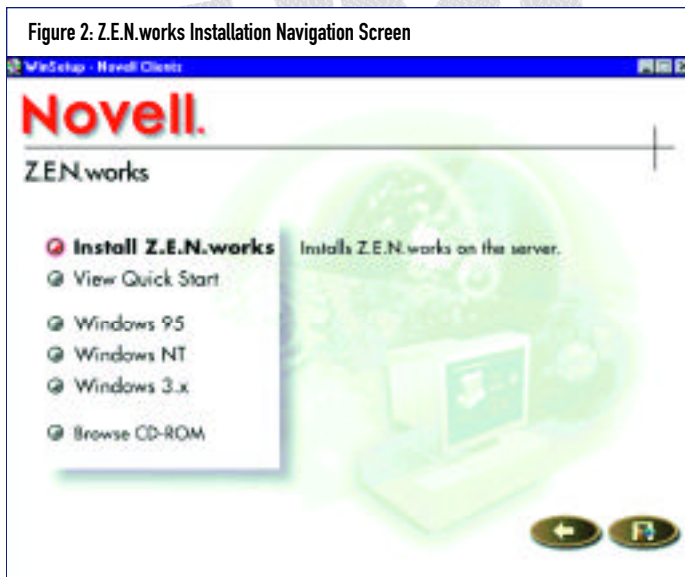
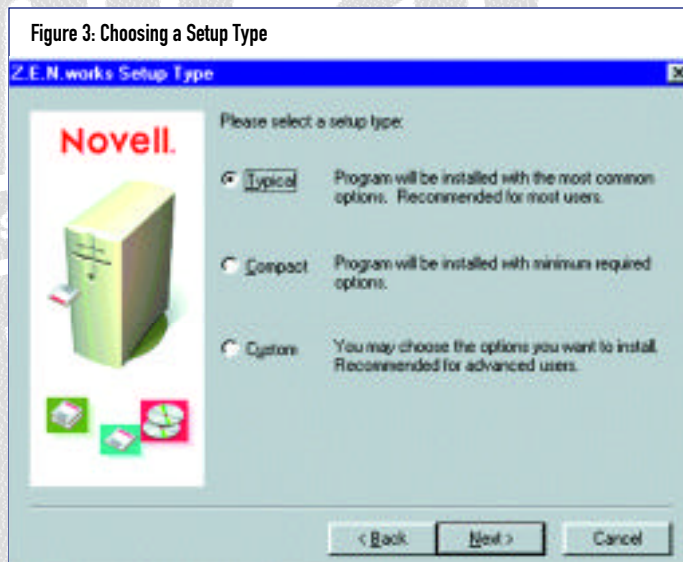
1. Login to NetWare from a Windows 95 or Windows NT workstation as Admin or Admin equivalent.
2. Insert the Z.E.N.works installation CD-ROM into the workstation's CD-ROM drive. The auto-run feature should run when the CD is inserted. If the auto-run does not start, click on Start > Run and enter "d:\WINSETUP.EXE /A" at the prompt.
3. When the WINSETUP program launches, you should see the panel shown in Figure 1. Select the English language.
4. After the language is selected, the screen shown in Figure 2 will be displayed. Click on "Install Z.E.N.works"

to begin installing the product on your NetWare file server(s). The Windows options will be used later in the installation process to upgrade the client software on your workstations.

5. Read the installation warning and the software licensing agreement. You will then be prompted for the setup type, as shown in Figure 3. You must select either a Typical, Compact or Custom installation. The Typical option copies all of the server software to your NetWare servers(s) and also stores a copy of the Windows 95 and Windows NT client software on your NetWare file server(s). Most installations should choose the Typical option. The Custom option allows you to choose which components are installed and the Compact option installs a minimal set of the Z.E.N.works software components.
6. You will now be presented with a screen (Figure 4) that requires you to select the file server(s) onto which you wish to install the Z.E.N.works software. Select the appropriate file server(s), then click on the Next button.

You can install Z.E.N.works onto multiple file servers from this screen, but only one NetWare 4.11 server was active during this sample installation.

7. Next, you will be prompted for the language you wish to install. Choose the appropriate language and then click on Next.
8. You will then see the Z.E.N.works installation summary screen. After reviewing the "Installation Summary" screen, click on Next. The installation program will now copy the installation files to your NetWare file server(s), install the NDS schema extensions and install the new NDS object types.
9. At this point you will be prompted with the panel shown in Figure 5. Z.E.N.works Auto-Registration function requires that your users have rights to write a registration request to their NDS parent container. Select the context where you want to grant these users rights (the default is Root).



10. Next, you will be presented with the panel shown in Figure 6. If you leave both options checked, then click on Finish, the readme file on the CD-ROM will be opened using NotePad. After you close this NotePad window, the installation log will be displayed. You should review this file if you suspect that your installation process experienced errors.
11. Next you will be presented with the screen shown in Figure 7. If you click on the "Client Update Documentation" option, you'll be presented with instructions on installing the latest client software on your workstations using the Automatic Client Upgrade (ACU) installation method. You may choose to use ACU if you have a large number of workstations that required upgrading. When you're finished reading the documentation, click on the Exit icon at the bottom of the screen.

**INSTALLING CLIENT SOFTWARE**

You must install the new client software on your Windows 3.1x, 95 or NT workstations in order to utilize Z.E.N.works. You can either use the ACU method mentioned previously, or you can install the client software directly from the Z.E.N.works CD-ROM.

This article illustrates how to install the latest Windows 95 and Windows NT Workstation clients directly from the CD-ROM.

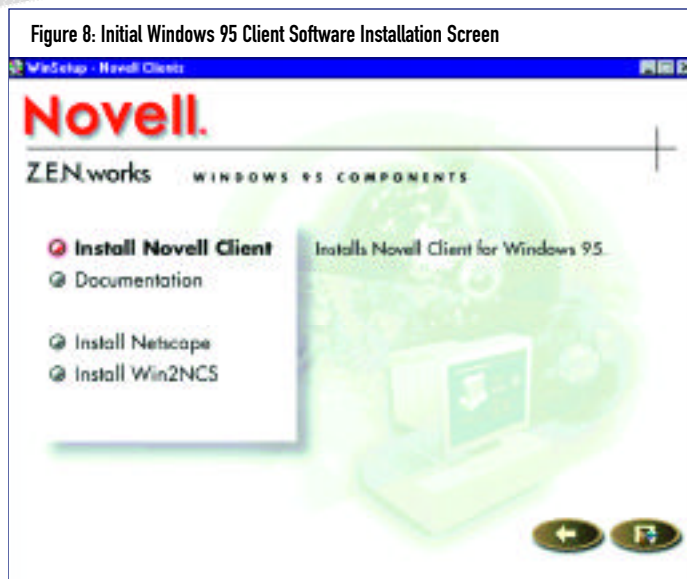
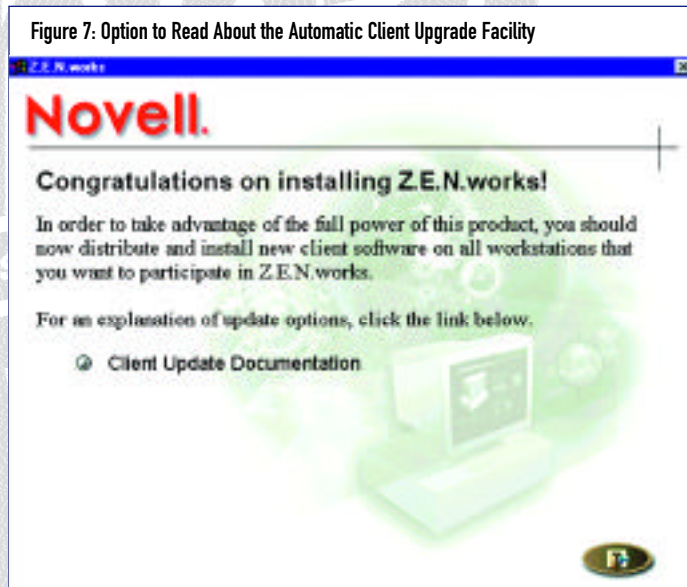
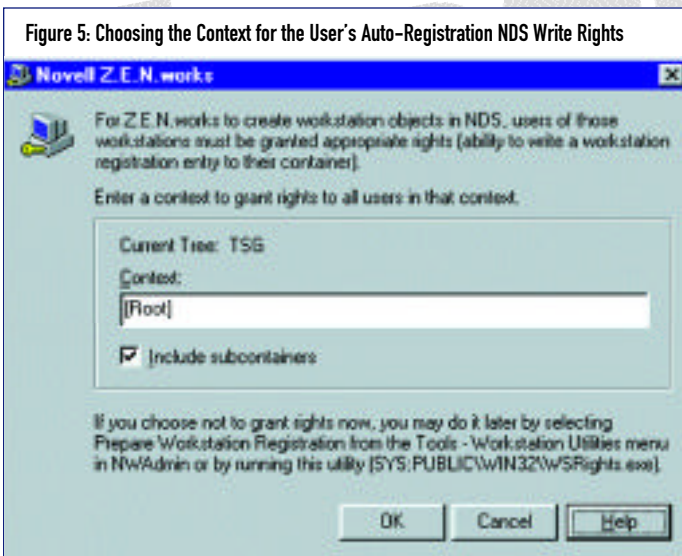
**Tip:** *The client software included on your Z.E.N.works CD-ROM could be out of date. If in doubt, check the Novell web site to determine the current version. As of this writing, the following client software versions are on the Z.E.N.works CD-ROM and are also the most current version of the client software:*

- ◆ Novell Client v2.5 for Windows 95 w/ Z.E.N.works Starter Pack
- ◆ Novell Client v4.3 for Windows NT w/ Z.E.N.works Starter Pack
- ◆ Novell Client v2.5 for DOS and Windows 3.x

**Installing the Windows 95 Client Software**

Perform the following steps to install the Windows 95 client software directly from the Z.E.N.works CD-ROM onto a Windows 95 workstation:

1. Insert the Z.E.N.works CD-ROM in the workstation's CD-ROM drive. The auto-run feature should run when the CD is inserted.



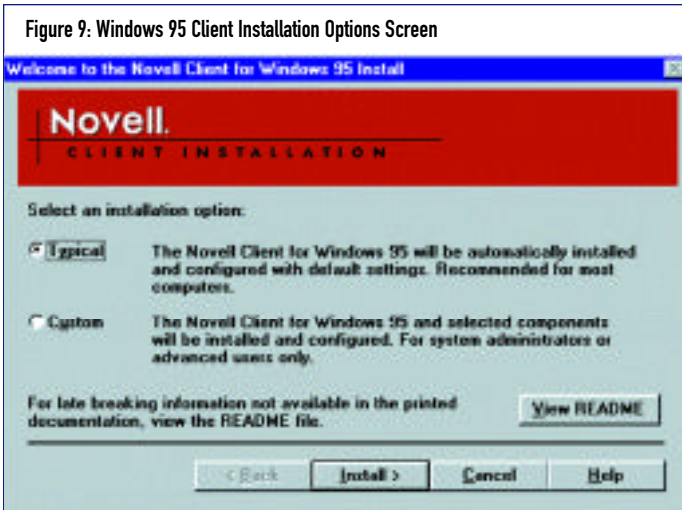


Figure 9: Windows 95 Client Installation Options Screen

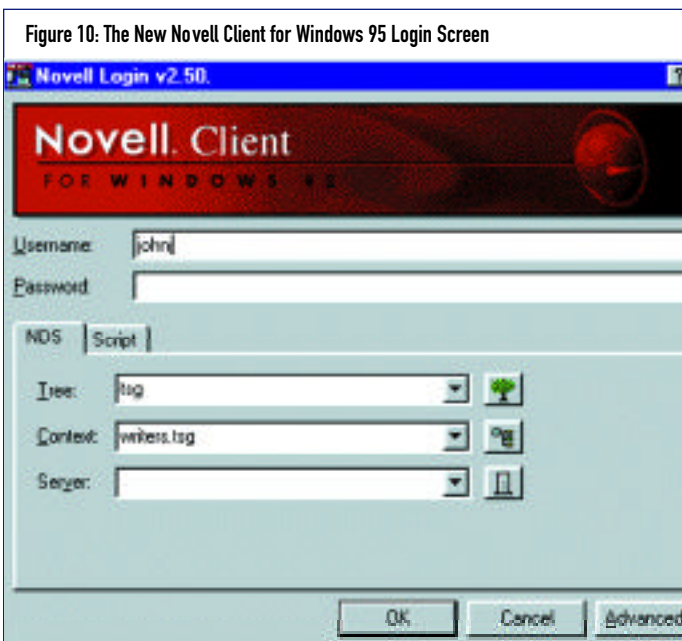


Figure 10: The New Novell Client for Windows 95 Login Screen

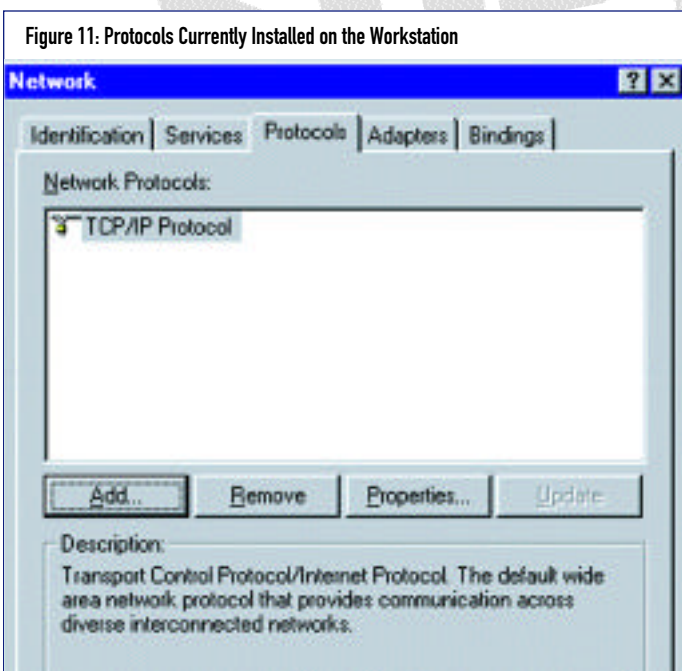


Figure 11: Protocols Currently Installed on the Workstation

If the auto-run does not start, click on Start > Run and enter “d:\WINSETUP.EXE /A” at the prompt.

2. Choose the desired language from the next panel, and you will be presented with the installation navigation screen shown in Figure 2.
3. Click on the “Windows 95” option and the screen shown in Figure 8 will be displayed.
4. Click on “Install Novell Client.”
5. Click on “yes” at the software licensing screen and you will be presented with the screen shown in Figure 9. For most installations, you should select the “Typical” option. The Typical installation will perform the following functions:

- ◆ remove any existing NetWare client software from the workstation
- ◆ install the new client software
- ◆ install the Workstation Manager software

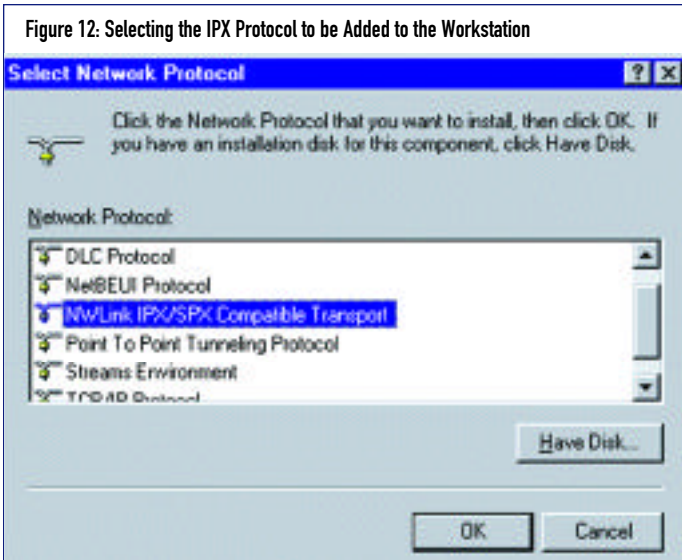
Upon completion of the installation program, you will be prompted to re-boot your workstation. After you re-start your workstation, you will be presented with the new Novell Client for Windows 95 login screen, as shown in Figure 10.

#### Installing the Windows NT Workstation Software

Perform the following steps to install the Windows NT Workstation client software directly from the Z.E.N.works CD-ROM onto a Windows NT Workstation:

1. Make sure NWLINK IPX/SPX protocol is installed on your Windows NT Workstation before attempting to install the ZEN client software. If the NWLINK IPX/SPX protocol is not installed before running the ZEN client installation program, this program will attempt to add the NWLINK IPX/SPX protocol. The attempt will usually fail, causing you to restart the ZEN client software installation after manually adding the NWLINK IPX/SPX protocol. To add the NWLINK IPX/SPX protocol, perform the following:

- Click on Start > settings > Control Panel > Network.
- Click on the Protocols Tab. You should see a panel similar to the one shown in Figure 11.
- Click on the Add button.
- Select the NWLink IPX/SPX Compatible Transport protocol as shown in Figure 12. You will be prompted for a path to your Windows NT CD-ROM files. If you are loading this software on an Intel platform, enter d:\I386 in the path.
- Click on Close and several files will be copied from the Windows NT Workstation CD-ROM. You will be prompted to restart your workstation.



- ◆ creating a shortcut for the NetWare Administrator 32 program on the workstation(s) that will be used to administer ZEN
- ◆ create a User Policy package
- ◆ register the workstation in the NDS tree
- ◆ import the registered workstations

As we go through the process of preparing to use ZEN, you will be tempted to look around at all of its features. The purpose of this section is to help you get ZEN up and running quickly. We will explore all of the other ZEN features later in this series.

**Creating a Shortcut for NetWare Administrator 32**

In order to take advantage of all of the features of Z.E.N.works, you should use the new NetWare Administrator 32 utility to set up and administer ZEN. NetWare Administrator 32 is installed during the Z.E.N.works installation process outlined in the previous sections. To set up your workstation to use NetWare Administrator 32, simply create a shortcut to

```
SYS:\PUBLIC\WIN32\NWADMN32.EXE
```

If you need to set up several workstations with the NetWare Administrator 32 utility, you can use the Application Launcher to distribute this utility. The details of using the Application Launcher will be discussed later in this series.

**Note:** You can use older versions of NetWare Administrator to set up and administer Z.E.N.works; however, you will be required to modify your workstation's registry. To do this, run ZENFULL.REG which should be located in the same directory as the older version of NetWare Administrator (usually SYS:\PUBLIC\WIN95).

**Creating a User Policy Package**

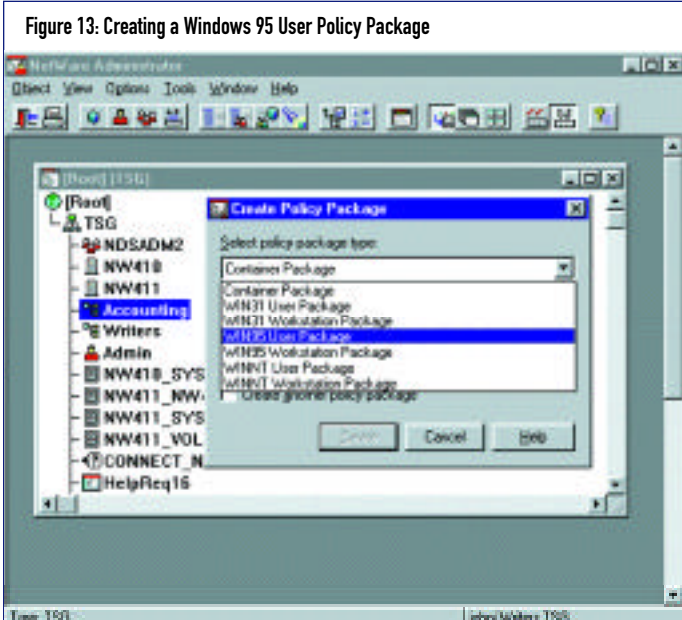
You administer ZEN using Policies. These Policies are stored in special NDS objects known as Policy Packages. There are seven Policy Packages that are used by ZEN:

- ◆ Container Package
- ◆ Windows 3.x User Package
- ◆ Windows 95 User Package
- ◆ Windows NT User Package
- ◆ Windows 3.x Workstation Package
- ◆ Windows 95 Workstation Package
- ◆ Windows NT Workstation Package

Rather than jumping into a dialog explaining the purpose of each of these Policy Packages (I will cover this in-depth later in this series), I will illustrate the steps required to get ZEN up and running quickly. The next step to getting ZEN operational is to create a User Policy Package.

There are three types of User Policy Packages: Windows 3.x, Windows 95 and Windows NT User Package. In this example, we will be using Windows 95 workstations to test ZEN, so we will be creating a Windows 95 User Policy Package using the following steps:

1. Start the NetWare Administrator 32 utility.
2. Choose an Organization (O) or Organizational Unit (OU) that will hold the User Policy Package.



2. Insert the Z.E.N.works CD-ROM into the workstation's CD-ROM drive. The auto-run feature should run when the CD is inserted into the workstation's CD-ROM drive. If the auto-run does not start, click on Start > Run and enter "d:\WINSETUP.EXE /A" at the prompt.
3. Choose the desired language from the next panel.
4. Click on the "Windows NT" option.
5. Click on "Install Novell Client". For most installations, you should select the "Typical" option.

Upon completion of the installation program, you will be prompted to re-boot your workstation. After you re-start your workstation, you will be presented with the new Novell Client for Windows NT login screen.

**PREPARING TO USE Z.E.N.WORKS**

Several tasks must be performed in order to begin using the features of Z.E.N.works. These tasks include:

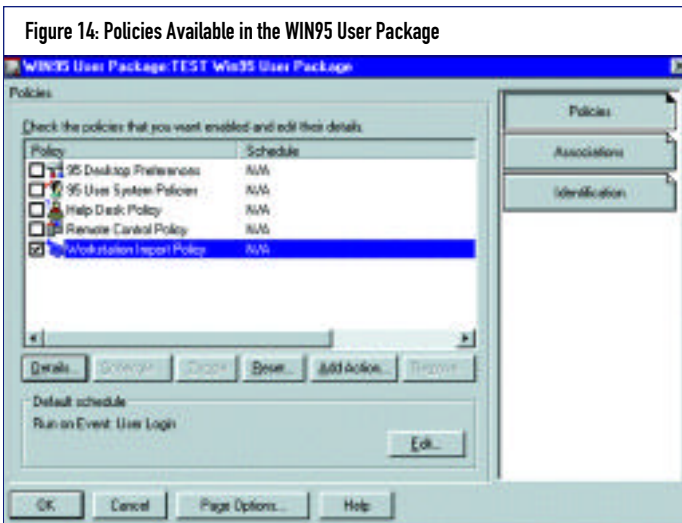


Figure 14: Policies Available in the WIN95 User Package

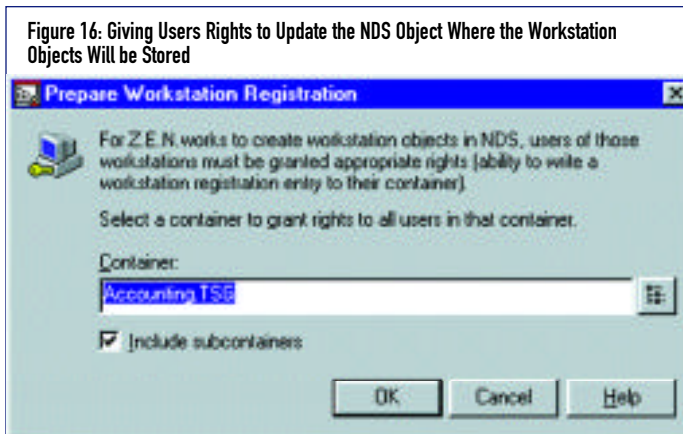


Figure 16: Giving Users Rights to Update the NDS Object Where the Workstation Objects Will be Stored

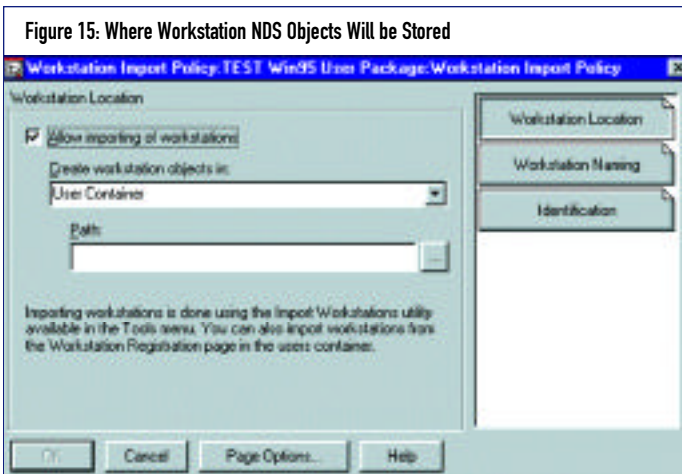


Figure 15: Where Workstation NDS Objects Will be Stored

tree. You have three choices for specifying a location: User Container, Selected Container and Associated Object's Container.

**User Container:** If you select User Container, the workstation objects will be created in the same container that holds the User object. This is the default option. This is a good option to select if you do not have many roaming users (users who use more than one PC in different locations within the organizations).

**Selected Container:** The Selected Container option allows you to specify a specific container to hold the workstation objects. This option is useful when you wish to keep all workstation objects isolated in a specific area of your NDS tree.

**Associated Object's Container:** Selecting the Associated Object's Container allows you to hold the workstation objects in the container associated with the User Package or the container of the User or Group object.

- After selecting the location to store your workstation objects, click on OK to return to the screen shown in Figure 14. Click on the Associations tab to associate the User Policy Package with an OU or Group. All users within the selected OU or Group will be affected by the policies created in this User Policy Package.

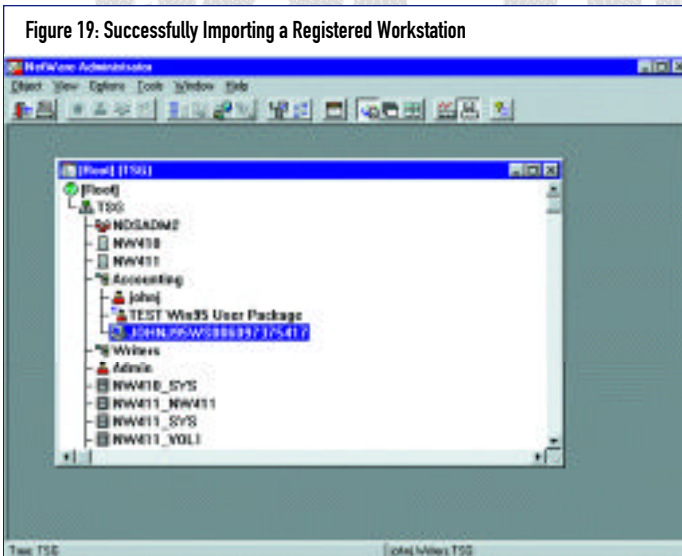
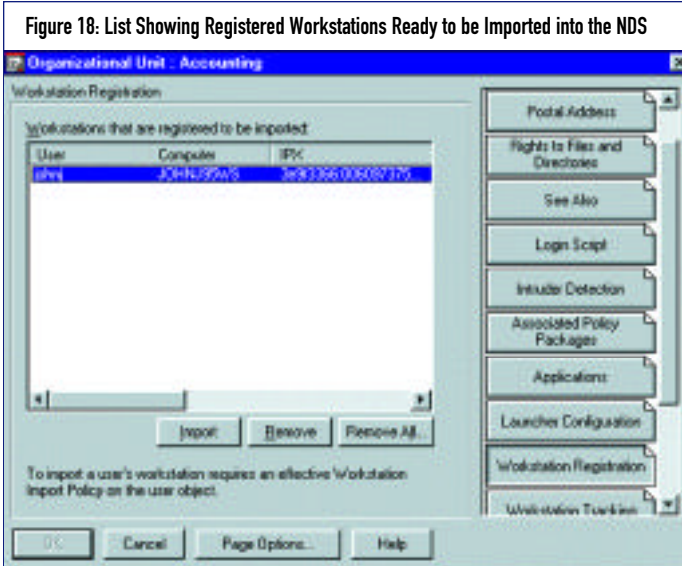
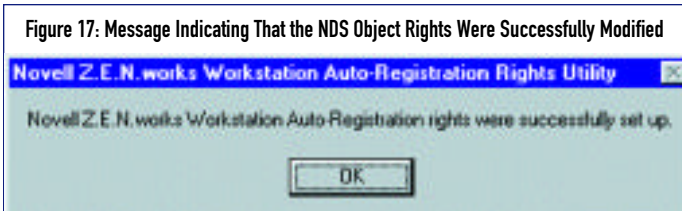
**Registering the Workstation in the NDS Tree**

We are almost ready to register our workstations into the NDS tree. Before the actual registration can occur, you must give the users rights to update the NDS object where the workstation objects are to be stored as specified in Figure 15. To grant the appropriate rights for this container object, perform the following:

- Start the NetWare Administrator 32 utility.
- Click on Tools > Workstation Utilities > Prepare Workstation Registration. The screen shown in Figure 16 will be displayed. Select the object where the workstation objects will be stored, then click on OK. In this example, the Accounting.TSG OU was selected. If successful, the screen shown in Figure 17 will be displayed.
- Login to NetWare as a user that resides in the container object associated with the User Package, in this example, Accounting.TSG.

**Note:** You may wish to create a test OU for the purposes of storing your Policies and testing ZEN.

- Right click on the chosen (O) or (OU) then click on Create > Policy Package. The panel shown in Figure 13 will be displayed. You must choose either a WIN31, WIN95 or WINNT User Package. In this example, we will be using Windows 95 workstations to test ZEN, so we chose the WIN95 User Package.
- Next, you must name the Policy Package. In this example, the name 'TEST Win95 User Package' was used. Make sure to click on the 'Define additional properties' box on the screen where you name the object, then click on Create. The screen shown in Figure 14 should now be displayed. Notice that the following types of policies can be defined here in the WIN95 User Package:
  - 95 Desktop Preferences
  - 95 User System Policies
  - Help Desk Policy
  - Remote Control Policy
  - Workstation Import Policy
- Click on the Workstation Import Policy to enable it, then click on Details and the panel shown in Figure 15 will be displayed. On the Workstation Location page, specify the location of where the workstation NDS objects will be stored within the NDS




**Importing the Registered Workstation(s)**

Once we have one or more workstations registered, we are ready to import these workstations into the NDS, creating the workstation NDS object(s). The following steps are required to import the registered workstations into the NDS:

1. From the NetWare administrators workstation, start NetWare Administrator 32.
2. Right click on the OU that contains the users associated with the policy package. Click on Details.
3. Click on the Workstation Registration tab. A screen similar to Figure 18 will be displayed.
4. Highlight the entry to be imported, and then click on Import. After the import process completes, you should see a workstation object in your NDS as shown in Figure 19.

**Note:** Notice that the workstation entry is named using the IPX address appended to the workstation's name. The name of your workstation NDS objects can be modified using the Workstation Naming tab in the Workstation Import Policy.

**CONCLUSION**

Z.E.N.works is one of the most exciting technologies to enter the market. ZEN addresses some of the most time consuming tasks required to keep a network operational. This includes software distribution, hardware inventories, desktop policy enforcement and remote control help desk support. 



NaSPA member John E. Johnston is manager of technical support and communications for a major hospital in Pennsylvania. He designs and maintains cross-platform local and wide area networks utilizing NetWare, OS/2, DOS, and Windows.

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