Administrator's Guide

Zero Administration Kit for Microsoft® Windows® 98

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Zero Administration for the Desktop

One of the more significant costs highlighted in reports on PC Total Cost of Ownership has been the loss of productivity for end users. Two of the main factors that contribute to lost productivity for end users are:

- Access to tools or software applications that are not required to complete their job. Any application, including the obvious games or the less obvious Web browsers, can contribute to lost productivity.
- Access to system components or configuration tools can result in a loss of productivity or worse, computer downtime and a technical support call. Well meaning users intending to fix or improve their computer may cause configuration problems that result in a loss of productivity or direct costs such as a help desk incident.

Figuring out how to curb the costs associated with end-user operations is one of the major challenges facing system administrators. Today's desktop operating systems are designed to empower the user, which can be at odds with some of the control and management requirements of large scale IT operations.

The Zero Administration Kit is designed to help you address some of the issues and problems arising from end-user operations.

By way of example, the Zero Administration Kit provides a solution for installing Microsoft® Windows® 98 and Microsoft Office 97 in an automated fashion. However, setting up an environment for corporate-wide deployment of Microsoft Windows 98 and Microsoft Office 97 is a task that requires thorough planning. The Zero Administration Kit should not take the place of the planning that goes into deploying these products.

Conventions

The following conventional terms, text formats, and symbols are used throughout the documentation of the Zero Administration Kit for Microsoft Windows 98.

Convention	Meaning
[brackets]	In syntax statements, indicates an optional item. For example, [*password*] indicates that you can choose to type a password with the command. Type only the information within the brackets, not the brackets themselves.
…(ellipsis)	In syntax statements, indicates that you can repeat the previous items. For example, **/route:**devicename[,…] indicates that you can specify more than one device, separating each device with a comma.
%…%	Used at the beginning and at the end of an item to indicate that it is a string identifier.
Bold	Indicates that actual commands, words, or characters that you type in a dialog box or at the command prompt.
Italic	Indicates a placeholder for information or parameters that you must provide. For example, if the procedure asks you to type *filename*, you must type the actual name of a file.
ALL UPPERCASE	Indicates a directory, filename, or acronym. You can use lowercase letters when you type directory names or filenames in a dialog box or at the command prompt, unless otherwise indicated for a specific application or utility.
Monospace	Represents examples of screen text or entries that you might type at the command line or in initialization files.

Overview of the Zero Administration Kit

The Zero Administration Kit is a set of methodologies for deploying Microsoft Windows 98 that greatly reduces the burden of individual desktop management for task-based workers. By judicious use of forward planning, User Profiles, and System Policies, the Zero Administration Kit can reduce the costs associated with managing Windows desktops.

Zero Administration Kit methodologies are based on the underlying technologies and capabilities of Windows 98. It is anticipated that these techniques can readily be adapted to accommodate a corporation's specific computing requirements.

The Task-Based Worker

The average task-based worker may use a single form-based application or a limited set of applications. From the perspective of desktop computing environments, the task-based worker can be considered to operate in one of two modes. For ease of explanation, these modes have been defined here as *TaskStation* mode, where users are running a single line-of-business application, and *AppStation* mode, where users run a set of well-defined applications. The Zero Administration Kit deliberately targets the desktop of the task-based worker because these desktops are quite vulnerable to the cost associated with end-user operations.

TaskStation Mode

The TaskStation mode is for workers who use highly task-specific applications.

In this scenario, a typical desktop environment is a worker who uses a single form-based application. In this environment, the user's computer behaves like a GUI-based "dumb" terminal that can run standard Windows-based applications. Ideally, in this environment, administrators/corporations want to couple the low management cost of dumb terminals with the flexibility and benefits of a PC running Windows.

The TaskStation Solution

The Zero Administration Kit TaskStation mode provides a simplified desktop computing environment, where the user interface is the users' task-specific application. In this mode, the normal Windows desktop interface is completely hidden from the user and the user only has limited access to the local file system. When the user logs on, his or her task-specific application is automatically launched. In TaskStation mode, you have centralized control over which application is launched.

TaskStation desktop with Microsoft Internet Explorer running as the user interface.

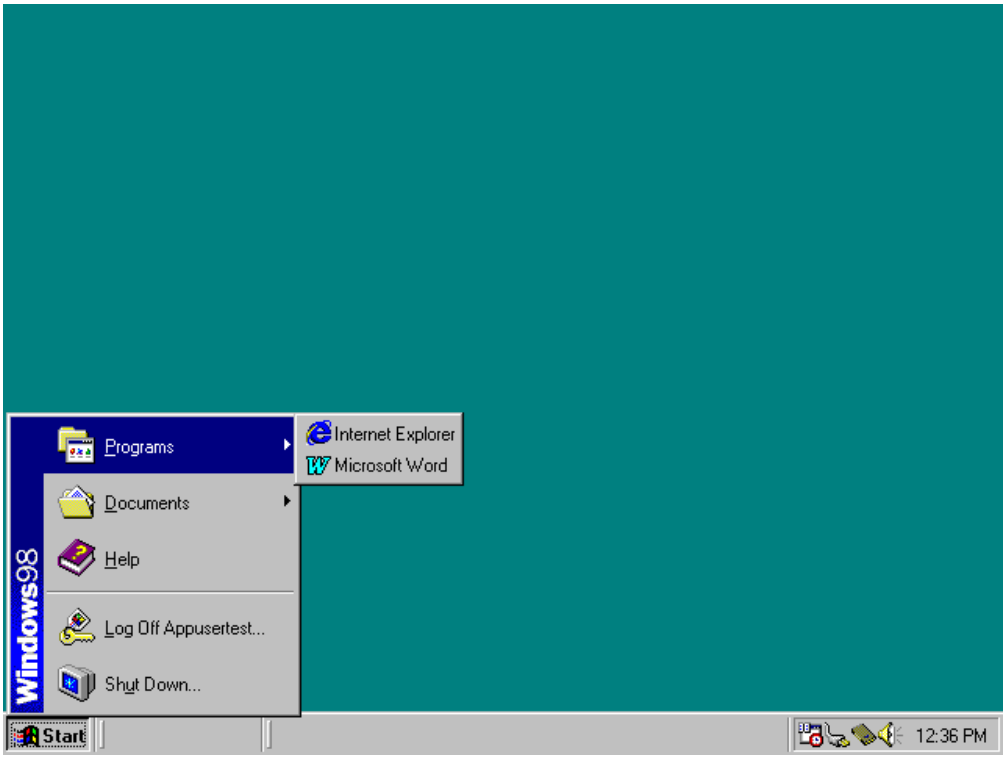
AppStation Mode

The AppStation mode is for workers who use a limited set of applications.

A typical scenario for this desktop is a worker with access to a limited set of well-defined applications, which may be installed on a central server. If the user must save data, it is written to the user's private home directory on a central server. Typical environments for AppStation mode are customers who perform multiple administrative and clerical tasks, such as banks and insurance companies.

The AppStation Solution

As with the TaskStation mode, the AppStation mode uses a simplified desktop to reduce complexity. However, with AppStation, a few familiar elements of the Windows desktop are exposed. When the user logs on, his or her desktop interface contains only the Windows **Start** Menu and Taskbar. The AppStation **Start** Menu is simplified to contain only items essential to the user's job, as shown in the following figure. More importantly, you can centrally manage the items that appear in the **Programs** group.



The AppStation desktop and Start Menu.

Using the Zero Administration Kit for non-English Version of Windows 98

Some special considerations are necessary in order to use the Zero Administration Kit with a non-English version of Windows 98. Please see Appendix F for details.

Evaluating the Zero Administration Kit for Your Corporate Environment

Corporations can gain the most benefit from the Zero Administration Kit by first completing a thorough evaluation on a pilot network. This approach gives you the opportunity to fully understand the principles of the Zero Administration Kit in a controlled environment before applying these principles to a production environment. The techniques highlighted in the Zero Administration Kit should be seen as an augmentation to a corporation's deployment techniques, not a replacement of them.

Quick Install Instructions

This section includes the minimal steps necessary to install the Zero Administration Kit. You can use this section to install the Zero Administration Kit and client computers using the default settings. To implement the Zero Administration Kit in a production environment or to customize your setup, you should follow the complete instructions in the "Detailed Installation Instructions" section of this guide.

1. Assemble all of the required components for the Zero Administration Kit. At a minimum you will need:
   - The Zero Administration Kit for Windows 98 CD
   - Complete packaged product version of Windows 98 (not the upgrade version)
   - Microsoft Office 97 CD
3. Setup a Windows NT® Server 4.0 Primary Domain Controller (PDC)
   - Make sure your network account is a member of the Domain Admins global group.
   - Verify that your network account has Write access to the \NetLogon share of the Windows NT Server 4.0 PDC. To verify you have Write access, copy a small file to the NetLogon share. By default this is the \WINNT\SYSTEM32\REPL\IMPORT\ SCRIPTS folder.
3. Insert ZAK for Windows 98 CD. Switch to the root of your CD-ROM drive. Double-click ZAKSETUP.EXE. You can run ZAKSETUP.EXE from a Windows 95, Windows 98, Windows NT Workstation 4.0, or Windows NT Server 4.0-based system. If you choose to copy the Zero Administration Kit CD files to a shared location on the network, you must run ZAKSETUP.EXE from a mapped share, rather than a UNC, or ZAKSETUP.EXE will fail.
4. When you are prompted for the directory which will contain the network distribution points, create or select a directory on the Windows NT Server 4.0 PDC that you setup in Step 2 above. This will be the root of the Zero Administration Kit distribution point. In the Software Location dialog box, in Location, type a <drive_letter>:\ <directory_name> in which to store the files on the server, and click Next. The default location is: C:\ZAK98. Press the Next button.
5. On the next page of the Zero Administration Kit for Windows 98 Setup Wizard, you must choose whether or not to create a Microsoft Office 97 network installation. If you have already created a network installation of Office 97, you should select No. Press the Next button.
6. If you have chosen to create a Microsoft Office 97 network installation in the previous step, you will be prompted for the location from which you want to run Microsoft Office 97 applications. Accept the default location. Press the Next button.
7. If you are running the Windows 98 Zero Administration Kit Setup Wizard on Windows NT Server 4.0, you will be given the option to have the Wizard run the Windows NT Server Network Client Administration Tool. This tool can be used to build a network boot disk for your client machine. See Chapter 11, "Managing Client Administration" in the Windows NT Server Concepts and Planning Guide for details. Press the Next button.

8. On the next page of the Wizard you will be prompted for the logon Domain for your users. Enter the Domain name of the Windows NT Server 4.0 PDC you setup in Step 2 above. Press the Next button.
9. Accept the default Workgroup name, the same as the Domain you entered on the previous page for your users. Press the Next button.
10. Accept the default Pass-through validation agent for your network. This will be the same as the Domain you entered previously. Press the Next button.
11. Enter the network share location for your policy files and logon scripts. Enter the name of the Windows NT Server 4.0 PDC you setup in Step 2 above for the server name. For example, if your PDC name is "MYSERVER" you would enter \\MYSERVER\ NETLOGON. Press the Next button.
12. Enter the Microsoft Windows NT 4.0 network printer you would like your Zero Administration Kit clients to use. If you do not want to provide printing capabilities to your Zero Administration Kit clients, leave the printer name blank. Press the Next button.
13. Enter the directory where Windows 98 is to be installed on the Zero Administration Kit clients. Press the Next button.
14. Now the Zero Administration Kit for Windows 98 Setup Wizard will begin to copy files. You will be prompted for the Windows 98 CD and the Microsoft Office 97 CD if you have selected to setup Office 97 as well.
    - If you have chosen to setup Microsoft Office 97, you will be presented with information that you must use to configure your Office 97 distribution point. ***Write this information down***, you will be prompted for this information during Microsoft Office 97 setup. Press Next to continue. You will be prompted for the Office 97 CD.

1. Manual preparation of the server distribution point. **Important:** You must complete each of the following steps before setting up your Zero Administration Kit clients.
    - You must share both the \SETUP directory and the \NETAPPS directory of the Zero Administration Kit distribution point you created in Step 4 above.
        - When you share the \SETUP directory give the Everyone global group Read Only permissions.
        - You must also give the Domain Admin global group Change permissions to the \SETUP directory at a minimum in order to change the MSBATCH.INF as described in step 20 in this section. You must do this when setting up the client so you can save the MSBATCH.INF under the same name.
        - Give the Everyone global group Change permission for the NETAPPS share.
        - Give the Everyone global group Read Only permission for the "NETAPPS\Start Menu" directory.
        - Make sure the Domain Admins global group has Full permissions for the "NETAPPS\Start Menu" directory.

        Note: When sharing the Start Menu you will see a message that the share name is not accessible from some MS-DOS workstations. Click YES to accept the share name.

16. Create two new global groups, AppUser and TaskUser.

    To create global groups for AppStation and TaskStation:

    a) On the your Windows NT Server 4.0 PDC, click Start, point to Programs, point to Administrative Tools, and click User Manager for Domains.

    b) Click User, and then click New Global Group.

    c) The New Global Group dialog box is displayed.

    d) In the New Global Group dialog box, in the Group Name text box, type **AppUser**.

    e) If any users or local groups appear in Members, select them and click Remove.

    f) Click OK to add the group.

    g) Repeat steps b through f, but name the new group **TaskUser**.

    Note: The global group names must appear exactly as they are here because they are referred to in the predefined CONFIG.POL policy file.

To create the USERS share:

1. Create a directory called USERS on the server.
2. Share this folder as USERS, giving the Everyone global group Full Control permission.

17. Create user accounts, assign the APPLOGON.BAT login script for AppUser accounts, and then add them to either the TaskUser or AppUser group.

To create user accounts:

a) In User Manager for Domains, on the User menu, click New User.

b) Type the information required in the New User dialog box.

c) Click Profile.

d) For AppUser account, in Logon Script Name type **APPLOGON.BAT**. Leave Logon Script Name blank for TaskUser accounts.

e) Click OK.

f) In the New User dialog box, click Groups.

g) Click either AppUser or TaskUser in Not Member of, and then click Add to add the user to one of the two groups you created.

h) Click OK.

i) Click Add to add the new user to the domain.

j) Repeat this procedure for each user.

- Create a ZAKSETUP user account, assign ZAKSETUP.BAT as login script, and add ZAKSETUP to Domain Admins global group.

a) In User Manager for Domains, on the User menu, click New User.

b) Type **ZAKSETUP** for username, enter the information required in the New User dialog box.

c) Click Profile.

d) In Logon Script Name type **ZAKSETUP.BAT**.

e) Click OK.

f) In the New User dialog box, click Groups.

g) Click Domain Admins in Not Member of, and then click Add to add the user to one of the two groups you created.

h) Click OK.

i) Click Add to add the new user to the domain.

j) Edit the MSBATCH.INF script to add the ProductKey value. The MSBATCH.INF is located in the \SETUP\WIN98 directory of your distribution network share. Open the MSBATCH.INF using Notepad or some other text editor and replace **00000-00000-00000-00000-00000** with the Product Key for your site, which is printed on the Windows 98 CD or your Certificate of Authenticity.

You may also want to change Name and Org values in MSBATCH.INF. Default values are provided.

The [Setup], [Network], and [NameAndOrg] sections of the MSBATCH.INF:

```
[Setup]
Express=1
InstallDir="C:\Windows"
InstallType=3
ProductKey="00000-00000-00000-00000-00000"
EBD=0
ShowEula=0
ChangeDir=0
OptionalComponents=1
Network=1
System=0
CCP=0
CleanBoot=0
Display=0
DevicePath=0
NoDirWarn=1
Uninstall=0
NoPrompt2Boot=1

[NameAndOrg]
Name="ZAK Users"
Org="Microsoft"
Display=0

[Network]
ComputerName="ZAKComputer"
Workgroup="MyDomain"
Display=0
PrimaryLogon=VREDIR
Clients=VREDIR
Protocols=MSTCP
Services=VSERVER
Security=DOMAIN
PassThroughAgent="MyDomain"
```

19. Edit the APPLOGON.BAT and ZAKSETUP.BAT login scripts.
    - Edit the APPLOGON.BAT login script.

      Using Notepad or another text editor, edit APPLOGON.BAT that was copied to the NetLogon (\WINNT\SYSTEM32\REPL\IMPORT\SCRIPTS folder.) share of

your PDC by the Zero Administration Kit for Windows 98 Setup Wizard. You must replace the \\<office application server>\<netapps share> and the \\<dist-server>\<user share> values with the correct server and share names respectively.

For example, if the server name of the PDC you setup in Step 2 above is MYSERVER and the share name you assigned the \NETAPPS directory is NETAPPS the correct values would be:

```
net use o: \\MYSERVER\NETAPPS
net use u: \\MYSERVER\USERS
```

- Edit the ZAKSETUP.BAT login script.

  Using Notepad or another text editor, edit ZAKSETUP.BAT that was copied to the NetLogon (\WINNT\SYSTEM32\REPL\IMPORT\SCRIPTS folder) share of your PDC by the Zero Administration Kit for Windows 98 Setup Wizard. You must replace the \\<office application server>\<netapps share> and the \\<dist-server>\<setup share> values with the correct server and share names respectively.

  For example, if the server name of the PDC you setup in Step 2 above is MYSERVER and the share name you assigned the \NETAPPS and \SETUP directories is NETAPPS and SETUP, respectively, then the correct values would be:

  ```
  net use o: \\MYSERVER\NETAPPS
  net use s: \\MYSERVER\SETUP
  ```

20. Build a reference Zero Administration Kit client computer.
    - Your reference Windows 98 Zero Administration Kit client computer will be the first Zero Administration Kit client computer you setup. To setup a client computer, you must create an MS-DOS® network boot disk that will start the computer and connect to the PDC you setup in Step 2 above. If your network adapter card is one of those supported by the Windows NT Server 4.0 Network Client Administration Tool, you can use this tool to build a boot disk for your client machine. See Chapter 11, "Managing Client Administration" in the Windows NT Server Concepts and Planning Guide for details.
    - Logon to your Windows NT Server 4.0 network using the ZAKSETUP account you created above. The ZAKSETUP.BAT logon script you created above will run when you logon with the ZAKSETUP account.
    - Change directory (CD) to the S:\Win98 directory. (The logon script mapped the S:\ drive to the \SETUP directory).
    - Open the MSBATCH.INF using Edit or some other text editor and replace **ZAKComputer** with the name of the client computer.
    - If you have formatted the Windows 98 Zero Administration Kit client computer hard drive (recommended), you can increase the automation of the setup process by using the command line switches to skip the memory check (/im), skip the ScanDisk quick check (/is), and skip the minimum disk space requirement (/id). Type:

      SETUP MSBATCH.INF /im /is /id

- Setup requires that you login to the network several times throughout the process. Be sure to login using the ZAKSETUP account so that Windows runs the ZAKSETUP.BAT logon script, which correctly maps the drives.

20. Copy the shortcuts (.LNK files) from your reference client Start Menu to the network location for the shared Start Menu.
    - Open the Start Menu by right clicking the Start Button on the reference client.
    - Copy shortcuts (.LNK files) of the applications that you would like to make available to the AppStation mode users to the identically named folders on the \NETAPPS share of your distribution server. The O:\ drive should be mapped to the \ NETAPPS share. The default shell policy for Start Menu, Programs, and StartUp respectively are:

      ```
      O:\Start Menu
      O:\Start Menu\Programs
      O:\Start Menu\Programs\Startup
      ```

The Zero Administration Kit is now installed. When you login as a user that is a member of the TaskUser or AppUser global groups, you will see the TaskStation and AppStation desktops respectively.

To setup additional Windows 98 Zero Administration Kit client computers, repeat Step 20 for each computer. Optionally, you can further automate the setup process by editing the AUTOEXEC.BAT on your network startup disk to include all of the commands that you would type in after booting with the startup disk.

Zero Administration Kit Methodologies

In this section you will find a description of the methods used by the Zero Administration Kit to deploy and manage desktops configured in TaskStation and AppStation mode. This section is important to read and understand once you have evaluated the Zero Administration Kit and have decided that you would like to utilize some of the methods employed in the Zero Administration Kit to deploy and manage 32-bit Windows-based desktops in your environment.

The Zero Administration techniques in this guide are intended for managing the desktops of users that require a simplified environment with limited access to programs and desktop user interface elements.

Planning for Client Desktop Functionality

When planning the preferred configuration of your client desktops, you must consider many factors, such as which user interface elements you want to expose. A good place to start is with the principle of *least privileges*. For clients for whom you want to provide least privileges, you would expose only the minimum amount of desktop functionality required for users to do their jobs. The Zero Administration Kit provides this simplified configuration in the TaskStation and AppStation implementations.

Overview of User Profiles

In Windows 98, User Profiles contain configuration preferences and options for each user. They are particularly useful for the administrator that would like to manage user desktops based on user identification rather than by computer being used. User Profiles allow the administrator to provide customized desktops for multiple users sharing a single computer. A *user profile* consists of user-specific information contained in the USER.DAT file, which is one of the two files that make up the Microsoft Windows 98 registry. Optionally, a user profile can also contain special Windows 98 directories. These folders are in the directories for each user, which are in the Windows Profiles directory.

The Windows 98 Zero Administration Kit enables User Profiles in the Windows 98 setup script for both TaskStation and AppStation clients. In fact, the Zero Administration Kit employs User Profiles to allow users to share a single computer and, based on the user's ID, provides the user with either a TaskStation or AppStation desktop, as determined by the system administrator.

For detailed information on User Profiles, see Chapter 7 “User Profiles” in the Microsoft Windows 98 Resource Kit.

Overview of System Policies

System Policies offer you a powerful mechanism for increasing the control and manageability of computers across the network. Group Policies make managing users' desktops more efficient by providing you with the ability to define policies for entire groups that have been created on a Windows NT or NetWare network rather than managing individual users. Before you can use System Policies, you must enable User Profiles on each desktop as is done with the Zero Administration Kit. To use Group Policies, you must select the “Group Policies” optional component in the Windows 98 setup program. The Zero Administration Kit modifies the Windows 98 setup script (MSBATCH.INF) so that the “Group Policies” optional component is installed.

The Windows 98 Zero Administration Kit employs both System Policies and Group Policies to manage clients and installs support using the Windows 98 setup script for both TaskStation and AppStation clients. By using the default templates provided with the operating system, Microsoft Office 97 and Microsoft Internet Explorer, the Zero Administration Kit can create highly customized desktops.

For detailed information on System Policies, see Chapter 8 “System Policies” in the Microsoft Windows 98 Resource Kit.

To create Windows 98 Policy files you must run the System Policy editor on Windows 98. When the System Policy editor is run on Windows NT Workstation or Windows NT Server it will create Windows NT Policy files.

Bringing Order to the File System

One of the "best practices" for managing desktops, that will help reduce technical support and software deployment costs, is standardizing file system directory structures. Standardization reduces complexity, simplifying many tasks that are required to maintain and manage systems over the typical three-year lifecycle of a PC. For example, if each desktop has identical directory structures, you can use this information to easily update applications or set System Policies. For the client implementations provided in the Zero Administration Kit, each computer is installed with the identical directory structure. For example C:\Windows is used as the operating system installation point.

Customizing the Desktop Interface

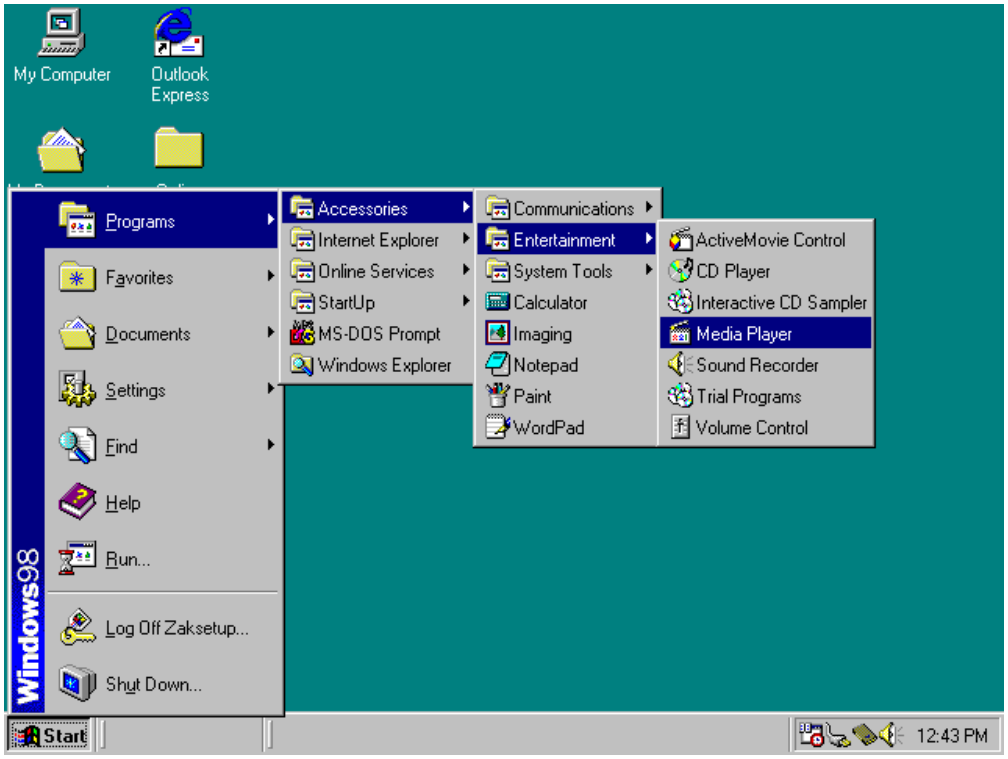
The standard Windows desktop interface can be customized using several different techniques; the Zero Administration Kit uses policy-based management to simplify and customize desktops. The AppStation and TaskStation implementations in the Zero Administration Kit hide much of the user interface from the user for two reasons:

- To simplify the user interface.
- To focus the user's attention on the tools specific to their job.

To successfully use policy-based management when customizing the desktop, it is important to have an understanding of the options you can control using policies. Next, this section describes the policy-based management techniques used in the TaskStation and AppStation implementations of the Zero Administration Kit. For more information on the specific policies used, see "System Policies" later in this document.

Desktop Appearance and Special Folders

The following figure shows one view of the Windows desktop after a standard installation of Microsoft Windows 98 and Microsoft Office 97. This desktop has not been customized for the task-based worker who requires fewer options.



Standard Windows 98 desktop.

For example, most users do not need access to the Control Panel or other system configuration tools.

Customizing the Desktop

Many visual elements of the desktop are governed by the contents of the user interface (called *shell*) special folders. These folders have special meanings for the shell. An application can use shell functions to retrieve the locations of these special folders and to enable the user to browse for specific folders.

Some special folders are virtual folders because they are not actual folders on any storage device, local or remote. Virtual folders like desktop, My Computer, and Network Neighborhood provide a unified name space by serving as containers for any number of storage devices and network resources. Other virtual folders contain file objects, such as printers, that are not a part of the file system.

User Profile Folders

The User Profile folders are a subset of the shell special folders. These folders contain links to various desktop items and, coupled with user's Registry, make up the user's profile.

One of the important things about the User Profile folders is how they affect the look and feel of the desktop when a user logs on. The following table shows some User Profile folders and their contents.

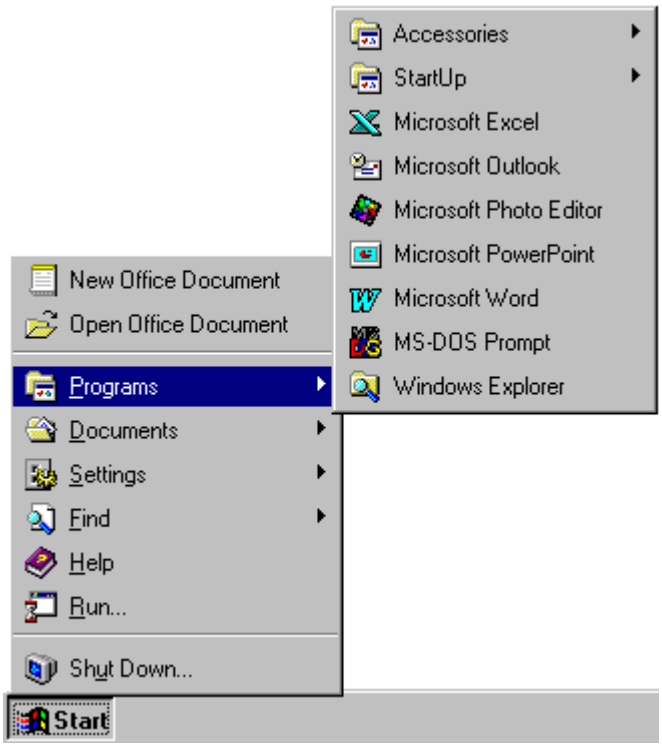
User Profile Folders and their Contents

Folder Name	Contents
Desktop	File system directory used to physically store file objects on the desktop.
NetHood	File system directory containing objects that appear in the Network Neighborhood.
Recent	File system directory that contains the user's most recently used documents.
Start Menu	File system directory containing Start Menu items.
Programs	File system directory that contains the user's program groups (which are also file system directories).
StartUp	File system directory that corresponds to the user's Startup program group.

The User Profile folders can be located on the local hard drive or, for more centralized control and easier management, they can be located on a network server. The location of the profile folders can be applied with System Policies. For example, one of the policy settings used in the AppStation implementation redirects the user's Programs folder to a directory on a server.

Start Menu

The Start Menu in Windows is a pointer to a folder, usually containing shortcuts to items stored elsewhere in the file system. The Start Menu, like any other shell special folder, can be redirected to point to any valid folder, including mapped drives and UNC paths. The following figure shows the Start Menu of a Windows-based desktop after a standard installation of Microsoft Windows 98 and Microsoft Office 97.

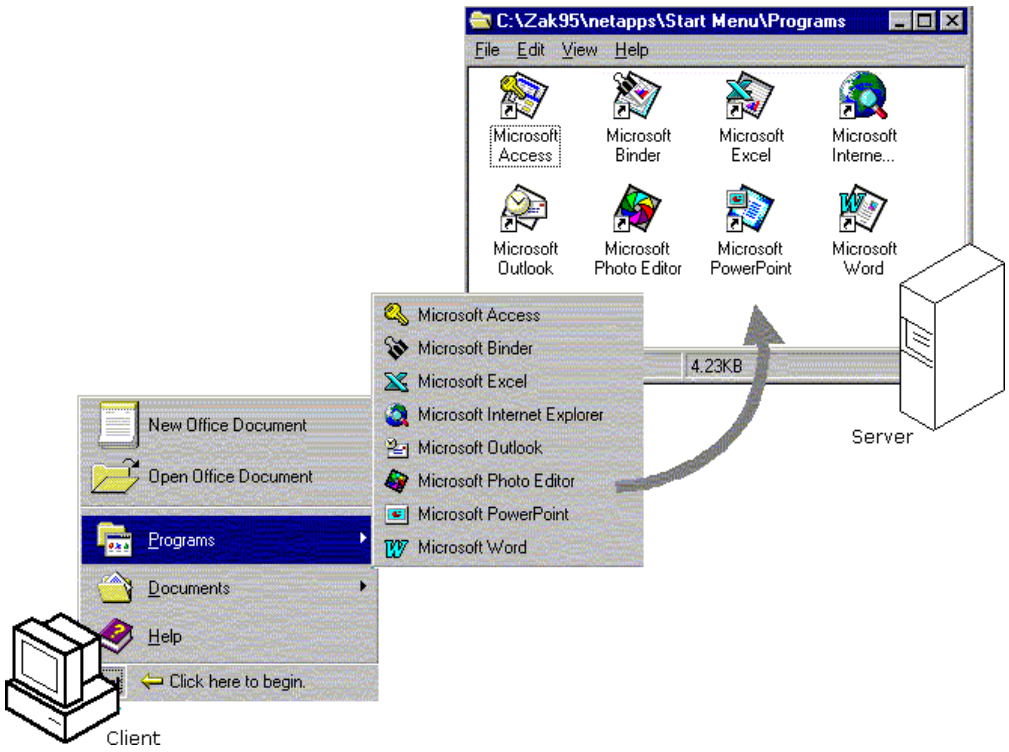


Standard Microsoft Windows 98 Start Menu.

There are several policies provided with the Zero Administration Kit for controlling the contents of users' Start Menus. The entire Start Menu and Programs folder can be redirected on a per-user or per-group basis through the use of System Policies.

Provided that the redirected path set in the **Custom Programs folder** policy has shortcuts to valid applications, access to programs can be managed centrally.

All of the AppStation clients can be configured to point to the same remote folder. Thus, instead of having to administer many Start Menu folders, you only have to manage one, as shown in the following example.



Redirected and restricted Start Menu and Programs folder.

The shell restrictions policy, **Hide all items on the desktop**, has the effect of focusing all user desktop operations to the Start Button. This in itself is quite effective in removing general distractions and user mistakes.

Note: The shell does not support hiding individual desktop icons on a per-user or per-group basis.

The Windows 98 Zero Administration Kit uses System Policies to manage User Profile folders for the AppStation configuration and to hide all items on the desktop for both TaskStation and AppStation configuration.

Control Panel

The Control Panel has many items that are not necessary for a task-based worker's desktop. Access to the Control Panel can be turned off using System Policies or you can eliminate access to certain components. For example, the Display Control Panel will allow the user to customize their background bitmap or install a different video adapter driver. You may prefer that users not spend time customizing their background bitmap, but may want to allow users this freedom because of the corporate culture in your organization. However there is little, if any, reason for a user to be changing the video adapter driver for their system. System Policies in Windows 98 allow you to hide the Settings Page of the Display Control Panel, preventing

changes to the video adapter, but allow the user to access the Background Page. The Windows 98 Zero Administration Kit restricts access to all parts of the Control Panel.

Installing Applications

The types of applications a corporation chooses to install depend on its business needs. The location of installed applications depends on the environment within the corporation and the functionality of the applications themselves. One way to reduce the administrative costs of managing individual desktops is to install applications on a central server and run them over the network, rather than installing them on the client computers. Two issues you should consider when setting up such a system are:

- User productivity becomes heavily reliant on the availability of the network.
- Not all applications provide adequate run-from-server support. If the applications will be installed locally, then it is important to check their ability to be managed remotely.

For the AppStation client implementation in the Zero Administration Kit, the applications are installed using the Microsoft Office 97 run-from-server method[1].

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[1] The minimum client footprint for Microsoft Office 97 run from network (RNS) is approximately 28 megabytes (MB). Of these 28 MB, approximately 7 MB are Office 97 files and the other are system infrastructure files like MAPI and ODBC. For further details see the Office 97 Resource Kit.
Also note that Microsoft Outlook 98 may not function correctly on a client machine that uses the Microsoft Office 97 run-from-server method. Refer to the Microsoft Outlook 98 release notes for further details.

Automated Installations

In an organization with more than 50 computers the cost of deploying an operating system or set of applications can be significant. One way to minimize this cost is by minimizing the time a technician spends installing each desktop. The Windows 98 Zero Administration Kit provides a setup script that automates much of the installation process, significantly reducing the time necessary to install each computer.

Today, within many large organizations, there is some sort of re-manufacturing process for preparing computers for users. Often these tasks are similar to the following:

1. Receive computer and software from suppliers
2. Install hardware (can be done by supplier)
3. Install operating system
4. Install applications
5. Test configuration
6. Ship to user

The amount of automation and types of techniques used for Steps 2–4 varies from organization to organization. In almost all cases, however, the goal is to minimize the labor necessary to complete the process. The following is a discussion of Steps 2–4 and what needs to be achieved in each step for a one-visit installation.

Step 2 - Install Hardware

When choosing hardware, it is important to make sure that you have Microsoft Windows 98 drivers for the client hardware.

Step 3 - Install Operating System

Microsoft Windows 98 setup can be automated using custom setup script files (MSBATCH.INF). The custom setup scripts contain predefined settings for all of the options that can be specified during Setup, and can contain instructions for installing additional software. Microsoft Batch for Windows 98 ships on the Windows 98 CD in the TOOLS\ RESKIT\BATCH directory and can be used to automate the process of producing or modifying a setup script file.

Step 4 - Install Applications

Ideally, every application you intend to install includes a setup script feature that allows you to install and configure the application automatically. The Microsoft Windows 98 Zero Administration Kit makes use of this feature in Microsoft Office 97 to automatically install all applications. Details can be found in the Microsoft Office 97 Resource Kit. If the applications you want to install do not support an automated installation, there are a number of tools, such as Microsoft Systems Management Server, available that can be used to create "packages" for automatic installation. Contact your software vendor for more information.

Customizing the Methodologies

Rarely does a situation present itself that corresponds directly to either the AppStation or TaskStation pre-configured rules. Typically, the methods demonstrated in the AppStation and TaskStation examples provided with the Zero Administration Kit should be modified for your own individual purposes. Even now, you might be implementing some of these methodologies on your network. For example, if you are using Roaming Profiles or System Policies to redirect a user's data folder to a server, or if you have created a net boot disk and run unattended installations of Windows 98 onto client computers, then you are already using Zero Administration methodologies. The possible variations to the examples provided here are limitless. This section, however, highlights some of the major methodologies and tools that can significantly change a user and administrator's experience.

System Policies

The AppStation and TaskStation pre-configured rules make use of several policies provided with Windows 98, the Office 97 Resource Kit, the Microsoft Internet Explorer Administration Kit, and one custom built policy. All of these policies have been combined and are provided to you with either the AppStation or TaskStation installation. Because the AppStation installation is more complex, it makes use of more policies than the TaskStation installation. It is likely that you will want to modify the policies provided with the Zero Administration Kit for your own environment. Furthermore, you might want to create a few of your own System Policies, especially for any custom business applications. For more information on configuring or creating System Policies, see Chapter 8 "System Policies" in the Microsoft Windows 98 Resource Kit.

Updating Your Distribution Point

When there is a new release of a product, Microsoft Office 97 for example, you might want to update your distribution point, replacing the old files to include the new. Note that updating the distribution point files does not update the clients.

Updating for New Releases of Microsoft Office 97

If you want to replace your Microsoft Office 97 distribution files with newer versions, you must delete all files in the NETAPPS\OFF97\MSOFFICE and NETAPPS\OFF97\MSAPPS folders. Then run the Office 97 administration installation program (**setup/a**) to copy the new Office 97 files into these folders.

Zero Administration Kit Setup

This section lists the requirements for the Zero Administration Kit and provides more detailed instructions for installing the software, creating global groups, setting up user accounts, enabling the Zero Administration Kit policies, and creating software distribution points.

Prerequisites for Evaluating the Zero Administration Kit

The AppStation and TaskStation deployments are intended for a *pilot network* to demonstrate the capabilities of System Policies. The AppStation and TaskStation deployments are only examples of what you can do with the Zero Administration Kit. For more information, see the "Zero Administration Kit Methodologies" section of this guide.

Note: The Zero Administration Kit methodologies information is intended for experienced Windows 98 and Windows NT Server 4.0 system administrators. At a minimum, you should study the Microsoft Windows 98 and Windows NT Server 4.0 Resource Kits. Knowledge of Microsoft Office 97 is also required if you plan to implement and administer Office installations.

Minimum Network Configuration

- One computer running Microsoft Windows NT Server version 4.0
- Two computers capable of running Microsoft Windows 98
- All computers must be running TCP/IP

Minimum Server Requirements

- A Primary Domain Controller (PDC)
- At least 1 GB of free hard drive space
- At least 32 MB RAM (at least 64 if using Microsoft Exchange)
- CD-ROM drive
- Microsoft Windows NT Server version 4.0
- File system should be NTFS

Minimum Workstation Requirements

- Hardware configurations should be as similar as possible
- 486DX/66 MHz or higher processor
- 16 MB RAM

- Clean hard drive with at least 300 MB of free space
- MS-DOS network boot disk

Other Requirements

- Zero Administration Kit CD
- Microsoft Windows 98
- Microsoft Internet Explorer Administrator Kit (IEAK)
- Microsoft Office 97
- Microsoft Windows 98 Resource Kit
- Office 97 Resource Kit
- Microsoft Exchange Server to test the Microsoft Outlook™ client with Exchange

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Note: Your copy of Microsoft Windows 98 must be the full version. The Windows 98 upgrade does not work with the Zero Administration Kit because it requires that you already have a previous version of Windows installed on your computer.

Detailed Installation Instructions

This section details the steps necessary to install the Zero Administration Kit. You should study this section before implementing the Zero Administration Kit in a production environment.

Overview of the Process

There are three primary tasks you must complete to setup Microsoft Windows 98 Zero Administration Kit clients - prepare the distribution server, setup Windows 98 on the Zero Administration Kit clients with an automated setup script, and administer the Windows 98 Zero Administration Kit clients. It is important to understand the overall process so you can more easily adapt it to meet your specific needs. Each of the primary tasks breakdown into many specific tasks, the following is a high level view of the tasks:

Prepare the Distribution Server

- Copy all source files for your preferred client to the server. For the Zero Administration Kit TaskStation and AppStation deployments, this includes Windows 98, the Zero Administration Kit client system files, and Office 97.

Setup Windows 98 on the Zero Administration Kit Clients

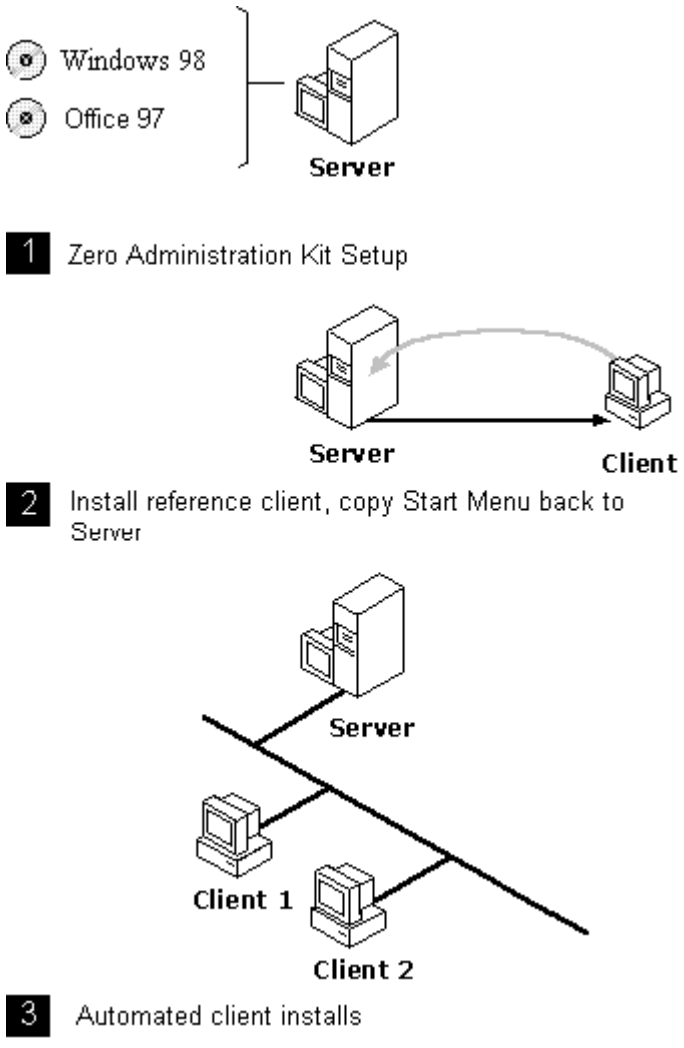
- Modify the setup script (MSBATCH.INF) to automate the setup process.
- Create an MS-DOS network boot disk to connect to the distribution server.
- Format the Zero Administration Kit client computer hard drive.
- Run Setup with the automated setup script.

Administer the Windows 98 Zero Administration Kit Clients

- Create user accounts and global groups for the users you wish to include in the Zero Administration Kit implementation.
- Create Windows 98 System Policies to manage user settings.

Creating the Zero Administration Kit Client Distribution Point

Zero Administration Kit Setup, provided with the Zero Administration Kit CD, creates both TaskStation and AppStation distribution points on your server. These distribution points can then be used for unattended installations of Zero Administration Kit clients. To create this distribution point, you need Windows 98 and Office 97 in the case of the AppStation deployment. This distribution point also includes a pre-configured policy file. An overview of the entire setup process for both the server and the clients is provided in the following diagram.

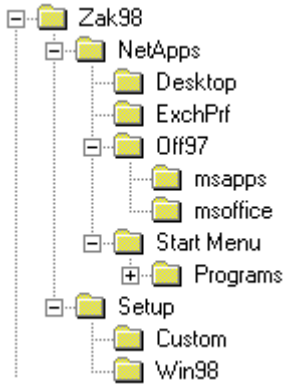


The Zero Administration Kit Setup process.

Preparing the Distribution Server

The Windows 98 Zero Administration Kit Setup Wizard automatically prepares the distribution server by copying all of the source files necessary for setting up both the TaskStation and AppStation Zero Administration Kit clients to the server. This includes Windows 98 source files, the Zero Administration Kit client system files, and Office 97. By default, the Zero Administration Kit Setup Wizard organizes the source files on the server in two directories. One directory contains source files that are needed during the setup process, the other includes the source files that are needed both during setup and once the Windows 98 Zero Administration Kit clients are running.

All of the source files needed during the setup process, but not after setup is complete are organized in the \SETUP directory. The Microsoft Office 97 files are needed during setup and after setup because Office 97 is setup to run from the server. The Office 97 files are organized in the \NETAPPS directory:

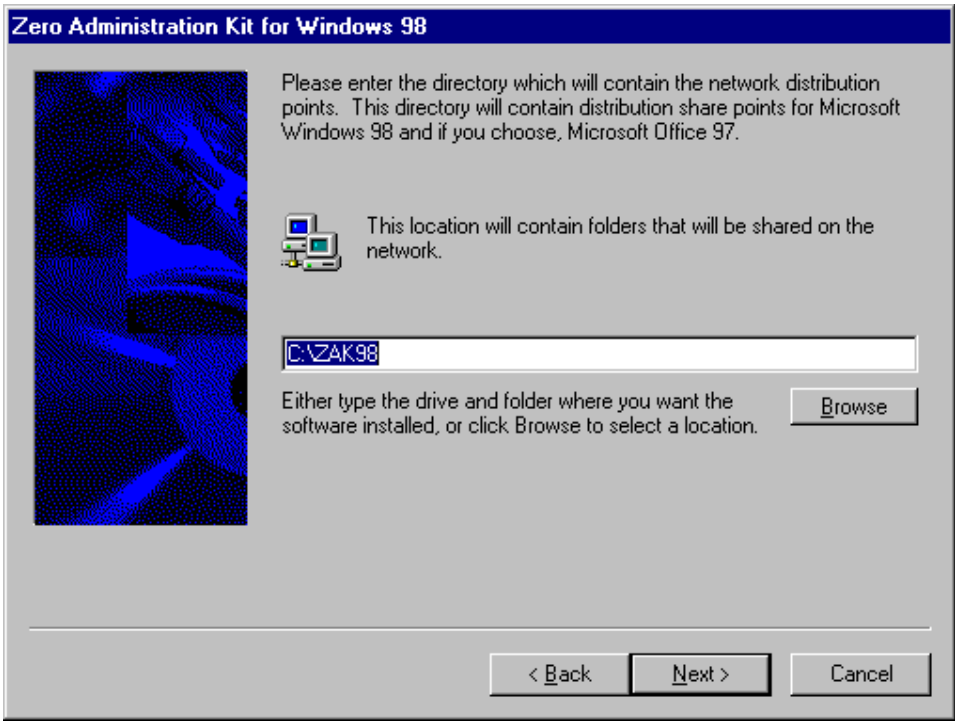


The Windows 98 Zero Administration Kit distribution server directory structure.

Starting the Windows 98 Zero Administration Kit Setup Wizard

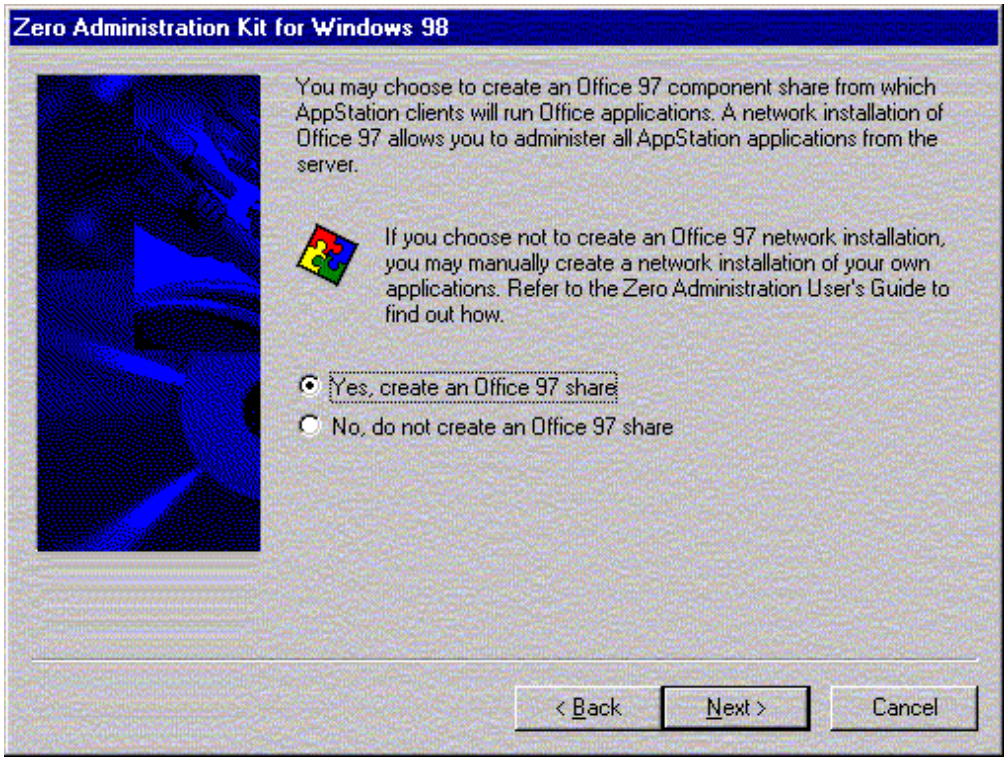
Insert the Zero Administration Kit for Windows 98 CD. Switch to the root of your CD-ROM drive. Double-click ZAKSETUP.EXE. You can run the Zero Administration Kit Setup Wizard from a Windows 98, Windows NT Workstation 4.0, or Windows NT Server 4.0 system.

Organizing the Source Files on your Distribution Server



Directory for the source files on your network distribution server.

1. Select the directory that will contain the source files on your network distribution server. This will be the root of the Zero Administration Kit distribution point. In the Software Location dialog box, in Location, type a <drive_letter>:\<directory_name> in which to store the files on the server. If it does not exist, the Zero Administration Kit Setup Wizard will create it for you. The default location is: C:\ZAK98. Click Next to continue.



Choose whether to create a Microsoft Office 97 network distribution share.

2. Choose whether or not to create a Microsoft Office 97 share. When you select "Yes" the Windows 98 Zero Administration Kit Wizard adds an entry to the setup script (MSBATCH.INF) which will configure each Zero Administration Kit client workstation to run Office 97 setup automatically during setup. The Wizard adds the following line to the [Install] section of the MSBATCH.INF:

```
AddReg=Office
```

And add the following section to MSBATCH.INF:

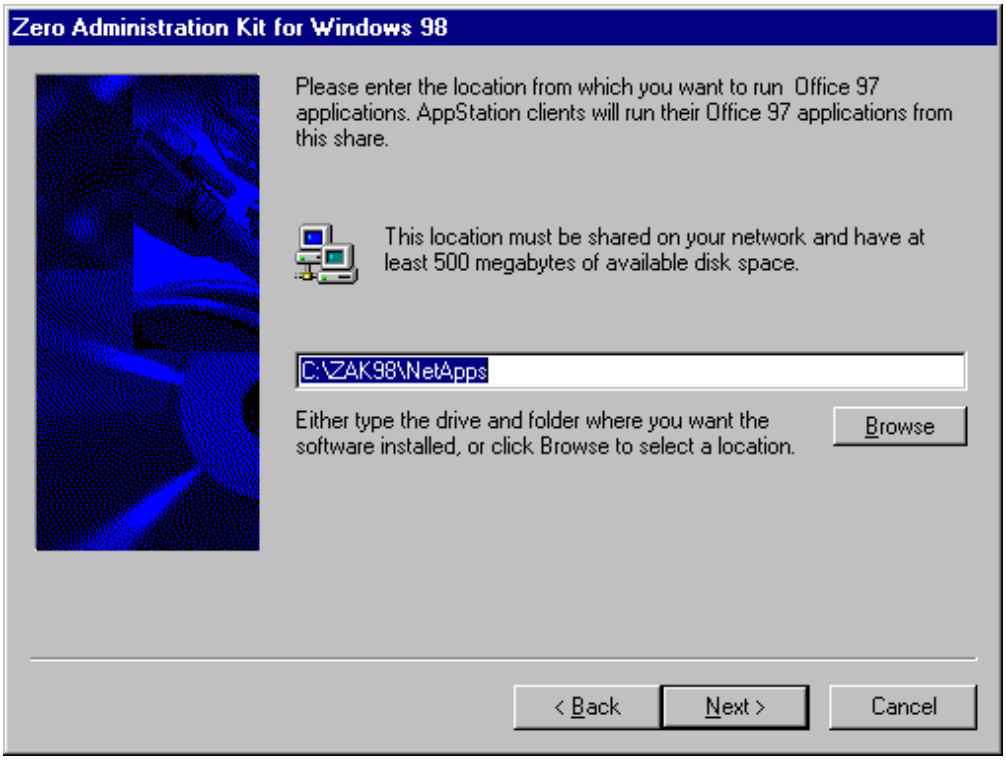
```
[Office]
HKLM,Software\Microsoft\Windows\CurrentVersion\RunOnce,Office,,
"O:\off97\msoffice\setup /q1 /b3"
```

Note: The two commas after the word Office are required. This entry adds a String Value to the RunOnce key of the registry. The RunOnce service is a simple service to run programs only once. The service examines the values in the RunOnce key of the Windows 98 registry and processes each value when the Windows Explorer shell initializes. Once an entry in the queue is processed, it is removed.

If you already have implemented a Microsoft Office 97 network setup, you can add these lines to the MSBATCH.INF file manually. Open the MSBATCH.INF using a text editor, find the [Office] section (you may need to create the [Office] section), and type in the line as it appears above. Then edit the portion of the line in quotes so the path to Office 97 setup is correct:

"O:\off97\msoffice\setup /q1 /b3"

This is the path and command line necessary to setup Microsoft Office 97 in quiet mode. The O:\ drive is mapped to the server by the setup technician's network login script. For more information on using the [Install] section of the MSBATCH.INF file to customize setup, see Appendix C, "Windows 98 INF Files" and Appendix D, "Msbatch.inf Parameters for Setup Scripts" in the Microsoft Windows 98 Resource Kit.



Create Office 97 network share.

Select the directory that will contain the directories and source files for Office 97. Click Next to continue.

Information for the Microsoft Office 97 Setup Wizard.

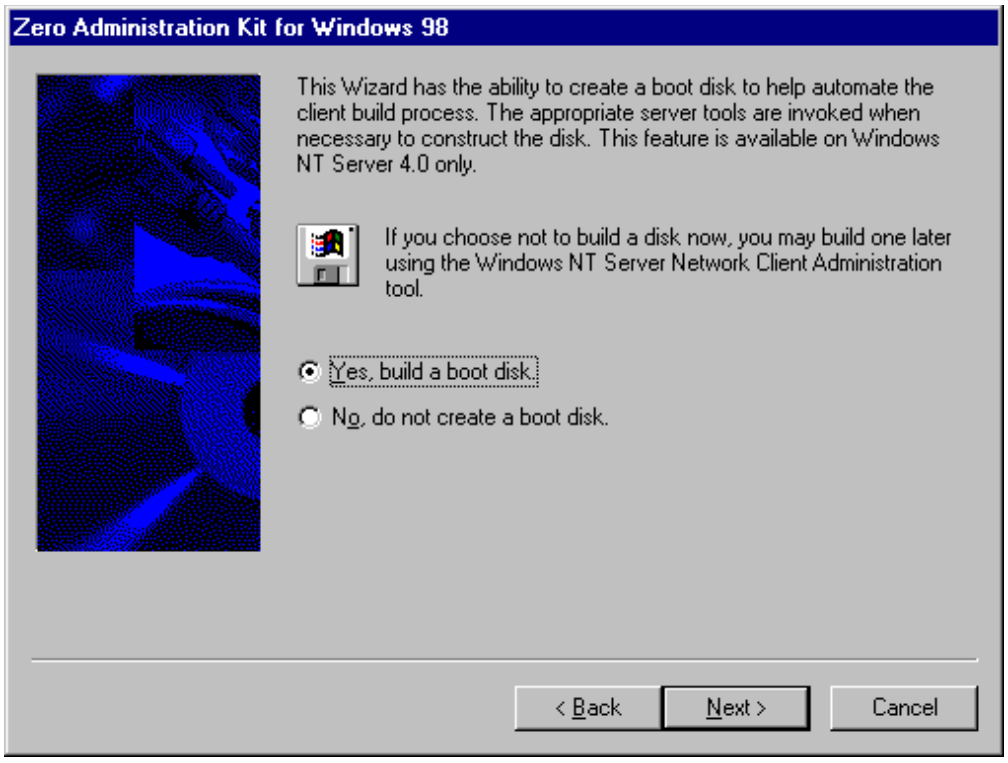
3. The Office 97 Administrator Setup requires information related to choices made during the setup of the Network Applications share. The information you entered is provided again to assist with your setup of Microsoft Office 97 in run-from-server mode. This will be the last screen displayed by the Zero Administration Kit Setup Wizard (this screen shot is not shown in sequence, it is the last screen displayed). While it is recommended that you write the information down, you can use Alt-Tab to switch between this screen and the Office 97 setup program while setup is running.

Note: Before you proceed with Office 97 setup, please make note of the location of the Destination folder and the MSAPPS folder, as well as the Path and Drive indicated in the Office Setup Instructions dialog box — you will need this information during Office 97 setup.

---

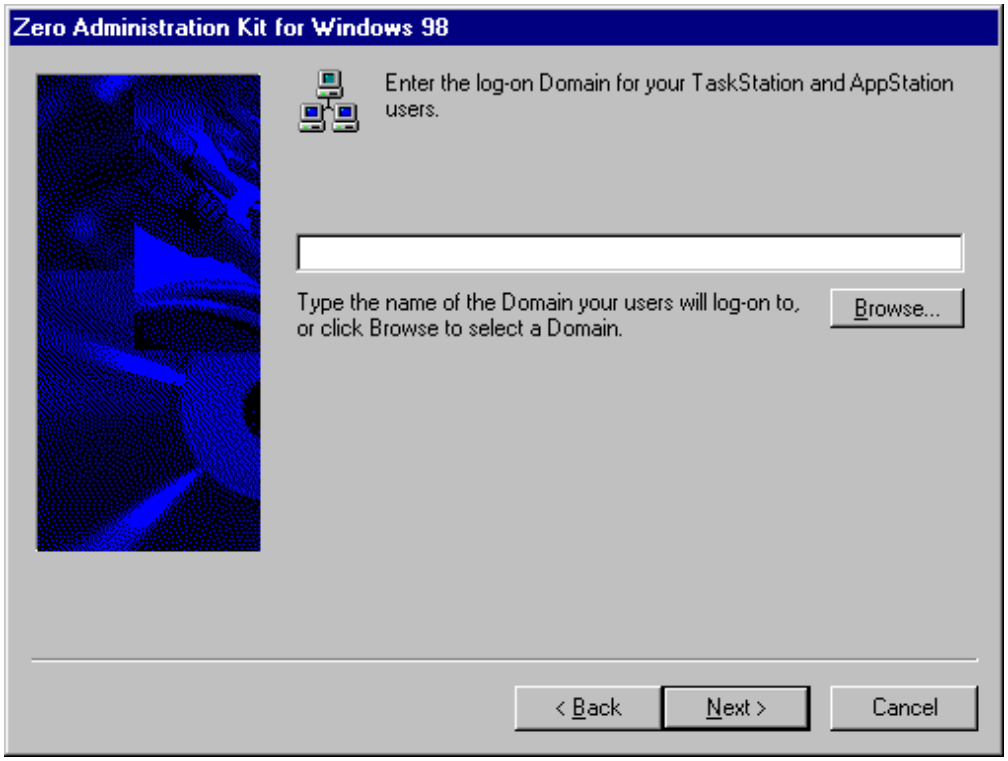
4. To proceed with Microsoft Office 97 installation, click OK in the Office Setup Instructions dialog box. You must step through the process of installing Office 97, making sure to enter the appropriate data.

If you are running the Zero Administration Kit Setup Wizard on Windows NT Server 4.0, it will start the Windows NT Server Network Client Administration tool to help you build a network boot disk for your Zero Administration Kit client machine.



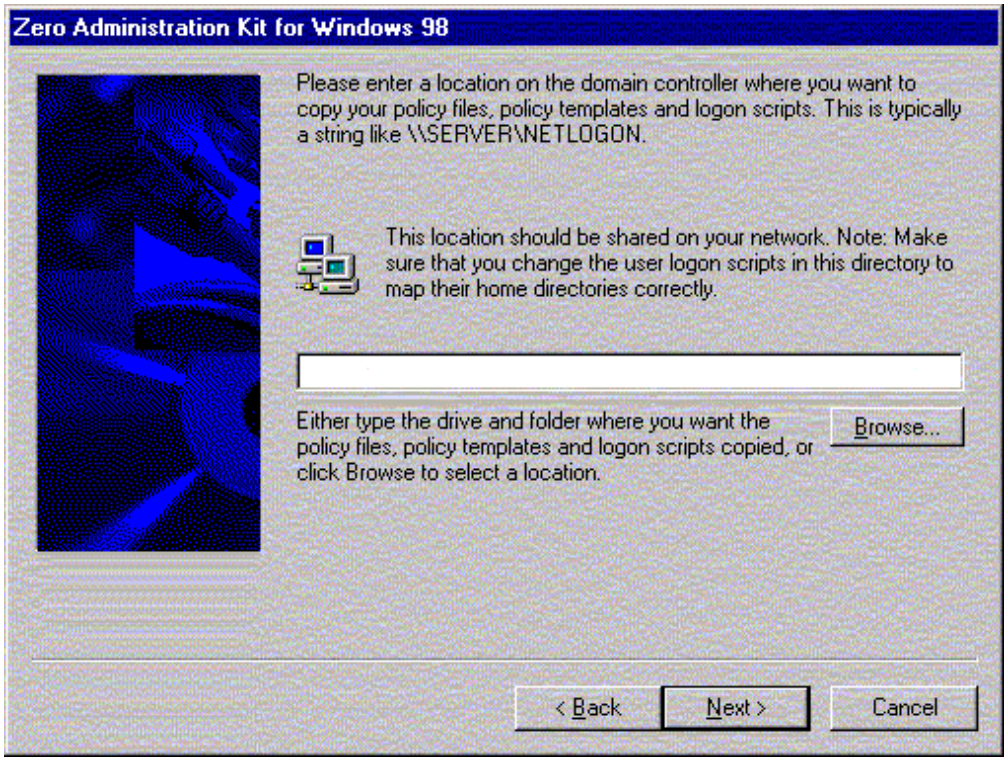
Create MS-DOS network boot disk.

5. Select "Yes" to create a network boot disk. This option is only available if you are running the Windows 98 Zero Administration Kit Setup Wizard on Windows NT Server 4.0. You will be given the option to have the Wizard run the Windows NT Server Network Client Administration Tool. This tool can be used to build a network boot disk for your client machine. Note that the Network Client Administrator Tool supports a limited number of network adapter cards. If your network adapter card is not supported, you must manually create the MS-DOS network boot disk. See Chapter 11, "Managing Client Administration" in the Windows NT Server Concepts and Planning Guide for details. Click the Next button to continue.



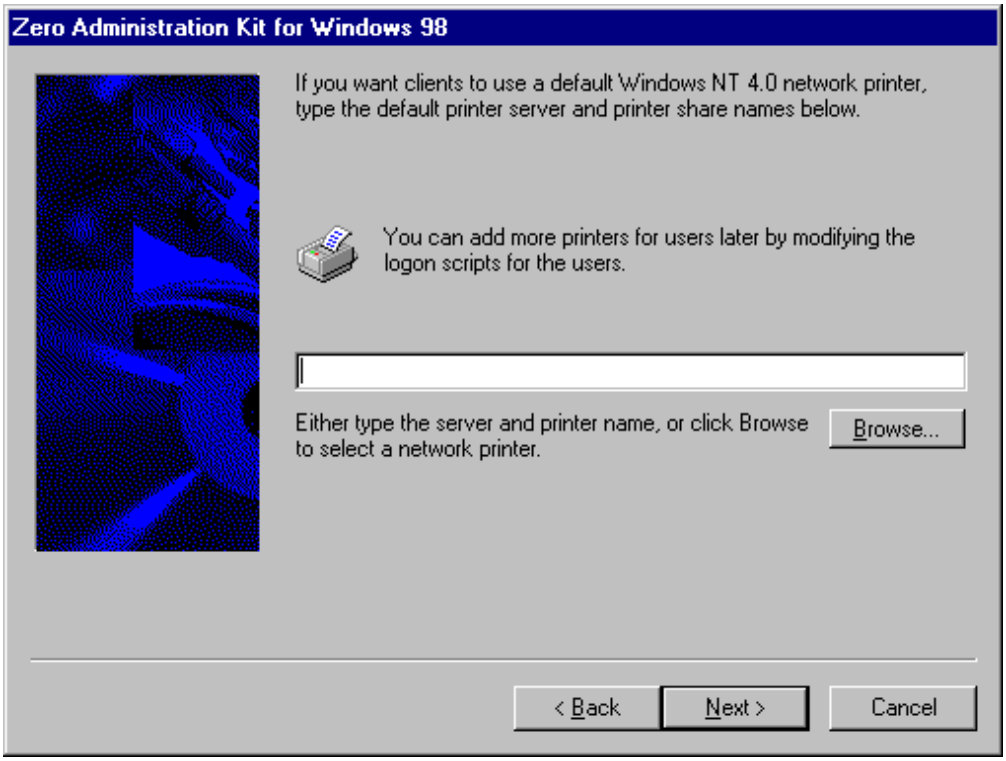
Selecting the Domain for your Zero Administration Kit clients.

6. The next three pages of the Windows 98 Zero Administration Kit Setup Wizard will prompt you for the Domain name, Workgroup name, and Pass-through validation agent for your network. These values are used by the Setup Wizard to set the values for LogonDomain, Workgroup, and PassThroughAgent values of the MSBATCH.INF.



Selecting the network logon share location for your Zero Administration Kit clients

7. Enter the network logon share location for your policy files and logon scripts. Enter the name of the Windows NT Server 4.0 PDC you setup in Step 2 above for the server name. For example, if your PDC name were "MYSERVER" you would enter **MYSERVER****NETLOGON**. See the "Administering the Windows 98 Zero Administration Kit Clients" section of this document for more information. Press the Next button



Select a Network Printer

8. Select a network printer. This value is used to create the [Printers] section in the MSBATCH.INF. Press the Next button to continue.

9. Enter the Installation Directory for the Windows 98 Zero Administration Kit clients. This is the directory where Windows 98 is to be installed. The Setup Wizard will add the InstallDir parameter to the [Setup] section of the MSBATCH.INF.

Setup Windows 98 on the Zero Administration Kit Clients

At this point, the Windows 98 Zero Administration Kit Setup Wizard has gathered all of the information necessary to create the MSBATCH.INF. After the Zero Administration Kit Setup Wizard has completes copying files and running Office 97 setup, you must edit the MSBATCH.INF script.

The steps that make up this task require some manual preparation on your part. The Windows 98 Zero Administration Kit Setup Wizard will create a basic setup script. However, you must use a text editor to manually edit the MSBATCH.INF and add the ProductKey and ComputerName for Windows 98 before running setup.

Edit the MSBATCH.INF script to add the ProductKey and ComputerName values. The MSBATCH.INF script is located in the \SETUP\WIN98 directory of your distribution network

share. Open the MSBATCH.INF using Notepad or some other text editor and replace **00000-00000-00000-00000-00000** with the Product Key for your site and **ZAKComputer** with the computer name. The Product Key is printed on the Windows 98 CD or the Certificate of Authenticity. Alternatively, you can use Microsoft Windows 98 Batch Setup Tool to edit the MSBATCH.INF script. In particular, you may want to use Windows 98 Batch Setup Tool to specify the TimeZone, Name, and Organization. The Microsoft Windows 98 Batch Setup Tool ships on the Windows 98 CD-ROM in the TOOLS\RESKIT\BATCH directory.

For a detailed description of the MSBATCH.INF created by the Windows 98 Zero Administration Kit Setup Wizard see Appendix C - MSBATCH.INF.

MS-DOS Network Boot Disk

- If the network adapter for your computer is not supported by the Windows NT Server 4.0 Network Client Administration Tool, you can still use this tool to create the basic network boot disk and then edit the system configuration files to load the device drivers for your network adapter card. See Chapter 11, "Managing Client Administration" in the Windows NT Server Concepts and Planning Guide for details.

  Refer to the documentation included with your network adapter card for MS-DOS setup instructions.

Windows 98 Setup

You can use a variety of tools to start the setup process, such as a network boot disk. The method you choose must enable you to connect to the network distribution shares and execute setup. Before beginning this step, you must complete some of the steps in the "Administering the Windows 98 Zero Administration Kit Clients" section of this guide, including sharing the directories you or the Windows 98 Zero Administration Kit Setup Wizard have created.

Administering Windows 98 Zero Administration Kit Clients

All administration of Windows 98 Zero Administration Kit clients is accomplished at the server. Centralized administration, in addition to the reduction in costs due to the lower complexity at the desktop, will help reduce the total cost of ownership for your Windows desktops. You should complete all of the steps in this section in preparation for the deployment of Windows 98 Zero Administration Kit clients. Most of the tasks are typical network administration tasks. You should be very familiar with the tools used to administer Windows NT Server 4.0. See the Windows NT Server 4.0 Resource Kit for more information.

Organizing Files and Shares

The files on the server are organized in three shared directories by the Windows 98 Zero Administration Kit Setup Wizard. The first shared directory, the network logon share, is automatically created and shared during Windows NT Server 4.0 setup. The other two directory names are determined during Zero Administration Kit setup and are created by the

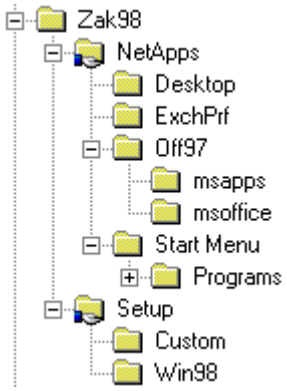
Zero Administration Kit Setup Wizard. These two directories must be manually shared for network access.

The Network Logon Share

The network logon share is usually %SystemRoot%\SYSTEM32\REPL\IMPORT\SCRIPTS (%SystemRoot% is the path and directory name of the Windows NT directory, for example C:\WINNT). The share name for the network logon share is usually NETLOGON. The logon scripts and policy files are stored in this directory by default. During start up the Windows 98 Client for Microsoft Networks checks the NETLOGON share for a CONFIG.POL file and for the user logon script.

Source File Directories

The source file directories contain all of the files necessary to setup each Zero Administration Kit client computer. By default, the directories are created in a single ZAK98 directory then organized in two sets of directories.



Default directory structure for Zero Administration Kit source files.

The SETUP directory contains the source files for Windows 98 and the Windows 98 Zero Administration Kit system files. These files are needed during setup, but not after setup is complete. The WIN98 directory contains the Windows 98 source files, the MSBATCH.INF script, group policy files, and the Windows 98 Zero Administration Kit system files.

The NETAPPS directory contains the Microsoft Office 97 network setup directory, OFF97, and the Start Menu directory, START MENU. The Office 97 files are needed both during the Windows 98 Zero Administration Kit client setup and, because Office 97 is run from the server, after setup is complete. The START MENU directory and its subdirectories contain nothing for now. They will be used as the common network location for Zero Administration Kit AppStation client computers' custom folders. After the reference client has been setup, the shortcuts for each of the programs used by Zero Administration Kit AppStation users are copied to these directories. The administrator can then maintain the applications the users have access to by managing the shortcuts in these directories.

Sharing the Source File Directories

You must share the source file directories. The default share names are SETUP and NETAPPS. Share both directories, give the Everyone global group Read Only permission for the SETUP share, give the Everyone global group Change permission for the NETAPPS share. Give the Everyone global group Read Only permission for the "NETAPPS\Start Menu" directory. Make sure the Domain Admins global group has Full permissions for the "NETAPPS\Start Menu" directory. Note the share names you have used

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Note: The share names will be needed for the Zero Administration Kit client and the Zero Administration Kit setup technician logon scripts.

Creating and Sharing USERS Directory

The default directory for user data is the USERS network share. You may want to create individual user directories for each user account in a production environment. For more information, see the Microsoft Windows NT Server 4.0 Resource Kit.

To create the USERS share:

1. Create a directory named USERS on the server.
2. Share the directory as USERS, giving the Everyone global group Full Control permissions.

The USERS share is utilized in the Office 97 policy for Personal folders. It is mapped to the U:\ drive in the APPLOGON.BAT login script.

Note: The share name will be needed when editing the APPLOGON.BAT login script.

Setting Up the Logon Scripts and Policy Files

The Windows 98 Zero Administration Kit Setup Wizard copies the AppUser client logon script (APPLOGON.BAT), the ZAK setup technician logon script (ZAKSETUP.BAT), and the policy file, CONFIG.POL, to the network logon share you selected during Zero Administration Kit setup. By default the share name is NETLOGON. You must edit the APPLOGON.BAT logon script and the ZAKSETUP.BAT logon script.

To edit the APPLOGON.BAT

1. Connect to the network logon share of your PDC, usually *ServerName*\NETLOGON. If your PDC server name were MYSERVER you would connect to \\MYSERVER\NETLOGON.
2. Using Notepad or another text editor, edit APPLOGON.BAT that was copied to the NetLogon share of your PDC by the Zero Administration Kit for Windows 98 Setup Wizard. You must replace the \\<office application server>\<netapps share> and the \\<dist-server>\<user share> values with the correct server and share names respectively.

   For example, if the server name of your PDC is MYSERVER and the share name you assigned the source directory is NETAPPS, the correct values would be:

   ```
   net use o: \\MYSERVER\NETAPPS
   net use u: \\MYSERVER\USERS
   ```

3. The APPLOGON.BAT file also contains commands to create an Exchange profile for the AppStation user as shown below:

```
copy O:\exchprf\exchange.prf c:\windows
c:\
cd\windows
fixprf c:\windows\exchange.prf <username> <username> <exchange server>
newprof -p c:\windows\exchange.prf -x
```

By default, this section of APPLOGON.BAT is commented out with REM statements. You will need to remove the REM statements from APPLOGON.BAT if you use Microsoft Exchange. If you don't use Microsoft Exchange, you should leave these lines commented out.

You must replace the <username> and <exchange server> values with the correct user name and server name, respectively. For example, if the server name of your Microsoft Exchange server is MESSAGE1 and the user name you assigned to the AppStation user is APPUSER, the correct values would be:

```
fixprf c:\windows\exchange.prf APPUSER APPUSER MESSAGE1
```

Additionally, if you choose a client installation directory other than C:\WINDOWS, you will need to modify APPLOGON.BAT appropriately. For example, if you choose D:\WIN as the installation directory, the correct values would be:

```
copy O:\exchprf\exchange.prf D:\WIN
D:\
cd\WIN
fixprf D:\WIN\exchange.prf <username> <username> <exchange server>
newprof -p D:\WIN\exchange.prf –x
```

To edit ZAKSETUP.BAT login script

1. Using Notepad or another text editor, edit the net use drive settings.
   For example, if the server name of your PDC is MYSERVER and the share names you assigned to the source files are NETAPPS and SETUP respectively, then the correct values would be:

```
net use o: \\MYSERVER\NETAPPS
net use s: \\MYSERVER\SETUP
```

Domains with Multiple Controllers

If your domain has multiple controllers, you must ensure that the login scripts and policy files are available on the network logon share of each of the domain controllers. The best way to do this is to copy all of the login scripts and policy files in the %SystemRoot%\SYSTEM32\REPL\EXPORT\SCRIPTS directory and configure directory replication to all other domain controllers. Consult the Windows NT Server Resource Kit for information about directory replication.

Organizing Global Groups and User Accounts

You must create at least two groups and three user accounts.

To create global groups for AppStation and TaskStation

1. On the Windows NT 4.0 Server click Start, point to Programs, point to Administrative Tools, and click User Manager for Domains.
2. Click User, and then click New Global Group.
3. The New Global Group dialog box is displayed.
4. In the New Global Group dialog box, in the Group Name text box, type **AppUser**.
5. If any users or local groups appear in Members, select them, and click Remove.
6. Click OK to add the group.
7. Repeat Steps 2 through 5, but name the new group **TaskUser**.

Note: The global group names must appear exactly as typed because they are referred to in the predefined CONFIG.POL policy file. Note that the global group names for the Microsoft Windows NT Workstation 4.0 Zero Administration Kit are very similar, TaskUsers and AppUsers, with the letter "s". The difference in global group names is intentional.

You must create user accounts to be added to the AppUser or TaskUser global groups.

To create the user accounts

1. Running from the Windows NT Server 4.0 PDC, in User Manager for Domains, on the User menu, click New User.
2. Type the information required in the New User dialog box.
3. Click Profile.
4. In Logon Script Name, type **APPLOGON.BAT** for AppStation clients, leave it blank for TaskStation clients.
5. Click OK.
6. In the New User dialog box, click Groups.
7. Click either Appusers or Taskusers in Not Member of, and then click Add to add the user to the group you created.
8. Click OK.
9. Click Add to add the new user to the domain.
10. Repeat this procedure.

To create a Zero Administration Kit setup technician user account

1. Running from the Windows NT Server 4.0 PDC, in User Manager for Domains, on the User menu, click New User.
2. Type the information required in the New User dialog box.
3. Click Profile.
4. In Logon Script Name, type **ZAKSETUP.BAT**.
5. Click OK.

6. In the New User dialog box, click Groups.
7. Click Domain Admins in Not Member of, and then click Add to add the user account.
8. Click OK.
9. Click Add to add the new user to the domain.

Build a Reference Zero Administration Kit Client Computer

Use the network boot disk you created to connect to the distribution share you created. Be sure to logon using the Zero Administration Kit setup technician user account. The ZAKSETUP.BAT login script should map drive S:\ to the setup technician to the network distribution share.

To run Windows 98 setup using the MSBATCH.INF setup script

1. Change directory (CD) to the S:\Win98 directory. (The logon script mapped the S:\ drive to the source file distribution share).
2. If you have formatted the Windows 98 Zero Administration Kit client computer hard drive (recommended), you can increase the automation of the setup process by using the command line switches to skip the memory check (/im), skip the ScanDisk quick check (/is), and skip the minimum disk space requirement (/id). Type:

   SETUP MSBATCH.INF /im /is /id

Setup requires that you login to the network several times throughout the process. Be sure to login using the ZAKSETUP account so that Windows runs the ZAKSETUP.BAT logon script, which correctly maps the drives.

Prepare the Custom Folder Network Location for Zero Administration Kit AppStation Clients

To copy the shortcuts (.LNK files) from your reference client Start Menu to the network location for the shared Start Menu:

1. Open the Start Menu by right clicking the Start Button on the reference client.
2. Copy shortcuts (.LNK files) of the applications that you would like to make available to the AppStation mode users to the identically named folders on the \NETAPPS share of your distribution server. The O:\ drive should be mapped to the \NETAPPS share. The Zero Administration Kit AppStation default custom folder shell policy for Start Menu, Programs, and StartUp respectively are:

   O:\Start Menu
   O:\Start Menu\Programs
   O:\Start Menu\Programs\Startup

Deploying Windows 98 Zero Administration Kit Clients

You are now ready to begin deployment of the Windows 98 Zero Administration Kit clients. Use the same steps outlined above when building the reference client to setup each computer with the exception of "Preparing the Custom Folder Network Location."

System Policies

This section includes information specific to the System Policy Editor and the System Policies specific to the Windows 98 Zero Administration Kit. For detailed information on Windows 98 System Policies, see Chapter 8, "System Policies" in the Microsoft Windows 98 Resource Kit.

System Policy Editor

To create Windows 98 Policy files, you must run the System Policy editor on Windows 98. When the System Policy Editor is run on Windows NT Workstation or Windows NT Server, it will create Windows NT Policy files.

Installing the System Policy Templates and System Policy Editor

To install the System Policy Editor on Windows 98

1. Install the System Policy Editor from the Windows 98 CD following the instructions in the POLEDIT.TXT file or copy POLEDIT.EXE, POLEDIT.HLP, and POLEDIT.CNT to a directory on your Windows 98 computer. These files are located on the Windows 98 CD in the \TOOLS\RESKIT\NETADMIN\POLEDIT\ directory.
2. Create a shortcut to POLEDIT.EXE on your Start Menu by clicking POLEDIT.EXE, then drag and drop POLEDIT.EXE onto your Start Button.
3. Copy the policy templates included with the Windows 98 Zero Administration Kit to the same directory that you copied the Policy Editor files.
4. The policy templates are in the POLICIES directory of your Windows 98 Zero Administration Kit CD. Copy all of the files in the POLICIES directory, there are five including: ZAK98.ADM, INETRES.ADM, SHELL.ADM, WINDOWS.ADM, and OFF97W98.ADM.
5. Start the System Policy Editor by clicking the Start Button and select the shortcut to POLEDIT.EXE.
6. Click Options, and then click Policy Template.
7. Click all existing template files and then click Remove.
8. Click Add to add all of the template files that you copied from the Windows 98 Zero Administration Kit CD.
9. Click OK to close the Policy Template Options dialog box and load the templates.

Zero Administration Kit System Policies

Besides using the WINDOWS.ADM, SHELL.ADM, and ZAK98.ADM templates, both TaskStation and AppStation use templates from the Microsoft Internet Explorer Administration Kit and the Microsoft Office 97 Resource Kit. This section describes all of the policies used by the Zero Administration Kit in either the AppStation or TaskStation examples. To get a full list of policies defined in the Microsoft Office 97 and Microsoft Internet Explorer templates, see the Microsoft Office 97 Resource Kit and the Microsoft Internet Explorer Administration Kit.

TaskStation System Policies

This section lists the System Policies that have been set to restrict TaskStation users.

Microsoft Internet Explorer User Interface Restrictions — The following Microsoft Internet Explorer user interface policies are in effect for the TaskStation:

- Disable changing home page settings
- Disable changing cache settings
- Disable changing history settings
- Disable changing color settings
- Disable changing link color settings
- Disable changing font settings
- Disable changing language settings
- Disable changing accessibility settings
- Disable changing ratings settings
- Disable changing certificate settings
- Disable changing profile assistant settings
- Disable changing Microsoft Wallet settings
- Disable calling Connection Wizard
- Disable changing connection settings
- Disable changing proxy settings
- Disable changing Automatic Configuration settings
- Disable changing Messaging settings
- Disable changing Calendar and Contact settings
- Disable changing checking if Internet Explorer is the default browser
- Disable changing settings on Advanced Tab

Windows 98 Zero Administration Settings — The following Windows 98 Zero Administration settings policies are in effect for the TaskStation:

- Custom Shell: iexplore.exe -k

Windows 98 System — The following Windows 98 System Policies are in effect for the TaskStation:

- Disable Registry editing tools.
- Only run allowed Windows applications. No applications in the list.
- Disable MS-DOS prompt.
- Disable single-mode MS-DOS applications.
- Hide all items on Desktop
- Don't save settings at exit
- Disable Display Control Panel
- Disable Network Control Panel
- Disable Password Control Panel

Windows 98 Shell — The following Windows 98 System Policies are in effect for the TaskStation:

- Only allow approved Shell extensions

AppStation System Policies

This section lists the System Policies that have been set to restrict AppStation users.

Microsoft Internet Explorer User Interface Restrictions — The following the Microsoft Internet Explorer user interface policies are in effect for the AppStation:

- Disable changing home page settings
- Disable changing cache settings
- Disable changing history settings
- Disable changing color settings
- Disable changing link color settings
- Disable changing font settings
- Disable changing language settings
- Disable changing accessibility settings
- Disable changing ratings settings
- Disable changing certificate settings
- Disable changing profile assistant settings
- Disable changing Microsoft Wallet settings
- Disable calling Connection Wizard
- Disable changing connection settings

- Disable changing proxy settings
- Disable changing Automatic Configuration settings
- Disable changing Messaging settings
- Disable changing Calendar and Contact settings
- Disable changing checking if Internet Explorer is the default browser
- Disable changing settings on Advanced Tab

Microsoft Office 97 — The following Office 97 Policies are in effect for the AppStation:

- Personal Folder: U:\

Windows 98 System — The following Windows 98 System Policies are in effect for the AppStation:

- Disable Registry editing tools.
- Disable MS-DOS prompt.
- Disable single-mode MS-DOS applications.
- Custom Programs Folder O:\Start Menu\Programs
- Custom Startup Folder O:\Start Menu\Programs\Startup
- Custom Start Menu O:\Start Menu
- Remove 'Run' Command
- Remove folders from 'Settings' on Start Menu
- Remove Taskbar from 'Settings' on Start Menu
- Remove 'Find' Command
- Hide Drives in 'My Computer'
- No workgroup contents in Network Neighborhood
- Hide all items on Desktop
- Don't save settings at exit
- Disable Display Control Panel
- Disable Network Control Panel
- Disable Password Control Panel

Windows 98 Shell — The following Windows 98 System Policies are in effect for the AppStation:

- Do not allow computer to restart in MS-DOS mode
- Disable dragging, dropping, and closing ALL toolbars
- Disable resizing ALL toolbars
- Remove Favorites menu from Start Menu
- Remove Find menu from Start Menu

- Remove Run menu from Start Menu
- Remove the Active Desktop item from the Settings menu
- Disable drag and drop on context menus on the Start Menu
- Remove the Folder Options menu item from the Settings menu
- Disable context menu for Taskbar
- Disable changes to Printers and Control Panel Settings
- Disable changes to Taskbar and Start Menu Settings

Default Computer System Policies

This section lists the System Policies that have been set to restrict client computers

Windows 98 Network Settings – The following Windows 98 Network settings are in effect for the client computers:

- User-level access control
- Hide share password with asterisks
- Disable password caching
- Disable dial-in
- Require validation by network for Windows access

Windows 98 System Settings – The following Windows 98 System settings are in effect for the client computers:

- Enable User Profiles

Microsoft Internet Explorer Restrictions — The following the Microsoft Internet Explorer policies are in effect for the client computers:

- Do not allow users to change policies for any security zone
- Do not allow users to add/delete site from a security zone

Zero Administration Kit Custom Policy Template

The Zero Administration Kit provides its own custom template, called ZAK98.ADM, as well as the templates from the Microsoft Internet Explorer Administration Kit, the Office 97 Resource Kit, and the Windows 98 templates. ZAK98.ADM provides one new user policy for you to use − Custom Shell. This policy is described in more detail in the following section.

Policy	Description
Custom Shell	Sets the user's shell to the application entered in Shell Name. A fully qualified path to the application

must be entered. When Custom Shell is not set the standard, EXPLORER.EXE, is left as the shell.

Appendixes

Appendix A - Troubleshooting

System Policy is Not Applied

When group policies are used on Windows 98-based workstations in a Microsoft Windows NT domain, the policies associated with the user's group membership may not be applied at logon. Instead, the policies associated with the Default user may be applied.

The cause may be because the primary domain controller (PDC) for the domain is not available at logon. Users are validated by a backup domain controller (BDC) instead.

To work around this behavior, use one of the following methods:

- Remove the Default user from the CONFIG.POL file.

  This causes the settings for the last user who logged on to that workstation to be retained. This may be an acceptable solution if the same user generally logs on to the same workstation.

- Define the settings for the Default user so they mirror the settings you would like to have applied to the group of users. Define different policies for individual users for whom these defaults would not be appropriate.

  This method may be effective if most users can operate with a certain base configuration and only a few require a different configuration.

- Configure System Policies to be updated by manual download from a predefined location instead of automatically.

  When you are configured for automatic download and load balancing is not enabled, System Policies are downloaded from the PDC only. When you are configured for automatic download and load balancing is enabled, System Policies are downloaded from the PDC or BDC that validates the user's logon. When you are configured for manual download, System Policies are downloaded from a specific, predefined path.

- Enable user profiles, set the users' Home directories on a Windows NT BDC instead of the PDC, and remove the Default user from the CONFIG.POL file.

  When User Profiles are enabled in a Windows NT domain, a user's profile is saved to and loaded from the user's home directory (as defined in Windows NT User Manager for Domains) by default. This allows for "roving" User Profiles.

When a user logs on, the appropriate User Profile is downloaded and applied to the local computer. Then, group policies are applied. Because there is no Default user defined, if the PDC is unavailable the settings in the previously saved User Profile are used instead.

This method is useful if the BDC is on a local LAN segment and the PDC is on a remote link that is less reliable, so the BDC is more likely to be available than the PDC. This also allows proper user configurations to be applied regardless of the local computer on which a user logs on.

It may appear that the policy is not being applied when another problem is occurring, such as a file not being available. For example, if you set the policy for the background wallpaper to BUBBLES.BMP, but when the user logs on their wallpaper (background) is blank with no bubbles. Check to see if the file BUBBLES.BMP is available on the user's hard drive. It may be that the file is not available.

Failed Office Installation: Error handling in ZakSetup.exe

If office ’97 installation fails or is cancelled, ZakSetup.exe will incorrectly inform you that Microsoft Zero Administration Kit for Windows ’98 installed successfully. To correct the failed installation, you must run zaksetup again to successfully complete the Installation.

System Policy Editor Error: Unable to Open CONFIG.POL

You may get the following error when attempting to open the CONFIG.POL policy file.

Unable to open CONFIG.POL:
An I/O operation initiated by the Registry failed unrecoverably. The Registry could not read in, or write out, or flush, one of the files that contain the system's image of the Registry.

This error is due to the length of the path or the characters included in the directory path to the CONFIG.POL file. Move the CONFIG.POL file to the root directory or a subdirectory of the root drive and attempt to open the CONFIG.POL file again.

Error Message: “Error Copying File. Cannot copy config:…”

You may receive the following error if you are running the Zero Administration Kit Setup Wizard from a network share you have connected to using a Universal Naming Convention (UNC) network connection:

“Cannot copy config: Cannot find the specified file.”
“Make sure you specify the correct path and filename.”

To correct this problem assign (map) a drive letter to the network share. Then close and restart the Zero Administration Setup Wizard from the drive letter.

You may also receive this error if you have not assigned proper sharing privelidges to the netlogon share on the server. Ensure that Domain Admins have full access to the netlogon share.

Appendix B – ZAKSETUP command line switches

ZAKSETUP supports two command line switches. These options will allow you to proceed through installation as if you were copying files to the shared installation point, without actually installing them.

ZAKSETUP /nooffice – Use this option if you have installed an administrative, server based installation of office using the parameters outlined on page 30, “Create Office ’97 network share” to prevent copying the files to the server again.

ZAKSETUP /nowin – Runs zaksetup without copying Windows 98 files to the shared install point.

These options can also be helpful in troubleshooting failed installations, running through zaksetup again with the /nooffice and /nowin switches can help illuminate steps that may have been missed on the first attempt, without waiting for all the files to be copied to the server.

Appendix C - MSBATCH.INF

The following is a complete example of the MSBATCH.INF file created by the Microsoft Windows 98 Zero Administration Kit Setup Wizard. Many of the settings in the MSBATCH.INF are explained in the comments below. Each comment is proceeded by a semicolon ";".

```
[BatchSetup]
Version=3.0 (32-bit)
SaveDate=04/14/98

[Version]
Signature = "$CHICAGO$"
AdvancedINF=2.5
LayoutFile=layout.inf

[Setup]
Express=1
InstallDir="C:\Windows"
InstallType=3
ProductKey="00000-00000-00000-00000-00000"
; ProduckKey must be manually edited by the administrator. If the default
; value is not replaced, Windows Setup will prompt you for a valid ProductKey.
EBD=0
ShowEula=0
ChangeDir=0
OptionalComponents=1
Network=1
System=0
CCP=0
CleanBoot=0
Display=0
DevicePath=0
NoDirWarn=1
TimeZone="Pacific"
; TimeZone is set to Pacific by default. You should change the value to your
; Time Zone. You can do this manually or by opening the MSBATCH.INF with
; Windows Batch Setup, selecting the Time Zone, and saving the file.
Uninstall=0
NoPrompt2Boot=1
[NameAndOrg]
Name="ZAK Users"
; The default Name is ZAK Users. Edit the MSBATCH.INF to change the Name.
Org="Microsoft"
; The default Org is Microsoft. Edit the MSBATCH.INF to change the Org.
Display=0
```

```
[Network]
ComputerName="ZAKComputer"
; The default ComputerName is ZAKComputer.  Edit the MSBATCH.INF to change the
; ComputerName

Workgroup="WORKGROUP"
; The Zero Administration Kit Wizard fills in the Workgroup name based on
; information you provide.
Display=0
PrimaryLogon=VREDIR
Clients=VREDIR
Protocols=MSTCP
Services=VSERVER
Security=DOMAIN
PassThroughAgent="PASSTHROUGH"
; The Zero Administration Kit Wizard fills in the PassThroughAgent based
; on information you provide.

[MSTCP]
LMHOSTS=0
DHCP=1
DNS=0
WINS=D

[VREDIR]
LogonDomain="LOGONDOMAIN"
; The Zero Administration Kit Wizard fills in the LogonDomain based on
; information you provide.

ValidatedLogon=1

[VSERVER]
LMAnnounce=0
MaintainServerList=0

[OptionalComponents]
"Accessibility Options"=1
"Accessibility Tools"=0
"Briefcase"=0
"Calculator"=1
"Desktop Wallpaper"=0
"Document Templates"=1
"Games"=0
"Imaging"=1
"Mouse Pointers"=0
"Paint"=1
"Quick View"=0
"Windows Scripting Host"=1
"WordPad"=1
"Dial-Up Networking"=0
```

"Dial-Up Server"=0
"Direct Cable Connection"=0
"HyperTerminal"=0
"Microsoft Chat 2.1"=0
"Microsoft NetMeeting"=1
"Phone Dialer"=1
"Virtual Private Networking"=0
"Baseball"=0
"Dangerous Creatures"=0
"Inside your Computer"=0
"Jungle"=0
"Leonardo da Vinci"=0
"More Windows"=0
"Mystery"=0
"Nature"=0
"Science"=0
"Space"=0
"Sports"=0
"The 60's USA"=0
"The Golden Era"=0
"Travel"=0
"Underwater"=0
"Windows 98"=0
"Desktop Themes Support"=0
"Microsoft FrontPage Express"=1
"Microsoft VRML 2.0 Viewer"=0
"Microsoft Wallet"=0
"Personal Web Server"=1
"Real Audio Player 4.0"=0
"Web Publishing Wizard"=0
"Web-Based Enterprise Mgmt"=0
"Microsoft Outlook Express"=1
"Baltic"=0
"Central European"=0
"Cyrillic"=0
"Greek"=0
"Turkish"=0
"Audio Compression"=1
"CD Player"=1
"Macromedia Shockwave Director"=1
"Macromedia Shockwave Flash"=1
"Media Player"=1
"Microsoft NetShow Player 2.0"=0
"Multimedia Sound Schemes"=0
"Sample Sounds"=0
"Sound Recorder"=1
"Video Compression"=1
"Volume Control"=1
"America Online"=1
"AT&T WorldNet Service"=1

"CompuServe"=1
"Prodigy Internet"=1
"The Microsoft Network"=1
"Additional Screen Savers"=0
"Flying Windows"=1
"OpenGL Screen Savers"=0
"Backup"=0
"Character Map"=0
"Clipboard Viewer"=0
"Disk compression tools"=1
"Drive Converter (FAT32)"=1
"Group policies"=0
"Net Watcher"=0
"System Monitor"=0
"System Resource Meter"=0
"WinPopup"=1
"Web TV for Windows"=0
"WaveTop Data Broadcasting"=0

[Printers]
; The Zero Administration Kit Wizard will prompt you for a printer. You may
; manually add additional printers in this section.

[InstallLocationsMRU]

[Install]
AddReg=Run.Installed.Components,Skip.PCMCIA.Wizard,User.Profiles.Reg,User.Box.One,User.
Box.Two,Registry.WinUpdate,RunOnce.BatchDelay,Office.Reg,user.profiles.reg
UpdateInis=shell,msdos.sys.reboot.inis
Copyfiles=copy.runshell.exe
; The first line above has been wrapped to the next two lines because of its
; length.
; This section is required for the installation of the Windows 98, the Zero
; Administration Kit system files, customization of the Zero Administration
; Kit client configuration, and to add values to the RunOnce key of the
; registry. See Appendix C, “Windows 98 INF Files” and Appendix D,
; “Msbatch.inf Parameters for Setup Scripts” in the Microsoft Windows 98
; Resource Kit.

[RunOnce.BatchDelay]
HKLM,%KEY_RUNONCE%,BatchRun1,,"%25%\rundll.exe setupx.dll,InstallHinfSection
Delete.Welcome 4 %10%\msbatch.inf"
HKLM,%KEY_RUNONCE%,BatchRun2,,"%25%\rundll.exe setupx.dll,InstallHinfSection
Delete.Regwiz 4 %10%\msbatch.inf"
HKLM,%KEY_RUNONCE%,BatchRunZAK,,"%25%\rundll.exe setupx.dll,InstallHinfSection
Delete.Taskmon 4 %10%\msbatch.inf"
; The lines above have been wrapped to the next line because of their lengths.
; The [RunOnce.BatchDelay] section name is in the AddReg entry in the
; [Install] section. The AddReg section adds subkeys or value names to the
; Registry. *HKLM* is the registry root string. It is shorthand for

; HKEY_LOCAL_MACHINE. %KEY_RUNONCE% is the subkey, and is a string defined in
; the [strings] section below.
; These entries each add a value to the RunOnce subkey of the registry.

; The purpose of this section is to cause Windows to execute portions of this
; setup script after reboot. The program *rundll.exe* executes the *setupx* DLL,
; which in turn executes the *Delete.Welcome, Delete,Regwiz, and Delete.Taskmon*
; sections of this setup script.

[Run.Installed.Components]
HKLM,%KEY_INSTALLEDCOMPS%\>BatchSetupx,IsInstalled,1,01,00,00,00
HKLM,%KEY_INSTALLEDCOMPS%\>BatchSetupx,Version,,"3,0,0,0"
HKLM,%KEY_INSTALLEDCOMPS%\>BatchSetupx,,,">Batch 98 - General Settings"
HKLM,%KEY_INSTALLEDCOMPS%\>BatchSetupx,StubPath,,"%25%\rundll.exe
setupx.dll,InstallHinfSection Installed.Components.General 4 %10%\msbatch.inf"
HKLM,%KEY_INSTALLEDCOMPS%\>BatchAdvpack,,,">Batch 98 - Advanced Settings"
HKLM,%KEY_INSTALLEDCOMPS%\>BatchAdvpack,IsInstalled,1,01,00,00,00
HKLM,%KEY_INSTALLEDCOMPS%\>BatchAdvpack,Version,,"3,0,0,0"
HKLM,%KEY_INSTALLEDCOMPS%\>BatchAdvpack,StubPath,,"%25%\rundll32.exe
advpack.dll,LaunchINFSection %10%\msbatch.inf,Installed.Components.Advanced"
HKLM,%KEY_INSTALLEDCOMPS%\>Batchwu,,,">Batch 98 - Windows Update"
HKLM,%KEY_INSTALLEDCOMPS%\>Batchwu,IsInstalled,1,01,00,00,00
HKLM,%KEY_INSTALLEDCOMPS%\>Batchwu,Version,,"3,0,0,0"
HKLM,%KEY_INSTALLEDCOMPS%\>Batchwu,StubPath,,"wupdmgr.exe -shortcut"
; Some of the lines above have been wrapped to the next line because of their
; length.
; The [Run.Installed.Components] section name is in the AddReg entry in the
; [Install] section. This section adds entries to the Active Setup section of
; the registry (HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Active Setup\Installed
; Components\). Entries in the Active Setup section of the registry are
; processed whenever a new user logs onto Windows.

[Installed.Components.General]
AddReg=Shell.Prep
BitReg=Shell.Settings
UpdateInis=DelIEQuick.Links,DelOEQuick.Links
; The [Installed.Components.General] section is named in the BatchSetupx
; entry in the [Run.Installed.Components] section. This section will perform
; an AddReg operation on the *Shell.Prep* section, a BitReg on
; the *Shell.Settings* section, and a UpdateInis on the *DelIEQuick.Links* and
; *DelOEQuick* sections. AddReg adds subkeys or value names to the registry,
; optionally setting the value. BitReg changes the numerical value of an
; existing registry value. UpdateInis replaces, deletes, or adds complete
; entries in the given INI file.

[DelIEQuick.Links]
setup.ini, progman.groups,, "IE_WEBVIEW=..\..\applic~1\micros~1\intern~1\quickl~1"
setup.ini, IE_WEBVIEW,, """Launch Internet Explorer Browser"""
; The first line above has been wrapped to the next line because of its
; length.
; The [DelIEQuick.Links] section name is in the UpdateInis entry in the

; [Installed.Components.General] section. This section is used to delete the
; Internet Explorer QuickLaunch Icon for the taskbar.
; Note that you may need to localize the shortcut name “Launch Internet
; Explorer Browser” for your international version of Windows 98. See
; Appendix F for more details.

[DelOEQuick.Links]
setup.ini, progman.groups,, "groupQL=..\..\applic~1\micros~1\intern~1\quickl~1"
setup.ini, groupQL,, """Launch Outlook Express""" ;deletes link
; The first line above has been wrapped to the next line because of its
; length.
; The [DelOEQuick.Links] section name is in the UpdateInis entry in the
; [Installed.Components.General] section. This section is used to delete the
; Outlook Express QuickLaunch Icon for the taskbar.
; Note that you may need to localize the shortcut name “Launch Outlook
; Express” for your international version of Windows 98. See Appendix F for
; more details

[Installed.Components.Advanced]
DelFiles=QuickLaunch.Icons
CustomDestination=Custom.Dest
; The [Installed.Components.Advanced] section is named in the BatchAdvpack
; entry in the [Run.Installed.Components] section. This section will perform
; a DelFiles operation using the *QuickLaunch.Icons* section, and a
; CustomDestination operation using the *Custom.Dest* section. A DelFiles
; section lists the names of files to be deleted. A CustomDestination section
; defines a custom logical directory identifier (LDID).

 [Custom.Dest]
49050=QuickLinksLDIDSection,5
; The [Custom.Dest] section is named in the CustomDestination entry in the
; [Installed.Components.Advanced] section.

[Delete.Welcome]
DelReg=Registry.Welcome
; The [Delete.Welcome] section is named in the BatchRun1 entry in the
; [RunOnce.BatchDelay] section. This section causes Setup to process the
; [Registry.Welcome] section.

[Registry.Welcome]
HKLM,Software\Microsoft\Windows\CurrentVersion\Run,Welcome,,
; The [Registry.Welcome] section is named in the DelReg entry in the
; [Delete.Welcome] section. This section implements the “Do NT show the
; Windows 98 welcome screen“option.

```
[Delete.Regwiz]
AddReg=Registry.Regwiz
; The [Delete.Regwiz] section is named in the BatchRun2 entry in the
; [RunOnce.BatchDelay] section.  This section causes Setup to process the
; [Registry.Regwiz] section.

[Registry.Regwiz]
HKLM,Software\Microsoft\Windows\CurrentVersion\Welcome\Regwiz,@,1,01,00,00,00
HKLM,Software\Microsoft\Windows\CurrentVersion,RegDone,1,01,00,00,00
; The [Registry.Regwiz] section is named in the AddReg entry in the
; [Delete.Regwiz] section.  This section implements the “Do not show the
; Windows registration wizard” option.

[Registry.WinUpdate]
HKLM,Software\Microsoft\Windows\CurrentVersion\Policies\
Explorer,NoDevMgrUpdate,0x10001,1
HKLM,Software\Microsoft\Windows\CurrentVersion\Policies\
Explorer,NoWindowsUpdate,0x10001,1
; The [Registry.WinUpdate] section is named in the AddReg entry in the
; [Install] section.  This section turns off Windows Update.

[Shell.Prep]
HKCU,"Software\Microsoft\Internet Explorer\Desktop\Components\0",Flags,01,00,00,00
HKCU,"Software\Microsoft\Internet Explorer\main",Show_ChannelBand,0,"no"
; The first line above has been wrapped to the next line because of its
; length.
; The [Shell.Prep] section is named in the AddReg entry in the
; [Installed.Components.General] section.  This section is used to initialize
; the data that will be set using BitReg in the [Shell.Settings] section.

[Shell.Settings]
HKCU,"Software\Microsoft\Internet Explorer\Desktop\Components\0",Flags,0,20,1
; The [Shell.Settings] section is named in the BitReg entry in the
; [Installed.Components.General] section.  This section removes the Channel
; Bar.

[QuickLinksLDIDSection]
HKCU,"SOFTWARE\Microsoft\Windows\CurrentVersion\Explorer\Shell
Folders",AppData,QuickLaunch,"%25%\Application Data"
; The first line above has been wrapped to the next line because of its
; length.
; The [QuickLinksLDIDSection] section is named in the [Custom.Dest]
; section.  This section works in conjunction with the [Custom.Dest] section
; to define a custom logical directory identifier (LDID).

[QuickLaunch.Icons]
showde~1.scf
viewch~1.scf
; The [QuickLaunch.Icons] section is named in the DelFiles entry in the
; [Installed.Components.Advanced] section.  This section deletes the “Show
```

```
; Desktop" and "View Channels" Quick Launch icons.
; Note that you may need to localize the "showde~1.scf" filename for your
; international version of Windows 98.  See Appendix F for more details.

[Skip.PCMCIA.Wizard]
HKLM,System\CurrentControlSet\Services\Class\PCMCIA,SkipWizardForBatchSetup,,1
; The [Skip.PCMCIA.Wizard] is named in the AddReg entry in the [Install]
; section.  This section implements the "Skip the PC Card (PCMCIA) wizard"
; option.

[User.Profiles.Reg]
HKLM,"Network\Logon",UserProfiles,1,1
; This entry enables user profiles.

[User.Box.One]
HKCU,"%CurrentVersion%\%PrimaryRec%\Desktop",CentralFile,,"Desktop"
HKCU,"%CurrentVersion%\%PrimaryRec%\Desktop",Default,1,01,00,00,00
HKCU,"%CurrentVersion%\%PrimaryRec%\Desktop",DefaultDir,,"%10%\Desktop"
HKCU,"%CurrentVersion%\%PrimaryRec%\Desktop",LocalFile,,"Desktop"
HKCU,"%CurrentVersion%\%PrimaryRec%\Desktop",MustBeRelative,1,01,00,00,00
HKCU,"%CurrentVersion%\%PrimaryRec%\Desktop",Name,,"*.lnk,*.pif"
HKCU,"%CurrentVersion%\%PrimaryRec%\Desktop",RegKey,,"%CurrentVersion%\Explorer\
User Shell Folders"
HKCU,"%CurrentVersion%\%PrimaryRec%\Desktop",RegValue,,"Desktop"
HKCU,"%CurrentVersion%\%PrimaryRec%\NetHood",CentralFile,,"NetHood"
HKCU,"%CurrentVersion%\%PrimaryRec%\NetHood",Default,1,01,00,00,00
HKCU,"%CurrentVersion%\%PrimaryRec%\NetHood",DefaultDir,,"%10%\NetHood"
HKCU,"%CurrentVersion%\%PrimaryRec%\NetHood",LocalFile,,"NetHood"
HKCU,"%CurrentVersion%\%PrimaryRec%\NetHood",MustBeRelative,1,01,00,00,00
HKCU,"%CurrentVersion%\%PrimaryRec%\NetHood",Name,,"*.lnk,*.pif"
HKCU,"%CurrentVersion%\%PrimaryRec%\NetHood",RegKey,,"%CurrentVersion%\Explorer\
User Shell Folders"
HKCU,"%CurrentVersion%\%PrimaryRec%\NetHood",RegValue,,"NetHood"
HKCU,"%CurrentVersion%\%PrimaryRec%\Recent",CentralFile,,"Recent"
HKCU,"%CurrentVersion%\%PrimaryRec%\Recent",Default,1,01,00,00,00
HKCU,"%CurrentVersion%\%PrimaryRec%\Recent",DefaultDir,,"%10%\Recent"
HKCU,"%CurrentVersion%\%PrimaryRec%\Recent",LocalFile,,"Recent"
HKCU,"%CurrentVersion%\%PrimaryRec%\Recent",MustBeRelative,1,01,00,00,00
HKCU,"%CurrentVersion%\%PrimaryRec%\Recent",Name,,"*.lnk,*.pif"
HKCU,"%CurrentVersion%\%PrimaryRec%\Recent",RegKey,,"%CurrentVersion%\Explorer\User
Shell Folders"
HKCU,"%CurrentVersion%\%PrimaryRec%\Recent",RegValue,,"Recent"
; Some of the lines above have been wrapped to the next line because of their
; length.
; The [User.Box.One] section is named in the AddReg entry in the [Install]
; section.  This section implements the "include desktop icons and Network
; Neighborhood contents in user settings" option.
```

```
[User.Box.Two]
HKCU,"%CurrentVersion%\%PrimaryRec%\Start Menu",CentralFile,,"Start Menu"
HKCU,"%CurrentVersion%\%PrimaryRec%\Start Menu",Default,1,01,00,00,00
HKCU,"%CurrentVersion%\%PrimaryRec%\Start Menu",DefaultDir,,"%10%\Start Menu"
HKCU,"%CurrentVersion%\%PrimaryRec%\Start Menu",LocalFile,,"Start Menu"
HKCU,"%CurrentVersion%\%PrimaryRec%\Start Menu",MustBeRelative,1,01,00,00,00
HKCU,"%CurrentVersion%\%PrimaryRec%\Start Menu",Name,,"*.lnk,*.pif"
HKCU,"%CurrentVersion%\%PrimaryRec%\Start Menu",RegKey,,"%CurrentVersion%\Explorer\
User Shell Folders"
HKCU,"%CurrentVersion%\%PrimaryRec%\Start Menu",RegValue,,"Start Menu"
HKCU,"%CurrentVersion%\%SecondaryRec%\Programs",CentralFile,,"Programs"
HKCU,"%CurrentVersion%\%SecondaryRec%\Programs",Default,1,01,00,00,00
HKCU,"%CurrentVersion%\%SecondaryRec%\Programs",DefaultDir,,"%10%\Start Menu\
Programs"
HKCU,"%CurrentVersion%\%SecondaryRec%\Programs",LocalFile,,"Start Menu\Programs"
HKCU,"%CurrentVersion%\%SecondaryRec%\Programs",MustBeRelative,1,01,00,00,00
HKCU,"%CurrentVersion%\%SecondaryRec%\Programs",Name,,"*.lnk,*.pif"
HKCU,"%CurrentVersion%\%SecondaryRec%\Programs",ParentKey,,"Start Menu"
HKCU,"%CurrentVersion%\%SecondaryRec%\Programs",RegKey,,"%CurrentVersion%\
Explorer\User Shell Folders"
HKCU,"%CurrentVersion%\%SecondaryRec%\Programs",RegValue,,"Programs"
HKCU,"%CurrentVersion%\%SecondaryRec%\Startup",CentralFile,,"Startup"
HKCU,"%CurrentVersion%\%SecondaryRec%\Startup",Default,1,01,00,00,00
HKCU,"%CurrentVersion%\%SecondaryRec%\Startup",DefaultDir,,"%10%\Start Menu\
Programs\Startup"
HKCU,"%CurrentVersion%\%SecondaryRec%\Startup",LocalFile,,"Start Menu\Programs\
Startup"
HKCU,"%CurrentVersion%\%SecondaryRec%\Startup",MustBeRelative,1,01,00,00,00
HKCU,"%CurrentVersion%\%SecondaryRec%\Startup",Name,,"*.lnk,*.pif"
HKCU,"%CurrentVersion%\%SecondaryRec%\Startup",ParentKey,,"Start Menu"
HKCU,"%CurrentVersion%\%SecondaryRec%\Startup",RegKey,,"%CurrentVersion%\Explorer\
User Shell Folders"
HKCU,"%CurrentVersion%\%SecondaryRec%\Startup",RegValue,,"Startup"
; Some of the lines above have been wrapped to the next line because of their
; length.
; The [User.Box.Two] section is named in the AddReg entry in the [Install]
; section.  This section implements the “include Start Menu and
; program groups in user settings” option.

[DestinationDirs]
QuickLaunch.Icons=49050,Micros~1\Intern~1\QuickL~1
copy.runshell.exe=10
; This section defines the destination directories for each file list.
; The copy.runshell.exe file list will be copied to the WINDOWS directory.
; The QuickLaunch.Icons file list will be copied to a custom directory.

[Strings]
KEY_INSTALLEDCOMPS="SOFTWARE\Microsoft\Active Setup\Installed Components"
CurrentVersion="Software\Microsoft\Windows\CurrentVersion"
PrimaryRec="ProfileReconciliation"
```

SecondaryRec="SecondaryProfileReconciliation"
KEY_RUNONCE="SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnce"
; The [Strings] section defines the string constants that are used in this
; setup script. To use a string constant defined in this section, simply
; surround the name of the constant with percent signs. For example, Setup
; will replace %KEY_RUNONCE% with
; “SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnce” when it interprets
; this setup script.

[Office]
HKLM,Software\Microsoft\Windows\CurrentVersion\RunOnce,Office,,"O:\off97\msoffice\
setup /q1 /b3"
; The above line has been wrapped to the next line because of its
; length.
; The [Office] section name is in the AddReg entry in the [Install] section.
; The AddReg section adds subkeys or value names to the Registry.
; *HKLM* is the registry root string. It is shorthand for HKEY_LOCAL_MACHINE.
; *Software\Microsoft\Windows\CurrentVersion\RunOnce* is the subkey.
; *Office* is the value names.
; "*O:\off97\msoffice\setup /q1 /b3*" is the values.
; This entry adds a value to the RunOnce subkey of the registry.

; NOTE: If you want to setup your own custom application or an application
; other than the 3 listed, check to ensure that the application can be
; setup without user interaction, then add the command line in this section.
; Start by copying one of the existing commands, then replace the value name
; and the value. The value name can be any string. The value should be the
; fully qualified path to the setup program and the command line that is
; necessary to run the program without user interaction.

[shell]
%10%\system.ini,boot,,"shell=runshell.exe"
; This section name is in the UpdateInis entry in the [Install]
; section above. UpdateInis entries replace, delete, or add entries in
; the given INI file.
; %10% is the predefined identifier for the Windows directory.
; Each of these predefined identifiers are listed in Appendix C,
; "Windows 98 INF files" in the Windows 98 Resource Kit.
; *system.ini* is the ini file being updated.
; *boot* is the section of the system ini being updated.
; "*shell=runshell.exe*" replaces the existing shell= line.
; See Appendix E, Zero Administration Kit System Files and Tools for a
; description of runshell.exe.

[msdos.sys.reboot.inis]
%31%\msdos.sys,Options,,"BootKeys=0"
; This section name is in the UpdateInis entry in the [Install]
; section. UpdateInis entries replace, delete, or add entries in
; the given INI file.
; *%31%* is the predefined identifier for the Root directory of the boot drive.

; Each of these predefined identifiers are listed in Appendix C, "Windows 98
; *INF files*" in the Windows 98 Resource Kit.
; *msdos.sys* is the file being updated.
; *Options* is the section of the system ini being updated.
; "*BootKeys=0*" replaces the existing BootKeys value.
; Setting BootKeys equal to 0 prevents the user from pressing the
; startup (i.e., F5, F6, F8, CTRL) keys during startup and selecting a
; different Windows 98 configuration.

[copy.runshell.exe]
runshell.exe
rsreset.exe
fixprf.exe
newprof.exe
; The [copy.runshell.exe] section name is in the CopyFiles entry in the
; [Install] section.
; This section lists the names of files to be copied during setup. The source
; and destination of the files is determined in the [SourceDisksFiles] and
; [DestinationDirs] sections respectively.

[SourceDisksNames]
22="Win98",,0
; This section is required to copy the Zero Administration Kit system files
; during setup.
; *22* is the *disk-ordinal*, *Win98* is the disk description, and 0 is the
; *disk serial number.*

[SourceDisksFiles]
runshell.exe=22,,0
rsreset.exe=22,,0
fixprf.exe=22,,0
newprof.exe=22,,0
; This section is required to copy the Zero Administration Kit system files
; during setup.
; This section names the source files to be copied and the disk-ordinal
; for each file.

[Delete.Taskmon]
DelReg=Registry.Taskmon
; The [Delete.Taskmon] section is referenced in the BatchRunZAK entry in the
; [RunOnce.BatchDelay] section. This section instructs setup to perform a
; DelReg operation using the [Registry.Taskmon] section.

[Registry.Taskmon]
HKLM,Software\Microsoft\Windows\CurrentVersion\Run,TaskMonitor,,
; The [Registry.Taskmon] section is named in the DelReg entry in the
; [Delete.Taskmon] section. This section deletes the TaskMonitor subkey in
; order to remove the Task Monitor icon from the system tray.

Appendix D - Limits of the Windows 98 Zero Administration Kit

The Windows 98 Zero Administration Kit provides two examples of ways you can implement "best management" practices that will reduce the cost of ownership for Windows 98 desktops using built-in features and tools. One of the "best practices" is locking down the desktop to prevent users from accessing features or parts of the desktop that are not required to complete their job-related tasks. However, if local desktop security is one of your business requirements, you should not use the Windows 98 Zero Administration Kit. Windows 98 is not a secure operating system and the Zero Administration Kit does not make Windows 98 more secure. Microsoft recommends Windows NT Workstation for environments that require local workstation security in addition to other common measures typically implemented to create a secure environment, such as restricted physical access to computers, elimination of removable media devices, installation of security access cards, etc.

In this section you will find some of the "holes" in the system lock down. This information is provided so the system administrator is aware of them in advance and can plan accordingly.

- Microsoft Office 97 MSINFO32.EXE allows users to view system information and will attempt to launch various administrative tools such as Control Panel and Regedit. MSINFO32.EXE is launched when a user clicks Help, clicks About <*MS Office Program Name*>, and then clicks System Info. To prevent AppStation users from accessing MSINFO32.EXE you can use NTFS permissions on the Microsoft Windows NT Server.

- Users can access the file system through file open dialog boxes in Office 97. A user can type a file name and execute a program.

- Applications can be opened through Help. You can access programs and files through the links that are provided in Help. You can replace or delete the Windows 98 system help files to prevent users from accessing applications in this manner.

- By right clicking a Hyperlink, a user can select "Open in a New Window" which runs another instance of Microsoft Internet Explorer. This will give the user full browsing capability.

- Users who are not a part of the Global Groups in CONFIG.POL that have Domain accounts have full access to windows.

- Administrator must log on several times during setup to the network. They will need to have network access for download of files from distribution share. This has not been automated in the Zero Administration Kit.

- If you use the Zero Administration Kit with an international version of Office 97, the client install of Office 97 may not complete successfully. If you experience this problem, you should remove the [Office] section from the MSBATCH.INF file, which is located in the \SETUP\WIN98 directory on your Windows 98 Zero Administration Kit PDC. You must use another method to install the Office 97 client on each Zero Administration Kit client machine. One way to install Office 97 is to manually run the setup program on the client machine. The setup technician can type the following command from a MS-DOS command prompt to launch the Office setup program:

  ```
  O:\off97\msoffice\setup /q1 /b3
  ```

  You can use a batch file to automate this process. To further automate the process, you can create a "OfficeSetup" user account on your PDC and assign the Office setup batch file as the user's login script.

- When a user in the AppUser global group logs into Windows for the first time, the contents of the Programs Menu may not reflect the policies that the Zero Administration Kit sets. Therefore, the user may be able to access programs and settings that the administrator does not intend. The following is one method you can employ to prevent an AppStation user from accessing the unrestricted Programs Menu.

  You can use the Windows 98 setup script, MSBATCH.INF, to force all users to logoff after the Active Setup portion of their first logon completes. This change prevents the AppStation user from accessing the start menu during the first logon.

  There are two basic steps required to implement this technique. The first step is to copy a program to the client machines that can be used to force the current user to logoff. The second step is to launch this program every time a new user logs into Windows 98. You can accomplish both of these steps by modifying the MSBATCH.INF file that the Zero Administration Kit setup wizard creates.

  The setup wizard copies the MSBATCH.INF file to the \SETUP\WIN98 share on your Zero Administration Kit PDC. Open the MSBATCH.INF file in the \SETUP\WIN98 directory with a text editor and modify the [Shell.Prep], [SourceDiskFiles], and [copy.runshell.exe] sections as shown below:

  ```
  [Shell.Prep]
  HKCU,"Software\Microsoft\Internet Explorer\Desktop\Components\0",Flags,01,00,00,00
  HKCU,"Software\Microsoft\Internet Explorer\main",Show_ChannelBand,0,"no"
  HKCU, %KEY_RUNONCE%,Logoff,0,"logoff.exe"
  ; The first line above is wrapped to the next line because of its length

  [SourceDisksFiles]
  runshell.exe=22,,0
  rsreset.exe=22,,0
  newprof.exe=22,,0
  fixprf.exe=22,,0
  logoff.exe=22,,0
  ```

```
[copy.runshell.exe]
runshell.exe
rsreset.exe
newprof.exe
fixprf.exe
logoff.exe
```

Finally, you will need to copy the LOGOFF.EXE program to the \SETUP\WIN98 directory on your Zero Administration Kit PDC. The LOGOFF.EXE program is an example program provided with the Zero Administration Kit, and is located in the \TOOLS directory of your Zero Administration Kit CD-ROM. When executed, the LOGOFF.EXE program causes Windows 98 to logoff the current user.

Appendix E - Zero Administration Kit System Files and Tools

RUNSHELL.EXE

RUNSHELL.EXE enforces the Custom Shell policy of Zero Administration Settings, and when the Custom Shell is an application, such as Microsoft Internet Explorer, RUNSHELL.EXE keeps the shell alive by restarting the application if the user closes it.

The Zero Administration Kit Setup Wizard adds a shell=RUNSHELL.EXE entry in the [boot] section of the SYSTEM.INI.

RSRESET.EXE

RSRESET.EXE helps RUNSHELL.EXE enforce the Custom Shell policy of Zero Administration Settings. In order to ensure that Explorer correctly initializes as the shell, and not as simply another application, RUNSHELL.EXE must set the shell entry in the [boot] section of the SYSTEM.INI file equal to EXPLORER.EXE during startup if EXPLORER.EXE is the shell. RSRESET.EXE will reset the shell value in the [boot] section of the SYSTEM.INI file to RUNSHELL.EXE in the event that the system shuts down before RUNSHELL.EXE itself sets the shell value back to RUNSHELL.EXE.

FIXPRF and NEWPROF

A Microsoft Exchange client does not automatically load or create a profile for the user who is currently logged on. Instead, Exchange prompts the user for either the name of the profile or to create a new one. FIXPRF and NEWPROF automatically use the user name of the logged on user and create or load the profile automatically.

FIXPRF: Changes MailboxName, ProfileName, and HomeServer in an Exchange PRF file. NEWPROF uses this PRF file to create a profile for use by mail.
Usage: FIXPRF <Fully Qualified Path to .PRF file> <MailboxName> <ProfileName> <ExchangeServerName>

Newprof.exe accepts the following command line options:

NEWPROF [-P <Path to .PRF file>] [-S] [-X] [-Z]

Where:

-P <Path to .PRF file> is the .PRF file with the complete path.
-S Causes the Newprof.exe to program to bring up a window, allows the user to choose a .PRF file, and displays status and error messages in this window.
-X Causes Newprof.exe to start execution automatically when the -S option is used, without waiting for a .PRF file to be selected. Requires the -P option to be used or the Default.prf file to be present in the windows directory.
-Z Causes Newprof.exe to display MAPI error codes in case any errors are encountered. This option requires the -S option.

Appendix F – Internationalization Issues

CONFIG.POL

The file CONFIG.POL is located in the SCRIPTS directory of your Zero Administration Kit for Windows 98 CD. This file contains the system policie settings that the Zero Administration Kit uses to restrict Windows 98 users. For TaskStation users, the CONFIG.POL file specifies that Windows 98 should use Microsoft Internet Explorer as the system shell. This policy lists the full path and filename to the Internet Explorer executable. For non-English, localized versions of Windows 98, you will need to modify the path to the file IEXPLORE.EXE so that it matches that actual path to IEXPLORE.EXE on your international version of Windows 98. Perform the following steps to modify the CONFIG.POL file:

1. Copy the contents of the Zero Administration Kit for Windows 98 CD-ROM to a directory on your computer.
2. To install the System Policy Editor, follow the instructions listed in *Installing the System Policy Templates and System Policy Editor* in the *System Policies* section of this document. Also follow the instructions that guide you through the process of loading the policy template files into the System Policy Editor. Note that you must install the System Policy Editor onto a Windows 98 computer.
3. Use the System Policy Editor to open the CONFIG.POL file that you copied from the Zero Administration Kit CD-ROM. The CONFIG.POL file is located in the SCRIPTS directory.
4. Double click on the TaskUser icon
5. Under "Zero-Administration" settings, edit the custom shell name for your international version of Windows 98.
6. Save the CONFIG.POL file and exit the System Policy Editor.
7. When you are ready to run the Zero Administration Kit wizard, do so from the directory you created on your computer, not the Zero Administration Kit CD-ROM. This step ensures that the Zero Administration Kit wizard uses the CONFIG.POL file that you created instead of the CONFIG.POL file on the CD-ROM.

MSBATCH.INF

The Windows 98 Zero Administration Kit methodologies may be applied to any international version of Windows 98. However, the Windows setup script, MSBATCH.INF, is dependent on the particular international version of Windows you are using. Therefore, in order to use the Zero Administration Kit for non-English versions of Windows 98, you will need to modify the MSBATCH.INF file on the Zero Administration Kit CD for your particular version of Windows 98.

It is recommended that you use Microsoft Batch for Windows 98, which ships with your international version of Windows 98 in the TOOLS\RESKIT\BATCH directory, to automate the process of producing or modifying a setup script file.

Listed below are the Microsoft Batch for Windows 98 settings used in the Windows 98 Zero Administration Kit. Using the list below, perform the following steps to produce a MSBATCH.INF file localized for your version of Windows 98.

1. Copy the contents of the Zero Administration Kit for Windows 98 CD-ROM to a directory on your computer. You will later copy the setup script you create with Microsoft Batch to the SCRIPTS subdirectory in this directory.
2. Run SETUP.EXE from the TOOLS\RESKIT\BATCH directory on your Windows 98 CD-ROM. This program will setup Microsoft Batch for Windows 98 on your computer.
3. Run Microsoft Batch from the Programs Menu on your Start Menu.
4. Use the list below as a model of the settings that you should choose in Microsoft Batch. Some settings, such as the product ID, Organization, time zone, and computer name should be customized for your particular environment and language version.. If a particular setting is not listed below, you should accept the default setting.
5. Save the setup script to the SCRIPTS subdirectory in the Zero Administration Kit directory you created earlier. You must use the filename MSBATCH.INF.
6. You will need to manually modify several lines in the MSBATCH.INF file you produce. To determine the correct values you will place into the MSBATCH.INF file, you will need to reference a computer with Windows 98 installed. Note that Windows 98 should be installed on this computer using the default Windows 98 options. Do not use the Zero Administration Kit to install Windows 98 onto this computer.

   Using a text editor, open the MSBATCH.INF file you created above. Search for the [DelIEQuick.Links] section, which should look similar to the following example (note that the second line below has been wrapped to the next two lines because of its length):

   ```
   [DelIEQuick.Links]
   setup.ini, progman.groups,, "IE_WEBVIEW=..\..\applic~1\micros~1\intern~1\quickl~1"
   setup.ini, IE_WEBVIEW,, """Launch Internet Explorer Browser"""
   ```

   Modify the shortcut name “Launch Internet Explorer Browser” to match the corresponding shortcut name in your international version of Windows 98. You can determine this value by looking in the Quick Launch folder.

   In the US-English version of Windows 98, the Quick Launch folder is located in %SystemRoot%\APPLICATION DATA\MICROSOFT\INTERNET EXPLORER\ QUICK LAUNCH (%SystemRoot% is the path and directory name of the Windows 98 directory, for example C:\WINDOWS). The path to the Quick Launch folder may vary on your international version of Windows 98.

   Similarly, search for the [DelOEQuick.Links] section, which should look similar to the following example (note that the second line below has been wrapped to the next two lines because of its length):

   ```
   [DelOEQuick.Links]
   setup.ini, progman.groups,, "groupQL=..\..\applic~1\micros~1\intern~1\quickl~1"
   ```

```
setup.ini, groupQL,, """Launch Outlook Express"""
```

Modify the shortcut name "Launch Outlook Express" to match the corresponding shortcut name in your international version of Windows 98. You can determine this value by looking in the Quick Launch folder. Follow the instructions given above to find the Quick Launch folder.

Finally, search for the [QuickLaunch.Icons] section, which should look similar to the following example:

```
[QuickLaunch.Icons]
showde~1.scf
viewch~1.scf
```

You may need to modify the "showde~1.scf" filename to match the corresponding filename in your international version of Windows 98. You can determine this value by looking in the Quick Launch folder. Follow the instructions given above to find the Quick Launch folder.

7. When you are ready to run the Zero Administration Kit wizard, do so from the directory you created on your local computer, not the Zero Administration Kit CD-ROM. This step ensures that the Zero Administration Kit wizard uses the MSBATCH.INF file that you created instead of the MSBATCH.INF file on the CD-ROM.

Note: The Zero Administration Kit uses the MSBATCH.INF file in the SCRIPTS subdirectory as a template to which it adds additional commands before it copies the file to your Windows 98 distribution share. See Appendix B for further information about MSBATCH.INF.

General Setup Options

Install Info Tab

- Enter the Product ID for your site, which can be found on your Windows 98 CD-ROM for your End-User License Agreement.
- Select "Do not create uninstall information."
- Enter an installation directory and check the box labeled "Do not show installation directory warning."

User Info Tab

- Customize all fields on this form for your particular environment.

Setup Prompts Tab

- Check all boxes on this form.

Regional Settings Tab

- Select the appropriate time zone, keyboard layout, and regional settings for your environment.

Desktop Tab

- Check “Do not show the Windows 98 welcome screen” and “Do not show the Windows registration wizard.”

User Profiles Tab

- Select “Users can customize their preferences and desktop settings…”
- Check “Include desktop icons and Network Neighborhood contents in user settings.”
- Check “Include Start Menu and program groups is user settings.”

Network Options

Service Tab

- Select “File and printer sharing for Microsoft Networks.”
- Under “Browse master options” select “Disable.”

Clients Tab

- Select “Client for Microsoft Networks” and “Validate logon to NT domain.”
- In the “Logon domain” edit box, enter the name of your Zero Administration Kit NT domain.
- In “Default Logon” make sure “Microsoft Networks” is selected.

Access Control Tab

- Select “User-level access control.”
- In the “Obtain list of users and groups from” edit box enter the name of your Zero Administration Kit NT domain.

Optional Components

System Tools Area

- Select “Group policies”

Internet Explorer Options

Desktop Tab

- Deselect all Quick Launch Toolbar boxes.
- Deselect “Enable Channel Bar.”

Advanced Options

Windows Update

- Deselect “Update of Drivers via the Internet.”
- Deselect “Enable update of software via the Internet.”