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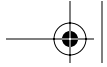
Planning for Internet Explorer and the IEAK

▲ Chapter Syllabus

- MCSE 2.1** Addressing Technical Needs, Rules, and Policies
- MCSE 2.2** Planning for Custom Installations and Settings
- MCSE 2.3** Providing Multiple Language Support
- MCSE 2.4** Providing Multiple Platform Support
- MCSE 2.5** Developing Security Strategies
- MCSE 2.6** Configuring for Offline Viewing
- MCSE 2.7** Replacing Other Browsers
- MCSE 2.8** Developing CMAK Strategies

In this chapter, we will look at material covered in the Planning section of Microsoft's *Implementing and Supporting Microsoft Internet Explorer 5 by using the Internet Explorer Administration Kit* exam (70-080). After reading this chapter, you should be able to:

- Identify and evaluate the technical needs of business units, such as Internet Service Providers (ISPs), content providers, and corporate administrators.
- Design solutions based on organizational rules and policies for ISPs, content providers, and corporate administrators.
- Evaluate which components to include in a customized Internet Explorer installation package for a given deployment scenario.
- Develop appropriate security strategies for using Internet Explorer at various sites, including public kiosks, general business sites, single-task-based sites, and intranet-only sites.



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- Configure offline viewing for various types of users, including general business users, single-task users, and mobile users.
- Develop strategies for replacing other Internet browsers, such as Netscape Navigator and previous versions of Internet Explorer.
- Decide which custom settings to configure for Microsoft Outlook Express for a given scenario.
- Identify which custom settings to configure for Microsoft NetMeeting for a given scenario.
- Identify which custom settings with which to configure the IEAK for a given scenario — including developing strategies for automatic configuration or manual configuration — and use Profile Manager.
- Set up and maintain a download site to support multiple language versions of Internet Explorer.
- Set up and maintain a download site to support multiple platform versions of Internet Explorer.
- Develop a plan for implementing Install on Demand (IOD).
- Develop strategies for using the Connection Manager Administration Kit (CMAK).



MCSE 2.1

Addressing Technical Needs, Rules, and Policies

In this section, you will consider the technical needs of users in choosing the appropriate operational mode for the IEAK Customization Wizard. Your choices include the Internet Service Provider mode (ISP), Internet Content Provider/Developer mode (ICP), and Corporate Administrator mode (CA). Microsoft states that the exam's objectives are to identify and evaluate the technical needs of business units, such as ISPs, ICPs, corporate kiosk-based sites, corporate single-task-based sites, and corporate general business desktops. Microsoft also requires that you be able to design solutions based on business rules and organizational policies for these business units.

Evaluating the Needs of Internet Service Providers

The basic needs of the ISP in deploying Internet Explorer are two-fold. First, ISPs must provide a way for customers to connect to their services. Second, they must provide software that will enable customers to navigate the Inter-



net once connected. Both of these needs can be addressed by customizing Internet Explorer using the Customization Wizard in ISP mode.

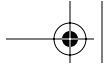
ISPs can use the IEAK to create custom packages destined for customers who might or might not be connected to the Internet with an established account. The IEAK lets ISPs create custom packages that add such features as custom art and title bars to the Setup screen and Internet Connection Wizard (ICW) to “brand” their installations. They may also customize Internet Explorer program settings, Channels, and the Setup program’s operations, as well as control the way in which customers sign up on-line for service.

Internet Explorer installation packages can be placed on such distribution media as CD-ROMs and floppy diskettes, or made available for Internet download. Unique to ISP mode is the ability to create installation packages requiring only a single floppy diskette. Here customers run the Setup program from a floppy diskette that connects them to the ISP’s distribution Web site and downloads the rest of package, which would otherwise require the use of many floppy diskettes. This gives ISPs a cheap and easy way of making their customized versions of Internet Explorer available to all customers, especially those without CD-ROM drives.

ISP mode has several other useful capabilities. It permits the use of a custom connection profile, created with the CMAK, to configure customers’ Dial-Up Networking account settings. This frees customers from the hassles of manual configuration and ISPs from concerns about configuration errors. Unique to ISP mode, the IEAK lets ISPs add a server sign-up method for customers who do not yet have accounts. It lets ISPs pre-configure Lightweight Directory Access Protocol (LDAP) settings and authentication methods. Finally, the IEAK supports automatic modem and TCP/IP networking detection as part of Active Setup. Should the Setup application find that either of these components is missing, it can attempt to install them, make a connection, download the Internet Explorer cabinet (.CAB) files it needs, close the connection, and continue with the installation—all automatically. By using these features ISPs can make service activation and browser installation automated and relatively trouble-free for customers.

Note

Lightweight Directory Access Protocol (LDAP) is a relatively new client-server protocol used to retrieve and manage directory information, such as user address data. It can be used with any directory system that follows common X.500 data models.



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Designing Rules and Policies for Internet Service Providers

The IEAK lets ISPs enforce system rules and policies that control many Internet settings, such as default fonts, colors, languages, modem settings, security, printing, and searching. For example, you might specify your organization's Web portal as the Home or Search page. You might also force the display of your service sign-up page in kiosk mode, in which case the browser will be seen in full-screen mode without such controls as toolbars, menus, or the Address bar. ISP mode can also be used to manage settings for Chat, Microsoft's real-time communications utility; NetMeeting, Microsoft's network collaboration client; Media Player, Microsoft's versatile multimedia client; and Outlook Express, a Microsoft e-mail client. In configuring Outlook Express, for example, you can preset the types of mail servers that will be used and their host names. You can also configure an informational message in a small pane that appears at the bottom of the Outlook Express window to tell customers about your service.

Evaluating the Needs of Internet Content Providers

The primary need of the ICP is to provide a browser that will permit customers to see a Web site that they have developed, either on the Internet or on some other media such as a CD-ROM. To address this need you can customize Internet Explorer with the Customization Wizard in ICP mode.

The most restrictive option, ICP mode is used to create custom packages destined for customers who are already connected to the Internet with established accounts. The IEAK lets ICPs create installation packages that add such items as custom art and title bars to the Setup screen, which can be used to make the installation look more integral to the product. The IEAK also lets ICPs customize Internet Explorer appearance and Channels. Installation packages can be placed on CD-ROMs or multiple floppy diskettes (although not single floppy diskettes), or prepared for server download.

It is assumed that ICP customers already have an Internet access account and that connecting customers is not an ICP need. However, ICPs can use a referral server as part of the custom package in case customers do require ISP accounts. This Microsoft-maintained server provides information about ISPs in customers' local areas.

Designing Rules and Policies for Internet Content Providers

The IEAK lets ICPs enforce rules and policies for Internet settings. You might enhance your product by specifying the use of certain fonts and colors, for



example. ICPs can also manage settings for Chat and Media Player. Outlook Express cannot be configured from ICP mode, however, as e-mail is not expected to be a need of ICP customers.

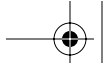
Evaluating the Needs of Corporate Business Units

Corporate administrators commonly need to deploy browsers throughout an organization to provide controlled access to the Internet or restricted access to an intranet. Corporate administrators may deploy Internet Explorer as kiosk-based to address the need to restrict users from accessing content beyond the home page and documents that are linked from it. Similarly, Internet Explorer may be deployed to a single-task site; a computer designated to perform one function and no other. The single-task-based site only requires the Internet Explorer functionality needed to do the job at hand. In most cases, Internet Explorer will be deployed on general business desktop computers, which may be used for a variety of functions during the working day. Most of Internet Explorer's capabilities will be required, at varied frequencies. Customizing Internet Explorer using the Customization Wizard's CA mode can address all of these needs.

The CA mode is most commonly used to create custom packages destined for users who are part of an organization's intranet. In this mode, administrators can create neither single nor multiple floppy diskette deployment packages or support sign-up servers, as it is assumed that users will have access to large volume installation media such as network shares and will not need to create accounts to connect from the outside. Beyond that, however, this mode supports the greatest amount of Internet Explorer customization.

The IEAK lets administrators customize Internet Explorer, the Setup program, and Active Desktop (which gives users a Web page-like desktop). Unique to CA mode, administrators may install Internet Explorer on user desktops using a silent installation (e.g., requiring no user intervention), and configure it for automatic updates using Automatic Configuration. This later feature permits administrators to make a change to a master configuration file that is stored on a server and which can then be replicated to all deployed copies of the browser.

If you are deploying Internet Explorer to kiosk-based sites, you will use the IEAK to put the browser in kiosk-mode and limit its navigation capabilities. If you are deploying Internet Explorer to single-task-based sites, you will use the IEAK to create installation packages that include only the components needed to perform specific operations. If you are deploying Internet Explorer to general business desktops, you will use the IEAK to pre-configure



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all of the settings and include all of the components that your general users require – and which could be numerous. Once deployed, Automatic Configuration meets the needs of administrators who must modify Internet Explorer settings.



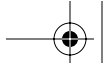
You can put Internet Explorer into kiosk mode by using the command “iexplore -k <page/URL>.” This disables the ability to toggle between full-screen and window views (e.g., F11), the Toolbar, and ALT key commands. Kiosk mode can also be enabled using the Launch Browser in Full-Screen Mode command available in the Customization Wizard and Profile Manager.

Designing Rules and Policies for Corporate Business Units

When users customize their copies of Internet Explorer in the corporate environment, it often creates greater support efforts for corporate administrators. Ideally, corporate administrators should be able to permit those changes that simply reflect user preferences while restricting modifications that affect security or functionality. Using the IEAK in CA mode meets this need by allowing administrators to “lock out” certain settings in accordance with their organization’s rules and policies. The IEAK lets administrators create system policies and restrictions for Internet settings, Web Desktop, Channels, Chat, Outlook Express, NetMeeting, and more.

If you are deploying Internet Explorer to kiosk-based sites, you will use rules and restrictions to lock out capabilities that would allow users to navigate beyond the content that you wish them to view. For example, you might restrict them from accessing the Open command or closing the browser, and hide Desktop icons. If you are deploying Internet Explorer to single-task-based sites, you will use rules and restrictions to enable those functions needed to perform a given task, while disabling those functions that are unnecessary. For example, you might enable the use of a specific secure protocol while disabling the download of unnecessary types of content. If you are deploying Internet Explorer to general business desktops, you will use rules and restrictions to control Internet Explorer usage in accordance with your organizations policies. For example, you might disable the use of certain components, such as NetMeeting, while supporting and controlling access to newsgroups.



**Study Break**

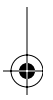
Evaluate Technical Needs and Organizational Policies

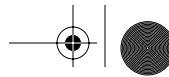
Practice what you have learned by planning for the mode of IEAK operation best suited to your organization's technical needs and organizational policies. The basic differences between the modes are summarized in Table 2.1.

Table 2.1 *Selecting an IEAK Customization Mode*

Mode	I Need ...	I Do Not Need ...
ISP	Automatic modem and TCP/IP detection. Connection settings. Server-based sign-up methods. Pre-configured proxy settings. Outlook Express, NetMeeting, Media Player, and Chat customization. Additional programs and scripts. Single floppy diskette distribution.	Proxy auto-configuration settings. Outlook Express Signatures. Corporate management options. UNIX versions.
ICP	Media Player and Chat customization. Additional programs and scripts.	Connection settings. Single floppy diskette distribution. Corporate management options. UNIX versions.
CA	Pre-configured Desktop. Pre-configured security. Pre-configured proxy settings and auto-configuration settings. Silent installations. Support for roaming user profiles. To manage browser settings after deployment.	Floppy diskette distribution. Server-based sign-up methods.

First, determine the technical needs of your organization. For example, do you need to provide a method for users to connect to the Internet? If so, you will need ISP mode. Next, consider the rules and policies of your organization that will need to be taken into account when deploying Internet Explorer. For example, do you need to manage browser settings once Internet Explorer is deployed? If so, you will need CA mode. If using CA mode, consider the various rules and policies applied to Internet Explorer as deployed to kiosk-based sites, single-task-based sites, and general business desktops. Also be aware that each mode has differing license requirements, as described in Chapter 6, "Monitoring and Optimizing Internet Explorer." You might require the use of multiple modes to meet all of your organization's needs. You can record your conclusions in the table provided in Appendix B, "Planning Checklists."





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MCSE 2.2

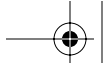
Planning for Custom Installations and Settings

In this section, you will plan for some of the installation choices and component setting options that will be presented when you run the Customization Wizard.

Microsoft states that the exam's objectives for this section include the following:

- Evaluate which components to include in a customized Internet Explorer package for a given scenario.
- Decide the custom settings with which you will configure Outlook Express for a given scenario, including those for newsgroups, Simple Mail Transfer Protocol (SMTP) mail, Post Office Protocol version 3 (POP3) mail, Hotmail, Internet Mail Access Protocol (IMAP) folders, view settings, signatures, custom settings, and custom content.
- Decide the custom settings with which you will configure NetMeeting for a given scenario, including those for audio and video, protocols, file sharing, and directory servers.
- Identify the custom settings with which you will configure the IEAK for a given scenario, including identifying a type of installation (silent, hands-free, or interactive), adding or replacing Toolbar buttons, deciding whether or not to use a custom animated logo, identifying which URLs will be customized (e.g, search, home, and online support), identify whether or not to customize Favorites, links and Channels; identify a welcome page (default, custom, or none), import desktop Toolbars, employ a user agent string, and use security settings.
- Develop a plan for implementing IOD.
- Identify the custom settings with which you will configure Internet Explorer for a given scenario.
- Develop strategies for the automatic configuration of customized browsers, including evaluating the use of automatic versus manual configuration, evaluating whether or not to use Profile Manager for managing deployed browsers, choosing the appropriate method for automatically configuring browser settings, and selecting the appropriate settings in Profile Manager for a given scenario.





Planning for Custom Installations

Before creating a custom deployment package, it is important to be aware of the options made available to you for installing Internet Explorer. The options you require will determine which components, custom artwork, and add-on applications must be gathered prior to running the Customization Wizard.

PLANNING FOR THE WINDOWS UPDATE SETUP WIZARD

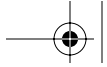
The Windows Update Setup wizard, which is based on the ActiveX engine, lets you distribute Internet Explorer easily. The Setup wizard contains the minimum code necessary to give a user Internet access and to download files, making it compact enough to fit on a single floppy diskette. The setup package can also collect information about the target computer before beginning the download, using this information to make the download of Internet Explorer 5 cabinet files as efficient as possible, by only downloading the components that are selected or needed.

The setup process begins when the “IE5setup.exe” application gathers information from the user and the computer. Next, the setup program downloads the necessary cabinet files from a distribution server. Next, the Setup wizard uses the traditional Microsoft Setup program, the only difference being that cabinet files are in a folder on the local hard drive rather than on removable media or a network share.

The advantages of using the small Setup package at the beginning of the installation process include:

- Users can download the “IE5setup.exe” file over a 28 Kbps. connection in about two minutes, making it a quick process.
- Users are warned early in the setup procedure if there is not enough disk space so that they can quit and make more room available before getting far into the installation process.
- User-defined options are collected at the beginning of the process, so users do not have to be around the computer thereafter.
- If the connection to the distribution server is severed, the download can pick up where it left off. Alternately, Setup will automatically try other distribution servers.
- Users receive download progress updates, such as bytes per second and minutes before the installation will be complete, making it easier for them to manage their time.
- Files are not re-installed unnecessarily when the current version of a component is already present.





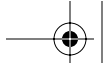
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- Custom download packages can be created.
- Temporary files can be removed to free up some hard drive space for installation.

Using the Customization Wizard, you can configure the way that Setup will appear and operate in several ways. Among the options that you should plan for are the following:

- **Customize Autorun.** When creating a CD-ROM package, you can create an Autorun screen that is displayed when the user inserts the disk into the drive. If you plan to avail yourself of this feature, you should plan to provide a background bitmap image and labels for one button that installs Internet Explorer and another that displays more information. The bitmap image should be 540 pixels by 357 pixels, in 256 colors. You can also customize the title bar and the text color. You can customize the CD-ROM installation further by adding an informational text file (e.g., “readme”), and by launching a special Web page after installation.
- **Customize Windows Update Setup wizard.** You can customize how Setup looks by changing the title bar and graphic that appears when users run the wizard. If you plan to avail yourself of this feature, you should plan to create several graphics that do not use complex lines and patterns. For 32-bit versions of Internet Explorer, the Setup wizard contains two 256-color bitmaps: The left vertical bitmap is 162-by-312 pixels, and the top horizontal bitmap is 496-by-56 pixels. For 16-bit versions of Internet Explorer, the Setup wizard contains one bitmap that is 162-by-312 pixels. In addition, you can install custom components and choose how they are named.
- **Installation options.** You can specify up to 10 unique installation options (e.g., Standard, Custom, Mobile, etc.) and determine which components are installed with each. If you plan to avail yourself of this feature, you should determine which components will be included with each installation option and what those installation options will be called. (Unless you are in CA mode and have specified a silent installation, in which case you will have only one option.)
- **Distribution sites.** You must specify at least one HyperText Transfer Protocol (HTTP) or File Transfer Protocol (FTP) download server. You may specify up to 10 sites, so long as you place all the installation files at each URL that you specify. If you plan to avail yourself of this option, it is important to verify the connectivity of each site ahead of time.
- **Component updates.** When a new version of Internet Explorer is available, users can update it by selecting the Windows Update com-





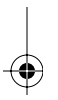
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mand under the Tools menu. You may specify the default location for obtaining product updates as being the site(s) from which users downloaded the installation files, or you can specify a different add-on components site of your own if you make one available ahead of time.

- **Advanced installation options.** Setup can determine if an identical version of a component that is to be installed is already present on a computer. If so, Setup will not download it, saving download time. You should determine which components you will wish all users to have ahead of time, as you will be able to clear the check boxes that would these components optional when running the Customization Wizard.
- **Automatic Install.** When installing Internet Explorer, users are given the option to choose only the components they want immediately in order to save hard drive space and installation time. Later, when users visit Web pages that require a component that is not installed, this feature (also called Install On Demand (IOD), prompts them to install it. You should determine which components should be installed initially and which can be left to IOD.
- **Connection Manager customization.** ISPs can use the CMAK to customize how users connect to the Internet initially by creating a custom connection profile that specifies customized content and connection methods.
- **Digital signatures.** Internet Explorer uses Authenticode technology to verify the source and integrity of its software components. You can sign your custom deployment package if you have a publisher certificate from a Certification Authority (CA) or from your own Microsoft Certificate Server. To prepare certificates for use by the IEAK, you can import them using the Certificate Manager Import wizard. You should sign your installation packages, so you should plan to obtain a publisher certificate prior to running the CMAK.

PLANNING FOR THE INTERNET CONNECTION WIZARD

Designed for use by ISPs, the Internet Connection wizard (ICW) is a tool that helps customers sign-up for Internet services, as shown in Figure 2.1. You can create a sign-up server that exchanges information with the screens of the ICW, integrating it with registration and billing systems. The code is



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available in Active Server Page (ASP) and Perl, permitting you to deploy sign-up servers on either Windows or UNIX Web servers.



Figure 2.1 *Internet Connection Wizard Main Screen (Windows 2000).*

To use the ICW for Internet sign-up on Internet Explorer 4.01 (Service Pack 1) and newer versions of Internet Explorer with single-disk branding (which creates a single floppy diskette that “brands” the system with custom text and logos but does not install the browser), the user must be running ICW version 5 under Windows 98. Although a version of ICW was released with Windows 98, it does not work with the new ICW sign-up method included in the IEAK. Alternately, you can create an Internet sign-up program through single-disk branding if you use the kiosk sign-up method.

When in kiosk mode, Internet Explorer displays an HTML file that guides the user through initial setup options. The toolbar and menu bar are not displayed in this full-screen mode. When you run the Customization Wizard, you will be able to specify the path and file name of a sign-up file that you have modified using files supplied with the IEAK, such as the sample shown in Figure 2.2. When users click on an Install button in this Web page, “Signup.htm,” custom settings contained in the instruction (.INS) file, “Install.ins,” are copied to the users’ browsers.

To create your own setup file, open the sample Signup.htm file from the following path:

```
C:\Program Files\IEAK\toolkit\isp\serverless\basic
```

This can be done with a text or HTML editor.

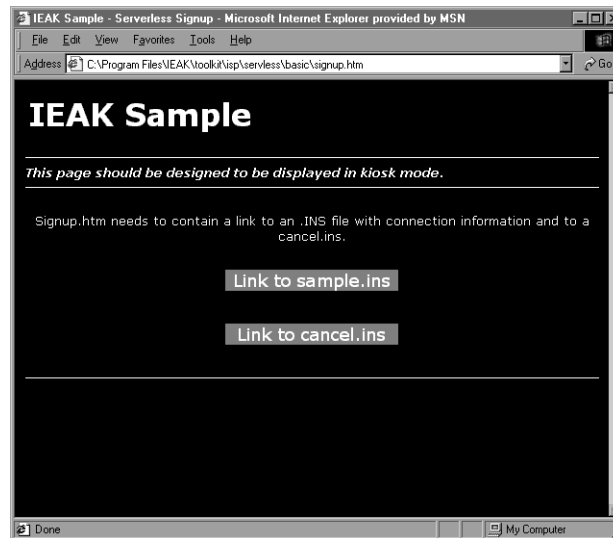


Figure 2.2 *IEAK Setup.htm Sample File.*

Next, modify the information in this file to fit your organization's needs, as shown in Figure 2.3.

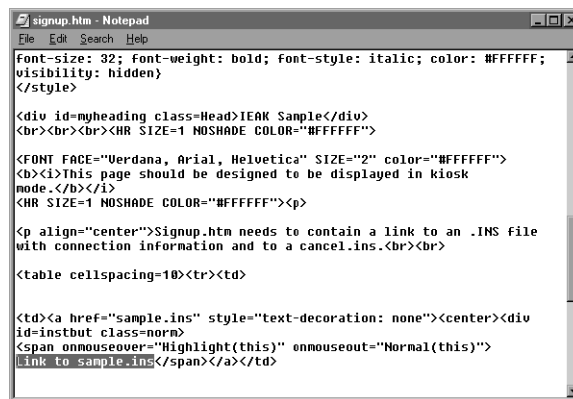
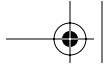


Figure 2.3 *Modifying the Setup.htm File.*

Here you can add such information as instructions and technical support contacts.

The IEAK's new ICW sign-up mechanism requires that an Internet sign-up server look and act like a standard Windows wizard. HTML pages



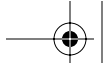
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designed for the wizard must use the Windows system colors and fonts. They must also meet accessibility requirements. Because of this, the wizard's HTML pages cannot contain any special HTML formatting (e.g., tables, images, anchors, etc.) unless otherwise specified.

Using the ICW, you can customize the way that the Internet sign-up process will appear and operate by performing the following steps:

1. **Create the "Icwsign.htm" file.** On this page, customers are presented with a welcome message and are asked to either press the Next button to begin the sign-up process (if there is only one ISP file needed), or select the city and state from which they are calling (so that the ICW can select the appropriate sign-up server ISP file.) When the customer presses the Next button, the ICW dials out and connects to the your sign-up server.
2. **Create error pages.** When customers submit invalid data, you can direct the sign-up server to display an HTML page with a friendly error message. This page is displayed in a floating frame that is 444 pixels wide by 273 pixels high. Its content should tell the user that the data entered was invalid and provide form elements that permit users to enter new data.
3. **Create finish page.** When the customer presses the Next button on the last page, the instruction file is processed and the computer is configured for the new Internet account. The ICW then displays its final page, informing the customer that the connection is ready and telling the customer how to begin browsing the Internet. You can use the "StartURL" value in the instruction file to specify a page that will be displayed when the Web browser first opens.
4. **Create name and address page.** When customers first connect to the sign-up server, the initial page they see is the name and address page, which is displayed in a frame within the wizard. The frame is 444 pixels wide by 273 pixels high, and does not support scroll bars.
5. **Create billing options page.** Here billing options are presented using an HTML form within a frame in the wizard window. The customer should be able to select an option using a radio button, with one of the options pre-selected by default. For multiple selections, you can also include check boxes. The frame is 444 pixels wide by 273 pixels high, and does not support scroll bars.
6. **Create payment method page.** Here customers specify their preferred methods of payment for the Internet service. You can specify which payment methods are available in a payment method list. This information is contained in a form that appears in a frame below the selection and which changes depending on the payment option selected. Possible





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choices are: Credit card (e.g., Mastercard, Visa, American Express), debit card, invoice, or phone bill inclusion.

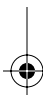
7. **Create account logon/e-mail page.** Here the customer may select an account logon and/or e-mail ID and password. This page is displayed in a frame that is 444 pixels wide by 273 pixels high, and does not support scroll bars.
8. **Create Point Of Presence (POP) selection page.** Here the customer selects a local phone number for Internet access. Any area code or phone number fields in the frame should be filled using the information already sent to the sign-up server from the name and address form. This page is displayed in a frame that is 444 pixels wide by 273 pixels high, and does not support scroll bars.
9. **Create terms and conditions page.** Here customers are presented with a legal agreement that they must read and agree with in order to subscribe to the service. This page should include instructions on how users can find a copy of the legal document on your Web site if they want to view it again (or print it). This page is displayed in a floating frame with a 2-pixel border. The frame's width is 426 pixels, not counting the 2-pixel border and includes a vertical scroll bar.

If customers already have an Internet account, the ICW's Auto-Config feature can reconfigure their account settings automatically. This is helpful when users move to a new computers and want to use the same Internet account they had installed on a previous computer, or when Internet settings become corrupted. The user accesses the automatic configuration server by clicking on a link in the `Icwsign.htm` page that refers to it. Once users are connected to the sign-up server, they are asked for a user name, password, and POP server information. From this information, the sign-up server sends an instruction file to the user's computer that restores account settings.

Planning for Internet Explorer Components

Microsoft states that the exam's objectives for this section are to evaluate which components to include in a customized Internet Explorer package for a given scenario.

Internet Explorer can be installed along with several additional components. Depending on the destination of your customized installation package, these add-ons can be as important as the browser itself! If you are using the Customization Wizard in ICP mode, perhaps the only program you need is Internet Explorer as your main goal is to provide a way to view your product. If you are using the Customization Wizard as an ISP, however, you will most likely wish to include an e-mail client as well to integrate this service



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with Internet Explorer for the convenience of your users. If you are using the Customization Wizard in CA mode, including groupware functionality would most likely be valuable in permitting users to communicate with co-workers in real time inexpensively over a Wide Area Network (WAN) or the internet.

The following components can be installed with Internet Explorer using either the Setup program or the Customization Wizard.

EVALUATING OUTLOOK EXPRESS

Outlook Express is an e-mail and newsgroup client that should easily meet the needs of most ISPs. In addition to permitting the exchange of simple text messages and file attachments, as e-mail clients have traditionally done, this modern application also supports the use of HTML. This gives users the ability to create e-mail messages with the look and functionality of Web pages, as shown in Figure 2.4.

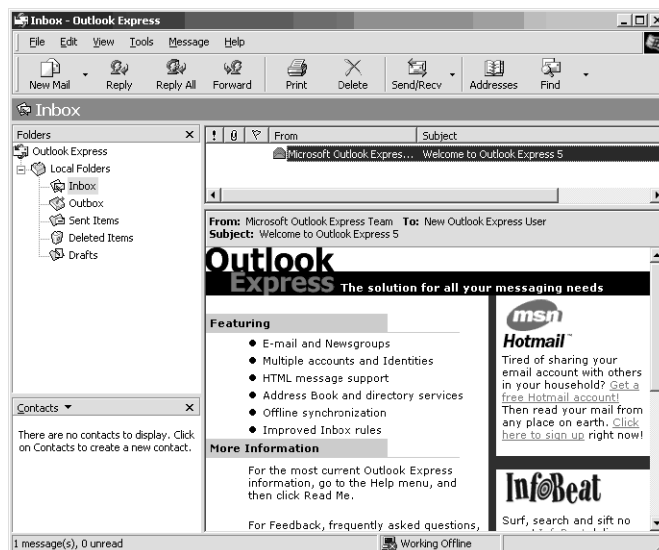
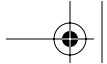


Figure 2.4 An Introductory Message in Outlook Express.

Outlook Express meets the needs of many corporate users as well. For those organizations that do not require the range of collaboration services offered by Microsoft's Outlook and Exchange, this "lite" client still offers sophisticated management features and strong security.

Outlook Express supports the following standards and protocols:



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- **Post Office Protocol, version 3 (POP3).** This is the most commonly used protocol for receiving Internet e-mail. With it, Outlook Express supports the use of multiple Internet e-mail accounts and distributed password authentication. Outlook Express supports this service on IP port 110.
- **Simple Mail Transfer Protocol (SMTP).** This is the most commonly used protocol for sending Internet e-mail. Outlook Express supports this service on IP port 25.
- **Internet Mail Access Protocol, version 4 (IMAP4).** This is the newest e-mail standard, which offers improved bandwidth utilization and central mail-store administration. Among its abilities, it can be used store messages on the server so that they can be made accessible from any computer, whether users be at work or at home. Outlook Express supports this service on IP port 143.
- **HyperText Markup Language (HTML) Mail.** This standard permits users to create and view e-mail in HTML rather than plain text. Non-HTML e-mail clients can still read these messages and attachments, however.
- **Multipurpose Internet Mail Extension HTML (MHTML).** This standard is a step up from HTML in that it permits users to embed images in their messages. Recipients do not have to connect to a Web server to view the message contents.
- **Secure MIME (S/MIME).** This standard permits users to digitally sign and encrypt messages. Digital signatures verify a message's authenticity and integrity. Encryption protects the message contents from eavesdroppers.
- **Lightweight Directory Access Protocol (LDAP).** This standard supports systems designed to store and retrieve users' names, e-mail addresses, phone numbers, and other relevant information. It provides a means to easily find people on the Internet through white-page services, such as Bigfoot, Yahoo!, People Search, and WhoWhere? The Windows Address Book supports LDAP, which is accessible through Outlook Express. Outlook Express supports this service on IP port 389.
- **Network News Transfer Protocol (NNTP).** This protocol lets news-reader clients download and post messages to newsgroups. Outlook Express supports this service on IP port 119.
- **Hypertext Transport Protocol (HTTP).** The protocol that is native to Web servers, Outlook Express uses it to access Web-based e-mail systems, such as such as MSN Hotmail. Outlook Express supports this service on IP port 80.



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Handy to both ISPs and corporate administrators, Outlook Express supports the use of multiple identities on a computer with separate e-mail accounts, passwords, contacts, and preferences for each. You can create a separate identity for each person who uses Outlook Express, and switch between them without having to shut down the computer or close an Internet connection. This is useful for households that might have multiple e-mail accounts associated with one ISP account, or corporate users who share computers with co-workers.

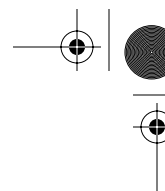
If you are an ISP that provides e-mail and newsgroup services to customers, you should include Outlook Express to provide an integrated interface to these services. Customers can always opt for another application if they prefer, but by providing Outlook Express you ensure that customers have at least one working option for accessing your services. If you are a corporate administrator, you might wish to exclude Outlook Express from your installation package if your organization has made some other e-mail application the standard. You might wish to include it if no other e-mail client is deployed, in which case you can take advantage of its ease of use and modern standards support.

EVALUATING WINDOWS MEDIA PLAYER

The Windows Media Player permits users to view a variety of streaming multimedia content and local multimedia files, as shown in Figure 2.5.



Figure 2.5 *The Weezers! Sound and Video in Windows Media Player (an .AVI Example from the Windows 95 CD-ROM).*



If you are an ICP, Media Player's inclusion with Internet Explorer can be particularly helpful to support your use of sound and video. The multimedia file formats supported by Media Player are listed in Table 2.2.

Table 2.2 *Multimedia File Formats Supported by Media Player*

.ASF	.AU	.AVI
.MIDI	.MOV	.WAV
MPEG 1.0/2.0	.MP3	Apple QuickTime
Real Audio 4.0	Real Video 4.0	.VOD

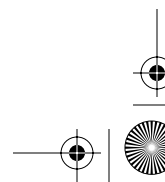
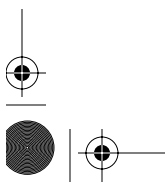
Media Player's features include the following:

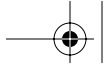
- **Playlists.** This feature permits content developers to create presentations that combine multiple media segments and play them as a single program or continuous loop. Media Player can switch between the different multimedia streams without pausing between clips.
- **Favorites.** This feature lets you preload a menu with pointers to the content that you wish users to view.
- **Automatic codec downloads.** This feature detects whether or not the necessary codec is installed for new content, and if not, automatically downloads the codec without requiring user intervention.



A coder/decoder (codec) is used to convert audio or video signals between analog and digital forms, or to compress and decompress audio and video data.

- **Multiple bandwidth support.** This feature permits users to play streams of speech-quality audio using as little as 2.4 Kbps., which is helpful to Internet users with relatively slow dial-up accounts. At the same time, Media Player supports full-screen, full-motion video at up to 8 Mbps., a possibility for LAN users.
- **Intelligent streaming.** This feature adjusts audio and video streams based on the capabilities of users' computers. First, Media Player chooses a video stream based on available bandwidth. If this bit-rate streams fails, Media Player displays only key frames. If bandwidth is depleted further, Media Player drops the video stream but continues with the audio. If more bandwidth becomes available, Media Player automatically picks up the video stream again.





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The Media Player plays Advanced Streaming Format (ASF) content published by Windows Media Services, such as NetShow Services and Theater Server. It also supports the use of RTP Live Audio and RTP Wav Audio formats for streaming audio. Media Player is only good for one-way audio and video streams, as opposed to NetMeeting, which supports two-way audio and video conferencing.

- **Branding.** Media Player provides space in which ICPs and ISPs can present branding or advertising information.
- **DirectShow architecture.** This feature enables developers to write filters that support new multimedia file and content formats.

If you are an ISP, you will probably wish to include the Media Player with your installation package to support your customers' access to the numerous Web sites that contain multimedia content. You must include it to provide the Radio Toolbar. If you are an ICP, you will probably wish to include the Media Player only if your product requires it. If you are a corporate administrator, you might well exclude this primarily entertainment application from the installation package, perhaps leaving it to IOD. You might include it if your organization publishes presentations or other internal multimedia content that requires it.



Other than HTTP port 80 used by Windows Media Services, Media Player does not use well-known ports for streaming traffic. If you wish to deploy it on your corporate network, you must plan to open ports in any firewalls you might have in place. This might or might not conflict with corporate security policies.

EVALUATING NETMEETING

NetMeeting is Microsoft's groupware collaboration utility. This royalty free application lets home users communicate with family and friends around the world, and corporate users to communicate with co-workers. It is useful to both ISPs and corporate administrators.

NetMeeting's features, shown in Figure 2.6, include:

- **Video/audio conferencing.** Computers equipped with microphones and/or video cameras can take advantage of this support in communications.
- **Whiteboard.** This feature provides an area in which users can communicate ideas graphically, in real time.



- **Chat.** This feature lets users communicate via real-time text, in the spirit of Internet Relay Chat (IRC).

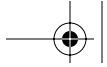


Figure 2.6 *The NetMeeting Client.*

- **Internet directory.** Provided by Microsoft, this Internet Locator Server (ILS) stores name and address information for NetMeeting users on the Internet.
- **File transfer.** This feature permits users to exchange files in the background while participating in a NetMeeting conference.
- **Program sharing.** This feature permits users to share the view and operation of programs on their desktops. Computers may share applications which other computers that do not have the same applications loaded on them.
- **Remote desktop sharing.** This feature permits a user to operate another computer remotely. This is particularly useful to network administrators in remotely troubleshooting computers, thereby reducing their total cost of ownership.

Corporate administrators should particularly like the fact that NetMeeting comes with an e-mail extension that works with Outlook and Exchange clients to enable users to place calls through the e-mail address book.

If you are an ISP, you will want to include NetMeeting if you are hosting an ILS server. If not, you might just as well leave it out, or include it only as an added value to customers. If you are an ICP, you will probably have no need for this component unless your product uses it peripherally. If you are a corporate administrator, you might wish to exclude NetMeeting from your



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installation package unless its use is well established in your organization. If your organization does use NetMeeting for collaboration, you might wish to preserve network bandwidth or increase security by disabling some of its functionality.



Users can initiate a call using a modem telephone number, e-mail address, computer name, or network address. They cannot initiate a call with a user name.

A final consideration in planning for NetMeeting is its system requirements, which are greater than those of Internet Explorer. The minimum system requirements for NetMeeting version 3 are the following:

- At least a Pentium processor running at 90 Mhz.
- At least 16 Mbytes of free RAM under Windows 9x, 24 Mbytes of free RAM under Windows NT 4.0 (with Service Pack 3) or Windows 2000.
- At least 14 Mbytes of disk space for installation, plus an additional four Mbytes to run.
- At least Internet Explorer version 4.0.1.

In addition, a sound card and microphone are needed for audio conferencing. A video capture card and camera are needed for video conferencing.

EVALUATING FRONTPAGE EXPRESS

FrontPage Express provides a graphical application for creating HTML pages similar to that of a word processor.

FrontPage Express includes all the features of the FrontPage 97 editor, except for such premium features as ASP support and some WebBot components. It supports such Internet technologies as JavaScript/JScript, Java applets, Visual Basic scripting, and ActiveX objects.



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With FrontPage Express, users can create Web pages in a graphical mode, as shown in Figure 2.7.

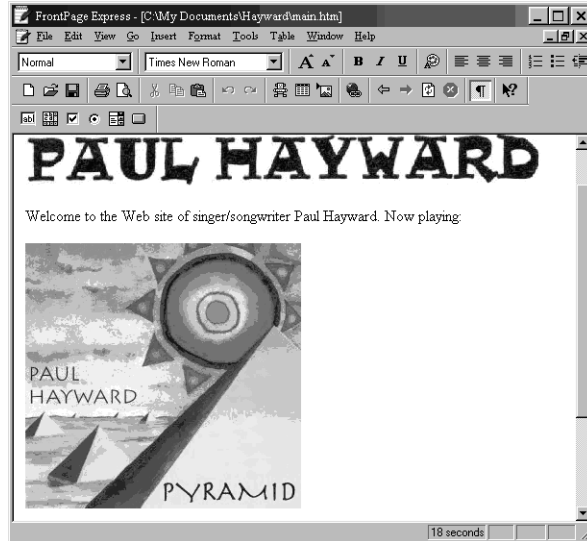


Figure 2.7 Creating a Web Page in Front Page Express.

Alternately, users can create Web pages in a text-only mode, as shown in Figure 2.8.

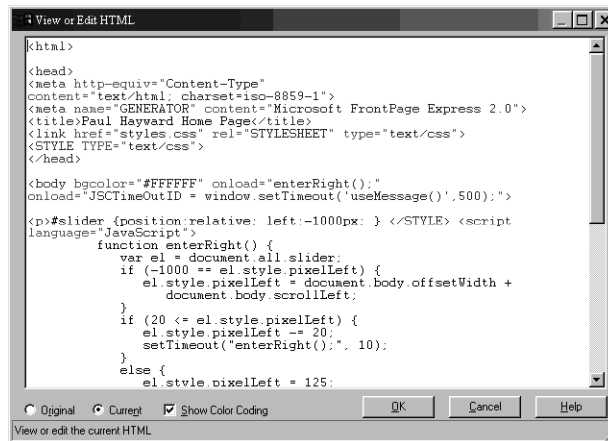
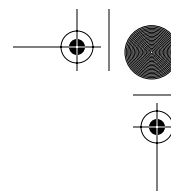


Figure 2.8 Editing a Web Page's HTML Code.

This component is useful to ISPs who provide Web server space to their users and corporate administrators whose users create content for their intranet. If you are an ICP, you will probably wish to exclude FrontPage Express from your installation package, as there will be little need for customers to edit your product's content. The process of developing Web pages



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is also described further in Chapter 8, “Developing Web Sites With Internet Explorer.”

EVALUATING CHAT

Chat lets users conduct real-time conversations within a chat room. Unlike most typical IRC-type clients, Chat permits both the traditional text-based display of conversations and a “comics mode.” In comics mode, conversations combine text with expressive graphics in a comic strip format. Users can choose from about 20 cartoon characters, changing facial expressions and adding sounds to punctuate the conversation. Chat can also be integrated with NetMeeting when both the sender and recipient have both applications installed.

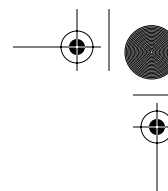
Chat is designed for Windows 2000, Windows 9x, and Windows NT 4.0. Users can converse with Mac OS, UNIX, and Windows 3.1 users, however, if they have a Java-enabled browser and Microsoft Chat 1.0 j. Chat is also compatible with traditional IRC clients.

Chat can be useful to ISPs that sponsor chat forums and corporate administrators that wish to support collaborative communications. If you are an ISP, you might wish to include Chat in your installation packages if you sponsor chat forums, or as an added value to your customers. If you are an ICP, you will probably exclude Chat from your installation package unless it somehow extends your product’s content. You might not wish to include Chat because its value as a collaboration tool is limited when compared to NetMeeting.

EVALUATING ADDITIONAL COMPONENTS

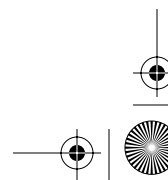
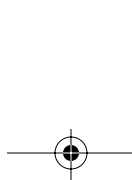
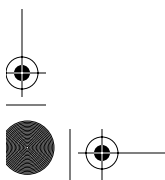
In addition to the core components, Internet Explorer can be enhanced with the following components:

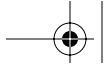
- **Offline Browsing Pack.** This component enables users to view their favorite Web pages without being connected to the Internet. They then need only connect to the Internet periodically to download updated Web content. ICPs will probably not need to include this option, but ISPs can include it to improve customer download times. Corporate administrators would likely include this option, especially to support mobile users that do not always have access to the Internet or intranet.
- **Internet Explorer Help.** This component gives users an easy to navigate Help interface. Whether ISP, ICP, or corporate administrator, you will probably wish to include this option to better support users.



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- **Virtual Machine (VM).** This component lets users view Web pages that contain Java content. ISPs will likely wish to include this option to support the widest possible range of Web functionality. ICPs will need to include it if Java is part of their products. Corporate administrators might wish to include it to support users who browse the Internet. If users are expected to be browsing non-Java content on an intranet, however, it could just as well be excluded.
- **Internet Connection Wizard.** A must for ISPs, this component takes users through the service sign-up process step by step. ICPs and corporate administrators should have little use for this component.
- **Internet Explorer core fonts.** This component provides a set of True-Type fonts that have been optimized for on-screen readability. The installation of this option might be important to ICPs that have designed products using these fonts, but unnecessary for most ISPs and corporate administrators.
- **Dynamic HTML data binding.** This component provides a number of database connectors. As the need for this option is content-driven, it will be most useful to ICPs and corporate administrators with specific content to support, such as forms and questionnaires, and unnecessary to ISPs.
- **Internet Explorer browsing enhancements.** This component contains some add-on tools, such as a graphical FTP utility. This option is likely to be of limited use to ISPs and ICPs but useful to corporate administrators supporting FTP sites.
- **Windows Media Player codecs.** The component adds a number of useful audio and video codecs. This option is useful to ISPs as an added value to customers and ICPs with an need to support specific content, but probably unnecessary to corporate administrators.
- **Media Player RealNetwork support.** This component enhances the Windows Media Player to support the display of RealNetwork media files. ISPs might wish to include this option as an added value to customers. ICPs and corporate administrators would only need to include this option if their products or intranet content specifically requires it.
- **DirectAnimation.** This component provides support for animation and multimedia on Web pages and in stand-alone products. This option would be useful to ICPs with content that uses the technology, but in most cases unnecessary to ISPs and corporate administrators.
- **Vector Graphics Rendering (VML).** This component provides a rendering engine used to view vector graphics within the browser. Here





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too this option would be useful to ICPs with content that uses it, but in most cases unnecessary to ISPs and corporate administrators.

- **AOL Art Image Format Support.** This component lets users view graphics created in the America Online (AOL) art format. This option might be useful to ISPs to support a wider range of image formats for customers, but is most likely unnecessary to ICPs and corporate administrators.
- **Macromedia Shockwave Director.** This component lets users view multimedia content, such as presentations, interactive advertising, and Kiosk-mode productions that were created with Macromedia Shockwave. ISPs might wish to include this option as an added value to customers. ICPs and corporate administrators would only need to include this option if their products or intranet content specifically requires it.
- **Macromedia Flash.** This component lets users view Vector-based multimedia content, such as animations, buttons, advertising banners, logos, maps, and cartoons that were created with Macromedia Flash. Here too, ISPs might wish to include this option, but ICPs and corporate administrators would probably leave it out unless called for by their products or intranet content.
- **Web Publishing Wizard.** This component takes users through a step-by-step process of uploading content to a Web server. Many ISPs would likely wish to include this option if Web hosting is one of their services. Corporate administrators might include it to help users post content to intranet sites. ICPs are unlikely to need this option. This component is described in Chapter 8, “Developing Web Sites With Internet Explorer.”
- **Web folders.** This component lets users access Web servers to edit their online content. Here too, this option is likely to benefit only ISPs and corporate administrators.
- **Visual Basic scripting support.** This component lets users view content created using VBScript scripting. ISPs are unlikely to need this option, as VBScripts are not common on the Internet. ICPs and corporate administrators would only need to include this option if their products or intranet content specifically requires it.
- **Additional Web fonts.** The component provides a set of additional TrueType fonts for viewing Web pages created with Comic, Courier, Impact, and Times New Roman fonts. ISPs and corporate administrators might provide this option to better support customers and users. ICPs might wish to include it to ensure font compatibility with their products.



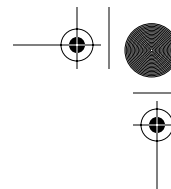
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- **Wallet.** This component secures credit card and address information for e-commerce use. Most ISPs would probably wish to include this option for the convenience and security of their customers. Most ICPs and corporate administrators would probably leave it out unless their users are expected to engage in e-commerce at multiple sites.



Microsoft Wallet is a component of the original installation of Internet Explorer 5 under Windows 98. It was removed from version 5.01 under Windows 2000. However, when version 5.01 is installed over an earlier version 5 (Full install) or version 4 (Full or Typical install) copy of Internet Explorer, Wallet's settings are preserved.

- **Language auto-selection.** This component automatically detects the language encoding of Web pages. As with the following language options, ISPs might wish to include this option to support those customers who browse international sites. ICPs and corporate administrators are less likely to need this option unless their content or users' needs call for it.
- **Japanese text display support.** This component includes TrueType fonts and other support files needed to display text in Japanese.
- **Japanese text input support.** This component uses the Japanese Input Method Editor (IME) to let users type Japanese characters in other language versions of Windows.
- **Korean text display support.** This component includes TrueType fonts and other support files needed to display text in Korean.
- **Korean text input support.** This component uses the Korean IME to let users type Korean characters in other language versions of Windows.
- **Pan-European text display support.** This component includes TrueType fonts and other support files needed to display text in Central European, Cyrillic, Greek, Turkish, and Baltic languages.
- **Chinese (traditional) text display support.** This component includes TrueType fonts and other support files needed to display text in traditional Chinese.
- **Chinese (traditional) text input support.** The traditional Chinese IME allows traditional Chinese characters to be entered as text in other language versions of Windows.
- **Chinese (simplified) text display support.** This component includes TrueType fonts and other support files needed to display text in simplified Chinese.



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- **Chinese (simplified) text input support.** The simplified Chinese IME allows simplified Chinese characters to be entered as text in other language versions of Windows.
- **Vietnamese text display support.** This component includes TrueType fonts and other support files needed to display text in Vietnamese.
- **Hebrew text display support.** This component includes TrueType fonts and other support files needed to display text in Hebrew.
- **Arabic text display support.** This component includes TrueType fonts and other support files needed to display text in Arabic.
- **Thai text display support.** This component includes TrueType fonts and other support files needed to display text in Thai.

All of these components can be added to a custom package, as described in Chapter 3, “Installing and Configuring Internet Explorer and the IEAK.”

Customizing Outlook Express

Microsoft states that the exam’s objectives for this section are to decide which custom settings to configure for Outlook Express for a given scenario. Types of settings include newsgroups, SMTP mail, POP3 mail, Hotmail, IMAP folders, view settings, signatures, custom settings, and custom content.

PLANNING FOR NEWSGROUP SETTINGS

Newsgroups provide an e-mail like venue for conducting special interest discussions among your users. Newsgroups are created on news servers to support topics of common interest to users, who post and read messages using a newsreader client. Users can post questions, as shown in Figure 2.9, and then read a threaded list of answers through Outlook Express.

In practice, Outlook Express connects to a news service to request a list of available newsgroups. Users are authenticated and then sent the list. When users request a particular newsgroup, they are authenticated again and then sent a list of available articles. Finally, the user requests the desired articles for viewing. A newsreader client can also post articles to a newsgroup. After authenticating the client, the news server accepts the article and updates its index.

If you are an ISP, you will probably want to deploy Outlook Express as a newsreader client for your customers. Few ICPs would have need of this component. As a corporate administrator, however, you might wish to give users a newsreader client if you are running internal newsgroups, or if your users might find the information available through newsgroups useful in

their work (especially in the fields of computers, science, engineering, medicine, etc.).

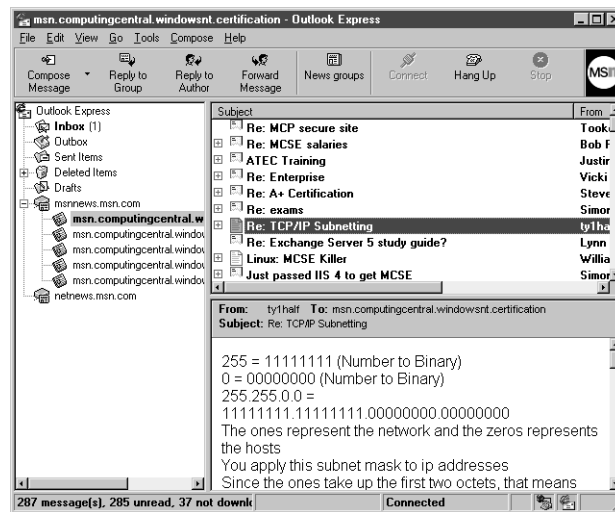


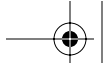
Figure 2.9 Viewing Newsgroups from Outlook Express.

To make newsgroup interaction possible, you will need to provide some basic information to Outlook Express.

The Network News Transfer Protocol (NNTP) is used to distribute message postings between newsreader servers and clients. You should plan to provide the Customization Wizard with server IP address or a domain name (e.g., "msnnews.msn.com") for a NNTP server. In addition, you will need to specify whether or not Secure Password Authentication (SPA) will be used, if a Security Support Provider Interface (SSPI) (e.g., NT LAN Manager) supports the service.

If you are an ISP, you will probably wish to refer to a server that you provide for your customers. If you are a corporate administrator, you might refer to the news server of your organization's ISP, or any internal server you might have running (such as Windows NT Server's NNTP service).

You may also supply the Customization Wizard with the names of one or more newsgroups to which users will be automatically subscribed. If you are an ISP, you might wish to include some technical support newsgroups. If you are a corporate administrator, you might identify newsgroups that you think will be useful to your general user population.



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PLANNING FOR SMTP MAIL SETTINGS

SMTP is used to send messages from Outlook Express to mail servers for forwarding to the intended recipients. You should plan to supply the Customization Wizard with a server IP address or domain name (e.g., "smtp.company.com") for a mail host. In addition, you will need to specify whether or not SPA will be used. If you are an ISP, you would add the address of the server that you have provided for your customers here. If you are a corporate administrator, you might identify a local mail host (such as Exchange Server) or that of your organization's ISP here.

PLANNING FOR POP3 MAIL SETTINGS

POP3 is used to download messages from mail servers to Outlook Express. Assuming you are not providing this service through IMAP, you should plan to supply the Customization Wizard with an IP address or domain name (e.g., "pop.company.com") for a mail host, which might or might not be the same as that of the SMTP server. You will also need to specify whether or not SPA will be used. If you are an ISP, add the address of a server that you have provided for your customers here. If you are a corporate administrator, you might identify a local mail host or that of your organization's ISP here.

PLANNING FOR HOTMAIL SETTINGS

Even if your organization does not maintain its own e-mail servers, you can still provide users with this service by integrating Internet Explorer with Microsoft Network's (MSN's) Hotmail, making this free HTML-based system the default e-mail program. Outlook Express provides a link to the Hotmail Web site via the New Accounts Signup command under the Tools menu.

If you are an ISP, this option is useful in the unlikely event that you do not provide e-mail service to your customers. Corporate administrators might find it useful to ensure users separate their personal e-mail from their corporate e-mail by having different accounts.

WORKING WITH IMAP FOLDER SETTINGS

Like POP, IMAP is used to download messages from mail servers to Outlook Express. Among its features, it provides access to multiple server mailboxes. Assuming you are not using POP3, you should plan to supply the Customization Wizard with an IP address or domain name (e.g., "imap.company.com") for an IMAP server. In addition, you will need to specify whether



or not SPA will be used. If you are an ISP, you would add the address of a server that you have provided for your customers here. If you are a corporate administrator, you might identify a local mail host or that of your organization's ISP here.

In addition to identifying the IMAP server, you should plan to specify whether or not folders will be created on the server to contain users' sent and in-progress messages. You can also specify a path for the Draft folder. All users who create IMAP accounts will use the paths you define here.

A root folder path leads to the mailbox that contains all users' folders. These must all be contained in the Inbox folder for Cyrus servers. E-mail is usually stored in its own folder in users' home folders on UNIX machines (e.g., "~username/mail"). Do not end the root folder path with a hierarchy character (e.g., "~username/Mail/"). Microsoft's IMAP server, Exchange Server, does not use a root folder path.

You should also plan an interval for Outlook Express to automatically poll a user's subscribed folders for changes in the number of messages. Polling occurs when users start Outlook Express as well as at a regular e-mail-polling interval.

PLANNING FOR VIEW SETTINGS

You should plan ahead for which elements of Outlook Express you will wish to have displayed to users, and how they will be displayed. Among the elements you can choose to display are the following.

FOLDER BAR • You may choose to display a drop-down menu that contains a user's list of folders by default, as shown in Figure 2.10.

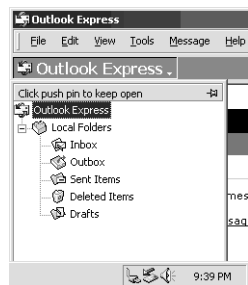


Figure 2.10 *Displaying the Folder Bar.*

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FOLDER LIST • You may choose to have the left side of the main window display a user's list of folders by default, as shown in Figure 2.11.



Figure 2.11 *Displaying the Folder List.*

This has the same effect as accessing the list from the Folder bar, and then clicking on the push pin icon.

If you are an ISP, you might want to enable either of the previous options to make folders more obvious to novice users. If you are a corporate administrator, you might wish to have folders displayed prominently in order to make users aware of the amount of e-mail that is accumulating on their computers.

TIP OF THE DAY • You may choose to have a usage tip displayed when users launch Outlook Express by default, as shown in Figure 2.12.

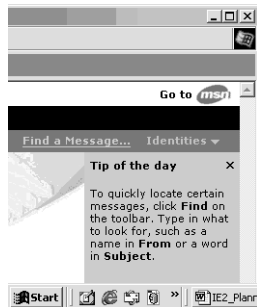


Figure 2.12 *Displaying the Tip of the Day.*

Both ISPs and corporate administrators might want to enable this option to support novice users.

STATUS BAR • You may choose to display the Status bar, which provides such data as online/offline status, across the bottom of the Outlook Express window by default.

OUTLOOK BAR • You may choose the default display of a horizontal bar that contains some folders, such as the Inbox, as shown in Figure 2.13.



Figure 2.13 *Displaying the Outlook Bar.*

The use of this feature would be mostly atheistic to ISPs, but corporate administrators could use it to maintain visual continuity if users have the Outlook client installed on their computers as well.

TOOLBAR • You can choose whether or not users will see the toolbar by default, as shown in Figure 2.14, and whether or not text labels will be displayed with it. ISPs would probably wish to enable the toolbar to make navigation as simple as possible for novice users. Corporate administrators might wish to disable this feature to reclaim screen space, especially for laptop users.

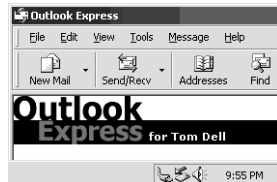


Figure 2.14 *Displaying the Toolbar with Text Labels.*

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PREVIEW PANE • You may choose the default display of a message preview pane for users' default view of e-mail and news messages, as shown in Figure 2.15.

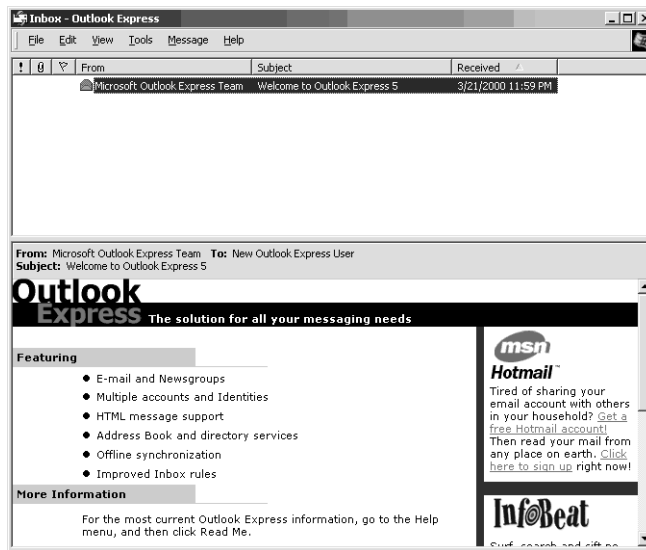


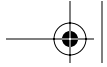
Figure 2.15 *Displaying the Preview Pane.*

The preview pane can be either horizontal, located below the list of messages, or vertical, located beside and to the right of the list of messages. It includes a preview pane header area that can be used to display message header information, such as the From, To, Cc, and Subject lines.

Both ISPs and corporate administrators might wish to enable this feature as a visual convenience for users.

PLANNING FOR SIGNATURES

You have the option of including a default signature that will be appended automatically to Outlook Express newsgroup and/or e-mail messages. If you are a corporate administrator, this is a handy place for a corporate disclaimer stating that messages submitted by employees do not reflect your organization's policies. This option is not available to ISPs. The maximum size of the signature is 1 Kbyte.



PLANNING FOR CUSTOM SETTINGS

You can elect to make Outlook Express usage optional, or to encourage its use by making it the default e-mail and newsreader client. If you select the later, Outlook Express will launch whenever a user clicks on an e-mail and/or news link. These default settings might affect other programs as well. If you are an ISP, you might wish to enable this option to ensure that your customized version of Outlook Express is used over some previously installed e-mail client with unknown settings. If you are a corporate administrator, you might wish to disable this option if another e-mail client is already deployed as the corporate standard.

If you are an ISP, you can add a menu item that users may access to sign up for an additional e-mail account. To do so, you will need to specify a service name and URL. When a user chooses this service name from the menu, the Web page is opened and an account number and unique identifier for the user are sent to the ISP. This is the same method used for Hotmail sign-up, as previously described.

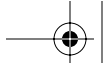
Of particular use to the corporate administrator, you can provide a default message rules file for users as well. For example, you might establish a rule that prioritizes message from certain senders, or that responds to e-mail with a standard response when users are on vacation (e.g. "... is on vacation. If you have an immediate need please contact ...").

PLANNING FOR CUSTOM CONTENT

You can give Outlook Express a custom look by adding content to the 50-pixel high InfoPane that is displayed at the bottom of the main window. If you are an ISP, you might enable this option to present advertising or service information. If you are a corporate administrator, this might be a good place to provide helpful instructions or a FAQ document. To customize it, you will need to specify a local HTML file or a URL. The InfoPane will not appear as part of the Outlook Express user interface unless a URL or file is specified in the Customization Wizard.

You can also provide an HTML-format welcome message that will appear as the first item users receive in the Inbox, which is useful to both ISPs and corporate administrators in instructing novice users. To do so, you will need to provide a friendly name, such as that of your organization. You cannot add images to the message, unfortunately, but you can link it to images published from your Web server.





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Customizing NetMeeting

Microsoft states that the exam's objectives for this section are to identify which custom settings to configure for NetMeeting for a given scenario (see Figure 2.16).



Figure 2.16 *NetMeeting in Compact Mode.*

While NetMeeting's capabilities provide powerful tools for workgroup collaboration, they also introduce potential security risks. For example, sensitive data could be moved beyond your local network by the file transfer feature. Widespread NetMeeting use on a corporate network can also affect utilization. The heavy use of audio, video, and file transfers can quickly deplete bandwidth. Because of these factors, the IEAK lets you control NetMeeting settings using the Customization Wizard and Profile Manager. Corporate administrators should review their organization's policies before installing NetMeeting's full feature set.

PLANNING FOR AUDIO AND VIDEO SETTINGS

You may choose to disable NetMeeting's support for audio. You may also choose to disable NetMeeting's use of video, for sending calls, receiving calls, or both. If you are a corporate administrator, this can be especially helpful in limiting bandwidth utilization where bandwidth is limited. You can even set an average audio/video bandwidth limit, in bits per second.



You can also disable the Audio and Video pages of the Options dialog box, as shown in Figure 2.17.



Figure 2.17 *NetMeeting Options Dialog Box.*

PLANNING FOR PROTOCOL SETTINGS

You may choose to disable NetMeeting's TCP/IP support, in which case the application could only be used when connected directly to another computer via a null modem cable. Alternately, you may disable the use of the null modem cable. If you are an ISP, you will not want to disable TCP/IP support, as this will make NetMeeting useless to your customers. If you are a corporate administrator, you might wish to disable TCP/IP support to avoid security issues, but enable null modem cable support to let some people, such as laptop users, to collaborate with nearby colleagues. ICPs will likely have no use for NetMeeting unless it supports their products peripherally.

You can also disable the Protocols page of the Options dialog box.



Support for Novell Netware's IPX/SPX was dropped in version 3.

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PLANNING FOR FILE SHARING SETTINGS

You may choose to prevent users from sending files, receiving files, or both. You may disable the use of application sharing, or just limit its capabilities by preventing users from sharing the clipboard, sharing MS-DOS windows, sharing Explorer windows, or collaborating.

As an ISP, you might wish to disable the file sharing option to limit NetMeeting's drain on bandwidth. As a corporate administrator, you should evaluate each file-sharing scenario in terms of their benefits to users versus their impact on security and network utilization, then disable those functions that are not justified.

PLANNING FOR DIRECTORY SERVER SETTINGS

For Internet use, private users can log-on to Microsoft's public Internet Locator Service (ILS) servers to locate other users, as shown in Figure 2.18. For intranet use, you can deploy the Microsoft Site Server to provide an internal Membership Directory.

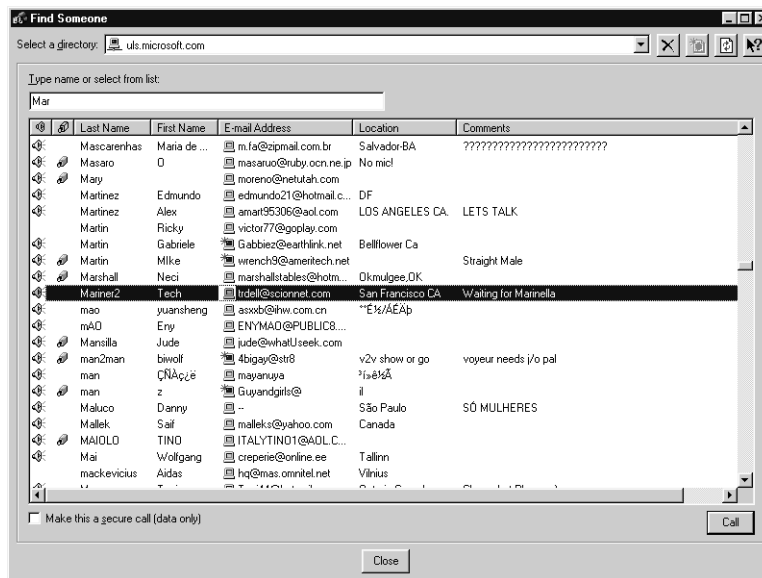
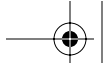


Figure 2.18 *The NetMeeting Membership Directory.*

When using the Customization Wizard to configure NetMeeting functionality, you can establish the ILS server that will be used by default. When the client comes on line, it is then registered with the ILS server and can access the database.



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You may restrict the user from using directory services.

If you are an ISP, you could deploy this option in conjunction with your own server or as an added value to customers. If you are a corporate administrator, you might deploy this feature to provide a fast and easily accessible corporate directory of employees to your users. Alternately, you might wish to isolate users on the local network by disabling the use of public directory servers.

Customizing the IEAK

Microsoft states that the exam's objectives for this section are to identify which custom settings to configure for the IEAK for a given scenario. Specifically, you are to identify the type of installation, such as silent, hands-free, or interactive; add or replace toolbar buttons, and decide whether or not to use a custom animated logo. You are to identify which URLs will be customized, such as search, home, and online support; decide whether or not to customize Favorites, links and Channels, and choose to use a default, custom, or no welcome page. You are also to import desktop toolbars, provide a user agent string, and configure security settings.

SELECTING AN INSTALLATION METHOD

You may choose among three installation options, depending on your users' comfort levels with the Internet Explorer installation process. You may choose to let users make installation decisions by enabling an interactive install. You may choose to prevent users from being prompted to make decisions, but to still be informed of the installation progress and errors, by enabling a hands-free install. Finally, you can choose to prevent the prompting of users by enabling a silent install. If installation does not finish successfully under this last option, users will not see an error message. Also, you can specify only one installation option and one download site.

If there are any settings that must be user-defined (such as which component installation option should be used), you will want to enable the interactive install option. If there are to be no user-defined options and you do not wish to make users aware of the installation process (or there will be no users present to view the process), you might enable the silent install option. In most cases, however, you are best off enabling the hands-free install option, as it will provide users with error messages such as "insufficient disk space."



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PLANNING FOR TOOLBAR BUTTONS

You have the option of creating a custom Internet Explorer toolbar button that can launch a custom program or script, as shown in Figure 2.19.

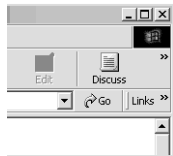


Figure 2.19 *Creating a Custom Toolbar Button.*

If you are an ISP, you might apply this feature to a special service sign-up option. If you are an ICP, you might use this feature to launch an application peripheral to your product's content. If you are a corporate administrator, you might use this button to launch an intranet application (such as a custom database) or a security script.

When creating a custom toolbar button icon, you must provide each image in two sizes and for two toolbar states. A grayscale image is used for the default inactive state and a color image is used for the active state when users point at it. These images must also be created in two color depths. Specifically, you need to create the following images:

- One 20-by-20-pixel color large button image (256-color half-tone palette).
- One 20-by-20-pixel gray large button image (256-color half-tone palette).
- One 20-by-20-pixel color large button image (16-color palette).
- One 20-by-20-pixel gray large button image (16-color palette).
- One 16-by-16-pixel color small button image (16-color palette).
- One 16-by-16-pixel gray small button image (16-color palette).

You must create two icon (.ICO) files for each button. The first icon file contains the color images (active) in the specified sizes and color depths. The second icon file contains the grayscale images (inactive) in the specified sizes and color depths. Microsoft recommends that you use a graphics program to draw the icons, and place the 16-color and 256-color images in separate files. Index each file to the appropriate palette (e.g., Windows 16-color palette or Windows half-tone palette). Save each file as a bitmap (.BMP) file.

Microsoft recommends that you use a development environment, such as Microsoft Visual C++ Development Studio, to create the icon files. To do so, you would open each bitmap file by selecting the Icon command from the New command under the File menu. An icon window that displays a stan-

default 32-by-32-pixel device image will open by default. Select the New Device Image command in the icon window, then click on the Custom button and create the following images:

- One 22-by-20-pixel 16-color image.
- One 22-by-20-pixel 256-color image.
- One 18-by-16-pixel 16-color image.

You might note that the device images are two pixels wider than the original images. This is the actual width of the button. Center your images in the device image area. You may then delete the default 32-by-32-pixel image.

Next, copy and paste the bitmap images into the device images of the appropriate size and color depth. Select transparent in the color palette to fill the background of each image, then save the icon files.

PLANNING FOR CUSTOM ANIMATED LOGOS

You have the option of creating a custom animated logo that appears in the upper right corner of Internet Explorer, as shown in Figure 2.20.



Figure 2.20 *Creating a Custom Animated Logo.*

For the ISP and ICP, this feature is useful for reminding users who is responsible for the content that they are viewing. For corporate administrators, the display of a corporate logo is simply a vanity.

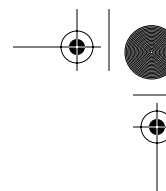
The IEAK provides two tools that can help you to create customized animated bitmaps (although they are not supported Microsoft products). A utility, the Animated Bitmap Creator (Makebmp.exe), can be used to stack a series of sequentially numbered bitmaps into one that uses the animation format. Another utility, the Animated Bitmap Previewer (Animbmp.exe), can be used to view the animation. Both tools can be found in the following path:

C:\Program Files\IEAK\Toolkit\Graphics\Tools

You can run the Animated Bitmap Creator using the following command line:

```
makebmp basename numfiles outputname
```

Here basename is the root file name (without numbers or .BMP extension), numfiles is the number of bitmaps to sequentially add, and output-



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name is the output file name (with .BMP extension). The files should be numbered sequentially beginning with 0.

You can run the Animated Bitmap Previewer from either the command line or Windows Explorer, as shown in Figure 2.21.

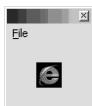


Figure 2.21 *Running the Animated Bitmap Previewer.*

View an animated bitmap by dragging its file into the window.

CUSTOMIZING URLS

To give users an embarkation point, you should plan to specify the home page that appears when users first launch Internet Explorer. For ISPs, this might be your portal page. For corporate administrators, it might be an intranet home page. For content developers, this might be the introductory page. Similarly, you should be prepared to specify URLs for the search and support pages.

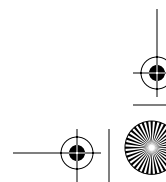
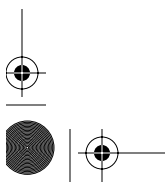
CUSTOMIZING FAVORITES AND LINKS

You have the option of specifying the links in Internet Explorer's Links bar, which appear across the top of the browser, and in the Favorites list, which appears in the left pane when users access the Favorites button. You may select as many as 200 URLs, which can either be specified when you run the Customization Wizard or imported from a build computer. You may also add graphics to the Favorites list by creating custom 16-by-16-pixel icons.

If you are an ISP, you might use this ability to specify sites of likely interest to your customers, or those of advertising partners. If you are an ICP, you might supply URLs that are related to your content. If you are a corporate administrator, you might supply URLs to intranet sites, support providers, or vendor partners.

CUSTOMIZING CHANNELS

You have the option of including Channels with your custom Internet Explorer deployment package. Active Channels, shown in Figure 2.22, provide a method for delivering content from favorite Web sites directly to a user's computer through periodic updates. This data can then be read offline.





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Functionally, users subscribe to an Active Channel, which appears in the Channel bar on the desktop. The content provider, such as Microsoft Network, Pointcast, or MSNBC, updates Channel data regularly. Data can be received in a number of ways. For example, a user might receive Web content from an Internet dial-up connection, from Direct Broadcast Satellite, or from the Vertical Blanking Interval of a local television station. The amount of information received and how often it is updated can be established using the Channel Definition File (.CDF). Unless network utilization is of no concern to a given organization, it is wise to schedule these updates for off-peak hours.

The most frequently Channels can be updated is by the hour.



The computer receives Active Channel broadcasts through Announcement Manager, which directs them to broadcast filters. If WebTV for Windows is installed on a computer, Announcement Manager will automatically run in the background. To configure Announcement Manager, launch C:\Program Files\TV Viewer\annui.exe from the Run dialog box.

When running the Customization Wizard, you have the option of adding a Channel or a Channel category (e.g., a folder of related channels). Multiple Web sites can also be used to update a single Channel. This is made possible by the Channel definition file, which you can create from content you already have (e.g., Web pages and graphics) or re-organize into a new structure.

Channels are useful to ISPs, ICPs, and corporate administrators whenever they wish to “push” content to users rather than relying on them to periodically look for it. If you are an ICP, you might use this technology to update content that customers originally installed from removable media. If you are an ISP, including the Channels of popular services is an added value to customers. For corporate administrators, one useful application of this technology is the deployment of a software distribution channel to support software updates.

CREATING A SOFTWARE DISTRIBUTION CHANNEL • In addition to planning for the deployment of Internet Explorer, it is important to plan for its eventual update. One of the easiest ways to provide updates to your customized Internet Explorer deployment is by creating and maintaining software distribution Channels. Here you create an Internet or intranet-based Web site to which users subscribe. Internet Explorer notifies users when new browser



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releases and updates are available, by default. You can control how often the browser checks for this updated information.

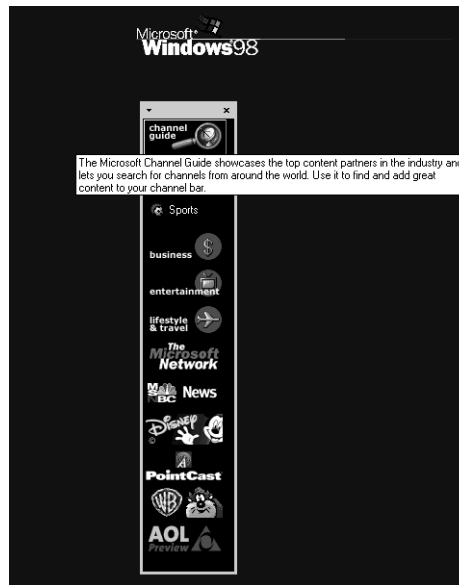


Figure 2.22 *The Channel Bar and Active Desktop under Windows 98.*

To create a software distribution Channel, you must create a Channel definition file that contains update settings, along with update files and the daily, weekly, or monthly schedule for updating them.

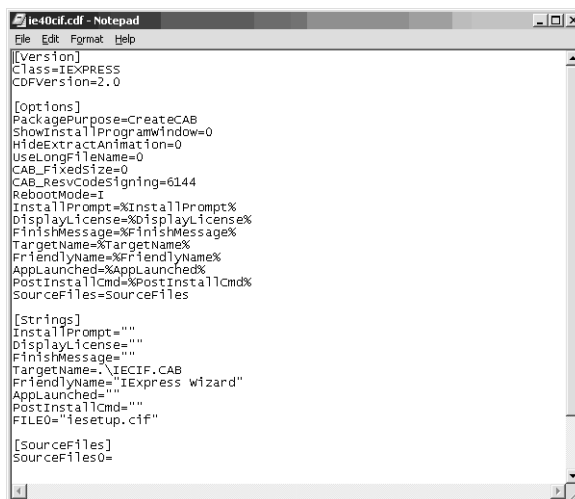


Figure 2.23 *Viewing a .CDF file in Notepad.*

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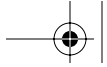
This Channel definition file is downloaded to subscribers' computers whenever the Channel is updated. You can create Channel definition files using a text editor, as shown in Figure 2.23.

The Open Software Distribution (OSD) section of the Channel definition file specifies when new software is available and performs one of the following actions:

- Automatically installs the updates, notifying users after their software is updated.
- Downloads the installation files to subscribers' computers, notifying users that updates are available and providing instructions for manual installation.
- Notifies subscribers' via e-mail that new software is available, providing instructions for the updates' manual download and installation.

Creating software distribution Channels requires that you set up a supporting Web server and create Channel definition files and software distribution packages. You can create software distribution Channels on your build computer, and then use the Customization Wizard to import them into your custom Internet Explorer installation packages. If you enable Automatic Configuration, you will be able to use Profile Manager to add or delete these software distribution Channels after deploying Internet Explorer (as described further on). The following settings are included in each software distribution .CDF file:

- **Notification Web page.** Use this HTML or Active Server Page (ASP) file to summarize the software updates available. Typically, this page will also provide links to specific notification Web pages that provide further details. Specify the summary page using the CHANNEL element's HREF attribute, in the format: HREF="http://server_name/filename.htm." Users view this summary page by selecting the Channel in the Channel bar or Favorites menu. You can have an updates summary page sent to subscribers who have e-mail notification enabled by specifying USAGE VALUE="E-mail."
- **Channel bar graphics.** These optional images can be specified for the desktop and browser Channel bar logos, in either .GIF or .JPG format. An icon file that appears to the left of the item in the Channel bar hierarchy can also be specified. The Desktop Channel bar logo must be 32 pixels high by 80 pixels wide with a black background. Use the tag <LOGO HREF="filename.gif" STYLE="Image"> to specify it in the Channel definition file. The browser Channel bar logo must be 32 pixels high by 194 pixels wide with a color background. Use the tag <LOGO HREF="filename.gif" STYLE="Image">



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Wide"> to specify it in the Channel definition file. The browser Channel bar icon must be 16 pixels high by 16 pixels wide. Use different images, colors, or shapes depending on whether an item is content or is acting as a container for other items. Use the tag <LOGO HREF="filename.ico" STYLE="Icon"> to specify it in the Channel definition file. These images will be displayed with a fixed 256-color palette regardless of monitor color depth, so you should use the Windows halftone palette. Animated .GIF files cannot be used here. Also, do not place critical text or visuals in the upper-left corner of Channel bar logos. The Channel bar adds a 14-pixel-high by 14-pixel-wide triangular red gleam here to indicate that the content has been updated. A similar gleam is applied to a 7-pixel-high by 7-pixel-wide area in the upper-left corner of icons.

- **Schedule.** Use the SCHEDULE element to specify daily, weekly, or monthly update intervals and the time of day during which updates may occur. You can assign different user groups to varied schedules to better distribute network load. Always schedule software downloads for times of low network utilization.



To require that an application be downloaded and installed automatically, set the AUTOINSTALL variable's value to "Yes."

In addition to creating the Channel definition files, you will need to prepare software distribution packages that contain compressed, digitally signed cabinet files. Each cabinet file includes an instruction file specifying how the cabinet files should be installed. The Internet Explorer Setup program reads the location of cabinet files from the "IE5Sites.dat" file.

Internet Explorer 4 included Channels, but Internet Explorer 5 supports the use of Channels only as part of the Offline Browsing Pack. If you wish to add Channels to a computer that has not previously had Internet Explorer 4 installed on it, you must add the Offline Browsing Pack to your Internet Explorer 5 installation package. When Internet Explorer 5 is installed over Internet Explorer version 4, Channels are moved to a "Channels" folder in the Favorites list. Under Internet Explorer 4, users were given the option of either "partial" or "full" subscriptions. This is not true of Internet Explorer 5, which now refers to this feature as Offline Viewing.



If you plan to deploy Channels, you will need to verify that users have the capability of viewing them. If not, you will need to include the Windows Desktop Update with the deployment package.

INSTALLING THE WINDOWS DESKTOP UPDATE • The Windows Desktop Update gives the desktop the ability to look and act more like a Web page. When installed, it lets users browse their computers just as they browse the Web, including using the Go and Favorites menus. Folders and files can be opened and launched with a single click.

Windows 98 and Windows 2000 include these features, but users of Windows 95 or Windows NT 4.0 require the installation of the Windows Desktop Update, an add-on to Internet Explorer 4. Although it is not a part of Internet Explorer 5, it can be included with the IEAK package.

You can customize its settings later if the computer on which you build the package is running either a version of Internet Explorer 5 that has been upgraded from Internet Explorer 4 with the Windows Desktop Update installed, or Internet Explorer 5 on Windows 98/Windows 2000.

If you install Internet Explorer 5 over Internet Explorer 4 on Windows 95 or Windows NT 4.0 computers, you cannot uninstall the Windows Desktop Update without first uninstalling Internet Explorer 5. The Windows Desktop Update is integral to Windows 98 and Windows 2000, and cannot be uninstalled from these operating systems at all.

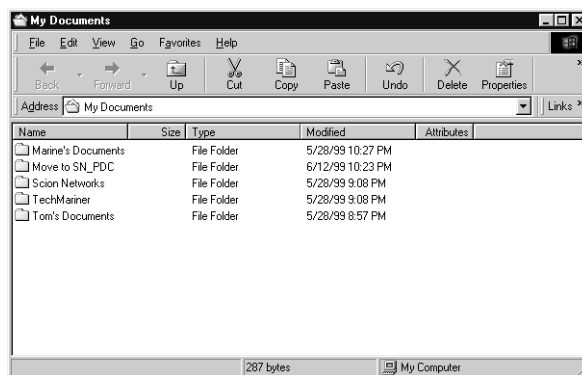


Figure 2.24 Windows Folders in Classic Style.

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Classic and Web interface styles are compared in Figures 2.24 and 2.25.

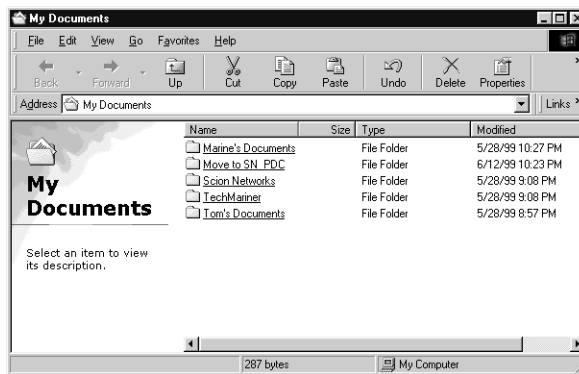


Figure 2.25 Windows Folders in Web Style.

When viewing their computers' desktops as if they were Web pages, users may access a different desktop toolbar, Control Panel, and My Computer window. To do this, they would select the View as Web Page command from the Active Desktop menu in the Settings menu. Further control over this feature can be applied by selecting the Customize My Desktop command from the Active Desktop menu in the Settings menu. This opens the Display Control Panel application, as shown in Figure 2.26.

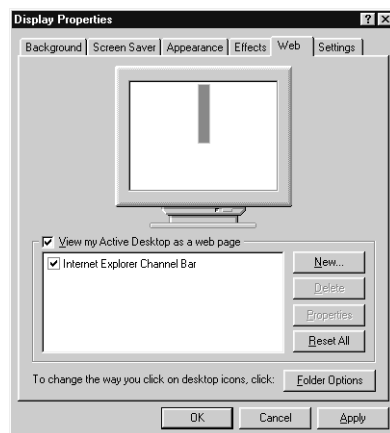


Figure 2.26 Enabling Active Desktop in Display Control Panel Application.

The logic behind this change to the Windows environment is that, because it provides users with a consistent interface for accessing both local and Internet-based resources, users need only learn one interface and will

therefore be more productive. With the Active Desktop interface, users can also personalize the interface by putting active content from Web pages on the desktop. For example, users can add a stock ticker or make the local online newspaper the desktop wallpaper.



The Windows Desktop Update must be configured for the language and locale appropriate to the target computer. When the version of Internet Explorer and the Windows Desktop Update do not match, the browser can be installed, but not the Windows Desktop Update.

WORKING WITH WELCOME PAGES

By default, a Microsoft introductory Welcome page is opened when users launch Internet Explorer for the first time. This page differs from the Home page, which opens when users start the browser after the first launch or whenever they press the Home button. You have the option of overriding the default Welcome page with a URL of your own (see Figure 3.55). For ISPs, this might be a good place to present support information by creating a Web page that contains links, telephone numbers, and FAQs. Corporate administrators might wish to explain Internet Explorer usage policies here by creating a Web page that outlines corporate policy or refers users to various Human Resources documents. You may also specify that no Welcome page be launched, in which case new users will go straight to the Home page.

IMPORTING DESKTOP TOOLBARS

In CA mode, you have the option of supporting Desktop toolbars on the Windows taskbar, as shown in Figure 2.27.

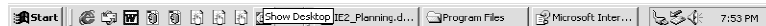
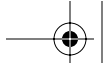


Figure 2.27 *The Windows Taskbar.*

These permit users to more easily launch programs, files, folders, subscriptions, and Web favorites. Toolbars can be positioned and resized in various parts of the Windows Desktop. To take advantage of this feature, you must include the Windows Desktop Update with your browser package and be running the feature on your build computer. You may then create the toolbar settings that you wish to make standard throughout your organiza-



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tion on the build computer, and then use Import the Current Desktop Toolbar Settings option when running the Customization Wizard.

Whether you are an ISP, ICP, or corporate administrator, using this feature requires planning for which programs or files are important to give users shortcuts to. ICPs might wish to add a toolbar icon for their content, for example, while corporate administrators might use an icon for a tech support site's URL.

ADDING A USER AGENT STRING

If your organization is interested in tracking Web site statistics, such as how often various Web pages are accessed and by which Web browsers, you might wish to configure a custom user agent string. This data is recorded in Web server logs during the browser-to-server communications process. By appending Internet Explorer's user agent string with data of your own, you will be able to separate and track statistics generated by your custom browser deployment from that generated by other browsers. Be aware that other organizations can use the user agent string for the same purpose. The user agent string must adhere to the following format:

```
Mozilla/4.0(compatible; MSIE 5.0; Windows NT;Your CustomString)
```

PLANNING FOR SECURITY SETTINGS

Corporate administrators can use security settings to control the types of content users may download from certain sites, such as ActiveX Controls or Java applets. In CA mode, you may also specify Certification Authorities (CAs) and Authenticode settings to manage security.

CAs issue site certificates, which do for Internet sites what digital certificates do for software components. Digital certificates for software use Authenticode to verify programs' origins and that they have not been altered since creation. As a corporate administrator, you should use these controls to ensure that your users do not download malicious content.

Perhaps the easiest way to add certificates to your custom browser packages is to establish them on your build computer first. You can use Cer-



ificate Manager, accessed via the Content tab in the Internet Options dialog box as shown in Figure 2.28, to view and manage certification authorities.

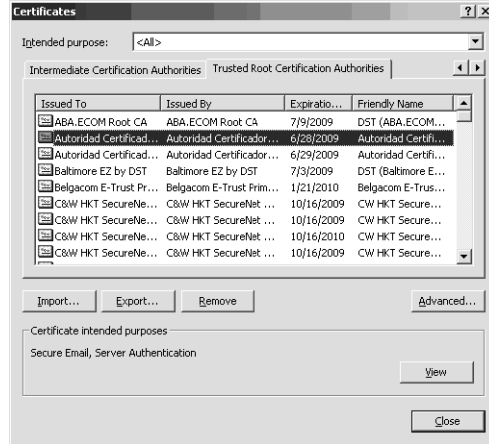


Figure 2.28 Viewing Internet Explorer certificate authorities.

Select an authority and press the View button here to learn more about the security provided, as shown in Figure 2.29.



Figure 2.29 Viewing certificate information.

Certificates apply to such functions as network client-server authentication, e-mail authentication, and software publishing. You can import these settings from the build computer to your custom browser packages when running the Customization Wizard.

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Also in CA mode, you can modify and import your own security zone and content ratings settings. As described further on, the former of these lets you restrict users from downloading content from potentially problematic sites while the latter of these permits you to control access to material that might be considered inappropriate for users to view in the workplace.

WORKING WITH THE CD-ROM AUTORUN SCREEN

When deploying a customized copy of Internet Explorer on CD-ROM, you have the option of creating an Autorun screen that is displayed when users first insert the CD-ROM in computers running 32-bit versions of Windows. The default window created by the IEAK is shown in Figure 2.30.

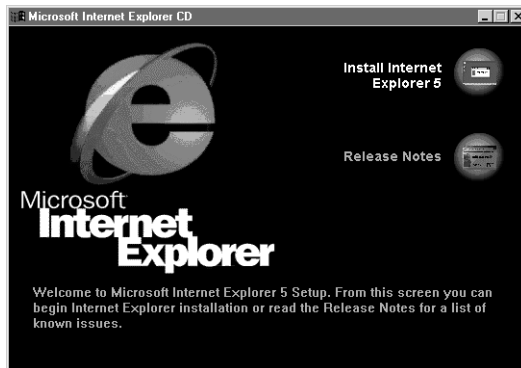
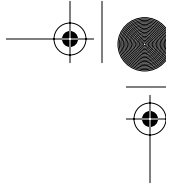


Figure 2.30 Default CD-ROM Autorun screen.

You can also provide a “readme” text file to give users additional or late-breaking information. Finally, you can provide a full-screen (e.g., kiosk mode) Web page that appears after users install with Windows Update Setup. By modifying the Autorun screen, ISPs and ICPs can make it clear to customers who is providing them with a service or product. Corporate administrators might use the Autorun screen to include special instructions or policy information.

You can create your own Autorun screen using a 540-pixel-wide by 357-pixel-high 256-color bitmap image that contains your organization or product information. Also include a button that will launch the Windows Update Setup program and another that will provide more information. Create a working file for your palette in a graphics program by pasting both the background and button files into a single file. Paste the files side by side without overlapping and save the result as “Palette.bmp.”



Customizing Internet Explorer

Microsoft states that the exam objective of this section is for you to identify which custom settings to configure in Internet Explorer for a given scenario. What follows are a few examples.

CORPORATE ADMINISTRATION SCENARIOS

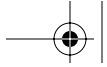
Internet Explorer features that you might wish to customize as a corporate administrator include the following:

- **Components.** You might wish to limit the components installed along with Internet Explorer to minimize the amount of hard disk space used, especially for mobile users.
- **Languages.** You might wish to support different character sets for users in overseas departments, or in departments whose users communicate with foreign vendors.
- **CD-ROM.** You might wish to create CD-ROM installation media for remote offices or users that would find connecting to the Internet or corporate intranet for file downloads difficult or time consuming.
- **Security.** You might wish to create different security levels for users who access data on the Internet from those who only access trusted intranet sources.

ISP SCENARIOS

Internet Explorer features that you might wish to customize as an ISP include the following:

- **Installation options.** You might wish to provide several installation choices by creating different custom packages for users of different experience levels. For example, your users who are least familiar with the Internet might select to only install the browser and e-mail components. More experienced users might wish to include multimedia capabilities and chat functions, or use a different application as their e-mail client.
- **Connection settings.** You might wish to customize and control user connection settings, perhaps by branding the Connection Manager interface or launching a custom program prior to user login.
- **Outlook Express.** You might preset the e-mail client for users, specifying your service's e-mail and news servers and adding support information to the InfoPane or in an introductory message.



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ICP SCENARIOS

Internet Explorer features that you might wish to customize as an ICP include the following:

- **Web links.** You might wish to create links to specific Web sites provided by your organization to support your Internet product. You can add branding information, such as your organization's name, in the title bar. You could also replace the browser's animated logo with one of your own.
- **Usage tracking.** You might append your own tracking information to Internet Explorer's user agent string, permitting you to quantify the browser's usage and identify trends.

Developing Automatic Configuration Strategies

In this section, you will consider strategies for the automatic configuration of customized Internet Explorer deployment packages. Microsoft states that the exam objectives here are to:

- Evaluate whether to use automatic or manual configuration.
- Evaluate whether to use the Profile Manager application for managing deployed browsers.
- Choose the appropriate method for automatically configuring browser settings.
- Given a scenario, select the appropriate settings in Profile Manager.

AUTOMATIC VERSUS MANUAL CONFIGURATION

After Internet Explorer has been deployed, there may be settings that need to be modified to accommodate the changing needs of a given network environment. Some of these settings might pertain to local resources, such as the name of a local proxy server. Other settings might pertain to restrictions and policies, such as whether or not users are permitted to configure their own identities or use add-on components. Traditionally, it is necessary for administrators to make these modifications individually at each desktop computer, or to provide instructions to their users so that they may make the changes themselves. This type of manual configuration is both time-consuming and prone to error, however, making it inappropriate for a large-scale network environment. In addition, users might tamper with manual settings, opening up the browser to configuration errors or security violations.

The IEAK's support for Automatic Configuration provides an alternative to manual configuration by enabling administrators to change settings



globally and to lock out settings options. This is made possible by IEAK profiles, which consist of instruction files and cabinet files that are linked to custom deployment packages.

If you are preparing deployment packages for a corporate environment of more than a few desktop computers, you will almost certainly wish to avail yourself of this timesaving feature. Before you do, however, plan to set up a server that will host the necessary files. When the use of Automatic Configuration is enabled while running the Customization Wizard, the customized copies of Internet Explorer deployed are directed to look to the URL of this server for settings information.

Another new feature of Internet Explorer 5 engages the Automatic Configuration and Automatic Proxy (auto-proxy) features when a user first connects to a network. Using Automatic Detection, Internet Explorer can be configured with the local network settings you specify even if you did not customize the browser. This is helpful when users download non-customized versions of the browser from the Internet instead of installing your customized version from a local source.

PLANNING FOR PROFILE MANAGER

When customizing Internet Explorer for deployment, you may set policies and restrictions that enable you to manage the behavior and appearance of the browser, the features that users are permitted to use and change, and the way it handles bandwidth. Policies are established initially using the Customization Wizard and can be edited and updated later using Profile Manager. These settings are stored in an instruction file. Where there are users that have differing needs, Profile Manager can be used to create different instruction files for different groups.

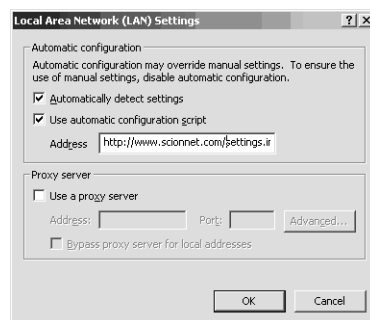


Figure 2.31 Enabling Automatic Configuration in Internet Explorer.

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Profile Manager, which is essentially an instruction file editor, is useful after the initial Internet Explorer rollout when user settings need to be changed. After user options are set and the browser is distributed, you can manage the configuration on an ongoing basis if you store a master instruction file on a server and direct Internet Explorer to download it with each logon. This can be done either by working the requirement in to existing logon scripts, or directly through Internet Explorer's LAN Settings options, which are accessed via the Connections tab in the Internet Options dialog box, as shown in Figure 2.31. Note that you can also enable Internet Explorer's Automatic Detection feature here.

Profile Manager is installed along with the IEAK and can be found in the IEAK program group. It has two primary configuration categories: Wizard Settings and Policies and Restrictions. You can create or modify an instruction file to automatically configure settings such as proxy options, important URLs, security zones, and content ratings, as shown in Figure 2.32.

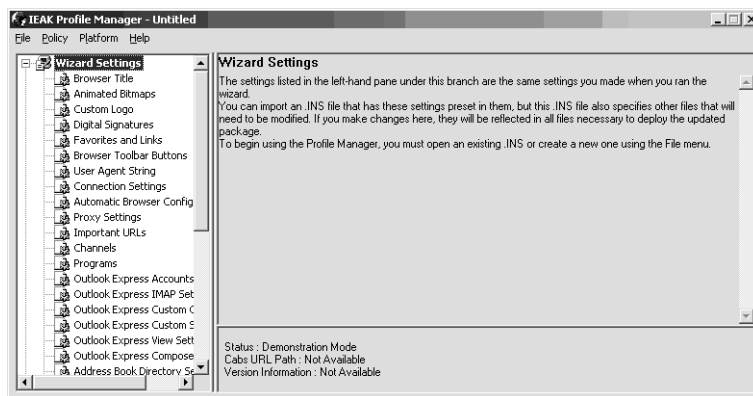


Figure 2.32 *Selecting Customization Wizard Settings.*

These are the same options that can be set initially using the Customization Wizard.

You may also enforce certain policies and restrictions, such as dial-up settings, security zone permissions, and component usage, as shown in Figure 2.33.

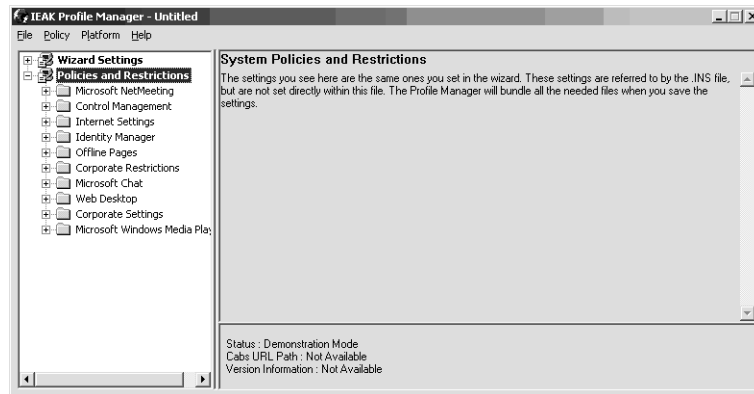


Figure 2.33 *Selecting Policies and Restrictions Settings.*

CHOOSING AUTOMATIC CONFIGURATION METHODS

One method of supporting Automatic Configuration is to point users' browsers to the URL of an IEAK profile (see Figure 2.32). To do so, you can either specify the instruction file name, or specify an ASP file that will generate the instruction file automatically. These are further described in Chapter 4, "Configuring and Managing Internet Explorer Resource Access."

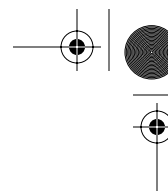
When working with proxy settings, you can specify script files written in JScript (.JS), JavaScript (.JVS), or Proxy Automatic Configuration (.PAC) formats. When you specify URLs for both Automatic Configuration and Automatic Proxy, the later is incorporated into the instruction file. The correct form for the URL is as follows:

```
http://server/install.ins
```

Profile Manager's default location for saving the instruction file is as follows:

```
<build directory>\Ins\<operating system>\<language>
```

If you move the file, you must move the "Ie5sites.dat" file along with it, as well as specify the correct path to any custom cabinet files.



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Automatic Configuration is not available for Outlook Express for Windows 3.x. Also, Automatic Configuration files cannot be digitally signed for 16-bit and UNIX versions of the browser, so you should ensure that your distribution Web site has restricted access. Finally, if you are supporting both Internet Explorer versions 4 and 5 with the same Automatic Configuration file, some settings that differ between the versions will not be configured in version 4.

CHOOSING PROFILE MANAGER SETTINGS

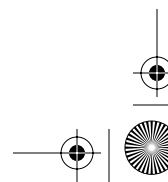
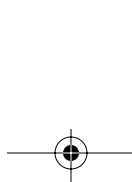
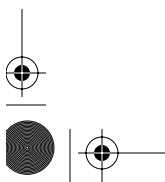
Profile Manager gives you a great deal of control over Internet Explorer usage. The system policies and restrictions you define control user and computer access privileges by overriding default Registry values. Among the restrictions you can choose to enforce are the following:

- **Internet settings.** You can set the options listed in Internet Explorer's Internet Options dialog box, such as security levels, content ratings, connection characteristics, and the use of Channels.
- **Web Desktop.** You can establish how users will interact with the Windows GUI, including navigation, Start menu appearance, and folder views.
- **Subscriptions.** You can control how bandwidth is used and whether or not users can use subscriptions and Channels. These settings are helpful in reducing server loads and network utilization.
- **Components.** You can control bandwidth usage, server settings, and the appearance of NetMeeting, Chat, and Outlook Express.

You should carefully consider which policies and restrictions should be centrally managed to best serve your users. For example, if you limit access to NetMeeting or Chat features, will it decrease bandwidth utilization and improve Web response times? Is this justified, or are you depriving users of an important communications tool? Do different groups of users have differing needs, and should they therefore be subject to different policy files? How much security is necessary, and how much simply restricts user productivity? You should review all of the possibilities presented by the Profile Manager before deploying Internet Explorer and weigh these considerations carefully for your environment.

Planning for Install on Demand

Microsoft states that the exam's objectives for this section are to develop a plan for implementing Install on Demand (IOD). You might wish to employ





Planning for Custom Installations and Settings **73**

this feature to make components that were not included in your installation packages available to users as needed.

Users are given the flexibility when installing Internet Explorer to choose only certain components, thereby controlling hard disk usage and lessening download times. If users access a Web page that requires a component that has not been installed, Internet Explorer's IOD feature prompts them to install the needed components. You can control this feature, also known as Automatic Install, by using the IEAK in CA or ISP mode.

To implement this feature, you should plan to designate servers on your network as download servers capable of supplying user requests for uninstalled components. Corporate administrators who wish use this feature on an intranet will need to specify their servers as trusted (assuming the intranet's security level is "medium" or higher). Security levels are further described in Chapter 4, "Configuring and Managing Internet Explorer Resource Access." ISPs who plan to use this feature over the Internet must be sure to digitally sign the component cabinet files and specify that the computer hosting the download files is a trusted server.

The Automatic Install feature is not available for installations on multiple floppy diskettes.

Study Break

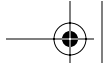
Plan for Customization Settings

Practice what you have learned by planning for the questions that you will be asked when running the Customization Wizard.

Based on your understanding of each previously described feature and its application to your environment, use the checklist provided in Appendix B to record the necessary information in advance. For example, if you are an ISP providing dial-up access, Web hosting, e-mail service, and newsgroup access, you might plan to include customized artwork, pre-configured versions of Outlook Express, connection profiles, FrontPage Express, and the Web Publishing Wizard. If you are an ICP creating a CD-ROM based HTML and Java product, perhaps you will supply only the browser, Java support, and Web fonts. If you are a corporate administrator, you must consider user needs, system requirements, security, policy restrictions, and support implications in your decisions.

You should also create the graphics, HTML files, and build computer settings you will require before running the Customization Wizard.





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MCSE 2.3 Providing Multiple Language Support

Microsoft states that the exam's objectives for this section are to plan an appropriate method of deploying multiple language versions for a given scenario.

Internet Explorer 5 automatically detects the languages and code pages in which data is written. The browser can be deployed in more than 26 languages. Using the easy language-switching feature, you can change the language of the user interface after the browser is installed by simply downloading the necessary language pack. Internet Explorer 5 provides a set of conversion functions that translates all current Internet character sets to Unicode.

Prior to running the Customization Wizard, you should determine language that the browser will initially adopt for your environment, as well as the languages that will be viewed. For example, an ISP in Canada might select English for one installation package and French for another. A corporate administrator with users in the U.S. and Europe might create multiple installation packages for the different languages spoken in various offices. At the same time, the corporate administrator might make foreign language support available for domestic workers who access data from foreign offices.

In the Customization Wizard, you will be prompted to choose the language you need via a Target Language drop-down menu. If it is not listed, you will need to quit the wizard and insert the CD-ROM or locate the download directory that contains the necessary language. You should plan to have these language files on hand. You may then run the wizard again. Possible languages include Chinese (Simplified), Chinese (Traditional), Czech, Danish, Dutch, English, Finnish, French, German, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Russian, Portuguese (Brazilian), Portuguese, Slovakian, Spanish, Swedish, and Turkish.

The build's folder structure is determined by the language you select. Each localized version of Internet Explorer will get its own namesake subfolder (e.g., "EN" for English, "FR" for French) within a platform-specific subfolder of the package's destination folder. For example, if the destination folder is C:\Cie\Build1\, a customized package containing a 32-bit Windows French version of Internet Explorer would be located in:

```
C:\Cie\Build1\Download\Win32\Fr
```

You must plan to run the Customization Wizard to create each localized version you need, so be sure that enough disk space is available on the





build computer. Specify the same destination folder for each version to maintain the same settings across all of them.



Users that have installed the Windows Desktop Update must use the language version of Internet Explorer that matches the language of their operating systems. Otherwise only the browser will be installed.

You should also plan to configure a Web site to permit users to download your localized Internet Explorer packages. First you will need to move the build folder with its platform and language subfolders to the server. Be sure to include the “Iesites.dat” file, which contains a list of download sites that you specify when running the Customization Wizard. Also be sure to include the “IE5setup.exe” application, which permits users to install the browser. Further plan to create a Web page containing download instructions and a link to the install engine (IE5setup.exe) for each localized version. It can be found in the language subfolders.

Study Break

Plan for Multiple Language Deployments

Practice what you have learned by planning for multiple language versions of Internet Explorer when running the Customization Wizard.

In planning for language support, ask yourself the following questions. First, what language versions of the Windows operating system will your users be working in? The answer will determine the number of languages for which you will create installation packages. Second, what languages will your users likely browse? The answer will determine which add-on language components you will include with your custom packages.

Record the information you will need in Appendix B, “Planning Checklists.”

MCSE 2.4

Providing Multiple Platform Support

Microsoft states that the exam’s objectives for this section are to plan an appropriate method for deploying the browser on multiple platforms for a given scenario.



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You can build customized Internet Explorer 5 packages for 32-bit operating systems such Windows 9x, Windows NT 4.0 (Service Pack 3 or above), and Windows 2000. Alternately, you can build customized 16-bit Internet Explorer 5 packages for operating systems Windows 3.1x, Windows for Workgroups 3.11, and Windows NT 3.51.



Although Windows 3.51 is a 32-bit operating system, it can only run the 16-bit version of the Internet Explorer.

Finally, you can build customized packages for UNIX versions of Internet Explorer 5 packages to run on the operating systems Solaris 2.5.1, Solaris 2.6, and HP-UX 10.2 or above.

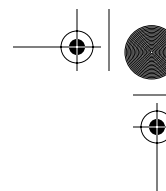
Table 2.3 summarizes the system requirements for Internet Explorer 5 on Windows platforms, according to the *Internet Explorer 5 Deployment Guide* and Microsoft Knowledge Base.

Table 2.3 *Internet Explorer 5 for Windows System Requirements*

OS	Disk Space Install/Run	RAM	Processor
Windows 3.1x	30 Mbytes/16 Mbytes	12 Mbytes	486DX/25
Windows 3.51	30 Mbytes/16 Mbytes	16 Mbytes	486DX/25
Windows 95	45 Mbytes/27 Mbytes Minimal 70 Mbytes/55 Mbytes Typical 111 Mbytes/80 Mbytes Full	16 Mbytes	486DX/66
Windows 98	45 Mbytes/27 Mbytes Minimal 70 Mbytes/55 Mbytes Typical 111 Mbytes/80 Mbytes Full	16 Mbytes	486DX/66
Windows NT 4	45 Mbytes/27 Mbytes Minimal 70 Mbytes/55 Mbytes Typical 111 Mbytes/80 Mbytes Full	32 Mbytes	486DX/66

Note that there is a distinction between the amount of hard disk space needed to install the browser and the amount needed to run it thereafter. Note also that the processor requirements for any Windows installation of Internet Explorer increases when NetMeeting and Media Player are included: A Pentium 90.

In the Customization Wizard, you be prompted to choose the radio button for the platform that you need: 16-bit Windows, 32-bit Windows, or



UNIX. The build's folder structure is determined by the platform you select. Each version of Internet Explorer will get its own platform-specific subfolder.

You should plan to run the Customization Wizard to create each platform-specific version you need. Specify the same destination folder for each version to maintain the same settings across all of them. To build an IEAK package for different operating systems, you must run the Customization Wizard each time.

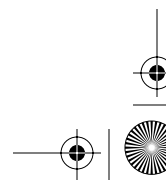
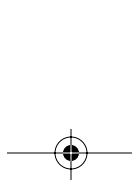
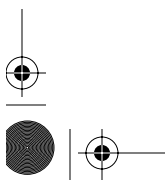
If you are an ISP, you should decide which operating systems you are willing to support. For example, you might choose to limit your service to users of modern 32-bit Windows operating systems. If you are a corporate administrator, you will need to analyze your networked hardware to determine how many operating systems require your support. You will probably be expected to provide Internet Explorer to as many of your users as possible.

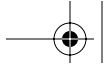
You must plan to configure a Web site to permit users to download your localized Internet Explorer packages and move the build folders with their platform-specific subfolders to the server. Be sure to include the "Iesites.dat" file, which contains a list of download sites that you specified when running the IEAK Customization Wizard. In addition, be sure to include the "IE5setup.exe" application, which permits users to install the browser. Also plan to create a Web page containing download instructions and a link to the install engine (IE5setup.exe) for each version.

Considering 16-bit Versions

Some customization features, deployment methods, and maintenance differ for 16-bit versions of IEAK packages from those of 32-bit packages:

- 16-bit versions do not perform digital signature verification, so programs and cabinet files need not be signed. If signature verification is an integral part of your security policy, you might need to exclude 16-bit versions of Internet Explorer from your installation package.
- If you first build a 32-bit package, then build 16-bit package in the same folder, file names are converted to the DOS 8.3 format (e.g., eight-character names with three-character extensions). If you then rebuild a 32-bit package in the same location, the file names will still use the 8.3 convention. Therefore, if you need to rebuild a 32-bit version you should create it in a new location.
- If a Setup graphic is used, it must be a 162-by-312 pixel, 16-color bitmap file.
- If users will require dial-up access, you must include the Stack and Dialer features. An exception is Windows NT 3.51, which need only





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be configured for Remote Access Service (RAS). If you need to support dial-up users of both Windows 3.x and Windows NT 3.51, you should create one installation option with the dialer (for Windows 3.x and Windows for Workgroups 3.x) and one installation option without it (for Windows NT 3.51).

- Multiple-floppy-disk builds can be created for Windows 3.1 and Windows for Workgroups 3.11 only, not for Windows NT 3.51.
- Any Channels you create will appear in the Explorer bar (at the left of the Internet Explorer window when the user clicks the Channels button), but not in a Channel bar on the desktop.
- Security features such as user authentication, font download, software Channel permissions, desktop item installation, active scripting, or IFrame application and file launching are not supported. If these features are integral to your security policy, you might need to exclude 16-bit versions of Internet Explorer from your installation package.

Considering UNIX Versions

Some customization features, deployment methods, and maintenance practices also differ for UNIX versions from those of the Windows 32-bit platform:

- The Setup package for a UNIX version consists of a single large file rather than several files or floppy disks.
- These versions do not perform digital signature verification, so programs and cabinet files need not be signed. If signature verification is an integral part of your security policy, you might need to exclude UNIX versions of Internet Explorer from your installation package.
- IEAK supports the common UNIX practice of installing its packages on servers from which users run Internet Explorer, rather than installing them locally. Because of this, the Windows Update Setup Wizard for Internet Explorer and Other Internet Tools options (which download cabinet files) is not used.
- Any Channels you create will appear in the Explorer bar (at the left of the Internet Explorer window when the user clicks the Channels button), but not in a Channel bar on the desktop.

Table 2.4 summarizes the system requirements for Internet Explorer 5 on UNIX platforms, according to the Microsoft Knowledge Base.



OS	Disk Space	RAM	Processor
Sun Solaris 2.5	About 68 Mbytes	32 Mbytes	Sparcstation 2
HP-UX 10.2	72 Mbytes	64 Mbytes	HP 9000, Visualize

OS	Disk Space	RAM	Processor
Internet Explorer 5			
7.6.1	12 Mbytes	8 Mbytes (Virtual memory On) 12 Mbytes recommended	PowerPC
Outlook Express 5			
8.1	15 Mbytes	8 Mbytes (Virtual memory On) 12 Mbytes recommended	PowerPC
Internet Explorer 4.5			
8.1	15 Mbytes	8 Mbytes (Virtual memory On) 12 Mbytes recommended	PowerPC

Note that only Internet Explorer version 4.5 was available for the Mac OS when the exam was created.



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resources to support. If you are an ICP, you will probably wish to create installation packages for as many operating systems as possible to bring your product to the widest possible market. If you are a corporate administrator, you will need to determine which operating systems are running on your network and which users of these computers need to use Internet Explorer. You can then plan for each operating system and, if necessary, for your deployment server. Remember that not all of Internet Explorer 5's capabilities extend to all operating system versions.

Record the information you will need in Appendix B, "Planning Checklists."

MCSE 2.5 Developing Security Strategies

Microsoft states that the exam's objectives for this section are to develop the appropriate security strategies for using Internet Explorer for various sites, including public kiosks, general business sites, single-task-based sites, and intranet-only sites.

Planning for Security Zones

Internet Explorer incorporates a rating system for groups of URLs, called zones, and permits you to set security levels for them. The lowest security level that can be applied to a zone permits most content — including active content such as scripts — to run without prompts. The highest setting restricts the use of many capabilities, such as support for cookies. Custom levels can also be created.

Default zones include the Internet zone, which contains all Internet-based sites; Local Intranet zone, which contains all intranet-based sites; Trusted Sites zone, which contains sites that are thought to pose no threat to users; and the Restricted Sites zone, which contains sites that are known to pose problems for users.

A description of each security level's characteristics can be viewed by opening the Internet Options dialog box from Internet Explorer's Tools menu and switching to the Security tab (see Figure 2.34).

There are seven primary options that can be modified to create custom security levels in the 32-bit version of Internet Explorer: ActiveX Controls and plug-ins, cookies, downloads, Java, scripting, user authentication, and miscellaneous.



These security options apply to Internet Explorer only, although other Internet programs may choose to abide by them as well.

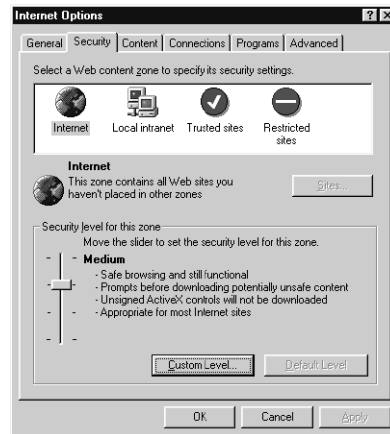


Figure 2.34 Viewing Security Levels in the Internet Options Dialog Box.

When planning for security on public kiosks, you will probably wish to lock out all features that are not strictly necessary for viewing. For example, you might disable the ability to accept cookies or download files.

When planning for general business sites, you should review your corporate policies to ensure that Internet Explorer's default settings are adequate, and if not, modify them. It might be necessary to modify settings in the Internet zone to be more restrictive, while leaving the settings of the Local Intranet zone as unrestricted as possible.

When planning for a single-task-based site, you will probably wish to make security restrictive for all sites except those directly related to the site's purpose.

In planning for an intranet-only site, you should determine how safe your local network is. Few restrictions should be necessary in the Local Intranet zone, but more might be required if the intranet has some outside access, such as to vendor partner. Internet Explorer 5's default security levels are listed in Table 2.6.

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Table 2.6 *Default Security Levels*

Level	Permissions	Zone	Add Sites?
Low	Minimal safeguards and warning prompts are provided. Most content is downloaded and run without prompts. All active content can run. Appropriate for sites that you absolutely trust.	N/A	N/A
Medium	Safe browsing and still functional. Prompts before downloading potentially unsafe content. Unsigned ActiveX Controls will not be downloaded. Appropriate for most Internet sites.	Local Intranet Internet	Yes No
Medium-Low	Same as Medium without prompts. Unsigned ActiveX Controls will not be downloaded. Appropriate for sites on your local network (intranet)	Trusted Sites	Yes
High	The safest way to brows, but also the least functional. Less secure features are disabled. Cookies are disabled. Some Web sites will not work. Appropriate for sites that might have harmful content.	Restricted	Yes

The process of assigning zones and creating custom zones is described in Chapter 4, “Configuring and Managing Internet Explorer Resource Access.”

Planning for Content Advisor

Internet Explorer also provides the Content Advisor, with which you can control the types of sites that users view on the Internet and intranet. A description of each content rating’s characteristics can be viewed by opening the Internet Options dialog box, switching to the Content tab, and pressing the Enable button, as shown in Figure 2.35.

Internet Explorer 5 provides support for the Recreational Software Advisory Council on the Internet's (RSACi's) implementation of Platform for Internet Content Selection (PICS) rules. This standard provides an architecture in which content providers can identify acceptable PICS characteristics by embedding a specific set of HTML meta tags into each Web page. Users can then be restricted to viewing only content that meets with PICS criteria.

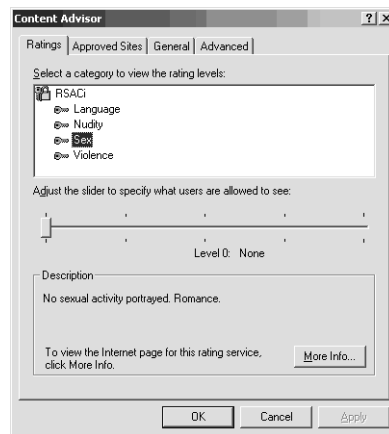


Figure 2.35 Viewing Content Ratings in the Internet Options Dialog Box.

Also in Internet Explorer 5, you can create your own list of Web sites that have content that is approved or disapproved. This capability restricts the content users can view regardless of whether or not the Web sites are rated by using PICS or other ratings systems.

Internet Explorer's Content Advisor provides a sliding lever used to set ratings from "0" to "4." By default, Internet Explorer 5 sets the ratings levels for Language, Nudity, Sex, and Violence at "0."

The criteria to which these settings pertain are listed in Table 2.7.

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Table 2.7 *Content Ratings*

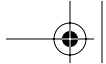
Level	Language	Nudity	Sex	Violence
4	Extreme hate speech or crude language. Explicit sexual references.	Provocative display of frontal nudity.	Explicit sexual activity.	Wanton and gratuitous violence.
3	Strong, vulgar language; obscene gestures. Use of epithets.	Frontal nudity.	Non-explicit sexual touching.	Humans injured or killed.
2	Expletives; non-sexual anatomical references.	Partial nudity.	Clothed sexual touching.	Humans or creatures injured or killed. Rewards injuring non-threatening creatures.
1	Mild expletives or mild terms for body functions.	Revealing attire.	Passionate kissing.	Creatures injured or killed; damage to realistic objects.
0	Inoffensive slang, no profanity.	No nudity.	No sexual activity portrayed; romance.	No aggressive violence; no natural or accidental violence.

In planning for a public kiosk site, Content Advisor should be applied to ensure that offensive content is not viewed, as far as possible. In other cases, you should review your corporate policies and apply Content Advisor settings in accordance with them.

Planning for Secure Transmissions

Internet Explorer supports secure transmission protocols such as Secure Sockets Layer (SSL) 2.0 and 3.0; Transport Layer Security (TLS) 1.0, and Private Communications Technology (PCT) 1.0. Internet Explorer also supports Fortezza security technology through a Cryptographic Service Provider (CSP) plug-in provided free by Microsoft. Users with Fortezza Crypto Cards can use this plug-in to ensure secure communications based on Fortezza security standards that are determined by the U.S. National Security Agency (NSA), and Department of Defense (DOD).

In planning for public kiosk and single-task-based sites, you should determine whether or not private information will be sent across the Inter-



net, such as contact and financial information. If so, you should apply a secure transport such as SSL. Likewise, general business desktops will need this support if users are buying anything from the Web. How you plan for intranet-based sites will depend on the security surrounding your internal network. If there is any chance that outsiders can view your network traffic, you should probably employ secure transport protocols.

Planning for Digital Certificates

Internet Explorer uses industry-standard X.509 version 3 digital certificates to verify the identity of individuals and organizations, as well as to ensure the integrity of downloadable files.

Certificates contain their owner's public key, owner's name or alias, an expiration date, a serial number, the name of the issuing entity, and the digital signature of the issuing entity. Certificates can optionally contain such information as postal address, e-mail address, country, postal code, user age, user gender, etc. You can use certificates to verify the identity of e-mail senders, Web clients, and Web servers; encrypt client-server communication channels and e-mail communication, and verify the source and integrity of signed, downloaded executable code.

SELECTING A CERTIFICATION AUTHORITY

Certificates are authenticated, issued, and managed by third-party Certification Authorities (CAs). These authorities are responsible for providing such technology as security protocols and standards, secure messaging, and cryptography.

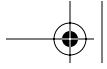
One duty of a CAs is to provide an infrastructure that includes secure facilities, backup systems, and customer support.

Equally important, CAs provide a trust model that incorporates a legally binding framework for managing subscriber actions and resolving disagreements.

There are numerous commercial CAs that issue and renew certificates, authenticate the identities of individuals and organizations, and verify the registrations of individuals and organizations. In addition to handling legal and liability issues that relate to security, commercial CAs publish and maintain a Certificate Revocation List (CRL) containing all certificates that have been revoked.

Some commercial CAs are listed in Table 2.8.





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Table 2.8 *Certificate Authorities*

Organization	URL
BankGate	http://www.bankgate.com
Digital Signature Trust	http://www.digsigtrust.com
GlobalSign NV-SA	http://www.globalsign.com
GTE CyberTrust	http://www.cybertrust.gte.com
Thawte Consulting	http://www.thawte.com
Verisign	http://www.verisign.com

You can obtain various types of certificates from CAs, including personal certificates used by individuals to digitally sign communications, client and server authentication certificates for managing secure transactions, and software publisher certificates that allow developers and organizations to digitally sign the software that they create.

You can use Internet Explorer's Certificate Manager, accessed via the Content tab in the Internet Options dialog box as shown in Figure 2.36, to view and manage the certification authorities in use.

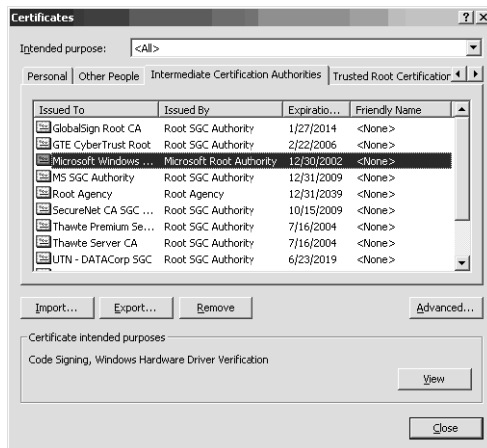
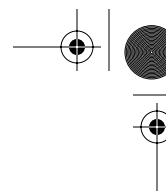


Figure 2.36 *Viewing Internet Explorer Certificate Authorities.*

CAs must operate within the framework of their Certification Practices Statements (CPSs), which are posted on the CA's various Web sites. When choosing a CA, you should verify that it is a trusted organization with a good reputation, that it is familiar with the interests of your organization, and that





it provides services and products that integrate well with your existing security models.

USING CERTIFICATE SERVER

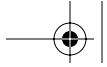
Your organization might choose to act as a CA on its own by providing a certificate server, such as Microsoft Certificate Server, to issue, renew, and revoke certificates. The certificates you issue can be used in conjunction with servers that support SSL, TLS, and PCT to build a secure Internet or intranet communications system. This option is particularly appealing to large organizations with more complex security needs, as it lowers costs while providing greater control over certificate management.

USING AUTHENTICODE

On the client-side, Microsoft's Authenticode version 2.0 is used to monitor the downloading of ActiveX control (.OCX) files, cabinet files, Java applets, and executable (.EXE) files. Authenticode displays such certificate information as the name included in the digital signature, whether the certificate is commercial or personal, and the expiration date. When a software component has been digitally signed, such as an executable, Dynamic Link Library (.DLL), ActiveX control, or cabinet file, Internet Explorer can verify that it originated from the software publisher named in the certificate and that it has not been modified or tampered with. From this information users may decide to permit or discontinue a download.

Internet Explorer displays a verification certificate when it knows that software originated from a traceable source and that it has not been modified since it was published. This does not necessarily mean that the software is free of problems, however, any more than an invalid signature proves that software is dangerous. If a digital signature fails the verification process, Internet Explorer reports the failure to the user, including the reason why the signature was found invalid, and then prompts the user to decide whether or not to proceed with the download.

You have the option of customizing the way in which Internet Explorer handles downloadable software, depending on whether it is unsigned, signed with a valid certificate, or signed with an invalid certificate. For signed or unsigned software, you can configure Internet Explorer to prevent users from downloading or running the software from a specific zone at all, downloading and running it without user intervention, or prompt users to decide if they will download and run it. How you handle these customization options will depend on how much trust you have in various zones. For



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example, you might trust unsigned software originating from your intranet, but not unsigned software that is downloaded from the Internet.

New to Internet Explorer 5 is support for certificate revocation, which verifies that an issuing CA has not revoked a server or publisher's certificate.

SECURING CLIENT-SERVER COMMUNICATIONS

On the server-side, certificates can be used to support user authentication and secure communications with Web clients. Servers can present clients with server authentication certificates from trusted authorities that verify their identities. The same is true of clients, such as Internet Explorer, which can present their own trusted certificates to servers. The exchange of certificates between clients and servers is done using a secure transmission protocol, such as SSL.

Using SSL, secure, encrypted connections can be created between the server and client using the public key encryption system. This type of security should be used whenever private data, such as credit card information, is passed over the Internet.

SSL has two protocol layers. The first layer, the SSL Handshake Protocol, is used at the beginning of the client-server communications process to establish the encryption algorithm. The second layer, the SSL Record Protocol, is used to handle the encapsulation of data communicated over TCP and other higher-level protocols. This capability allows SSL to operate independent of applications, services, and data types.

In a typical Web server-to-browser connection, SSL works as follows:

1. The Web browser requests a URL to a secured resource on the server, initiating the communications process.
2. The server sends a certificate to the Web browser. This contains the Web site's unique digital identification. It might also request a certificate from the Web browser.
3. The Web browser sends a certificate to the server, if requested.
4. The Web browser attempts to verify the server's certificate with a public key. If the certificate is verified, the Web browser requests an encryption specification, called the session key, from the server. This is encrypted using the Web browser's private key.
5. The Web server attempts to verify the Web browser's certificate with a public key, if requested.
6. The Web server receives the session key, which it decrypts using the Web browser's public key. It then modifies its encryption specification to match that requested by the Web browser.



7. The Web server and Web browser begin normal communication over the encrypted connection.

If any of these steps is executed incorrectly, SSL communications will fail. It is mandatory for both the client and server to be able to supply the correct encryption, certificates, and other information.

SSL 2.0 supports server authentication only. SSL 3.0, TLS 1.0, and PCT 1.0 support both client and server authentication.



Traffic encryption using secure channels adds a significant overhead to client-server connections, and should therefore generally be used only for small volumes of information, such as user authentication or credit card information.

The protocols that Internet Explorer has enabled for client-server authentication can be viewed by opening the Internet Options dialog box and switching to the Advanced tab, as shown in Figure 2.37.

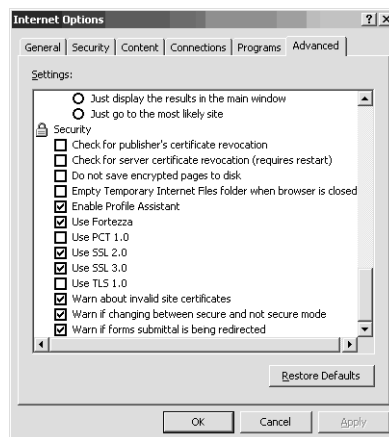
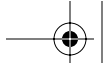


Figure 2.37 Viewing Security Protocols Within Internet Explorer.

The highest-possible level of security is afforded by the use of Server Gated Cryptography (SGC). This encryption method enables a 128-bit server with an SGC certificate, such as Microsoft Internet Information Server (IIS) 3.0 or newer, to communicate securely with Internet Explorer 4.0 or newer using 128-bit SSL encryption. If your organization requires such a high-level of security, perhaps to support financial transactions, you could make use of it with a 128-bit SSL Microsoft Windows NT-based Internet server and Internet Explorer. Because of its high security value, 128-bit SSL



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encryption is freely available only in the U.S. Internationally, its use is restricted to approved SGC sites only.

The underlying security services for certificate management, secure channels, code signing, and Authenticode are provided by the CryptoAPI 2.0. With it, developers integrate Cryptographic Service Provider (CSP) modules into their applications that interface with CryptoAPI to perform such functions as key generation and exchange, data encryption/decryption, hashing, digital signature creation/verification.

Study Break

Plan for Security

Practice what you have learned by planning for and applying Internet Explorer security options. First, evaluate Internet Explorer's default security permissions for zones to determine if they are appropriate for your environment's security policies. Make note of any deficiencies. You might need to plan for adjusting the level for a given zone, or for creating an entirely new zone with custom security settings. Similarly, determine whether or not it will be necessary and appropriate for you to adjust Content Advisor's ratings, or to create a ratings system of your own. Finally, consider whether or not secure transport protocols will need to be enabled for your environment. Be mindful of different possibilities and their application to different types of desktops, such as public kiosks.

Record the information you will need in Appendix B.

MCSE 2.6 Configuring for Offline Viewing

Microsoft states that the exam's objective for this section is to configure offline viewing for various types of users, including general business users, single-task-based users, and mobile workers.

The Offline Browsing Pack lets users view favorite Web pages without being connected to the Internet. Instead of requesting Web content directly from these sites whenever they are selected in Internet Explorer's Favorites list, the browser saves content for offline viewing, updating it periodically. This makes content available whenever users want it, on-line or off.



To add a Web site for off-line viewing, users need only enable the Make Available Offline check box in the Organize Favorites dialog box, as shown in Figure 2.38.

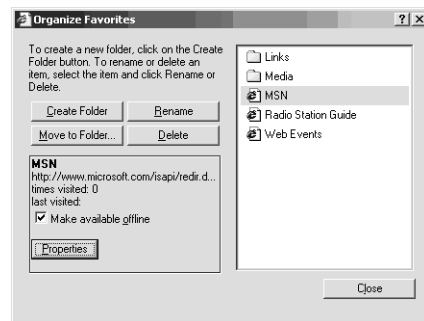


Figure 2.38 *Enabling Offline Viewing.*

This activates a Properties button that opens the Properties dialog box shown in Figure 2.39.

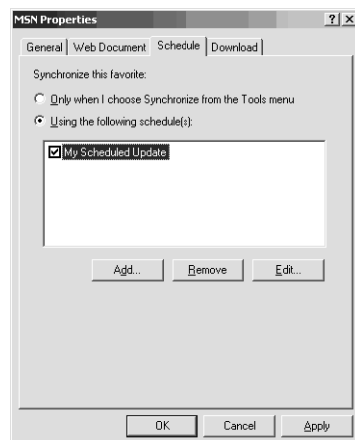


Figure 2.39 *Setting a Synchronization Schedule.*

Users can establish a synchronization schedule under the Schedule tab. They can set a timer for an interval of days and a specific time. They can also choose to have Internet Explorer automatically connect to the Internet if the specified time is reached but the computer is off-line.

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Under the Download tab, as shown in Figure 2.40, users can specify how deep in the Web site directory hierarchy Internet Explorer should go when retrieving content, as well as how much hard disk space may be used.

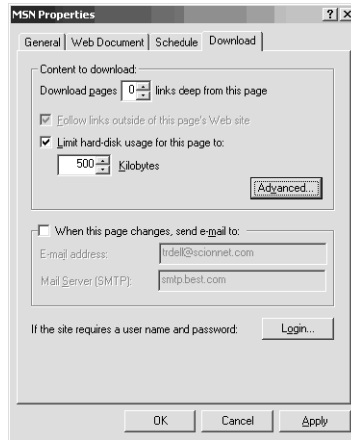


Figure 2.40 *Specifying the Amount of Data for Download.*

Users may also elect to omit images, sounds, video, ActiveX Controls, and Java applets (by pressing the Advanced button).

Internet Explorer automatically dims the options that are unavailable in Favorites and History lists when users work off-line.

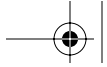
Using the Customization Wizard, you may choose to control the amount of information that can be downloaded through off-line viewing. For example, you can limit the number of offline pages that users are permitted to download. You can also set the interval between scheduled updates. These settings can help you limit server load and network utilization.

For general business users accessing the Internet or intranet through a reliable network connection, offline viewing is mostly a convenience. For single-task-based sites, it can be more valuable as you could use it to store the complete content of the target Web site locally, updating it periodically. For mobile users, it can be especially valuable in making important intranet content available when users are at home, traveling, or in the field.

Study Break

Plan for Offline Viewing

Practice what you have learned by preparing important Web sites for offline viewing.



Consider which sites are valuable enough to be configured for offline use. If you are an ISP, perhaps you will wish to have your technical support documents made available offline. If you are an ICP, perhaps you will want your entire Internet product to be stored offline. If you are a corporate administrator, you might want key content from your intranet stored offline, especially for mobile users. (Consider the security implications of this, however.)

Once you have determined which sites you wish to have stored offline, calculate their hierarchy depths and sizes. You will not want to restrict their storage when running the Customization Wizard. Also plan for a schedule that will not coincide with periods of heavy network utilization.

MCSE 2.7 Replacing Other Browsers

Microsoft states that the exam's objectives for this section are to develop strategies for replacing other Internet browsers, including Netscape Navigator and previous versions of Internet Explorer.

Microsoft provides an upgrade path for earlier versions of Internet Explorer that preserves important settings. Similarly, important settings from Microsoft's rival Netscape Navigator can also be imported into a new installation of Internet Explorer. If Outlook Express is installed along with Internet Explorer, you can import settings and data from other e-mail and newsreader applications.

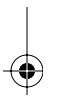
Replacing Internet Explorer 3.x

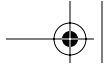
When the Internet Explorer 5 Setup program installs over Internet Explorer 3, it will place its files in the same folder used by version 3 regardless of the directory that might have been specified. These two versions cannot co-exist on the same computer due to conflicting Registry settings.

Internet Explorer 5 Setup automatically imports proxy settings, Favorites, and cookies from version 3. Plug-ins and add-on components must be re-installed, however, and security settings are not imported.

Replacing Internet Explorer 4.x

When the Internet Explorer 5 Setup program installs over Internet Explorer 4, it will place its files in the same folder used by version 4 regardless of the directory that might have been specified. These two versions can co-exist on the same computer, however, if you specify Compatibility Mode during installation.





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Internet Explorer 5 Setup automatically imports proxy settings, Favorites, cookies, and security settings from the version 4. Some plug-ins and add-on components must be re-installed, however. Channels are moved to the “Channels” folder in the Favorites list.

You can include the Windows Desktop Update, which was included in Internet Explorer 4 but not in Internet Explorer 5, as an add-on component in your installation packages for Windows 95 and Windows NT 4.0 users.

Replacing Netscape Navigator 3.x and 4.x

When installing Internet Explorer 5, you can import proxy settings, Bookmarks, and cookies from Netscape Navigator. However, you must reinstall plug-ins. Both Internet Explorer and Netscape Navigator can co-exist on the same computer. Once Internet Explorer 5 is installed, you can designate either it or Netscape Navigator as the default Web browser.

REPLACING E-MAIL AND NEWSREADER CLIENTS

You can use the IEAK to make Outlook Express the default e-mail and news-reader client when you create a custom install package. Once installed, users can import several items from other programs. These items include:

- **Address books.** These include contacts from Microsoft products, such as Exchange, Outlook, Mail and News, and Windows Messaging, as well as other applications, such as Netscape Address Book (version 2.x, 3.x) Netscape Communicator Address Book (version 4.x), and Eudora Light or Eudora Pro (through version 3.x). Basically, you can import contact data from any application that can export files in the Comma Separated Values (CSV) format.
- **Messages.** You can import messages from Microsoft products and others, such as Netscape and Eudora.
- **Mail account settings.** Outlook Express can import such settings as e-mail address, mail host, and connection characteristics from previous accounts.
- **News account settings.** Outlook Express can import subscription records and such data as which postings have been read.

When using the IEAK to update a previous installation of Outlook Express, you may configure the following settings:

- **POP3 or IMAP mail server name.** The domain name of a POP3 or IMAP mail host.
- **User and account name.** The name of the user and a designation for the account.





- **E-mail address.** The user's e-mail address (e.g., "trdell@scion-net.com").
- **Signature files.** Text files that are automatically appended to the end of e-mail messages, containing notes or address information.
- **LDAP settings.** Configuration information for LDAP servers.

If you are an ISP or ICP, chances are good that you will be supplying Internet Explorer 5 to customers who already have other browsers or e-mail applications installed on their computers. Fortunately, most of their previous application's important settings will be preserved during the upgrade, a fact that you might wish to make them aware of in your installation instructions. If you are a corporate adminster, you should determine which browsers are currently deployed in your environment so as to prepare installation packages that account for differing migration scenarios.

Study Break

Plan for Browser Migration

Practice what you have learned by planning a migration from older versions of Internet Explorer.

First, determine which older versions of Internet Explorer are already running on your network. If versions 3 and 4 are present on your network, determine which plug-ins might need to be re-installed and which security settings might need to be reconfigured. Consider whether or not you will need to include the Windows Desktop Update for Windows 95 or Windows NT 4.0 users. Consider how you will inform users about the effects of changes implemented in the new browser. Apply similar considerations to a migration from Netscape Navigator to Internet Explorer or from various e-mail applications to Outlook Express.

MCSE 2.8 Developing CMAK Strategies

Microsoft states that the exam's objectives for this section are to develop strategies for using the Connection Manager Administration Kit (CMAK) to configure Point-To-Point Tunneling Protocol (PPTP) and Dial-Up Networking, and to validate user security.

The CMAK is installed along with the IEAK, although it is placed in a separate program group. (A version of the CMAK also comes with the Windows NT 4.0 Option Pack.) The CMAK Wizard guides you through the process of customizing and configuring the Connection Manager dialer application based on service profiles, eventually creating a self-extracting



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executable (*.EXE) file that installs itself on users' computers. When users click on an icon to connect to the Internet or a corporate network, your customized Connection Manager dialog box appears and the settings contained in its associated service profile are put into play.

Among the items that you should plan for prior to running the CMAK Wizard are custom graphics. For example, you may specify your own 330 by 141 pixel logo that will appear in Connection Manager's logon dialog box, as shown in Figure 2.41.



Figure 2.41 *Connection Manager Logon Dialog Box.*

You may also prepare a 114 by 304 pixel logo that will appear in the Phone Book dialog box, and icons that will be displayed by Connection Manager. Finally, you may customize the shortcut menu that appears when users right click on the status icon.

You may prepare several files to include with service profiles as well, such as a custom Help file or service agreement. You will also be able to specify pre-connection, pre-tunnel, post-connect, and disconnect actions, such as running applications or downloading phone book updates.

A checklist of CMAK customization options is provided in Appendix B, "Planning Checklists."

Planning for Dial-Up Networking Configurations

Client dial-out capabilities are configured through the Dial-Up Networking application found in the My Computer program group. It is used to configure telephone number and protocol settings used to access ISPs and remote

LANs. Dial-Up Networking can keep track of multiple connection profiles, called phone book entries, as shown in Figure 2.42.

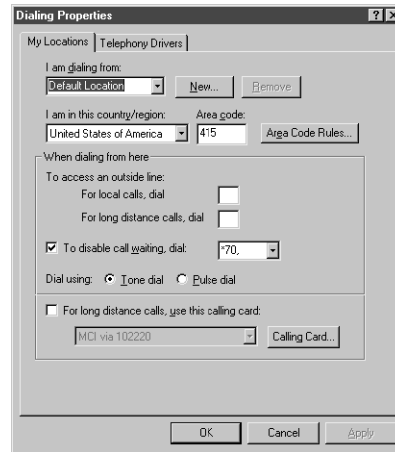


Figure 2.42 *Dial-Up Networking Phone Book Entries.*

Before running the CMAK Wizard, you should plan to either include a phone book with the service profile you create, or have one downloaded. Either way, you must create one or more phone books prior to running the CMAK Wizard. If you are a network administrator creating a service profile to support direct access to your corporate network, a single phone book might suffice. If you are a network administrator creating a service profile to permit indirect access to your corporate network via a Virtual Private Network (VPN), you will need at least two phone books: One phone book containing corporate access phone numbers and one containing ISP access phone numbers. The CMAK Wizard will merge these phone books to give users a transparent view of network access. Similarly, if you are an ISP that provides local access while at the same time serving as part of a consortium that provides access outside your coverage area, you might create separate phone books for local and remote Points of Presence (POPs). Prior to running the CMAK Wizard, you will need to determine the Dial-Up Networking strategy that will work best with your situation and create the appropriate phone books.

Connection Point Services, part of the Windows NT 4.0 Option Pack, provides a Phone Book Administrator utility that simplifies the creation and maintenance of the phone books that you will need. Phone book (.PBK) files can also be created using a text editor, but this is a complex process that is difficult where more than one POP is involved.

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Phone book files are also associated with region (.PBR) files that contain the states and/or provinces associated with various dial-up numbers.

Planning for PPTP Configurations

The service profiles you create using the CMAK can provide corporate access to users through either private dial-up connections or VPN connections. When you create a VPN, you connect client and server computers through a secure connection that tunnels through a carrier network, such as the Internet. Tunneling encapsulates the packets of one protocol, such as PPTP, inside the packets of another protocol, such as TCP/IP. If you plan to support your users with VPN connections, you must set up a VPN server prior to running the CMAK Wizard.

You may install, configure, and remove PPTP on a Windows NT Server via the Protocols tab in the Network Control Panel application.

You will be prompted to select between one and 256 VPNs in the PPTP Configuration dialog box, which is accessed via the Properties button. You will also be prompted to configure Remote Access Service (RAS) ports for each VPN, setting such parameters as protocols, encryption, and authentication methods via the Network Configuration dialog box (see Figure 2.43).

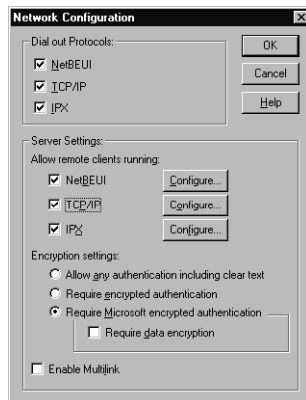
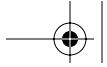


Figure 2.43 *Configuring RAS Network Configurations.*

In planning for VPN support, you must also ensure that both your dial-up server and the computer on which Connection Manager is running use the same protocols. In addition to TCP/IP, PPTP supports Novell NetWare Internetwork Packet Exchange (IPX) and NetBIOS extended user interface (NetBEUI).



Planning for User Security

When service profiles support VPN connections, an Internet Logon tab is added to Connection Manager's Properties dialog box (see Figure 4.26). Here users enter the user name and password for their ISP account. In the Logon dialog box, users enter user name, password, and logon domain for their private networks. To support VPN connections in your service profiles, you must plan to specify the address of the server to be used in authentication (by either domain name or IP address), as well as how the process will be handled. You must also plan for the following:

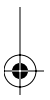
- If you do not want the server to assign addresses dynamically, you will need to specify the Domain Name System (DNS) and Windows Internet Name Service (WINS) server IP addresses to be used. These include primary and secondary DNS addresses for the end-point server, as well as primary and secondary WINS addresses for name resolution on the end-point server's network.
- You will need to specify whether or not users should enter the same user name and password for both dialing in to the Internet and logging on to your network server. If so, the Internet Logon tab will not be shown and users will only need to enter their authentication data once.
- You will need to specify whether or not a realm name will be used, as well as what it will be. ISPs that support the Remote Authentication Dial-In User Service (RADIUS) protocol can work with an Internet Authentication Services (IAS) server on your network to authenticate users as they connect. For this to work, routing information in the form of a realm name must be appended to authentication requests so that the ISP can forward them to your IAS server. A realm name can be specified as a prefix (e.g., "Microsoft/") or a suffix (e.g., "@Microsoft.com").

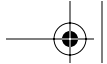
Study Break

Create Phone Books

Practice what you have learned by creating two phone books to support a VPN deployment.

First, use the Phone Book Administrator application to create a phone book that contains access phone numbers for your private corporate network. Next, create a phone book that contains access phone numbers for a public ISP that you may use to access the Internet, and by extension, your cor-





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porate network. You will need to create both phone book (.PBK) and region (.PBR) files. You may merge the phone books you create here when running the CMAK Wizard to create a service profile, as described in Chapter 5, "Supporting Internet Explorer Integration and Interoperability."

■ Summary

In this chapter, we considered the elements for which one must plan before deploying Internet Explorer, taking into account the needs and policies of ICPs, ISPs, and corporate administrators. Among the choices that must be made are which components will be installed along with Internet Explorer, such as Outlook Express and NetMeeting, and how they will be configured.

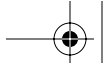
Addressing Technical Needs, Rules, and Policies

The needs of ISPs are two-fold: They must provide a means for customers to connect to their service and they must provide software that enables customers to navigate the Internet once they are connected. In ISP mode, the Customization Wizard can be used to create single floppy diskette installation packages and custom Internet connection profiles. ISP mode can be used to manage settings for Outlook Express, NetMeeting, and Chat, as well as set Internet Explorer modem, security, and search options. The primary need of ICPs is to provide an interface in which users can view their Web or media-based product. ICP mode can be used to manage Chat as well as set Internet Explorer font, color, and language options. The primary need of corporate administrators is to provide a reliable navigational tool for users of the Internet or an intranet. CA mode provides the greatest level of customization, and when paired with Internet Explorer's Automatic Configuration feature, gives corporate administrators tremendous control over how users view and operate the browser and its components.

Planning for Custom Installations and Settings

Internet Explorer can be installed along with numerous components, including Outlook Express, Windows Media Player, NetMeeting, Chat, and FrontPage Express. Prior to running the Customization Wizard, you should plan for how Internet Explorer and its component options will be configured, including such options as custom graphics, custom URLs, server names, companion files, and security. You should also prepare any Channels that you will deploy with Internet Explorer, and set up Web servers and informational Web pages to support your deployment. Finally, you should





decide whether or not the ongoing configuration of deployed browser settings will be necessary, in which case you will want to prepare to use the Automatic Configuration feature and plan for the management options made available by Profile Manager.

Providing Multiple Language Support

Internet Explorer can be deployed in 26 languages. You can create multiple language custom deployment packages, so long as you obtain the necessary files and add-on components prior to running the Customization Wizard. You should also plan for the varied ways in which different versions might be distributed.

Providing Multiple Platform Support

Custom Internet Explorer installation packages can be deployed for 16-bit Windows, 32-bit Windows, and UNIX operating systems. The Customization Wizard must be run separately for each platform version. Each platform version differs slightly, so you should familiarize yourself with the differences ahead of time. The Mac OS version of Internet Explorer is supported by a Macintosh-based version of the IEAK.

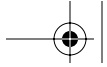
Developing Security Strategies

You should plan to enable the Internet Explorer security settings that best meet user needs while interfering the least with user activities. Using security zones, you can restrict users to accessing sites that are trusted to a greater or lesser degree. Using content ratings, you can restrict users, such as children, from viewing content that is considered inappropriate. Using site certificates and digital signing, you can verify the source and integrity of Web content and software, as well as the identity of servers and individuals. Using secure protocols, such as SSL, you can create encrypted channels for the transfer of sensitive information, such as client-server authentication data.

Configuring for Offline Viewing

Internet Explorer makes it possible to download and synchronize Web content that is stored offline for viewing at users' convenience. You should plan for which sites will have this feature applied to them, how much data will be stored off line, and how often content will be updated.





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Replacing Other Browsers

If you are installing Internet Explorer 5 onto desktops that have previously hosted earlier versions of Internet Explorer or Netscape Navigator, you should plan for migrating user settings, such as Favorites (Bookmarks), cookies, and proxy settings. You might also choose to replace existing e-mail and newsreader clients with Outlook Express, in which case you should plan for the migration of such data as message folders and address books.

Developing CMAK Strategies

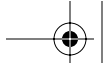
If you need to support user Internet connectivity, you should plan to run the CMAK along with the IEAK Customization Wizard. If you are an ISP, you may take advantage of the wizard's support for branding as well as prepare custom connection profiles and Dial-Up Networking settings. If you are a corporate administrator, you may configure secure user connectivity through the Internet to your intranet using VPNs and PPTP.

▲ CHAPTER REVIEW QUESTIONS

Here are a few questions relating to the material covered in the Planning section of Microsoft's *Implementing and Supporting Microsoft Internet Explorer 5.0 by using the Internet Explorer Administration Kit* exam (70-080).

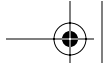
1. 1. Which of the following is not an IEAK feature designed to meet the needs of an ISP? Select only one:
 - A. Custom connection profiles
 - B. Single floppy diskette distribution media
 - C. VPN support
 - D. Automatic modem detection
2. It is assumed that the users of content developer's products will already have established Internet accounts, therefore the Customization Wizard's ICP mode cannot meet the needs of users who do not.
 - A. True
 - B. False
3. CA mode can be used to create custom installation packages on CD-ROMs, but not on a single floppy diskette.
 - A. True





- B. False
4. *If you do not want users involved in the installation process, you can direct CA mode to create custom packages that will install using a silent installation in which users may only monitor progress.*
 - A. True
 - B. False
 5. *The feature that permits administrators to manage the browser settings on corporate desktops after it is deployed is Automatic Install.*
 - A. True
 - B. False
 6. *Which of the following are settings that ISPs have control over in keeping with organizational rules and policies. Select all that apply:*
 - A. Providing a terms and conditions agreement at sign-up
 - B. The use of a sign-up server
 - C. The security levels associated with various sites
 - D. The specification of Home and Search pages
 7. *ICPs can establish settings that support their rules and policies in NetMeeting, but not in Outlook Express.*
 - A. True
 - B. False
 8. *Corporate administrators can use the IEAK to control user access to the Setup program and Windows Desktop Update, but not to Active Desktop.*
 - A. True
 - B. False
 9. *Administrators should “lock out” as many potentially problematic features as possible before deploying Internet Explorer.*
 - A. True
 - B. False
 10. *In order to enforce rules and restrictions across all browsers deployed in an organization globally, administrators must create and deploy a master configuration file.*
 - A. True
 - B. False

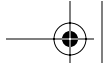




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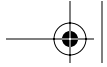
11. Which of the following components might an ISP wish to distribute to support the use of an on-line forum? Select only one:
 - A. FrontPage Express
 - B. Chat
 - C. Outlook Express
 - D. Media Player
12. Internet Explorer users are not allowed to log on to sites listed in the Restricted zone.
 - A. True
 - B. False
13. By default, general business sites are classed as part of the Internet zone.
 - A. True
 - B. False
14. When applying security to a site, you should make sure that any functionality that is restricted (such as the use of ActiveX Controls and Java) is truly justified because it will interfere with the use of content.
 - A. True
 - B. False
15. The highest level of trust is assigned to computers in the Local Intranet zone by default.
 - A. True
 - B. False
16. You can limit the amount of data that general business users are permitted to store off-line, thus limiting server load and hard disk space depletion.
 - A. True
 - B. False
17. Off-line viewing is less useful on computers whose users are rarely on-line, because cached content becomes outdated.
 - A. True
 - B. False
18. Off-line viewing is of particular use to mobile workers, giving them access to vital content when no Internet connection is available.
 - A. True
 - B. False





- 19.** Which of the following can be imported from Netscape Navigator to Internet Explorer 5? Select all that apply:
- A. Bookmarks
 - B. Proxy settings
 - C. Cookies
 - D. Plug-ins
- 20.** Which of the following can be imported from previous versions of Internet Explorer to Internet Explorer 5? Select all that apply:
- A. Favorites
 - B. Proxy settings
 - C. Cookies
 - D. Plug-ins
- 21.** Which of the following settings should be specified when setting up Outlook Express support for newsgroups? Select all that apply:
- A. Newsgroup certificate
 - B. NNTP server
 - C. Use of SPA
 - D. Useful newsgroups
- 22.** Outlook Express can be configured to use SMTP for sending and receiving e-mail messages.
- A. True
 - B. False
- 23.** Which of the following settings may be specified when setting up Outlook Express support for POP3? Select all that apply:
- A. POP3 server
 - B. Use of SPA
 - C. User certificate
 - D. Server path for message folders
- 24.** If you do not have a local mail host on your network, you may pre-configure Outlook Express to use Hotmail.
- A. True
 - B. False





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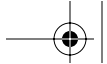
25. Which of the following settings may be specified when setting up Outlook Express support for IMAP? Select all that apply:
- A. IMAP server
 - B. Use of SPA
 - C. User certificate
 - D. Server path for message folder
26. Which of the following are Outlook Express view settings that can be enabled or disabled? Select all that apply:
- A. Folder bar
 - B. Tip of the Day
 - C. Animated icon
 - D. Status bar
27. Signatures can be customized with branding information, identifying your organization on outgoing e-mail messages.
- A. True
 - B. False
28. As a corporate administrator, you might find it useful to customize a rules file for Outlook Express users.
- A. True
 - B. False
29. You can create an HTML “welcome” message that will appear in Outlook Express’ InfoPane.
- A. True
 - B. False
30. Which of the following audio and video restrictions can be employed when deploying NetMeeting? Select all that apply:
- A. Disable audio support
 - B. Disable video when sending
 - C. Disable video when receiving
 - D. Disable Audio properties page
31. Which of the following protocol restrictions can be employed when deploying NetMeeting? Select all that apply:
- A. Disable TCP/IP
 - B. Disable NetBEUI





- C. Disable null modem
- D. Disable Protocol properties page
- 32. *Which of the following file sharing restrictions can be employed when deploying NetMeeting? Select all that apply:*
 - A. Disable sending files
 - B. Disable receiving files
 - C. Disable clipboard sharing
 - D. Disable windows sharing
- 33. *You cannot restrict NetMeeting users from accessing ILS directory servers.*
 - A. True
 - B. False
- 34. *Which of the following is an installation option that does not prompt users for action, but does inform them of installation progress? Select only one:*
 - A. Silent
 - B. Quiet
 - C. Hands-free
 - D. Interactive
- 35. *How many art files are required to add a custom Toolbar button to Internet Explorer? Select only one:*
 - A. One
 - B. Two
 - C. Six
 - D. Eight
- 36. *The IEAK provides tools that can help you create an animated Internet Express logo.*
 - A. True
 - B. False
- 37. *You may specify default URLs for which of the following Web pages? Select all that apply:*
 - A. Home
 - B. Search
 - C. Support
 - D. Welcome

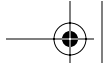




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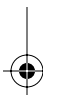
38. *Custom Favorites URLs can be added to both the Favorites menu and Links bar.*
- A. True
 - B. False
39. *You can create a software distribution Channel to support your users, but only if their computers have the capabilities of the Windows Desktop Update.*
- A. True
 - B. False
40. *You must create a Welcome page that will greet users when they first launch Internet Explorer.*
- A. True
 - B. False
41. *You may import Desktop Toolbar settings from your build computer.*
- A. True
 - B. False
42. *You can make the user agent string say whatever you want.*
- A. True
 - B. False
43. *Which of the following can be determined using Authenticode? Select all that apply:*
- A. Where software came from
 - B. Whether or not the software has been modified
 - C. Whether or not the software contains known viruses
 - D. Whether or not the software is safe for use
44. *Another name for the IOD feature is Automatic Configuration.*
- A. True
 - B. False
45. *If you wish to support the corporate use of PPTP, you must establish a VPN server before running the CMAK.*
- A. True
 - B. False





Developing CMAK Strategies **109**

46. *If you wish to support the use of Dial-Up Networking, you should first establish a phonebook before running the CMAK.*
- A. True
 - B. False
47. *If you wish to have ISPs who support RADIUS authenticate dial-up users against your network's domain controller, you will need to supply a realm name.*
- A. True
 - B. False
48. *Branding the Connection Manager interface, modifying Outlook Express settings, and providing a variety of installation packages based on user sophistication are customization options of most value to which of the following IEAK users? Select only one:*
- A. ICP
 - B. CA
 - C. ISP
49. *Enabling Automatic Configuration options makes the most sense in large corporate environments.*
- A. True
 - B. False
50. *When working with groups of users who have different needs, Profile Manager can be used to create different profiles for each group.*
- A. True
 - B. False
51. *When working with Automatic Configuration, you can either point browsers to an instruction file that contains the appropriate settings, or an ASP file that contains the appropriate settings.*
- A. True
 - B. False
52. *Which of the following are settings that you may choose to control using Profile Manager? Select all that apply:*
- A. Internet Settings
 - B. Web Desktop
 - C. Subscriptions
 - D. Components





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53. *The easy language-switching feature of Internet Explorer permits users to change the user interface after the browser is installed by simply downloading the necessary language pack.*
- A. True
 - B. False
54. *You can deploy a 32-bit version of Internet Explorer for users of Windows 2000, Windows 9x, Windows NT 4.0, and Windows 3.51.*
- A. True
 - B. False
55. *You are a corporate administrator charged with the task of deploying Internet Explorer within a business unit. Identify the technical needs of a kiosk-based site, a single-task-based site, and a general business desktop.*
56. *You are a corporate administrator charged with the task of deploying a kiosk-based site that adheres to your organization's rules and organizational policies. Describe how you might go about this.*

