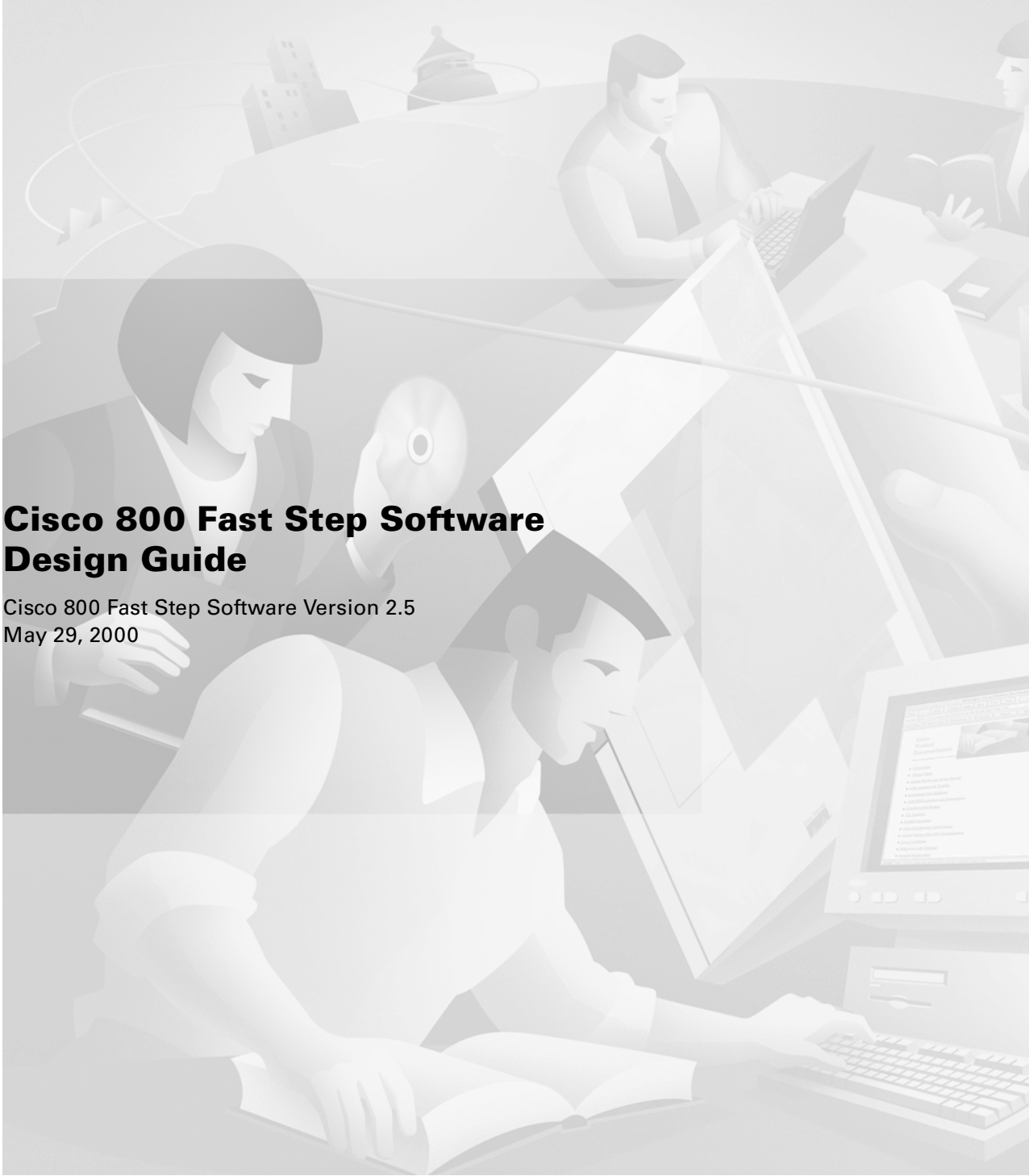

Cisco 800 Fast Step Software Design Guide

Cisco 800 Fast Step Software Version 2.5
May 29, 2000

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

Text Part Number: OL-10373

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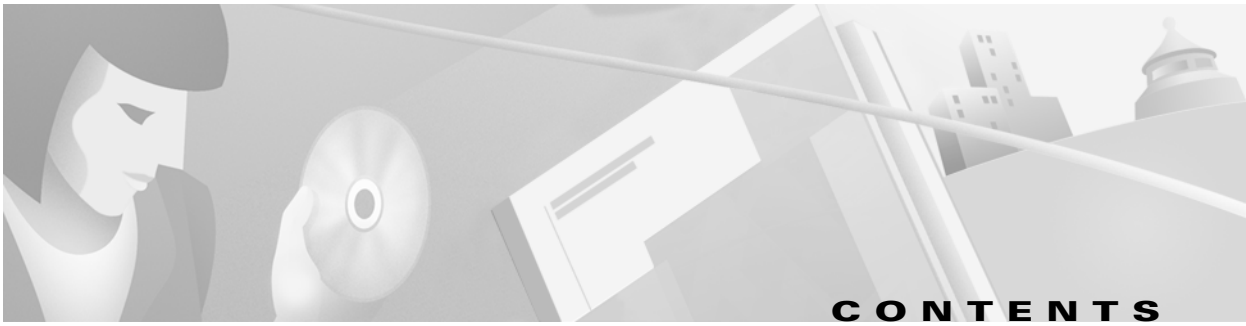


CONTENTS

Preface v

Document Organization v

Related Documentation vi

Cisco Documentation CD-ROM vi

Cisco Connection Online vi

CHAPTER 1 **Introduction to Design** 1-1

Configuration Files 1-1

CFG File Format 1-1

TPL File Format 1-2

Router Configuration Process 1-2

Wizard Configuration 1-2

Auto Configuration 1-2

High-Volume Deployment 1-3

Configuration File Discovery 1-3

Customizing the Cisco Fast Step Wizard 1-3

Configuration Scenarios 1-4

CHAPTER 2 **CFG File Development** 2-1

CFG File Modification 2-2

Force the Connection To Be Console or Ethernet 2-2

Skip To Tests 2-2

Skip All Tests 2-2

Skip a Window 2-3

Hide Central Router Name 2-4

Erase the Router Configuration 2-4

Advice of Charge 2-4

Cost Control Settings 2-5

Restrict the Data Channel 2-5

Restrict the Time of Day 2-5

NetBios Filters for LAN Traffic 2-6

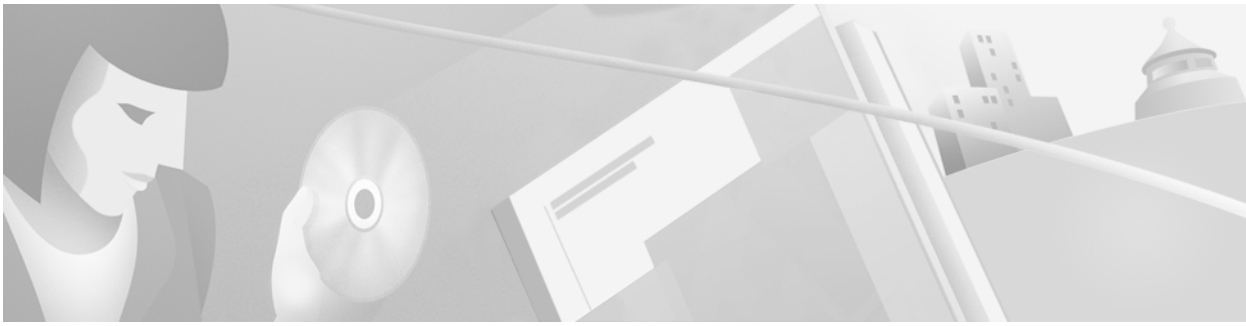
Success Window Support 2-6

Technical Support Window Support 2-6
Set Additional IOS Commands 2-7
LAN IP Addressing 2-8
Default Behavior 2-8
Customizing LAN Addressing 2-9
Automatic IP Stack Configuration 2-9
Set the PC Gateway Address as the Router LAN IP Address 2-9
Set the Router LAN IP Address as the PC Default Gateway 2-10
DHCP Relay Configuration 2-10
Force Static Addressing on the PC 2-11
CFG File Example 2-11

CHAPTER 3 **Template File Development** 3-1
TPL IP Stack Configuration Flags 3-2
IP Stack Configuration Flag Descriptions 3-2
TPL End-User Prompts 3-3
Example TPL File 3-3

CHAPTER 4 **Custom Software Installation** 4-1
Making a Custom Cisco 800 Fast Step CD-ROM 4-1
Customize the Wizard 4-1
Provide a Custom Configuration 4-2
Cisco 800 Fast Step Installation Directory Structure 4-2
Changing Bitmaps 4-3
Customizing On-Screen Help Messages 4-3
RTF Text Blocks 4-4
RTF Text Edits 4-4
Belle Systems Provisioning 4-5
Enabling Belle Systems Support 4-5
Web Site Support 4-6
Registration Web Site 4-6
Welcome Web Site 4-6
Service Provider Instructions to End Users 4-6
End-User Instructions for CFG Files 4-6
End-User Instructions for TPL Files 4-8

APPENDIX A Additional Flags and Parameters A-1



Preface

Cisco 800 Fast Step software simplifies the setup and monitoring of Cisco routers. It runs on Microsoft Windows 95, Windows 98, Windows 2000, and Windows NT 4.0 personal computer systems. The Cisco Fast Step software CD-ROM is included with the router. It is also available on Cisco Connection Online at http://www.cisco.com/pcgi-bin/tablebuild.pl/faststep.

The product consists of two applications:

- Setup, a wizard-based application that leads the end user step-by-step through the router configuration process, providing initial configuration, testing, and troubleshooting.
- Monitor, a graphical user interface for the router, providing on-going status reports, alarms, and troubleshooting.

This document provides instructions for customizing the Setup application. The Monitor application cannot be customized and is not discussed further in this document.

You, as a service provider, can develop Cisco 800 Fast Step configuration (CFG) and Cisco 800 Fast Step IOS template (TPL) files to control the behavior of the Cisco 800 Fast Step Setup application. In addition, you can build your own, custom, installation disk set or CD-ROM.

Document Organization

The major sections of this publication are as follows:

Chapter 1, “Introduction to Design,” describes the end-user processes and the CFG and TPL files.

Chapter 2, “CFG File Development,” describes the process and some of the features of CFG file development.

Chapter 3, “Template File Development,” describes the process and features of TPL file development.

Chapter 4, “Custom Software Installation,” describes features, such as the process for developing a custom installation disk or CD-ROM, Belle Systems support, and so forth.

Appendix A, “Additional Flags and Parameters,” describes CFG flags that are not documented in other chapters of this document.

Related Documentation

The following documents might help you to develop Cisco 800 Fast Step configurations:

- *Cisco 800 Fast Step Quick Reference Guide*
- *Release Notes for Cisco 800 Fast Step* (online only)
- *Cisco 800 Series Installation Guide*
- *Cisco 800 Series Software Configuration Guide*
- *Configuring Cisco IOS Software Features*
- *Release Notes for Cisco 800 Series Routers*

These documents can be found on the Cisco Documentation CD-ROM and Cisco Connection Online.

Cisco Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with most products. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at http://www.cisco.com, http://www-china.cisco.com, or http://www-europe.cisco.com.

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- Telnet: cco.cisco.com
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

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Introduction to Design

This chapter describes:

- How the CFG and TPL files are used by the end user.
- The basics of customizing the Cisco 800 Fast Step wizard.
- A description of the Cisco 800 Fast Step configuration scenarios.
- The CFG file format and organization.
- The TPL file format.

Configuration Files

The CFG and TPL files are both referred to as *configuration* files because they both have the same goal: configuration of the router. What distinguishes them is how they are developed and how the Setup application behaves when using one or the other.

Configuration files are ASCII text files that can be edited with a text editor such as Notepad. CFG files can be developed by a service provider without extensive knowledge of Cisco IOS software. TPL files are easily developed by a service provider with knowledge of Cisco IOS software.

The CFG files contain flags that form a configuration to be downloaded by Setup. These flags also show or hide Setup windows and allow testing of the configuration. The advantage of this file type is that a service provider can decide which Setup windows are displayed for the end user to complete and which windows are hidden. For example, if you want to limit the end user to Dynamic Host Configuration Protocol (DHCP), you can hide the window that asks the end users if they want to use DHCP, and you can set the DHCP parameters through the CFG file.

The TPL file uses command-line statements to build a router configuration. One advantage of this file type is that you can include end-user prompts for values; however, you cannot control the windows or test the connections. When the end user loads a template file, Setup displays prompts in a spreadsheet format for any parameters needed to complete the router configuration. The advantage of this file type is that you can use any Cisco IOS software command statement acceptable to the router.

CFG File Format

The format of the CFG files is similar to a Microsoft Windows INI file. The CFG file is divided into sections, delineated by titles in square brackets, for example [SkippedDialog]. When a CFG file is loaded into Setup, it reads not only the parameters, but the window control instructions, displaying the selected windows to the end user.

The settings that control the display of the windows and the router configuration parameters have the syntax Setting = value. The value can be either a text string such as router1 and can include spaces or a number where 0 equals false or disabled and 1 equals true or enabled. For example, setting SetNetbiosFilterOnISP equal to 1 places NetBIOS filters on the WAN interface, blocking NetBIOS traffic on the WAN side.

We recommend that you use CFG files when you want to use a Cisco 800 Fast Step Setup scenario but you want the connection tested and you want to reduce errors by limiting the end-user options.

TPL File Format

The format for a TPL file is similar to a list of command-line statements. When a TPL file is loaded into Setup, it builds a list of missing parameters and displays a list of prompts so that the user can complete the configuration. The TPL file begins with the statement, "! Cisco Fast Step Template," to distinguish it as a Cisco 800 Fast Step IOS template (TPL) file. Setup reads the first line in the file, and if it does not contain the statement, it is treated as a CFG file.

We recommend you use TPL files when you cannot use a Cisco 800 Fast Step Setup scenario.

Router Configuration Process

Setup leads the end user through a series of windows, building a configuration based on the choices and values entered by the user. If there are no CFG or TPL files associated with Setup, the user develops a router configuration by answering questions on a series of windows. This is called the wizard configuration.

If CFG or TPL files are available, the end user can configure the router by using a CFG or a TPL file that contains the majority of the router configuration parameters and complete the screens necessary to complete the configuration. The existence of those files and their design determines which windows are presented to the end user. This is called high-volume deployment (HVD).

Wizard Configuration

The wizard configuration method configures the router by directing the end user to enter the majority of the configuration parameters. This process might be chosen because the appropriate custom CFG and TPL files are not provided. Or the end user can choose to bypass the configuration files and answer a series of prompts to develop a configuration based on a popular scenario hard-coded into Cisco 800 Fast Step Setup. When the configuration is complete, the user has the option of testing the configuration.

You can force the user to use a custom scenario by modifying the autoload.CFG file. For additional information, see the "Configuration File Discovery" section.

Auto Configuration

From the time Setup is launched, you can control the behavior of the application by modifying the autoload.CFG file. The end user installs the applications, launches Setup, and is forced through the custom configuration process you provided. You can restrict the end users so that they cannot import a configuration file and only the windows you want them to see are displayed.

High-Volume Deployment

Cisco 800 Fast Step was developed to serve end users worldwide. High-volume deployment provides a service provider the ability to customize the application for a narrower group of end users, reducing the potential for error and the time required to configure a router.

Configuration File Discovery

Setup comes with a number of CFG files, or you can supply the end user with your own versions of the configuration files. You can create a custom version of Cisco 800 Fast Step that automatically includes the files when the end user installs the applications.

During the installation of Cisco 800 Fast Step software, the end users select their country from a list. This displays Cisco 800 Fast Step software in the correct language. Setup also looks in the ServiceProvider directory for a matching country subdirectory that contains at least one Cisco 800 Fast Step CFG or TPL file.

If the end-user selected country matches the directory, the end user is forced to the Service Selection window. The end user selects the CFG or TPL file and, depending on the file content, responds to prompts that complete the configuration. If the end user selected a CFG file, the connections are also tested.

If the country selected when the software was installed does not have a companion country directory or there are no CFG or TPL files in the directory, the end user can select a configuration file from another location or use the Setup wizard to build a configuration.

Customizing the Cisco Fast Step Wizard

You can customize Setup for the end user by using the following techniques:

- Develop a CFG file named autoload.CFG. Setup uses this file as the default configuration when Setup is launched.
- Develop a CFG or TPL file and include that file in the ServiceProvider directory. Setup discovers the file and automatically displays the windows that lead the end user to download the file.
- Develop a CFG or TPL file and provide it to the end user on a floppy disk or some other medium. Include instructions for the end user to browse the file into Setup, complete the configuration, and test the connections.

Configuration Scenarios

Cisco 800 Fast Step Setup provides a limited number of configuration scenarios that can be built using the Setup wizard or a CFG file and performs comprehensive testing for each scenario, as opposed to a Cisco 800 Fast Step IOS template (TPL), which can configure any scenario because Setup does not test TPL configurations. A summary of Setup's capabilities is shown in Table 1-1.

Table 1-1 Cisco 800 Fast Step 2.3 Support

Section	Support
WAN Support	T1/E1 leased line. Frame Relay PPP[1]. ISDN BRI[2] (supports PPP). Serial connections on Cisco 805 series router. Supports PPP, Frame Relay, and HDLC. POTS[3] on Cisco 802 and Cisco 804 series routers.
Connection Support	Two connections maximum. IP and IPX only. Dual connection to a corporate network (requires that RIP[4] is on at the central site).
Firewall Support	Always uses PAT[5] and NAT[6] for connection to the Internet. Allows publication of Web, mail, or FTP[7] servers on the Internet when the servers are on a single LAN.

1. Point-to-Point Protocol (PPP)
2. Basic Rate Interface (BRI)
3. basic telephone service (POTS)
4. Routing Information Protocol (RIP)
5. Port Address Translation (PAT)
6. Network Address Translation (NAT)
7. File Transfer Protocol (FTP)

CHAPTER 2

CFG File Development

This chapter describes how to develop a CFG file. The CFG file has the advantage of being able to control the windows displayed to the end user and to test the connections. The disadvantage is that you are limited to the scenarios supported by Cisco 800 Fast Step Setup.

The recommended procedure for developing CFG files is as follows:

Step 1 Use Setup to draft the configuration.

Step 2 Save the drafted CFG file by using the Save File As window.

Step 3 Open the CFG file in a text editor.

Step 4 Change the parameters to the custom configurations.

Step 5 Save the file as Cisco 800 Fast Step CFG file. (This option is offered after you have developed the configuration.)

You can distribute the file by placing the CFG file:

- In the country directory under the ServiceProvider directory and creating a custom Cisco 800 Fast Step software installation. (If the required country directory is not present, a directory with the countryname can be created and placed under the ServiceProvider directory. See Chapter 4, “Custom Software Installation,” for a list of country names.) The user is forced to the Select Service Provider window where the file is displayed. (Creating a custom installation distribution is described in the “Making a Custom Cisco 800 Fast Step CD-ROM” section of the “Custom Software Installation” chapter.)
- On a floppy disk for distribution, and instruct the end user to use Setup to select the file. The end user can use a standard Cisco 800 Fast Step software installation.
- On a file server for distribution, and instruct the end user to use Setup to download and select the file. The end user can use a standard Cisco 800 Fast Step software installation.
- In the installation directory, renamed as autoload.CFG. This file automatically loads when Setup is started.

The result is that end users cable their routers, run Setup, select the configuration file, and they are done.

CFG File Modification

This section describes some of the CFG file modifications that can be made to control the behavior of Setup and the configuration output to the router.

Force the Connection To Be Console or Ethernet

The default connection type between the PC and the router can be set to either Ethernet or the console cable. If the initial connection is set to be through the Ethernet and the connection fails, the user is prompted to establish a connection through the console cable. If the initial connection is set to be through the console cable and the connection fails, the user is prompted to retry the connection through the console cable. The flag syntax is as follows:

```
[PC to Router Connection]
ConnectionType=
```

If the flag value is set to 2, the connection type defaults to Ethernet.

If the flag value is set to 3, the connection type defaults to the console cable.

Skip To Tests

You can force the end user to skip all data-entry windows and go directly to the configuration test. If you have created a configuration that provides all the configuration parameters and you want the end user to only use Setup to test the connection, you can skip all screens and display the Test window. The flag syntax is as follows:

```
[Skipped Dialogs]
SkipToSetupandTest=
```

If the flag value is set to 0 or blank, the windows are displayed.

If the flag value is set to 1, Setup skips to the Test window.

Skip All Tests

You can skip testing and download the configuration to the router. This flag is often used when IOS commands that do not follow the predefined Cisco 800 Fast Step scenarios are included in the configuration. Although the configuration might be valid, it might fail testing because it is not based on a recognized Cisco 800 Fast Step scenario. If you skip testing, the configurations are assumed to be correct and are downloaded to the router. The flag syntax is as follows:

```
[Setup Type]
SetSkipTesting=
```

If the flag value is set to 0 or blank, the connections are tested.

If the flag value is set to 1, all the testing in Setup is skipped.

Skip a Window

You can prevent a window from displaying by modifying the flags in the [SkippedDialog] section of a CFG file. The flag names correspond to the windows in the Setup application. The following example skips the Review Settings screen:

```
[SkippedDialog]
ReviewSettings= 1
```

The flags used to skip windows are as follows:

```
[SkippedDialog]
SkipToSetupandTest=
ReviewSettings=
RemoteConnectionType=
TypeOfProtocolsServices=
RouterTypeDeviceSetupMethod=
CostControlSettings=
YourISDNPhoneNumbers=
ISDNSettings=
RemotePhoneNumbersISP=
RemotePhoneNumbersRCN=
PPPUsernameAndPasswordISP=
PPPUsernameAndPasswordRCN=
TestingInterfaceConnectionISP=
TestingInterfaceConnectionRCN=
IPAddressRangeGivenByYourISP=
WANIPAddressAndMaskISP=
WANIPAddressAndMaskRCN=
IPXWANAddressRCN=
NextConnection=
InternetServerConnection=
InternetServerTypeSelection=
InternetServersIPAddressesGivenbyISP=
LocalInternetServers=
LANTrafficControl=
LANIPAddressAndMaskForEthernet0=
IPXLANAddressAndFrameTypeForEthernet0=
DomainNameServerSettings=
WINSSettings=
StartRouterSetup=
SaveFileAs=
StartMonitoring=
DLCINumberISP=
DLCINumberRCN=
FrameRelayDLCINumberISP
FrameRelayDLCINumberRCN
PCToRouterConnection=
RestartToCompleteSetupInitial=
RestartToCompleteSetupFinal=
```

If the flag value is set to 0 or blank, the window is displayed.

If the flag value is set to 1, Setup skips the window.

Hide Central Router Name

Typically, when there is a single ISDN connection, it is not necessary to enter a central router name parameter. The prompt for this parameter can be hidden from the end user. The flag syntax is as follows:

```
[PPPSettings]
HideCentralRouternameISP=
HideCentralRouternameRCN=
```

If the flag value is set to 0 or blank, the central router name is hidden.

If the flag value is set to 1, the central router name is shown.

Note The flag ISP extension refers to Internet service provider (ISP). The flag RCN extension refers to remote corporate network (RCN).

Erase the Router Configuration

You can use this flag to force the router to reset to the factory default configuration. The flag syntax is as follows:

```
[Setup Type]
SetRouterToDefaultConfig=
```

If the flag value is set to 1, the router is write-erased and rebooted without prompting the end user.

If the flag value is set to 0 or blank, after a connection to the router is established, Setup prompts the user to append or erase the existing configuration.

Advice of Charge

Advice-Of-Charge (AOC) time-outs for the user connected to the NET3 switches is supported and controlled using the flags SetAOCTimeout, which determines AOC timeout in seconds, and AOCShortHoldTimeout, which determines the minimum idle time before the line is dropped. The default is 120 seconds.

The flag syntax is as follows:

```
[ISDNSettings]
IdleTimeoutISP=
IdleTimeoutRCN=
SetAOCTimeout=
AOCShortHoldTimeout=
```

If the IdleTimeoutISP flag is set to 1, the router disconnects from the dialer when there in no traffic to the ISP.

If the IdleTimeoutRCN flag is set to 1, the router disconnects from the dialer when there in no traffic to the remote corporate network.

If the value of the SetAOCTimeout flag is set to 1, the **dialer ISDN short-hold value *time*** command (where time is the number of seconds) is placed in the dialer map-class with a value equal to the AOCShortHoldTimeout flag.

If AOC is not supported on the network and the SetAOCTimeout flag is set to 1, timeout duration set by the IdleTimeoutISP flag or the IdleTimeoutRCN flag is applied.

If the value of the SetAOCTimeout flag is set to 0 or blank, Advice of Charge is not supported.

Cost Control Settings

The cost control features are modified by using the options in the Cost Control Settings window and by using flags in a CFG file. The end user can limit data transfers to one B channel instead of the default, two B channels. The user can also specify the time of day when the data connection can be established.

The flags in the CFG file that manage the cost-control features are described in this section.

Restrict the Data Channel

Restrict data transfers to one channel by disabling the multilink feature of Point-to-Point Protocol (PPP). The flag syntax is as follows:

```
[Cost Control Settings]
SetRestrictToOneDataChannel=0
```

If the flag value is set to 1, PPP multilink is disabled, and the data transfers through one B channel.

If the flag value is set to 0 or blank, PPP multilink is enabled, and data transfers through two B channels.

Restrict the Time of Day

Data transfers through the ISDN service can be restricted to specific times of the day and time duration. The flag syntax is as follows:

```
[Cost Control Settings]
SetRestrictTimeOfDayWhenDataCallsCanBeMade=0
SetStartTime=
SetEndTime=
```

If the flag value is set to 1, data transfer is allowed during the time of the day specified by the SetStartTime and the SetEndTime flags.

If the flag value is set to 0 or blank, the data connection is allowed at all the times of the day.

SetStartTime indicates the time the router begins allowing data through the connection. The parameter is indicated in 24-hour format.

SetEndTime indicates the time the router stops allowing data through the connection. The parameter is indicated in 24-hour format.

NetBios Filters for LAN Traffic

When using an ISP-only configuration to a single destination, with or without the firewall filters, the preferred configuration is to prevent NetBIOS traffic from needlessly bringing up the ISDN line. This prevents broadcast WAN and LAN messages from wasting money. The flag syntax is as follows:

```
[Remote Network Interface Settings]
SetNetBiosFilterOnISP

[Local LAN Ethernet0 Settings]
SetNetBiosFilterOnE0=
```

If a flag value is set to 1 (default), the NetBIOS filter is enabled. The IOS access-list commands added to the current dialer access list will be as follows:

```
access-list <<number>> deny udp any any eq netbios-ns
access-list <<number>> deny udp any any eq netbios-dgm
access-list <<number>> deny tcp any any eq 139
```

If a flag value is set to 0 or blank, the NetBIOS filter is disabled.

Success Window Support

The Success window appears when the Service Selection feature is enabled. This window provides the end user with the option to test the connections and to display technical support information.

The flag syntax and default parameters are as follows:

```
[Service Selection]
ISPSuccessText1= Your file has been successfully created.
ISPSuccessText2= Setup another router using Cisco Fast Step
ISPSuccessText3= Change the setup on this router by rerunning Cisco Fast Step Setup and
selecting the router named <<fill in name here>>
ISPSuccessText4= Setup routers for others using a Cisco Fast Step setup file (Press the
Help button for more information)
```

The Success window displays the text strings indicated by the ISPSuccessTextX flags, where X is line 1 through 4. (There is no on-screen help topic for this window.)

Technical Support Window Support

The technical support information displayed in the Technical Support window is customized by modifying the text string for the related flag. For example, the following entry displays a telephone number:

```
[TechSupportInfoDetail]
Title=
PhoneDescription1="ISP Technical Support"
Phone1=408.408.4081
```

The flag syntax is as follows:

```
[TechSupportInfoDetail]
Title=
PhoneDescription1=
PhoneDescription2=
PhoneDescription3=
PhoneDescription4=
Phone1=
Phone2=
Phone3=
Phone4=
EmailAddress=
ServiceProviderURL=
```

The Title flag is not the title of the Technical Support window in Monitor. The flag describes the assistance center whose e-mail address, phone numbers, and URL are given. By default this flag has the value CISCO Technical Assistance center.

PhoneDescriptionX flags provide telephone technical support contact information, where X is the line 1 through 4.

PhoneX flags provide telephone numbers, where X is the line 1 through 4.

EmailAddress flag provides e-mail technical support contact information.

ServiceProviderURL flag provides Web site technical support information.

Set Additional IOS Commands

You can include IOS commands to the router in the [Additional IOS Commands] section of the CFG file. You cannot enter show, debug, interactive commands, or any command that alters the LAN side IP or IPX addressing. The flag syntax is as follows:

```
[Additional IOS Commands]
cmd1=
```

Enter an IOS command as if you were typing it on a command line during a Telnet session and cmd*n*= is the prompt. Commands are sequenced by the cmd*n*= string, where the *n* is an integer number that determines the sequence of the commands, for example, cmd1=, cmd2=, and so forth.

The first command in the Additional IOS Commands section must be cmd1=configure terminal. Then list the remaining global configuration mode commands.

To enter commands for a specific interface (say the Ethernet0 interface), enter the command **cmd*n*=interface ethernet 0**.

For example:

```
[Additional IOS Commands]
cmd1=configure terminal
cmd2=access-list 30 permit any
cmd3=interface ethernet 0
cmd4=keepalive 100
cmd5=end
```

LAN IP Addressing

Setup configures the IP stack of the PC and the IP address of the router for the end user. You can modify the IP addressing parameters by using the CFG flags.

Default Behavior

It is assumed that the end-user PC used to configure the router is the same PC as the one that will be used to communicate over the WAN. Before running Cisco 800 Fast Step, the end-user PC can be in one of three states:

- Using dynamic host configuration protocol (DHCP) without a leased IP address
- Using DHCP with a leased IP address
- Statically addressed

If there is no IP stack in Windows 95, Setup asks Windows to install an IP stack. The new IP stack defaults to DHCP without a leased IP address.

Windows 98 and Windows 2000 use a modified algorithm that gives the PC a temporary, unique static address when no DHCP server is found. Setup assumes that no leased IP address exists and treats all operating systems the same.

The router requires the Ethernet interface to have an IP address to communicate with the PC over Telnet, yet it has only the factory-default configuration at this stage. This creates a state where neither the PC nor the router has an IP address. To overcome this, an algorithm temporarily assigns an address to the Ethernet interface. (The PC must have a functioning IP stack for the algorithm to work.)

A PC running Setup sends a DNS request to **new-router.cisco.com**, a request that the router is listening for. The router takes the originating IP address and uses the Address Resolution Protocol (ARP) to find a free address, either above or below the originating address.

Where there is no IP stack or no DHCP address, Setup assigns a temporary static address to the PC and later resets the PC to DHCP.

Unless you are using Windows 2000, changing the PC addressing requires that the PC be rebooted twice, once when Setup configures the PC IP stack and once after router setup and testing are complete. (If you are using Windows 2000, it is not necessary to reboot the PC.) If the PC has no IP stack, the LAN has never had an IP addressing scheme, so Setup imposes the most logical configuration:

- PC is set to a DHCP client.
- Router is set to a DHCP server and given a range of private address.
- IP addresses in the DHCP pool are hidden by using Port Address Translation (PAT).

Setup uses the same scheme for a PC that is set as a DHCP device with no IP address. We suggest that you use this scheme for the majority of installations.

If the PC has DHCP with a valid address, Setup assumes there is a DHCP server on the LAN, and the PC IP stack remains untouched. The router searches for a temporary IP address by using ARP, starting at the PC IP address. The IP stack remains untouched. Because the DHCP server is local, it could assign public IP addresses because the IP addressing scheme could be chosen at random. Setup uses (PAT) to hide the DHCP server IP addresses from the ISDN interface.

If the PC has a static IP address, it is assumed that the IP address of the PC is part of the intended network design. The router uses ARP to find a free, temporary IP address, starting at the first IP address that allows communication between the router and the PC. However, communication between the PC and the Internet or intranet only occurs if the default gateway of the PC is set to the IP address of the router Ethernet interface. Setup alters the PC's default gateway to match the router default gateway after setup and test.

Customizing LAN Addressing

Setup changes the IP stack settings on the PC to match the settings on the router, so you can test the connection from the PC to the Internet. It does this by checking:

- IP stack of the configuring PC for the IP address
- Default gateway

If necessary, it also changes the stack settings to the appropriate values.

You can override the way Setup changes the PC IP stack and router LAN IP settings by changing appropriate settings in the CFG file.

When delivering thousands of routers, the most scalable LAN addressing scheme should be chosen. We suggest using PAT with the PC as the client, the router as the server, and DHCP enabled.

Automatic IP Stack Configuration

You can change the behavior of Cisco Fast Step so that the PC IP stack is modified as determined by the program code. The flag syntax is as follows:

```
[PC Settings]
SetAutomaticChangeIPStackWhenNeededByFastStep=
```

If this flag is set to 1, the automatic IP stack configuration algorithm is used. The IP stack changes are made according to the algorithm described in the "Default Behavior" section.

If this flag is set to 0 or blank, IP stack configuration proceeds according to the other flags listed under the PC Settings heading. For example:

```
[PC Settings]
SetForceStaticAddressOnPCAlways=0
ForceStaticIPAddress=
ForceStaticIPMask=
UseRouterLANIPAsPCGateway=0
```

Set the PC Gateway Address as the Router LAN IP Address

Setup uses the default gateway of the PC to set the router LAN IP address to ensure that the PC can communicate with the router. The default gateway IP address of the router LAN is configured only when the PC is statically addressed. If the PC is configured as a DHCP client (valid or invalid), this flag is ignored.

If the default gateway IP address is on the same subnet as the PC, the LAN IP address of the router takes the value of the default gateway of the PC.

If the default gateway is not on the same subnet as the PC and the router LAN IP address is on the same subnet as the PC, the default gateway takes the value of the router LAN IP address.

If the default gateway is not on the same subnet as the PC and the router LAN IP address is not on the same subnet as the PC, the default gateway of the PC is not modified, and the router is configured with the IP address entered by the end-user.

The flag is automatically enabled when Setup connects the PC to the router by using a Telnet session. If the PC is connected to the router by using the console cable, this flag is implemented only if the SetAutomaticChangeIPStackWhenNeededByFastSTep flag is set to 0 and the SetChangeIPStackOnConsole flag is set to 1.

The flag syntax is as follows:

```
[PC Settings]
UsePCGatewayAsRouterLANIP=
```

If this flag is set to 0 or blank, the PC gateway address is not set to the router LAN IP address.

If this flag is set to 1, the PC gateway address is set to the router LAN IP address.

Set the Router LAN IP Address as the PC Default Gateway

This flag sets the router LAN IP address to the PC default gateway address, so the PC can communicate with the router. If the router LAN IP address is not on the same subnet as the PC, this flag is ignored, and nothing is changed.

If the flag UsePCGatewayAsRouterLANIP is set to 1 and the UseRouterLANIPAsPCGateway flag is set to 1, the UsePCGatewayAsRouterLANIP flag is given the preference, and the UseRouterLANIPAsPCGateway flag is ignored.

For a Telnet connection, if the DHCP server is not enabled on the router and this flag is set to1, Setup checks the PC default gateway IP Address and the router LAN IP address. If they are different, Setup sets the PC gateway with the router LAN IP address.

For a console cable connection, Setup checks the SetChangeIPStackOnConsole flag. If it is set to 1 and the UseRouterLANIPAsPCGateway flag is set to 1, Setup sets the router LAN IP address as the PC default gateway. If DHCP server is enabled on the router, this flag is not used.

The flag syntax is as follows:

```
[PC Settings]
UseRouterLANIPAsPCGateway=
```

If this flag is set to 0 or blank, the router LAN IP address is not set to the PC gateway address.

If this flag is set to 1, the router LAN IP address is set to the PC gateway address.

DHCP Relay Configuration

Setup can configure the DHCP relay on the router. This can only be configured by using the CFG file; the user is not prompted for this information, and it cannot be configured through a TPL file.

The SetDHCPRelay flag turns DHCP relay on, and the RemoteDHCPServerAddress flag sets the IP address of the DHCP server. The command-line syntax is as follows:

```
RemoteDHCPServerAddress
```

We recommend that you force the PC to be a DHCP client and not to show the LAN IP addressing dialogs. The flag syntax is as follows:

```
[DHCP Relay Settings]
SetDHCPRelay=
RemoteDHCPServerAddress=
```

If the value of SetDHCPRelay the flag is set to 0 or blank, the end-user PC is configured as a DHCP client, but with the DHCP server present across the WAN. The remote DHCP server is indicated in the RemoteDHCPServerAddress flag. (This is the typical Cisco telecommuter setup.)

If the SetDHCPRelay flag value is set to 1, the flags are ignored.

Force Static Addressing on the PC

You can force static addressing on the PC. For this feature to be active, the SetAutomaticChangeIPStackWhenNeededByFastStep flag should be set to 0.

```
[PC Settings]
SetForceStaticAddressOnPCAlways=
ForceStaticIPAddress=
ForceStaticIPMask=
```

For a Telnet connection, if the SetForceStaticAddressOnPCAlways flag is set to 1, Setup sets the PC with the IP address and subnet mask as indicated in the ForceStaticIPAddress and ForceStaticIPMask flags. Setup sets the PC default gateway IP address by using the router LAN IP address.

For a console-cable connection, Setup verifies that the SetChangeIPStackOnConsole flag is set to 1 and if it is, sets the static address on PC. Otherwise, Setup does not change the stack.

If the SetForceStaticAddressOnPCAlways and SetRouterAsDHCPServerOnE0 flags are both set to 1, the SetForceStaticAddressOnPCAlways flag is ignored, and the SetRouterAsDHCPServerOnE0 flag is given preference.

CFG File Example

The following is an example of a CFG file that configures a Cisco 804 router:

```
[PC to Router Connection]
ConnectionType=2

[DHCP Server in Router]
SetRouterAsDHCPServerOnE0=0

[DHCP Relay Settings]
SetDHCPRelay=0
RemoteDHCPServerAddress=

[PC Settings]
UsePCGatewayAsRouterLANIP=0
SetAutomaticChangeIPStackWhenNeededByFastStep=1
SetChangeIPStackOnConsole=0
SetForceStaticAddressOnPCAlways=0
ForceStaticIPAddress=
ForceStaticIPMask=
UseRouterLANIPAsPCGateway=0
SetAdjustPCStackSettings=1
```

```
[Belle Systems]
SetBelleSystemSupport=0
RebootCount=-1
ISPSetupURL=http://www.cisco.com/go/faststep
ISPLocalURL=http://www.cisco.com
UniqueID=4

[Service Selection]
ShowTestConnectionButton=1
ShowTechSupportInfoButton=1
ISPSuccessText1=
ISPSuccessText2=
ISPSuccessText3=
ISPSuccessText4=
UniqueID=5

[Local LAN Ethernet0 Settings]
SetNetBiosFilterOnE0=0
LANIPAddressE0=192.135.243.111
LANIPSubnetMaskE0=255.255.255.0

[Router Security]
RouterName=Router804
ReadonlyPassword=Password
EnablePassword=SuperSecret

[Setup Type]
SetRouterToDefaultConfig=1
SetSkipTesting=0
SetRunMonitorNow=0

[ISDN Settings]
EnableAOCTimeout=0
AOCShortHoldTimeOut=120
SwitchType=5
SwitchSpeed=3
SPID1=
SPID2=
IdleTimeoutISP=300
LoadThresholdISP=10
HoldQueueISP=10

[Remote Phone]
RemotePhoneNumberISP1=9506000
RemotePhoneNumberISP2=

[PPP Settings]
HideCentralRouternameISP=0
UserNameISP=remote
PasswordISP=lab
CentralRouterISP=

[NAT Settings]
HidePAT=0
HideAddressRange=0
HideNetworkAddress=0

[Remote Network Interface Settings]
SetNetBiosFilterOnISP=0
WANIPAddressISP=0.0.0.0
WANIPSubnetMaskISP=255.255.255.0
AutomaticWANIPAddressDiscoverISP=6
```

```
[Skipped Dialogs]
SkipToSetupandTest=0
PCToRouterConnection=0
ReviewSettings=0
SaveFileAs=0
StartMonitoring=0
TestingInterfaceConnectionISP=0
RemoteConnectionType=0
ISDNSettings=0
RemotePhoneNumbersISP=0
PPPUserNameAndPasswordISP=0
WANIPAddressAndMaskISP=0
NextConnection=0
LanIPAddressAndMaskForEthernet0=0
UniqueID=6

[TechSupportInfoDetail]
Title=
PhoneDescription1=
PhoneDescription2=
PhoneDescription3=
PhoneDescription4=
Phone1=
Phone2=
Phone3=
Phone4=
EmailAddress=
ServiceProviderURL=

[Additional IOS Commands]
cmd1=

;*******************************************************************************
;The flags below this line are private to Cisco Fast Step. Please do not modify them.
;*******************************************************************************
```

CHAPTER 3

Template File Development

The advantage of a Cisco 800 Fast Step IOS template (TPL) file is the ability to use Setup to load a configuration scenario not supported by the Cisco 800 Fast Step wizard or CFG files. If you want the end user to connect a Cisco 800 series router to an ISP by using ISDN, you can use a CFG file. However, if you want the end user to use Setup to connect to the corporate network by using X.25, a WAN protocol not supported by Setup, you can use a Cisco 800 Fast Step IOS template (TPL) file.

Note In Cisco Fast Step version 2.4, Cisco 827 routers can be configured only by using the TPL files. The routers are not supported by the wizard mode or CFG files.

For example, you could develop a TPL file that prompts the end user for the IP address. Your procedure is as follows:

Step 1 Use Setup to draft the configuration.

Step 2 Save the file by using the Save File As window, selecting the **Cisco IOS Format** option. (This window displays as part of the sequence for developing a configuration.)

Step 3 Open the TPL file in a text editor.

Note The format required in the first line in the Cisco 800 Fast Step IOS template (TPL) file is "! Cisco Fast Step Template." This allows Setup to verify that the file is a Cisco 800 Fast Step IOS template (TPL) file. The line is entered automatically when you save the file. Do not delete or modify this line.

Step 4 Change the data to be entered to an end-user prompt as described in the "TPL End-User Prompts" section.

Step 5 Add IP stack configuration flags as needed to your template file. This process is described in the "TPL IP Stack Configuration Flags" section.

Step 6 Place the TPL files in the appropriate location as described in the "Making a Custom Cisco 800 Fast Step CD-ROM" section in the "Custom Software Installation" chapter.

Step 7 Ship Cisco 800 Fast Step software, including the TPL files to the end users with instructions. The instructions should direct the end user to run Setup, choose the appropriate TPL file, and enter the IP address at the prompt.

TPL IP Stack Configuration Flags

Cisco 800 Fast Step version 2.4 and higher supports IP stack configuration flags. The flags are as follows:

```
! SetForceStaticAddressOnPCAlways=0
! ForceStaticIPAddress=
! ForceStaticIPMask=
! SetForceDHCPClinetOnPCAlways=0
```

The identifier must be present in the header of the TPL file. For example:

```
! Cisco Fast Step Template
!
! SetForceStaticAddressOnPCAlways=0
! ForceStaticIPAddress=
! ForceStaticIPMask=
! SetForceDHCPClientOnPCAlways=0
```

IP Stack Configuration Flag Descriptions

The flags and their functions are as described in this section.

```
! SetForceStaticAddressOnPCAlways=
```

If this flag value is set to 1, the PC is set to a static IP address and mask according to the values given in the flags ForceStaticIPAddress and ForceStaticIPMask. The PC is set to these static addresses before trying to connect to the router.

If this flag value is set to 0, the IP address of the PC on which Cisco 800 Fast Step is running remains unchanged.

```
! ForceStaticIPAddress=
```

This flag value indicates the IP address that is set on the PC before Cisco 800 Fast Step tries to connect to the router. The value is considered only when the SetForceStaticAddressOnPCAlways flag value is set to 1.

```
! ForceStaticIPMask=
```

This flag value indicates the IP mask that is set on the PC before the Cisco 800 Fast Step tries to connect to the router. The value is considered only when the SetForceStaticAddressOnPCAlways flag is set to 1.

```
! SetForceDHCPClientOnPCAlways=0
```

If this flag value is set to 1, the PC is set as a DHCP client by Cisco 800 Fast Step after the router has been configured.

If this flag value is set to 0, the PC IP stack is untouched.

TPL End-User Prompts

The TPL file begins with the statement, "! Cisco Fast Step Template" to distinguish it as a Cisco 800 Fast Step IOS template (TPL) file. The variables used to prompt the end user follow, placed in the sequence that you want the prompts to appear. Additional configuration parameters are also listed and use the same syntax the end user would use if the end user were entering the commands at a command-line prompt. Any text that is not a variable or a recognized command is ignored.

A variable must be enclosed in < > (less-than and greater-than characters) to be differentiated from the rest of the template. The syntax for the variable is as follows:

```
<variablename, "prompt", variabletype, "groupprompt">
```

for example:

```
enable password <ENABLE_PASSWORD, "Enter the Enable Password", String, "Passwords">
```

The text outside of the <> characters is considered a comment and is therefore ignored. The variable fields are described in Table 3-1.

Table 3-1 Cisco Fast Step IOS Template Fields

Field	Description
Variable Name	Name used to refer to variable on subsequent uses. Can be up to 50 characters. Use upper-case characters to differentiate variable names from the IOS commands. The < or > (less-than and greater-than characters) cannot be used.
Prompt	Prompt displayed when the Cisco 800 Fast Step IOS template (TPL) is run in Cisco 800 Fast Step. Must be enclosed in " (quotes) if the prompt contains spaces. Keep the string short to avoid scrolling the prompt.
Variable Type	Type of entry field. *String* allows any character string to be entered. *IPAddress* prompts for a dotted-decimal IP address. *IPXAddress* prompts for a hexadecimal IPX address.
Group Prompt	Header used to bundle a group of prompts. Must be enclosed in " (quotes) if the prompt contains spaces. Keep the string short to avoid scrolling the prompt.

Example TPL File

This example uses a TPL file to configure a large number of ISDN routers differing only by IP address and user name. The Cisco 800 Fast Step IOS template (TPL) prompts the end user for a user name and Ethernet IP address. In this case, the template is placed on a server where you maintain the template, changing the command-line parameters to match network changes. The end user simply downloads the template, loads it into Setup, and responds to the prompts.

```
! Cisco Fast Step Template
!
no service pad
service timestamp debug uptime
service timestamp log uptime
service password-encryption
service linenumber
```

```
!
hostname testhost
clock timezone GMT 0
!
enable secret secret
enable password password
!
username <USERNAME, "Username of ISDN Router", String, "Username">-isdn password x123abcd
isdn switch-type basic-net3
isdn tei-neg first
!
interface Ethernet0
ip address <E0_IP, "IP Address for Ethernet", IPAddress, "IP Addresses">
ip helper-address 144.254.44.12
!
interface BRI 0
ip unnumbered e0
encapsulation ppp
bandwidth 128
dialer idle-timeout 90
dialer wait-for-carrier-time 100
dialer map ip 171.68.125.229 name <USERNAME>-isdn 01818319036
!
dialer hold-queue 20
dialer load-threshold 80
dialer-group 1
ppp authentication chap
ppp multilink
!
ip route 0.0.0.0 0.0.0.0 171.68.125.229
access-list 101 deny tcp any any eq 123
access-list 101 deny udp any any eq ntp
access-list 101 deny udp any any eq 20
access-list 101 deny igmp any any
access-list 101 permit ip any any

dialer-list 1 list 101
!
line con 0
exec-timeout 0 0
password xxx123
login
line vty 0 4
password xxx123
login
!
end
```

Once entered, the values of the variables can be reused. For example:

```
username <USERNAME, "Username of ISDN Router", String, "Username">-isdn password x123abcd
...
dialer map ip 171.68.125.229 name <USERNAME>-isdn 01818319036
```

Custom Software Installation

This chapter describes the mechanics of creating a custom Cisco 800 Fast Step CD-ROM, modifying the application window help files, changing the splash screen bitmaps, and providing Belle System support.

Making a Custom Cisco 800 Fast Step CD-ROM

You can customize the wizard so that the end user builds the configuration you want, or you can provide a custom configuration file, placed in a country directory from which the end user can select the file.

The Cisco 800 Fast Step CD-ROM contains Cisco 800 Fast Step software. The Installshield installation wizard displays the default language of the Windows operating system. The first screen of the installation application asks the user which language to use for installation, and the corresponding language for Cisco 800 Fast Step is installed.

Customize the Wizard

When it is launched, the Setup wizard looks for the autoload.CFG file and display screens and builds a configuration based on the parameters the file allows. One advantage of this method is that you can reduce the number of options available to the end user, yet allow the end user to configure the router by using the wizard.

To build a CD with a customized wizard:

Step 1 Make a directory on your hard drive, and copy the contents of the Cisco 800 Fast Step CD into the directory. (Maintain the same directory structure.)

Step 2 Draft a Cisco 800 Fast Step *filename*.CFG file as described in the “CFG File Development” chapter. (TPL files do not work.)

Step 3 Rename the *filename*.CFG file autoload.CFG.

Step 4 Copy the autoload.CFG file to the root directory.

Step 5 Burn a new CD-ROM by using the files on your hard disk.

This new installation automatically starts with the settings you created. When the CD is placed into the drive, Windows looks in the autorun.inf file to determine which language to run.

Provide a Custom Configuration

You can provide the user with a selection of configuration files. When Cisco Fast Step starts, it verifies that the country of installation, as indicated by the country.DAT file, is present as a directory below the ServiceProvider directory. In addition, a configuration file must be present under the country name directory. Thus, it is only when the country is present as a directory in the ServiceProvider directory (below the Cisco 800 Fast Step installation directory) and it contains at least one configuration file that the Service Provider Selection feature is enabled.

You can develop multiple ISP configuration files. For example, you could develop four configuration files named ISPBOB.CFG, ISPCAROL.CFG, ISPTED.CFG, and ISPALICE.CFG.

Your procedure for this example is as follows:

Step 1 Use Setup to draft the base configuration.

Step 2 Save the generic CFG file by using the Save File As window.

Step 3 Open the CFG file in a text editor.

Step 4 Change the parameters to the custom configurations.

Step 5 Save the first file as ISPBOB.CFG, and repeat the process for the other files.

Step 6 Place the CFG files in the ServiceProvider*countryname* directory.

Step 7 Burn a new CD-ROM by using the files on your hard disk.

The result is that end users cable their routers, run Setup, select the ISP file, and they are done.

Cisco 800 Fast Step Installation Directory Structure

The file and directory structure is the same for each language:

- The default configuration stored in the Fast Step.CFG file in the root directory.
- The *ISPname*.CFG files in the country directories, under the ServiceProvider directory, under the root directory.
- The on-screen help stored in the 1600ALL_RTF.RTF file in the setupdir\languageID directory. The LanguageID values are
  - 0006 - Danish
  - 0007 - German
  - 0009 - English
  - 0010 - Italian
  - 0011 - Japanese
  - 0014 - Norwegian
  - 001d - Swedish
  - 040c - French (Standard)
- The install bitmap stored in the setup.bmp file in the root directory.
- Local HTML files or other software you want provided is in the Third Party Software directory.

The installation program copies the files and subdirectories from the Third Party Software directory on the installation CD-ROM into the Third Party Software directory on the installation hard drive, below the Cisco 800 Fast Step installation directory. You can add any third-party software to the installation by placing the desired files in the Third Party Software directory of the CD-ROM.

Changing Bitmaps

The install bitmap is the first graphic the user sees when the applications are launched. It is named setup.bmp and is always in the disk1 directory. You can edit it, for example to add your own logo, by using any application that manipulates BMP files. You must keep the same filename and the same 256-color Windows bitmap format. If you want Cisco 800 Fast Step to fit onto floppy disks, the graphic must be the same size or smaller than the original.

Cisco insists that you keep the following:

- The copyright notice, though you can add your own copyright information, to protect Cisco from people illegally using our software.
- The version number, though you can add your own version information, to aid our technical support staff.
- The Cisco Systems logo in the same color and size and the original, though you can add your own logo, to show that the software originates from Cisco.
- The Cisco 800 Fast Step lettering logo **Cisco 800 Fast Step™** to show that the product being used to install the router is the Cisco 800 Fast Step application and to avoid confusing the users when they see "Cisco 800 Fast Step Installation" on the next window.

Cisco recommends that you keep the following:

- The Cisco 800 Fast Step pictorial logo, the graphic of a man looking at a laptop with a pencil in his hand.
- The same size (450 pixels wide by 340 pixels high). If you increase the size, we strongly recommend you do not exceed 640 by 480 pixels unless you want to eliminate support for standard VGA machines.

Customizing On-Screen Help Messages

When Cisco 800 Fast Step software is launched, it reloads the on-screen message help before showing the user the first (Welcome) window. You can change the help messages to suit your needs. Three types of help messages are used in Setup:

- Yellow tool tips pop up when the cursor hovers over a field, providing hints regarding the function of that object.
- The text in the blue box at the bottom right of every window is called on-screen help and provides brief documentation for each window and help text for each field in the window. If this box is used to display an error message, the background changes from blue to yellow.
- The Windows Help system displayed by clicking the Help button or pressing F1. It provides detailed information regarding Cisco 800 Fast Step applications. The Windows Help system cannot be edited.

It is possible to localize Cisco 800 Fast Step into a language not currently available; however, this does require programming knowledge and some assistance from Cisco Systems. Please e-mail the following alias for more details: cs-faststep@cisco.com

RTF Text Blocks

The error messages, tool tips, and on-screen help are controlled by using an RTF file. (The Monitor does not control tool tips, on-screen help, or error messages using editable RTF files.) The file is named 1600All_RTF.RTF.

The tool tips, on-screen help text, and error messages are delimited into text blocks. The following are examples of on-screen blocks of help text:

```
RTFID_2210
Connection Type Window
Allows Setup to change the network settings on your PC to match the setting on the
router.
Select Use the network to automatically change the settings.
Select Console Cable to keep your current settings and manually change them if necessary.

RTFID_2211
Use the Network
Select Use the network to automatically change the network settings on your PC to allow
the router to communicate with the PC through the LAN.
```

The help text-block format is as follows:

- The text RTFID_*number*, which identifies the help message to the program. Do not change the text or font; otherwise, Cisco 800 Fast Step software cannot identify the message and displays a blank window.
- The title, which is the first line of text, is bolded for emphasis. You can change the content of this line.
- The text for the window, field, or error message. You can change this content.
- An empty paragraph that separates one help message from the next.

The tool tips and error messages are spread throughout the file and are identified by the syntax of the message. Help text associated with the windows are identified by the window name and typically end with the word “window” (or equivalent in the localized versions). The help text for each supported field within a window immediately follows the help text for the window in which the field appears.

RTF Text Edits

The help messages filename is 1600All_RTF.RTF, and you can edit the RTF file with Microsoft Word, a word processing application, or WordPad, a utility that comes with Microsoft Windows. Both applications edit the file as a native format.

You can use any character or formatting that Microsoft Word or WordPad support, including non-English characters and font changes. The default font and size is Ariel 9-point.

Note Microsoft Word 97 (with or without Service Pack 1) does not save RTF files in a backward-compatible format. If you edit the files by using Microsoft Word 97, you must reload the file into WordPad and save it before Cisco 800 Fast Step can read it.

Belle Systems Provisioning

The Belle System provisioning system allows a large number of routers to be installed by the users and managed by Belle Systems software from the central site, as follows:

1. Setup configures the PC as a DHCP client, the router as a DHCP server with PAT, and uses IPCP to find the WAN address. This enables the router to connect to the registration server but nowhere else.
2. Setup completes the configuration process and runs an installed Web browser that points to a local HTML page or the Belle System remote registration page.
3. The users enter their Personal Identification Number (PIN) code, personal information, and, if the router supports basic telephone service (POTS), the phone numbers of the attached telephone or fax.
4. The registration server validates the PIN code and personal information, checks the Cisco IOS software version (and, if necessary, downloads a new version), and the router configuration.
5. The router is rebooted. Changing the router configuration might change the dynamic host configuration protocol (DHCP) pool addresses of the router, so the PC also must be rebooted to get new IP addresses from the router. The final page of the registration server information tells the user to reboot the PC.
6. Setup waits for a PC reboot, and, when it is successful, runs the Web browser, pointing to a local HTML file placed in the Third Party Software directory or a URL that points to the registration completion page. The remote page performs some background processing and logs the registration information into the Belle Systems provisioning system.

For this entire process to be executed from a CD-ROM that includes the Cisco 800 Fast Step software, configuration, and Web pages requires that you do the following:

- Copy the directory structure of the Cisco 800 Fast Step CD to the hard drive where you are staging the CD-ROM image.
- Replace the autoload.CFG file in the disk1 directory with your customized version that uses the same filename.
- Place the local HTML pages into the Third Party Software directory. The Cisco 800 Fast Step installation program automatically copies the contents of the source directory to the Third Party Software directory on the hard disk, below the installation directory, normally c:\program files\cisco systems\Fast Step ISDN\Third Party Software.

Cisco does not ask any license fees for making copies of Cisco 800 Fast Step, provided the standard Cisco Systems licensing agreements are abided by.

Enabling Belle Systems Support

Belle System support loads the configuration from a remote server. The flag syntax is as follows:

```
[Belle Systems]
SetBelleSystemSupport=
```

If the flag value is set to 0 or blank, Belle Systems support is disabled.

If the flag value is set to 1, Belle Systems support is enabled.

Web Site Support

The Cisco Fast Step_Reset.exe program launches a Web browser and points to the Registration and Welcome Web sites of the service provider.

Registration Web Site

The registration Web site launches a local Web page. The path is relative to the Cisco 800 Fast Step installation directory. A Web browser must be installed, and it is automatically launched as a separate program. The following is an example of the flag in the CFG file:

```
[Belle Systems]
ISPSetupURL=http://test.cisco.com
```

Welcome Web Site

The Welcome Web site displays after the router has been registered and configured through Belle Systems IMS+. The path is relative to the Cisco 800 Fast Step installation directory. A Web browser must be installed, and it is automatically launched as a separate program. The following is an example of the flag in the CFG file:

```
[Belle Systems]
ISPLocalURL=http://www.cisco.com
```

Service Provider Instructions to End Users

The procedures in this section describe loading a CFG file and a TPL file for the end user. Although it is likely that you will modify these instructions for individual use, they provide a starting point.

End-User Instructions for CFG Files

Complete the following procedure to load a router configuration by using a Cisco 800 Fast Step CFG file:

Step 1 Cable the router as described in the *Cisco 800 Fast Step Quick Reference Guide*.

Step 2 Locate the instruction sheet that lists the parameters you will need to configure the router.

Step 3 Install Cisco 800 Fast Step software on a PC attached to the router by a configuration cable or connected to the same Ethernet LAN.

Step 4 Launch Cisco 800 Fast Step Setup. The Welcome window displays.

Step 5 Click **Next**. The Service Selection window displays.

Step 6 Verify that your country is shown in the Country field. If your country is *not* shown in the field, do one of the following:

- Click the down arrow by the Country field to display a list of supported countries, and select your country from the list.
- If your country is not present, go to Windows Explorer, and add your country name as a folder under the ServiceProvider directory with the exact name shown in Table 4-1.

Table 4-1 Country List

Albania	Algeria	Argentina	Australia
Austria	Bahrain	Belarus	Belgium
Belize	Bolivia	Brazil	Brunei Darussalam
Bulgaria	Canada	Caribbean	Chile
Colombia	Costa Rica	Croatia	Czech Republic
Denmark	Dominican Republic	Ecuador	Egypt
El Salvador	Estonia	Faroe Islands	Finland
France	Germany	Greece	Guatemala
Honduras	Hong Kong	Hungary	Iceland
India	Indonesia	Iran	Iraq
Ireland	Islamic Republic of Pakistan	Israel	Italy
Jamaica	Japan	Jordan	Kenya
Kuwait	Latvia	Lebanon	Libya
Liechtenstein	Lithuania	Luxembourg	Macau
Malaysia	Mexico	Morocco	Netherlands
New Zealand	Nicaragua	Norway	Oman
Panama	Paraguay	People's Republic of China	Peru
Poland	Portugal	Principality of Monaco	Puerto Rico
Qatar	Republic of Macedonia	Republic of the Philippines	Romania
Russia	Saudi Arabia	Serbia	Singapore
Slovak Republic	Slovenia	South Africa	South Korea
Spain	Sweden	Switzerland	Syria
Taiwan Region	Thailand	Trinidad y Tobago	Tunisia
Turkey	U.A.E.	Ukraine	United Kingdom
United States	Uruguay	Venezuela	Viet Nam
Yemen	Zimbabwe		

- Add your service provider CFG and TPL files to the new country folder. They will automatically display in Service Selection window under the specified country.
- Refresh the Service Selection window by moving back to the Welcome window and clicking **Next** to display the Service Selection window.

Step 7 Verify that the configuration file is shown in the Service Provider list. If the file is *not* shown in the field, do one of the following:

- Click **Update or Add Service File** to load a configuration file from another drive or directory. Follow the on-screen instructions to select the file, and continue with Step 8 in this procedure.
- Select **Connect to an unlisted service provider or corporate network**, and click **Next** to use the wizard to build the router configuration. Follow the on-screen instructions to complete the configuration.

Step 8 Click **Next** to continue, and follow the on-screen instructions to complete the configuration.

End-User Instructions for TPL Files

Complete the following procedure to load a router configuration before using a Cisco 800 Fast Step IOS template (TPL) file:

Step 1 Cable the router as described in the *Cisco 800 Fast Step Quick Reference Guide*.

Step 2 Locate the instruction sheet that lists the parameters you will need to configure the router.

Step 3 Install Cisco 800 Fast Step software on a PC attached to the router by a configuration cable or connected to the same Ethernet LAN.

Step 4 Launch Cisco 800 Fast Step Setup. The Welcome window displays.

Step 5 Click **Next**. The Service Selection window displays.

Step 6 Verify that your country is shown in the Country field. If your country is not shown in the field:

- Go to Windows Explorer, and add your country name as a folder under the ServiceProvider directory. The country names are listed in Table 4-1.
- Add your service provider CFG and TPL files to the new country folder. They will automatically display in Service Selection window under the specified country.
- Refresh the Service Selection window by moving back to the Welcome window, and click **Next** to display the Service Selection window.

Step 7 Verify that the TPL file is shown in the **Service Provider** list. If the file is not shown in the field:

- Click **Update or Add Service File** to load a TPL file from another drive or directory. Follow the on-screen instructions to select the file, and continue with Step 8 in this procedure.
- Select **Connect to an unlisted service provider or corporate network**, and click **Next** to use the wizard to build the router configuration. Follow the on-screen instructions to complete the configuration.

Step 8 Click **Next** to continue. The Template File Field Entry window displays.

Step 9 Complete the configuration by entering the values as shown on the instruction sheet.

Step 10 Click **Next**, and follow the on-screen instructions to complete the configuration.

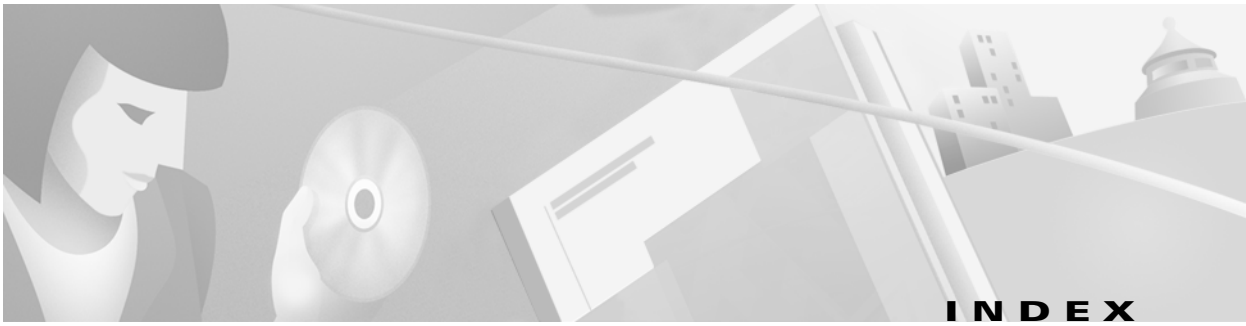
Additional Flags and Parameters

AutomaticWANIPAddressDiscoverISP	Enables the IP control protocol (IPCP) for WAN IP address negotiation. Discovery of the Integrated Services Digital Network (ISDN) WAN IP address for the router is negotiated from the central site; it is not a statically addressed WAN connection. If the value is 6, IPCP is enabled. If the value is 3, the router uses a static IP address.
CentralRouterISP	The remote router name used by Point-to-Point Protocol (PPP) for connecting to an Internet service provider. For an ISDN connection, this flag is optional. However, if internal servers are present on an ISDN connection, this flag must be given a value. For serial leased-line connections, this flag must be given a value if the UserNameISP and PasswordISP flags are given values.
CentralRouterRCN	The remote router name used by PPP for connecting to a remote corporate network. For an ISDN connection, this flag is optional. However, if internal servers are present on an ISDN connection, this flag must be given a value. For serial leased-line connections, this flag must be given a value if the UserNameRCN and PasswordRCN flags are given values.
DHCPLeaseDaysOnE0	Number of days for the Dynamic Host Configuration Protocol (DHCP) lease. This flag is used only when the router is configured as a DHCP server. (Used with the DHCPLeaseMinsOnE0 and DHCPLeaseHoursOnE0 flags.)
DHCPLeaseHoursOnE0	Number of hours for the DHCP lease. This flag is used only when the router is configured as a DHCP server. (Used with the DHCPLeaseMinsOnE0 and DHCPLeaseDaysOnE0 flags.)

DHCPLeaseMinsOnE0	Number of minutes for the DHCP lease. This flag is used only when the router is configured as a DHCP server. (Used with the DHCPLeaseHoursOnE0 and DHCPLeaseDaysOnE0 flags.)
DHCPNetworkAddressOnE0	Network address of the device from which a router with a DHCP server enabled can lease an Internet Protocol (IP) address.
DHCPNetworkSubnetMaskOnE0	The subnet mask for the DHCPNetworkAddressOnE0 flag.
DHCPPoolNameOnE0	Name of the DHCP pool created on the router. This flag is used only when router is set as a DHCP server.
EnablePassword	Enable password for the router.
HideAddressRange	Hides the “Address range given by your Internet service provider” control on the IP Address Range Given By Your ISP window. If the value is 0 or blank, it is disabled (displays the control). If the value is 1, it is enabled (hides the control).
HideCentralRouternameISP	Hides the “Central Routername for connection to an Internet Service Provider” control on the PPP Settings window. If the value is 0 or blank, it is disabled (displays the control). If the value is 1, it is enabled (hides the control).
HideCentralRouternameRCN	Hide the “Central Routername for connection to Remote Corporate Network” control on the PPP Settings window. If the value is 0 or blank, it is disabled (displays the control). If the value is 1, it is enabled (hides the control).
HideNetworkAddress	Hides the “Network Address given by your ISP” control on the IP Address Range Given By Your ISP window. If the value is 0 or blank, it is disabled (displays the control). If the value is 1, it is enabled (hides the control).
HidePAT	Hides the “No Address range given by your ISP” control on the IP Address Range Given By Your ISP window. If the value is 0 or blank, it is disabled (displays the control). If the value is 1, it is enabled (hides the control).
HideProtocolNotSure	Hides the “Not sure” option in the Serial Connection Type window. If the value is 0 or blank, it is disabled (displays the control). If the value is 1, it is enabled (hides the control).
PasswordISP	Password for a PPP connection to an Internet service provider (ISP).

PasswordRCN	Password for a PPP connection to a remote corporate network.
PrimaryDNSAddressOnE0	Primary Domain Name System (DNS) address used to configure the clients with the required DNS address when the router is being used as a DHCP server. (See also SecondaryDNSAddressOnE0.)
PrimaryWINSAddressOnE0	Primary WINS address used to configure the clients with the required WINS address when the router is being used as a DHCP server. (See also SecondaryWINSAddressOnE0.)
ReadonlyPassword	Read-only password for the router.
RemotePhoneNumberISP1, RemotePhoneNumberISP2, RemotePhoneNumberRCN1, RemotePhoneNumberRCN2	Technical support phone numbers displayed in the Technical Support window.
RouterName	Name given to the router.
SecondaryDNSAddressOnE0	Secondary DNS address used to configure the clients with the required DNS address when the router is being used as a DHCP server. (See also PrimaryDNSAddressOnE0.)
SecondaryWINSAddressOnE0	Secondary WINS address used to configure the clients with the required WINS address when the router is being used as a DHCP server. (See also PrimaryWINSAddressOnE0.)
ServiceProviderURL	Technical support Web site for the Technical Support pop-up window.
SetAdjustPCStackSettings	Router connection type. If the value is blank or 0, the console cable connection is used, and the PC stack settings are not changed. If the value is 1, the network is used to configure the router.
SetRouterAsDHCPServerOnE0	Configures the router as a DHCP server on the LAN. If the value is 0 or blank, the PC is also configured as a DHCP client, so it can communicate with the router. If this flag is set to 1 and the SetForceStaticAddressOnPCAlways flag is set to 1, this flag is given preference.
SetRouterToDefaultConfig	Sets the router to the factory default configuration. When this flag is enabled, the Erase Configuration window is skipped. Enabled = 1. Disabled (default) = 0.

SkipToSetupandTest	Skips all the dialogs subsequent to establishing the connection and displays the Setup and Test window.
UserNameISP	PPP user name used for PPP authentication when establishing a connection with an Internet service provider.
UserNameRCN	PPP user name used for PPP authentication when establishing a connection with a remote corporate network.



INDEX

Numerics

1600ALL_RTF.RTF file **4-2**

A

Address Resolution Protocol (ARP) **2-8**
Advice of Charge (AOC) **2-4**
alarms **v**
AOCShortHoldTimeout (flag) **2-4**
application window help files **4-1**
autoload.CFG **2-1, 4-1**
autoload.CFG file **1-2**
AutomaticWANIPAddressDiscoverISP (flag) **A-1**
autorun.inf file **4-1**

B

Belle System provisioning **4-5**
Belle System support **4-1**
bitmap, splash screen **4-1**
BMP file **4-3**
broadcast messages **2-6**

C

CD-ROM **v**
  custom installation **4-1**
CentralRouterISP (flag) **A-1**
central router name **2-4**
CentralRouterRCN (flag) **A-1**
CFG
  defined **1-1**
  file distribution **2-1**
Cisco 800 Fast Step IOS template **1-4**
Cisco 827 router **3-1**
Cisco Connection Online **v**
Cisco Fast Step_Reset.exe program **4-6**
Cisco Fast Step software defined **v**
Cisco IOS software **1-1**
cmd1 (flag) **2-7**
command-line statements **1-1**
configuration files
  defined **1-1**
configuration parameters **1-2**
configurations
  testing **1-4**
configuration scenarios **1-4**
connection
  console cable **2-2**
  Ethernet **2-2**
ConnectionType (flag) **2-2**
console cable **2-2, 2-11**
copyright notice **4-3**
cost control **2-5**
country.DAT **4-2**
country subdirectory **1-3**
customize Setup **1-3**

D

data-entry windows (skip) **2-2**
default font **4-4**
default gateway **2-9**
DHCP **2-8**
DHCP lease **A-1**

DHCPLeaseDaysOnE0 (flag) **A-1**
DHCPLeaseHoursOnE0 (flag) **A-1**
DHCPLeaseMinsOnE0 (flag) **A-2**
DHCPNetworkAddressOnE0 (flag) **A-2**
DHCPNetworkSubnetMaskOnE0 (flag) **A-2**
DHCP pool addresses **4-5**
DHCPPoolNameOnE0 (flag) **A-2**
DHCP relay **2-10**
directory structure **4-2**
disable the multilink feature **2-5**
display a telephone number **2-6**
DLCINumberISP (flag) **2-3**
DLCINumberRCN (flag) **2-3**
DNS request **2-8**
DomainNameServerSettings (flag) **2-3**
Domain Name System
  see DNS **2-8**
dynamic host configuration protocol (DHCP) **2-9**

E

edit files **4-4**
EmailAddress (flag) **2-7**
enable password **A-2**
EnablePassword (flag) **A-2**
error messages **4-4**

F

factory default configuration **2-4, 2-8, A-3**
firewall **2-6**
flags **1-1**
floppy disk
  application distribution **2-1**
ForceStaticIPAddress (flag) **2-11**
ForceStaticIPMask (flag) **2-11**
FrameRelayDLCINumberISP (flag) **2-3**
FrameRelayDLCINumberRCN (flag) **2-3**

G

gateway **2-9**

H

help
  on-screen message **4-3**
HideAddressRange (flag) **A-2**
HideCentralRouternameISP (flag) **2-4**
HideCentralRouternameRCN (flag) **2-4, A-2**
HideNetworkAddress (flag) **A-2**
HidePAT (flag) **A-2**
HideProtocolNotSure (flag) **A-2**
HTML page
  local **4-5**
  registration completion **4-5**

I

IdleTimeoutISP (flag) **2-4**
IdleTimeoutRCN (flag) **2-4**
installation directory **4-3**
InternetServerConnection (flag) **2-3**
InternetServersIPAddressesGivenbyISP (flag) **2-3**
InternetServerTypeSelection (flag) **2-3**
Internet service provider
  see ISP **2-4**
intranet **2-9**
IOS commands **2-7**
IOS template **3-1**
IP addressing **2-8**
IPAddressRangeGivenByYourISP (flag) **2-3**
IP control protocol (IPCP) **A-1**
IP stack **2-9**
IPX addressing **2-7**
IPXLANAddressAndFrameTypeForEthernet0 (flag) **2-3**
IPXWANAddressRCN (flag) **2-3**
ISDNSettings (flag) **2-3**

ISP **2-4**
ISPLocalURL (flag) **4-6**
ISPSetupURL (flag) **4-6**
ISPSuccessText (flag) **2-6**

L

LAN addressing **2-9**
languages **1-3**
LANIPAddressAndMaskForEthernet0 (flag) **2-3**
LANTrafficControl (flag) **2-3**
leased IP address **2-8**
license fee **4-5**
LocalInternetServers (flag) **2-3**
localization **4-3**
local Web page **4-6**
logo **4-3**
  size **4-3**

M

Monitor (application) **2-7**
Monitor defined **v**

N

NET3 switch **2-4**
NetBIOS **1-2**
NetBIOS filter **2-6**
NextConnection (flag) **2-3**
Notepad **1-1**

O

on-screen message help **4-3**

P

password **A-2**
  read-only **A-3**
PasswordISP (flag) **A-1, A-2**
PasswordRCN (flag) **A-3**
PCToRouterConnection (flag) **2-3**
personal identification number (PIN) code **4-5**
Phone (flag) **2-6**
PhoneDescriptionX (flag) **2-6**
PIN code **4-5**
port address translation (PAT) **2-8**
PPP
  authentication **A-4**
  user name **A-4**
PPPUsernameAndPasswordISP (flag) **2-3**
PPPUsernameAndPasswordRCN (flag) **2-3**
PrimaryDNSAddressOnE0 (flag) **A-3**
PrimaryWINSAddressOnE0 (flag) **A-3**

R

read-only password **A-3**
ReadonlyPassword (flag) **A-3**
registration Web site **4-6**
related documents **vi**
RemoteConnectionType (flag) **2-3**
remote corporate network **2-4**
RemoteDHCPServerAddress (flag) **2-11**
RemotePhoneNumberISP1 (flag) **A-3**
RemotePhoneNumberISP2 (flag) **A-3**
RemotePhoneNumberRCN1 (flag) **A-3**
RemotePhoneNumberRCN2 (flag) **A-3**
RemotePhoneNumbersISP (flag) **2-3**
RemotePhoneNumbersRCN (flag) **2-3**
RestartToCompleteSetupFinal (flag) **2-3**
RestartToCompleteSetupInitial (flag) **2-3**
restrict data transfers **2-5**
ReviewSettings (flag) **2-3**

router name **A-3**
RouterName (flag) **A-3**
RouterTypeDeviceSetupMethod (flag) **2-3**
RTF
  file **4-4**
  ID number **4-4**

S

SaveFileAs (flag) **2-3**
scenarios **1-4**
SecondaryDNSAddressOnE0 (flag) **A-3**
SecondaryWINSAddressOnE0 (flag) **A-3**
ServiceProvider directory **1-3**
ServiceProviderURL (flag) **2-7, A-3**
SetAdjustPCStackSettings (flag) **A-3**
SetAOCTimeout (flag) **2-4**
SetAutomaticChangeIPStackWhenNeededByFastStep **2-11**
SetAutomaticChangeIPStackWhenNeededByFastSTep (flag) **2-10**
SetAutomaticChangeIPStackWhenNeededByFastStep (flag) **2-9**
SetBelleSystemSupport (flag) **4-5**
SetChangeIPStackOnConsole (flag) **2-10**
SetDHCPRelay (flag) **2-11**
SetEndTime (flag) **2-5**
SetForceStaticAddressOnPCAlways (flag) **2-11, 3-2**
SetNetBiosFilterOnISP **2-6**
SetNetbiosFilterOnISP **1-2**
SetNetbiosFilterOnISP (flag) **1-2**
SetRestrictTimeOfDayWhenDataCallsCanBeMade (flag) **2-5**
SetRestrictToOneDataChannel (flag) **2-5**
SetRouterAsDHCPServerOnE0 (flag) **A-3**
SetRouterToDefaultConfig **2-4**
SetRouterToDefaultConfig (flag) **A-3**
SetSkipTesting (flag) **2-2**
SetStartTime (flag) **2-5**
setup.bmp **4-3**
Setup defined **v**
SkipToSetupandTest (flag) **2-2, 2-3, A-4**
skip windows **2-3**
software installation **2-1**
splash screen bitmap **4-1**
StartMonitoring (flag) **2-3**
StartRouterSetup (flag) **2-3**
static addressing **2-11**
status reports **v**
subnet mask **A-2**
syntax **1-2**

T

technical assistance **vii**
technical support information displayed **2-6**
technical support phone number **A-3**
TestingInterfaceConnectionISP (flag) **2-3**
TestingInterfaceConnectionRCN (flag) **2-3**
Third Party Software directory **4-2**
Title (flag) **2-6, 2-7**
tool tips **4-3**
TPL file
  behavior **1-2**
  defined **1-1**
TypeOfProtocolsServices (flag) **2-3**

U

UsePCGatewayAsRouterLANIP (flag) **2-10**
UserNameISP **A-1**
UserNameISP (flag) **A-4**
UserNameRCN (flag) **A-4**
UseRouterLANIPAsPCGateway (flag) **2-10**

V

variable **3-3**

W

WANIPAddressAndMaskISP (flag) **2-3**
WANIPAddressAndMaskRCN (flag) **2-3**
Web browser **4-6**
welcome Web site **4-6**
window control **1-1**
Windows INI file **1-1**
WINS address **A-3**
WINSSettings (flag) **2-3**
wizard **1-2**

Y

YourISDNPhoneNumbers (flag) **2-3**