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 Dialer Procedures

 Dialer Concepts

Cisco TCP/IP Suite Dialer Application

Dialer lets you start and stop a <u>PPP</u> or <u>SLIP</u> connection to a remote host. Use this application to:
- Manually dial, connect with, and monitor a serial connection to a remote host and begin a connection upon request
- Store information in profiles for frequently accessed hosts
- Create, delete, and maintain a list of remote hosts capable of connections with information necessary to dial, log into, and establish a connection with each host

You can start Dialer from the Cisco Suite 100 program group or from the <u>command line</u>.

The main Dialer window includes a connection table to show your serial connections.   The table includes these columns:

T
> The transmit light.   Blinking indicates that you are sending packets over the serial interface.

R
> The receive light.   Blinking indicates that you are receiving packets over the serial interface.

Profile
> The profile used to make the connection.   "Manual" indicates a manual connection.

Status
> The state of the connection:

> **Active**
>> There is communications traffic on the connection.

> **Answer**
>> A remote response was detected from the modem.

> **Connecting**
>> A connection to the remote host is in progress.

> **Dialing**
>> The modem is dialing the host.

> **Error**
>> An error occurred in the modem, communications port, or kernel interface.

> **Idle**
>> An active connection currently has no traffic.

> **Linked**
>> A serial line session has been established with a remote host.

> **Negotiating**
>> The kernel is negotiating the connection characteristics.

> **Offhook**
>> The modem could not connect to the telephone line.

> **Shutdown**
>> The communications and connections are shutting down.

> **Startup**
>> The communications and connection parameters are initializing.

Unknown

The current status cannot be determined.

Waiting

The modem was sent information but has not yet responded.

Modem

The name of the modem, as selected in the profile.   For manual connections, this is shown as the communications port you are using (for example, COM1).

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Command Line Dialer

You can start Dialer from an MS-DOS prompt command line with this syntax:

mndialer -h *profile*

You also enter the -h option as /h.

Connect Button

The Connect button, or Connect from the Interface menu, lets you view, modify, or delete the host information used to establish a PPP or SLIP connection with a remote host, using the <u>Connect dialog box.</u>

Disconnect Button

The Disconnect button, or Disconnect from the Interface menu, stops the current connection. If you enable the Prompt on Disconnect option in the Options tab of the Profile dialog box, Dialer asks you to confirm that you want to stop the current connection.

Manual Connect Button

The Manual Connect button, or Manual Connect>Connect from the Interface menu, lets you enter the commands that are sent to the modem to start a connection, using the <u>Manual Connection dialog box.</u>

Quick Connect

The Quick Connect button displays the profiles that have been saved in the Profiles list in the <u>Connect dialog box</u>.   To connect to a host, double-click the desired profile.   A Dialer session immediately starts using the options specified in the <u>New Profile Tab Dialogs</u>.

Exit Button

The Exit button, or Exit from the File menu, ends your Dialer session.

Connect Dialog Box

The Connect dialog box lets you add new profiles; view, modify, copy, and delete existing profiles; and connect to a host specified in a profile.   The dialog contains these fields and buttons:

Profiles
    Displays the names of previously created profiles.   Create a profile to store information about a host you access frequently.

Notes
    Lists optional descriptive information for a selected profile.

Connect button

Starts a connection using the selected profile.   To exit the Connect dialog box without starting a connection, click the Cancel button.   The Connect button opens the <u>Connect prompt dialog box</u>, which lets you cancel the connection or display the message log while you are waiting for the connection to occur.

Close button

Exits the dialog without starting a connection.

New... button

Creates a new profile, using the <u>New Profile dialog box.</u>

Modify... button

Changes previously set profile information, using the <u>New or Modify Profile tab dialog box.</u>

Copy... button

Copies the selected profile and assigns it a new name, using the <u>Copy Profile dialog box.</u> Use this feature to create profiles that share common information.

Delete button

Deletes the selected profile.   If you have enabled the Prompt on Delete option, Dialer asks you to confirm the deletion.

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Connect Prompt Dialog Box

The Connect Prompt dialog box lets you cancel the started connection or open the [Message Log dialog box](#) to display the connection protocol exchange with the remote host while you are waiting for the connection to occur.

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Message Log Dialog Box

Use the message log to view the exchange between Dialer, the modem, and the remote host.   If you want to save the exchange, check Log to File and choose a name for the log file, which is saved to disk.   Each time you make a connection, this log is overwritten.   The dialog contains these elements:

Message Log window
Displays the protocol exchange with the remote host during the connection.

Log to File
Determines whether the message log is written to a file on disk.   You are prompted to choose a log file.   This file is overwritten each time you make a serial connection.

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Save As Dialog Box

The Save As dialog box lets you save output to a file:

File Name
    The name of the file in which to save the output.

Save File As Type
    The file format for the file.

Directories
    The directory for the file.

Drives
    The drive for storing the file.

Network
    Connects to another network location so you can assign it a new drive letter.

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New Profile Dialog Box

The New Profile dialog box lets you specify a name for a new profile.   When you click the OK button, the New Profile Tab Dialogs screen appears, which lets you specify profile details.

Profile names appear on the Quick Connect list and in the Profiles list in the Connect dialog box.

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Remote Host Tab

The Remote Host tab lets you specify detailed information about the host to which you are connecting, your workstation, your modem, and other options.   The tab contains these fields:

Connection
The connection type: PPP (Point-to-Point Protocol) or SLIP (Serial Line Internet Protocol).

Phone Number
The phone number of the remote host.   Enter any long distance codes or PBX dial-out numbers, such as "9".   Specify a comma to cause Dialer to pause briefly while your phone system selects an outside line; for example, **9,555-1212**.   For Direct Connections, do not include a telephone number.

User Name
The user name you use when you dial into a remote host.

Prompt for Password(s)
Determines whether Dialer prompts for your password instead of storing it in the Password edit boxes.   Check this check box if you want Dialer to prompt you for your password when logging into the remote host.   Letting Dialer prompt you for passwords prevents unauthorized people from using your PC to access your files on the remote system.   Clear this check box so that the values in the Password fields are sent to the remote host at login.   If you are the only one with access to your PC or you are not concerned about the security of your files on the remote host, clear this check box.

Password 1 and Password 2
One or two passwords for logging into the remote host.   An asterisk appears for each character you enter for the password.   If the remote host has a router, you can enter the router password in Password 1 and your login password in Password 2.

User Data 1 and User Data 2
Information that is sent to the remote host in addition to your name and password.   Your network administrator can tell you if the remote host accepts user data and the conventions for specifying this information.

PPP Authentication
Lets you specify what type of PPP authentication occurs when you log into the remote host, depending on whether you specify an authentication password and user name.

If you know that the remote host is authenticating using PAP, do not specify your user name, but do specify an authentication password.   This password is not the same as your password on the remote host.

If you know that the remote host is authenticating using CHAP, specify both a user name and password.

If the remote host does not provide authentication, leave these fields blank.
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PPP Authentication

Dialer negotiates PPP authentication with the remote host automatically to request PAP, CHAP, or no authentication depending on what the remote host provides.   However, you can make logging in faster if you know what type of authentication is occurring on the remote host. Contact your network administrator for more information. If you want to specify that Dialer first request PAP authentication, enter only your password, but do not specify your user name.   If you want Dialer to first request CHAP, enter both a user name and password. If you want Dialer to first request no authentication, leave both edit boxes blank.

PAP Authentication

PAP (Password Authentication Protocol) uses the authentication password to determine if you can log into the remote host. However, this password is less secure on the network. CHAP provides additional security to protect the authentication password.

CHAP Authentication

CHAP (Challenge-Handshake Authentication Protocol) tests both your user name and the authentication password, and provides additional network security.

Local Host Tab

The Local Host tab lets you specify information about your workstation.   The tab contains these fields:

IP Address
> The IP address of your workstation; for example, `192.168.34.22`.   If you are using PPP and do not have an IP address, leave this field blank.   If you are using SLIP, your network administrator can supply the IP address for your workstation.   If you create a login script on the Script tab and specify that you expect an IP address from the remote host, the value is inserted into this field.

Use as Default Route
> Indicates that Dialer should use the IP address and subnet mask entered in the IP Address and Subnet Mask fields for the default route for Dialer.

Subnet Mask
> The subnet mask,; for example, `255.255.255.0`.   Your network administrator can provide the subnet mask for your system.

PC Host Name
> The host name of your workstation; for example HOLMES.

Domain Name
> The domain name of your workstation; for example `YOYODYNE.COM`.   Domains provide a hierarchial grouping of hosts within the Internet.   Domain names are assigned by the Internet naming authority and can pertain to your site, organization, or the type of organization in which you participate.   Your network administrator can supply the domain name.

Routing
> Routing is the process of selecting the path that data must take to reach its destination.

> **Destination Column**
>> The IP addresses of destination systems.

> **Gateway Column**
>> The IP addresses of gateway systems.

> **Qualifier Column**
>> The route qualifier types, which are Host for a host address qualifier and Network for a network address qualifier.

> **Add button**
>> Adds new gateway and destination IP addresses for an additional route.

> **Delete button**
>> Deletes the selected route entry.

DNS Server IP Address
> Displays the IP addresses of servers providing DNS (Domain Name Service) lookup services.

> **Add button**
>> Adds the IP address of servers providing DNS lookup services.

> **Delete button**
>> Deletes a DNS server entry.

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Add Route Dialog Box

The Add Route dialog box lets you add a route in addition to the default route.   This dialog box contains the same features as those available when adding a route from the Routing tab in the Configuration Utility.   The dialog contains these fields:

Destination Address
   The IP address for the host or network you wish to reach.

Gateway Address
   The IP address of the gateway you want to use to reach your destination.

Address Qualifier
   Determines whether the destination is another host or a network.

Add DNS Dialog Box

The Add DNS dialog box lets you add a DNS (Domain Name Service) server from which to request DNS lookup services.   Enter the IP address of the DNS server and click OK.

Modem Tab

The Modem tab lets you specify modem settings and commands.   The tab contains these fields:

Settings
Information about your modem and its features.

Manufacturer
The manufacturer of your modem.   Use Direct Connection if you are connecting directly to a host through your serial port.

Model
The model of your modem.   For Direct Connection, choose Serial.

Speed
The baud rate of your modem.   Baud rates are measured in bits per second (bps).   The Ports control panel can provide information on the modem speed.   For Direct Connections, this must be the same as the speed used by the remote host: unlike modem connections, direct connections cannot negotiate the speed.

Port
The port to which your modem is connected to your workstation.

Retries
The number of times Dialer should attempt to connect to the remote host before reporting a failure.

Timeout
The duration in seconds that Dialer should wait for a response from the remote host before causing the connection attempt to fail.

Follow DCD
Determines whether your modem supports the DCD (Data Carrier Detect) pin on the RS-232 interface.   Refer to your modem documentation or contact your network administrator to determine if your modem supports this feature.

Hardware Flow
Determines whether your modem supports the ability to enable or disable the Clear To Send (CTS) and the Ready To Send (RTS) pins of the RS-232 interface, known as RTS/CTS flow control.   Refer to your modem documentation or contact your network administrator to determine if your modem supports this feature.

7 Bits Until Connected
Sends data as 7-bit characters until the connection occurs and then switches to 8-bit characters.   Some online service providers require the use of this feature.

Commands
Commands sent to the modem to start the connection or to the remote host to log in. Refer to your modem documentation for more information.

Init
A string of characters to initialize your modem.

Reset
A string of characters to reset your modem.

Dial
A string of characters to initiate a dialing sequence to the remote host.

Postdial

One or more characters to immediately follow the Dial string.

Hangup

A string of character used to hang up (drop carrier on) the phone line.

Ack

A string of characters that Dialer should receive from your modem to signal a command acknowledge.

Connect

A string of characters that Dialer should receive from your modem to signal a carrier detect response.

Busy

A string of characters that Dialer should receive from your modem to signal that the line is busy.

Defaults button

Lets you revert the modem parameters back to their default settings for the current modem type.

Script Tab

The Script tab lets you specify commands that are sent and received from the remote host when you log in.   Use login scripts to automate login authentication.   A Dialer script is a series of commands and expected reples that you specify using the Send and Expect combo boxes.   Each command and reply sequence also includes a timeout value, which is the number of seconds Dialer waits for the expected reply from the remote host before quitting the login attempt.   As you enter each command-and-reply and click the Add button, they appear in the Script table on the tab.   Modify a command and reply sequence by clicking the Modify... button, which opens the Modify Script Entry dialog box which lets you select a new command and reply.   You can delete a sequence by clicking the Delete button.

The tab contains these fields:

Auto Dial
>   Determines whether Dialer initializes the modem and dials the phone number specified on the Remote Host tab before executing the script.   Use of this check   box determines how the Send and Expect edit box values interact with the remote host.   If you check this check box (enable Auto Dial), then the order is as shown on the tab: you send a variable and expect to receive a value such as the IP address from the remote host.

>   If you clear this check box (disable Auto Dial), the Send and Expect edit boxes appear to be in reversed logic.   Now the remote host sends text from which you expect to receive a value, and then upon receiving the value, you send your information.   For example, when you clear the Auto Dial check box, you start a dial-in, the remote host sends a welcome string, you expect a user name prompt, and when received, you send your user name.   Then you expect a password prompt, to which you send your password.

>   Uncheck Auto Dial for Direct Connections.

Script
>   Commands sent to the remote host and replies expected from that host.

>   **Send Column**
>>   Lists information that Dialer sends to the remote host.

>   **Expect Column**
>>   Lists information that you expect the Remote host to send to Dialer.

>   **Timeout Column**
>>   The number of seconds Dialer waits for each expected reply from the remote host before quitting the login attempt..

>   **Modify... button**
>>   Edits the selected login script statement.   Use the Send and Expect fields at the bottom of the tab to add a login script statement.

>   **Delete button**
>>   Deletes the selected login script statement.

Send
>   Variables or a string of text to be sent to the remote host.   The preset variables are:

>   **$IPADDRESS**
>>   Send the IP Address value specified in the IP Address edit box in the Local Host tab.

>   **$PASSWORD1**
>>   Send the Password 1 value specified in the Password 1 edit box in the Remote Host tab.

$PASSWORD2

Send the Password 2 value specified in the Password 2 edit box in the Remote Host tab.

$PHONE

Send the phone number stored in the Phone Number edit box in the Remote Host tab.

$USERDATA1

Send the User Data 1 value specified in the User Data 1 edit box in the Remote Host tab.

$USERDATA2

Send the User Data 2 value specified in the User Data 2 edit box in the Remote Host tab.

$USERNAME

Send the user name stored in the User Name edit box in the Remote Host tab.

<NOTHING>

Indicates that you want no data sent.   You can use this as a placeholder when you only want to send a carriage return.

<cr>

Send a carriage return.   This is equivalent to pressing the Enter key.

Expect

A reply that you expect from the remote host.   The only preset value is $IPADDRESS, which you can use when you want the remote host to supply the IP address for you. Dialer stores it in the IP Address edit box in the Local Host tab.   You can also specify a string of text that you expect from the remote host, for example, "Welcome to our host."

Timout

The number of seconds Dialer waits for each expected reply from the remote host before quitting the login attempt.

Append Carriage Return to Send String

Determines whether a carriage return is appended to the send string.   Your network administrator provides this information.   Check the check box if the remote host expects each command sent to it to be terminated with a carriage return.   Clear the check box if the remote host does not require a carriage return to the be sent with each command.

Add button

Adds the login script statement to the Script list on the tab.

Modify Script Entry Dialog Box

The Modify Script Entry dialog box lets you change an existing command to be sent to the remote host, a reply expected from the remote host, and the number of seconds Dialer should wait for the reply before quitting the login attempt.

Send

Variables or a string of text to be sent to the remote host.   The preset variables are:

$IPADDRESS

Send the IP Address value specified in the IP Address edit box in the Local Host tab.

$PASSWORD1

Send the Password 1 value specified in the Password 1 edit box in the Remote Host tab.

$PASSWORD2

Send the Password 2 value specified in the Password 2 edit box in the Remote Host tab.

$PHONE

Send the phone number stored in the Phone Number edit box in the Remote Host tab.

$USERDATA1

Send the User Data 1 value specified in the User Data 1 edit box in the Remote Host tab.

$USERDATA2

Send the User Data 2 value specified in the User Data 2 edit box in the Remote Host tab.

$USERNAME

Send the user name stored in the User Name edit box in the Remote Host tab.

<NOTHING>

Indicates that you want no data sent.   You can use this as a placeholder when you only want to send a carriage return.

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Send a carriage return.   This is equivalent to pressing the Enter key.

Expect

A reply that you expect from the remote host.   The only preset value is $IPADDRESS, which you can use when you want the remote host to supply the IP address for you. Dialer stores it in the IP Address edit box in the Local Host tab.   You can also specify a string of text that you expect from the remote host, for example, "Welcome to our host."

Timout

The number of seconds Dialer waits for each expected reply from the remote host before quitting the login attempt.

Append Carriage Return to Send String

Determines whether a carriage return is appended to the send string.   Your network administrator provides this information.   Check the check box if the remote host expects each command sent to it to be terminated with a carriage return.   Clear the check box if the remote host does not require a carriage return to the be sent with each command.

Options Tab

The Options tab lets you specify connection and header compression options.   The tab contains these fields:

Connection group
Contains Dialer options.

Re-establish Connection Upon Loss
Determines whether to re-establish the connection if the line carrier drops.   If you check this check box, Dialer automatically attempts to reconnect to the remote host if the line carrier drops.

Minimize on Connect
Determines whether the Dialer activity window appears as an icon when a connection is established.

Prompt on Disconnect
Determines whether Dialer presents a confirmation dialog box when you disconnect from the remote host.

Idle disconnect *nn* minutes
The number of minutes Dialer should wait without activity from the remote host before closing a connection.   Specify zero (0) to never time out.   The maximum is 1092 minutes (18.2 hours).

Header Compression
Determines whether Dialer should use header compression for SLIP packets. This group of commands is only available for SLIP connections.   PPP handles header compression automatically.

If header compression is enabled on both hosts, communications are quicker.   To use compressed headers, at least one host must have header compressed enabled.   Contact your network administrator for the remote host to ensure header compression is in effect.

On
Indicates that headers should always be compressed.

Off
Indicates that headers should never be compressed.

Negotiated
Indicates that headers are not compressed until a compressed header is received from the other side.

Notes
Information you can enter to describe the purpose of this profile.

Confirm Delete Dialog Box

The Confirm Delete dialog box lets you confirm that you want to delete a profile.

Manual Connect Configuration Settings Tab

The Manual Connect Configuration Settings tab lets you configure modem settings.   The tab contains these fields:

Modem
Information about your modem and its features.

> **Speed**
> The baud rate of your modem.   Baud rates are measured in bits per second (bps). The Ports control panel can provide information on the modem speed.   For Direct Connections, this must be the same speed used by the host.
>
> **Port**
> The port to which your modem is connected to your workstation.
>
> **Follow DCD**
> Determines whether your modem supports the DCD (Data Carrier Detect) pin on the RS-232 interface.   Refer to your modem documentation or contact your network administrator to determine if your modem supports this feature.
>
> **Hardware Flow**
> Determines whether your modem supports the ability to enable or disable the Clear To Send (CTS) and the Ready To Send (RTS) pins of the RS-232 interface, known as RTS/CTS flow control.   Refer to your modem documentation or contact your network administrator to determine if your modem supports this feature.
>
> **7 Bits Until Connected**
> Sends data as 7-bit characters until the connection occurs and then switches to 8-bit characters.   Some online service providers require the use of this feature.

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> Indicates that headers should always be compressed.
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> Indicates that headers are not compressed until a compressed header is received from the other side.

Connection group
Contains Dialer options.

> **Minimize on Connect**
> Determines whether the Dialer activity window appears as an icon when a connection is established.
>
> **Prompt on Disconnect**

Determines whether Dialer presents a confirmation dialog box when you disconnect from the remote host.

See Also:

- Host Information tab
- PPP Manual Connect dialog box
- SLIP Manual Connect dialog box
- Manually Connecting to a Remote Host
- Configuring the Serial Interface

Manual Connect Configuration Host Information Tab

The Manual Connect Configuration Host Information tab lets you configure information about the remote host.   The tab contains these fields:

IP Address
> The IP address of your workstation; for example, `192.168.34.22`.   If you are using PPP and do not have an IP address, leave this field blank.   If you are using SLIP, your network administrator can supply the IP address for your workstation.   If you create a login script on the Script tab and specify that you expect an IP address from the remote host, the value is inserted into this field.

Use as Default Route
> Indicates that Dialer should use the IP address and subnet mask entered in the IP Address and Subnet Mask fields for the default route for Dialer.

Subnet Mask
> The subnet mask,; for example, `255.255.255.0`.   Your network administrator can provide the subnet mask for your system.

PC Host Name
> The host name of your workstation; for example HOLMES.

Domain Name
> The domain name of your workstation; for example `YOYODYNE.COM`.   Domains provide a hierarchial grouping of hosts within the Internet.   Domain names are assigned by the Internet naming authority and can pertain to your site, organization, or the type of organization in which you participate.   Your network administrator can supply the domain name.

Routing
> Routing is the process of selecting the path that data must take to reach its destination.

> **Destination Column**
> > The IP addresses of destination systems.

> **Gateway Column**
> > The IP addresses of gateway systems.

> **Qualifier Column**
> > The route qualifier types, which are Host for a host address qualifier and Network for a network address qualifier.

> **Add button**
> > Adds new gateway and destination IP addresses for an additional route.

> **Delete button**
> > Deletes the selected route entry.

DNS Server IP Address
> Displays the IP addresses of servers providing DNS (Domain Name Service) lookup services.

> **Add button**
> > Adds the IP address of servers providing DNS lookup services.

> **Delete button**
> > Deletes a DNS server entry.

PPP Authentication

Lets you specify what type of PPP authentication occurs when you log into the remote host, depending on whether you specify an authentication password and user name.

If you know that the remote host is authenticating using PAP, do not specify your user name, but do specify an authentication password.   This password is not the same as your password on the remote host.

If you know that the remote host is authenticating using CHAP, specify both a user name and password.

If the remote host does not provide authentication, leave these fields blank.

See Also:

- Settings tab
- PPP Manual Connect dialog box
- SLIP Manual Connect dialog box
- Manually Connecting to a Remote Host
- Configuring the Serial Interface

Copy Profile Dialog Box

The Copy Profile dialog box lets you create a new profile with the same information as an existing profile.   It shows the name of the profile from which you are copying information. Enter the name of a new profile to create.

Password(s) Dialog Box

The Password(s) dialog box lets you specify one or two passwords that are supplied during connection to the remote host.   An asterisk appears for each character you enter for the password.   If the remote host has a router, you can enter the router password in Password 1 and your login password in Password 2.

Manual Connect Dialog Box (PPP)

The Manual Connect Dialog Box lets you connect to a remote host using PPP by entering commands directly to the modem and the remote host.   It contains these windows, fields, and buttons:

Terminal View
Lets you interact directly with your serial interface and with the remote host.   All data received by the serial interface appears in this window.   To enter commands directly to the serial interface, type the command and press the Enter key.

IP Address
The IP address for the connection.   For PPP, you can either supply an IP address for the connection or leave the edit box blank so that the server supplies the IP address for you.

PPP button
Starts PPP communications on your workstation.   Once Dialer establishes the PPP connection, enter your IP address in the IP Address edit box, and click the PPP button to start a PPP session.

Print... button
Prints the contents of the Terminal View window , using the Print dialog box.

See Also:

- SLIP Manual Connect dialog box
- Manually Connecting to a Remote Host
- Configure Manual Interface dialog box
- Configuring the Serial Interface

Manual Connect Dialog Box (SLIP)

The Manual Connect Dialog Box lets you connect to a remote host using SLIP by entering commands directly to the modem and the remote host.

Terminal View

Lets you interact directly with your serial interface and with the remote host.   All data received by the serial interface appears in this window.   To enter commands directly to the serial interface, type the command and press the Enter key.

IP Address

The IP address for the connection.   For SLIP, if the server is configured to supply an IP address, leave this edit box blank.   When the connnection starts, the IP address appears, which you then enter in the edit box before clicking the SLIP button to establish the connection.

SLIP

The SLIP button starts SLIP communications on the local host.   Once Dialer establishes the SLIP connection, enter your IP address in the IP Address edit box, and click the SLIP button to start SLIP on the local host.

Print... button

Prints the contents of the Terminal View window , using the <u>Print dialog box.</u>

See Also:

- <u>PPP Manual Connect dialog box</u>
- <u>Manually Connecting to a Remote Host</u>
- <u>Configure Manual Interface dialog box</u>
- <u>Configuring the Serial Interface</u>

Print Dialog Box

The Print dialog box lets you print the output from the Terminal View window in the [Manual Connect dialog box](#).

Printer
Shows the active printer and printer connection.   Click the Setup button to change the printer and printer connection.

Print Range group
Lets you specify the pages you want to print: All pages; just the data you selected in the window; or a specific page range.

Print Quality
Determines how clear the printout is, based on the capabilities of your printer.

Copies
The number of copies you want to print.

Collate Copies
Whether you want each copy printed in page number order (checked), or whether you want all copies of each page printed together, so that, for example, all page ones are printed first before printing page two (unchecked).

Setup button
Lets you select a printer and set other printer options using the [Print Setup dialog box.](#)

Print Setup Dialog Box

The Print Setup dialog box lets you select a printer, page orientation and dimensions, paper source and other options:

Printer group
Lets you select either the default printer, or another printer that you have installed.

Orientation group
Determines whether the printout is in portrait or landscape orientation.

Paper group
Determines the size of the paper and the paper tray that is used.

Options button
Additional options that you can set for the selected printer.

Network button
Lets you connect to a printer on your network.
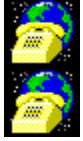
File Menu

The File menu contains these commands:

Exit
    Exits the Dialer application.   The shortcut button is:

Interface Menu

The Interface menu contains these commands:

Connect
Connects to the remote host and lets you view, modify, or delete the host information used to establish a PPP or SLIP connection, using the <u>Connect dialog box.</u>   The shortcut button is:

Manual Connect>Connect
Lets you enter the commands that are sent to the modem to start a connection, using the <u>Manual Connection dialog box.</u>   The shortcut button is:

Manual Connect>Configure
Lets you specify modem settings and host information before you start a manual connection, using the <u>Configure Manual Interface dialog box</u> (Settings tab).

Disconnect
Stops the current connection.   If you enable the Prompt on Disconnect option in the Options tab of the Profile dialog box, Dialer asks you to confirm that you want to stop the current connection.   The shortcut button is:

Disconnect All
Stops all connections.   If you check the Prompt on Disconnect check box in the Options tab of the Profile dialog box, Dialer displays a dialog box asking you to confirm this request.

Options Menu

The Options menu contains these commands:

Program
Sets Dialer program options using the Program Options dialog box.

Toolbar
Displays or hides the toolbar, which is the bar of shortcut buttons beneath the menu.

Bubble Help
Enables or disables bubble help, which is the quick popup help you get when moving the cursor over the toolbar buttons.

Status Bar
Displays or hides the status bar at the bottom of the main window.

Program Options Dialog Box

The Program Options dialog box lets you select various program settings for Dialer.   The dialog contains these fields:

Dial on Demand
Lets you specify that applications accessing the network through the WinSock interface automatically start Dialer before starting the application.

Enabled
Lets you start Dial on Demand.   Any changes to this setting do not take effect until you reboot Windows.

Use Profile
Lets you start the Dialer connection from a profile.   If you do not specify a profile, Dialer displays the activity window so that you can start the connection manually or from a profile.

Alert on System Suspend
Determines whether Dialer displays a reminder message when your workstation enters power save mode.

Prompt on Delete
Determines whether Dialer prompts you if you delete a profile.

Save Screen Size and Location
Determines whether Dialer retains the screen size and location between Dialer sessions.

Help Menu

The Help menu contains these commands:

Contents
Displays the contents page of this help file.

Search for Help on
Searches this help files index.

How to Use Help
Displays help information for using the Windows help system.

About Dialer
Displays version information for the application.

About Dialer

The version number of Dialer.

Dialer Toolbar

The Dialer toolbar provides shortcut buttons to start and stop Dialer sessions, connect quickly to a host, and exit Dialer.

The toolbar is:

Click graphic fields for more information.

Quick Connect List

The Quick Connect list displays profiles you have previously defined.   Select the profile you want to use and you will connect to the defined host.

Cisco TCP/IP Suite Online Help

 Cisco TCP/IP Suite Dialer Utility Options

 Dialer Procedures

- Manually Connecting to a Remote Host
- Configuring the Serial Interface
- Printing Terminal Output
- Creating a Dialer Profile
- Setting Remote Host Options
- Setting Local Host Options
- Setting Modem Options
- Setting Script Options
- Setting Dialer Options
- Saving the Message Log In a File
- Adding Additional Routes
- Adding Additional Domain Name Servers
- Setting Dial on Demand

 Dialer Concepts

Manually Connecting to a Remote Host

To manually connect to a remote host:

1. Click the Manual Connect button, or choose Manual Connect>Connect from the Interface menu.   The Manual Connect dialog box appears.   (If Dialer cannot communicate with your modem, the Configure Interface dialog box appears.   See Configuring the Serial Interface..)

2. In the Terminal View window, enter the modem command and the phone number you want to dial.   For example, on a U.S. Robotics modem, enter the modem command in the format ATDT**phone_number**, where **phone_number** is the phone number for the remote host; an example modem command is ATDT5551212.   Use a comma to cause Dialer to pause; for example, for waiting to receive an outside line   through an office PBX phone system. The modem dials the phone number and connects to the remote host. Depending on the remote host, when the connection is established, a message appears.

3. In the Terminal View window, enter the appropriate command to start either PPP or SLIP on the remote host.   The command depends on the remote host.   If you need assistance, contact your network administrator.

4. If you are starting a PPP connection, leave the IP Address blank and the remote host will assign an IP address for you.   If you are starting a SLIP connection, and if the remote host supplies an IP address for you, leave the IP Address edit box blank. When the remote host displays the IP address, enter the address in the IP Address edit box.   If the remote host does not supply an IP address, enter your IP address in the IP Address edit box.

5. When communications are confirmed by the remote host, click the PPP button or SLIP button depending on which type of connection you are making. Once communication starts, the Manual Connect dialog box disappears, and the active session type appears in the Dialer activity window.   You may now run any application you want, such as Telnet or FTP.

6. To print the output of the Terminal View window, click the Print button. To close the Manual Connect dialog box, click the Cancel button.

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Configuring the Serial Interface

To configure the serial interface:

1. Choose Manual Connect>Configure from the Interface menu.   The <u>Configure Manual Interface dialog   box</u> appears.

2. Choose either PPP or SLIP for the connection type.

3. Choose the speed of your modem.

4. Choose the port to which your modem is connected from the Port drop-down list.

5. The connection type, modem speed, and port are the only information required for most manual connections. If you are using manual connect for the first time, or do not know whether the other options are necessary for your situation, click OK to return to the Dialer Application window.   Otherwise, continue with the next step.

6. If the remote host supports Follow DCD or Hardware Flow control, check each check box as needed.

7. If you are configuring a SLIP connection, choose whether or not to use header compression by clicking the appropriate Header Compression Group radio button.   PPP handles header compression automatically.

8. To automatically try to re-establish a connection using this profile if the connection is lost, check the Re-establish Connection Upon Loss check box.

9. Click the <u>Host Information tab</u>.

10. If you need to override the IP address, subnet mask, your workstation host name, or domain name address that you provided when you installed Cisco TCP/IP Suite, enter the new information in the appropriate edit boxes.   If you need to add a new route or the IP address of a DNS name server providing host lookups, click the respective Add button and enter the information.   Refer to <u>Adding Additional Routes</u> and <u>Adding Additional Domain Name Servers</u> for more information.

11. Click the OK button to return to the Dialer Application window.

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Creating a Dialer Profile

To create a Dialer profile:

1. Collect the information listed in <u>Preparing to Make a Connection</u>.

2. From the Dialer application window, click the <u>Connect button,</u> or select Connect from the Interface menu.   The <u>Connect dialog box</u> appears.

3. Click the New... button in the Connect dialog box.   The <u>New Profile dialog box</u> appears.

4. Enter the name you want to give the new profile in the Profile Name edit box.

5. Click the OK button.   The <u>Profile dialog box</u> appears.

6. Set the desired options for the <u>remote host</u>, <u>local host</u>, <u>your modem</u>, <u>a login script</u>, and <u>Dialer options</u>.

7. Click the OK button.   The Profile dialog box closes, returning you to the Connect dialog box. The new profile appears in the Profiles list box.   Once you create a profile, you can start a connection from the Dialer activity window, with <u>Dial on Demand</u>, and from the <u>command line</u>.

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Setting Remote Host Options

To set the remote host options:

1. Click the <u>Remote Host tab</u> on the Profile dialog box.

2. Enter the phone number of the remote host. Be sure to enter any numbers necessary to access an outside line.   Use a comma to indicate Dialer should pause before continuing to dial.

3. Enter your login name (user name) at the remote host.

4. If you want Dialer to prompt you to enter your password before connecting to the remote host, check the Prompt For Password check box.   To save your password to this remote host in the Dialer profile, clear the Prompt For Password check box and enter your password into the Password 1 and 2 edit boxes.   If you save your passwords in the Dialer profile, anyone using your workstation can connect to the remote host using your user name and password.

5. Enter any optional data you may need to give the remote host in the User Data 1 and 2 edit boxes. These edit boxes can store data for use in a login script.

6. Either continue setting options on other tabs, or click OK to return to the Connect dialog box.

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Setting Local Host Options

To set the local host options:

1. Click the <u>Local Host tab</u> in the <u>Profile dialog box</u>.

2. Enter the IP address of the local host. Leave this field blank if the IP address is assigned dynamically by the remote host. If you want the IP address you entered to be the default route, check the Use as Default Route check box. If you do not want the IP address you entered to be the default route, clear the Use as Default Route check box.

3. Enter the subnet mask of the local network.

4. Either continue setting options on other tabs, or click the OK button to return to the <u>Connect dialog box</u>.

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Setting Modem Options

To set the modem options:

1. Click the <u>Modem tab</u> in the Profiles dialog box.

2. Choose the modem's manufacturer and model.   If your modem does not appear in the lists, choose a generic type.   Choose Direct Connection if you are directly connecting to the host through your serial port.

3. Choose the speed of your modem.   For Direct Connections, this speed must be the same as used by the host.

4. Choose the serial port to which your modem is connected.

5. Enter the number of retries you want the modem to try to establish communications after an unsuccessful attempt.

6. Enter the number in seconds you want to pass before the modem terminates an unsuccessful communication attempt.

7. The rest of the information in the Modem tab is set to the standard modem command set by default. If your modem uses the standard command set, you do not need to change any of the defaults. If your modem does not use the standard command set, enter the proper commands for your modem. See your modem documentation for more information.

8. Either continue setting options on other tabs, or click OK to return to the <u>Connect dialog box</u>.

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Setting Script Options

Most remote hosts require some authentication, such as a user name and password, before allowing a user to login. A login script is an automated process that provides this authentication to the remote host.

A Dialer script is a series of commands sent to the remote host and expected replies from the remote host. The commands and replies can be:
- Text, which Dialer sends and expects exactly as entered
- A preset variable, which in the case of a Send command, causes Dialer to send the value stored in the corresponding edit box, or in the case of an expected reply, causes Dialer to receive the value from the remote host and store the value in the corresponding edit box
- Any combination of the other two options

Each command and reply sequence also includes a timeout value, which is the number of seconds Dialer waits for the expected reply before aborting the login attempt.

Each step in the script can contain either a command sent, a reply expected, or both. The most important aspect of creating a script is to understand exactly what your service provider will send in response to your action. For example, consider the following connection sequence:

You:	Dial the phone number
Remote Host:	Answers the phone and displays `Password:`
You:	Send your password
Remote Host:	Receives your password, displays `SysPrompt>`, and sends an IP address
You:	Send a command that contains the IP address to start the SLIP session

Now you are connected and ready to use another application. To create this example, the login script would appear as:

Send	Expect
	`Password:`
`$PASSWORD1<cr>`	`SysPrompt>`
`SLIP $IPADDRESS<cr>`	

Send Values

The Send value in a script can be either a text string or a preset variable. The preset variables are:

$IPADDRESS
　　Send the IP Address value specified in the IP Address edit box in the <u>Local Host tab.</u>

$PASSWORD1
　　Send the Password 1 value specified in the Password 1 edit box in the <u>Remote Host tab.</u>

$PASSWORD2
　　Send the Password 2 value specified in the Password 2 edit box in the <u>Remote Host tab.</u>

$PHONE
　　Send the phone number stored in the Phone Number edit box in the <u>Remote Host tab.</u>

$USERDATA1
　　Send the User Data 1 value specified in the User Data 1 edit box in the <u>Remote Host tab.</u>

$USERDATA2
Send the User Data 2 value specified in the User Data 2 edit box in the <u>Remote Host tab.</u>

$USERNAME
Send the user name stored in the User Name edit box in the <u>Remote Host tab.</u>

<NOTHING>
Indicates that you want no data sent.   You can use this as a placeholder when you only want to send a carriage return.

<cr>
Send a carriage return.   This is equivalent to pressing the Enter key.

Expect Values

The Expect values can either be a text string or $IPADDRESS, which stores the IP address in the IP Address edit box in the <u>Local Host tab</u>.

To create a login script:

1. Click the <u>Script tab</u> in the Profile dialog box.

2. If you want Dialer to automatically initialize the modem and dial the phone number entered in the Remote Host tab before executing the script, click the Auto Dial check box.   If you want to enter the commands to initialize the modem and dial the phone number in the script, clear the Auto Dial check box.

3. Enter the command you want to initially send the remote host in the Send box. You can either enter a command, which will be sent exactly as entered, or choose a preset variable from the drop-down list.

4. Enter the reply you expect from the remote host in the Expect box. You can enter a reply, which will be expected exactly as entered, or you can choose a preset variable from the drop-down list. If you choose a variable from the drop-down list, the reply received is stored in that variable.

5. The value received is stored in the IP Address field in the <u>Local Host tab</u>.

6. Enter the number of seconds to wait for the expected reply before terminating the login attempt.

7. If the remote host requires a carriage return after the Send command, check the Append Carriage Return check box.

8. If the remote host does not require a carriage return, clear the Append Carriage Return check box.

9. Click Add.

10. Repeat steps 3-7 for each command in the script.

11. Either continue setting options on other tabs, or click the OK button to return to the Connect dialog box.

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Setting Dialer Options

To set the Dialer options:

1. Click the Options tab in the Profiles dialog box.

2. To automatically try to re-establish a connection using this profile if the connection is lost, check the Re-establish Connection Upon Loss check box. To prevent Dialer from trying to re-establish a connection if the connection is lost, clear the Re-establish Connection Upon Loss check box.

3. To minimize the Dialer window once the connection using this profile is made, check the Minimize on Connect check box. To keep the Dialer window at its regular size once the connection using this profile is made, clear the Minimize on Connect check box.

4. To have Dialer prompt you for confirmation before disconnecting, check the Prompt on Disconnect check box. To prevent Dialer from prompting you when disconnecting, clear the Prompt on Disconnect check box.

5. To automatically close the connection after a certain number of seconds with no activity, enter the number of seconds in the Idle Disconnect edit box. To prevent Dialer from automatically disconnecting, enter 0 (zero).

6. Choose whether or not to use header compression by clicking the appropriate Header Compression radio button. If header compression is enabled on both hosts, communications are quicker. The On radio button indicates that headers should always be compressed. The Off radio button indicates that headers should never be compressed. The Negotiated radio button indicates that headers are not compressed until a compressed header is received from the other side. To use compressed headers, at least one host must have header compressed enabled.

7. Either continue setting options on other tabs or click OK to return to the Connect dialog box.

Printing the Terminal Window Output

To print the Terminal window output:

1. Click the Print... button on the <u>Manual Connect dialog box</u>.   The <u>Print dialog box</u> appears:
2. Specify the desired print options in the dialog box.
3. Click the OK button.

Saving Message Log Output In a File

To save message log output in a file:

- Check Log to File on the Message Log dialog box.   You are prompt to choose a log file name.   This log file is overwritten every time you make a serial connection.

Adding Additional Routes

To add additional routes:

1. In the Dialer application window, click the <u>Connect button,</u> or select Connect from the Interface menu.   The <u>Connect dialog box</u> appears.

2. Select the profile you want to modify by clicking on its name.

3. Click the Modify... button. The <u>Profile dialog box</u> appears.

4. Click the <u>Local Host tab.</u>

5. Click the Add... button in the Routing group.   The <u>Add Route dialog box</u> appears.

6. Enter the destination IP address.

7. Enter the gateway IP address.

8. If you want the local host to qualify the IP address, click the Host radio button.

9. If you want the network to qualify the IP address, click the Network radio button.

10. Click OK. The Add Route dialog box closes, returning you to the Local Host tab.

11. Click OK. The Profile dialog box closes, returning you to the Connect dialog box

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Adding Additional Domain Name Servers

To add additional domain name servers:

1. In the Dialer application window, click the Connect button, or select Connect from the Interface menu.   The Connect dialog box appears.

2. Select the profile you want to modify by clicking on its name.

3. Click the Modify... button.   The Profile dialog box appears.

4. Click the Local Host tab.

5. Click the Add... button in the DNS group.   The Add DNS dialog box appears.

6. Enter the IP address of the DNS server into the Name Server Address edit box.

7. Click OK.

8. The Add DNS dialog box closes, returning you to the Local Host tab. The DNS server appears in the DNS Server IP Addresses list box.

9. Click OK.

10. The Profile dialog box closes, returning you to the Connect dialog boxConnect_Dialog_Box.

Setting Dial on Demand

Dial on Demand permits applications that access the network through the WinSock interface to automatically start Dialer before starting the application.

To set Dial on Demand:

1. Choose the Program... command from the Options menu.

2. Click Enabled to start Dial on Demand.

3. If you want to start Dialer from a profile, click Use profile and choose the profile name from the list.   If you do not start Dialer from a profile, when Dialer starts, the main activity window appears and you can start the connection either manually or by specifying a profile.

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- • For More Information

Dialer Overview

The Dialer application lets you establish a PPP (Point-to-Point Protocol) or SLIP (Serial Line IP) connection to a remote host.

With both PPP and SLIP, you can connect to a remote host over phone lines using a modem, or with a direct serial-line connection. Once a connection has been made, your PC is recognized as a host on the remote host's network.   PPP and SLIP are common ways to connect to the Internet without having a direct Ethernet connection.

Like SLIP, PPP (Point-to-Point Protocol) allows the transmission of IP packets over serial lines. PPP is a more versatile protocol than SLIP, and contains functionality that SLIP does not, such as:
- Ability to share the serial line with other protocols
- Error correction
- Support for both synchronous and asynchronous communication
- Support for different user-authentication protocols

While PPP is a more versatile serial-line protocol than SLIP, it is not available with all TCP/IP implementations.

You can establish a PPP or SLIP connection in one of two ways:
- By establishing a manual connection -   With a manual connection, you enter commands directly to the modem and the remote host via a terminal window.
- By using the information stored in a Dialer profile - A Dialer profile contains information about the remote host, the local host, the modem, and various Dialer options. The Profile dialog box lets you enter that information, and then save the profile. A Dialer profile lets you make a SLIP connection using the saved information simply by selecting the profile and clicking the Connect button on the Connect dialog box, or by choosing the profile from the Quick Connect list.

Preparing to Make a Connection

Making a connection, either manually or by creating a profile, requires preparation. Before making a connection, complete the following steps. Your network administrator can provide the information you need.

1. Create a properly configured PPP or SLIP interface with the Configuration Utility.

2. For the remote host, gather the dial-in phone number, your user name and password, and commands needed to start a PPP or SLIP connection.

3. For your workstation, gather your IP address, subnet mask, COM port, modem type, modem baud rate, and modem specifications.   Dialer contains standard specifications for most modem types.   If your modem is not described on the <u>Modem tab</u> or on the <u>Settings tab</u> in the Configure Manual Interface dialog box, use the documentation supplied with your modem to find the information and enter it into your Dialer profile.

4. Create a profile from the <u>Connect dialog box</u> by clicking the New... button.

Connection Status Values

The Status column in the [Dialer application window](#) displays the status of each connection. Possible values are:

Active
Traffic is occurring on a connection.

Answer
A remote response was detected from the modem.

Connecting
A connection to the remote host is in progress.

Dialing
The modem is dialing.

Error
An error occurred in the modem, communications port, or kernel interface.

Idle
An active connection currently has no traffic.

Linked
A serial line session has been established with a remote host.

Negotiating
The kernel is negotiating the connection characteristics.

Offhook
The modem could not connect to the telephone line.

Shutdown
The communications and connections are shutting down.

Startup
The communications and connection parameters are initializing.

Unknown
The current status cannot be determined.

Waiting
The modem was sent information but has not yet responded.

For More Information

Recommended Reading

For an excellent conceptual overview of TCP/IP networking concepts, we recommend the following books:

Comer, Douglas E., **Internetworking with TCP/IP**, Volumes I and II, Prentice Hall

Black, Uyless D., **TCP/IP and Related Protocols**, McGraw

For a complete list of recommended books for users of all levels, click here.

Relevant RFCs

For more information on SLIP, consult RFC 1055, written by J. Romkey, June 1988.

For more information on PPP, consult RFC 1661, written by W. Simpson, July 1994.

For information on PPP PAP and CHAP authentication, consult RFC 1334, written by B. Lloyd and W. Simpson, October 1992.

To learn how to get RFCs, click here.