
Command Reference

This section documents new or modified commands for the Store and Forward Fax feature. All other commands used with this feature are documented in the Cisco IOS Release 12.1 command references.

- **destination-pattern**
- **dial-peer voice**
- **direct-inward-dial**
- **dsn**
- **fax receive called-subscriber**
- **fax send center-header**
- **fax send coverpage comment**
- **fax send coverpage e-mail-controllable**
- **fax send coverpage enable**
- **fax send coverpage show-detail**
- **fax send left-header**
- **fax send max-speed**
- **fax send right-header**
- **fax send transmitting-subscriber**
- **image encoding**
- **image resolution**
- **incoming called-number**
- **information-type**
- **max-conn**
- **mdn**
- **mmpip aaa global password**
- **mmpip aaa method fax accounting**
- **mmpip aaa method fax authentication**
- **mmpip aaa receive-accounting enable**
- **mmpip aaa receive-authentication enable**
- **mmpip aaa receive-id primary**
- **mmpip aaa receive-id secondary**
- **mmpip aaa send-accounting enable**
- **mmpip aaa send-authentication enable**
- **mmpip aaa send-id primary**
- **mmpip aaa send-id secondary**
- **mta receive aliases**

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- **mta receive generate-mdn**
 - **mta receive maximum-recipients**
 - **mta send mail-from**
 - **mta send mail-from**
 - **mta send origin-prefix**
 - **mta send postmaster**
 - **mta send return-receipt-to**
 - **mta send server**
 - **mta send subject**
 - **prefix**
 - **session protocol**
 - **session target**
 - **show call active**
 - **show call history**
 - **shutdown (dial peer)**

destination-pattern

To specify either the prefix or the full E.164 telephone number (depending on your dial plan) to be used for a POTS or MMoIP dial peer, use the **destination-pattern** dial-peer configuration command. Use the **no** form of this command to restore the default value.

destination-pattern [+]*string*
no destination-pattern

Syntax Description

- string* Series of digits that specify the E.164 or private dialing plan telephone number. Valid entries are the digits 0 through 9 and the letters A through D and the following special characters:
- Plus sign (+), which is optionally used as the first digit to indicate a fully qualified E.164 standard number.
 - Star character (*) and pound sign (#) that appear on standard touch-tone dial pads. However, these characters cannot be used as leading characters in a string (for example, *650).
 - Comma (,), which inserts a pause between digits.
 - Period (.), which matches any entered digit (this character is used as a wildcard).

Defaults

Enabled with a null string.

Command Modes

Dial-peer configuration

Command History

Release	Modification
11.3(1)T	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

Use the **destination-pattern** command to define the E.164 telephone number for this dial peer.

This pattern is used to match dialed digits to a dial peer. The dial peer is then used to complete the call. When a router receives voice data, it compares the called number (the full E.164 telephone number) in the packet header with the number configured as the destination pattern for the voice-telephony peer. The router then strips out the left-justified numbers corresponding to the destination pattern. If you have configured a prefix, the prefix will be appended to the front of the remaining numbers, creating a dial string, which the router will then dial. If all numbers in the destination pattern are stripped-out, the user will receive a dial tone.

This command applies to both on-ramp and off-ramp Store and Forward Fax functions.

Note The Cisco IOS software does not check the validity of the E.164 telephone number; it accepts any series of digits as a valid number.

Examples

The following example configures the E.164 telephone number “555-1234” for a dial peer:

```
dial-peer voice 10 pots
destination-pattern +5551234
```

dial-peer voice

To enter dial-peer configuration mode, define the type of dial peer, and define the tag number associated with this dial peer, use the **dial-peer voice** global configuration command. Use the **no** form of this command to disable this dial peer.

```
dial-peer voice number { pots | mmoip | voip }
no dial-peer voice number
```

Syntax Description

<i>number</i>	Digit(s) that define a particular dial peer. Valid entries are 1 to 2147483647.
pots	Indicates that this is a POTS peer using Voice over IP encapsulation on the IP backbone.
mmoip	Indicates that this is a Multimedia Mail peer using IP encapsulation on the IP backbone.
voip	Indicates that this is a VoIP peer using voice encapsulation on the POTS network.

Defaults

No default behavior or values.

Command Modes

Global configuration

Command History

Release	Modification
11.3(1)T	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

Use the **dial-peer voice** global configuration command to switch to dial-peer configuration mode from global configuration mode and to define a particular dial peer. Use the **exit** command to exit dial-peer configuration mode and return to global configuration mode.

In Store and Forward Fax on the Cisco AS5300, the POTS dial peer defines the inbound faxing line characteristics from the sending fax device to the receiving Cisco AS5300 and the outbound line characteristics from the sending Cisco AS5300 to the receiving fax device. The MMoIP dial peer defines the inbound faxing line characteristics from the Cisco AS5300 to the receiving SMTP mail server.

After you have created a dial peer, that dial peer remains defined and active until you disable that particular dial peer. To disable a dial peer, use the **no** form of this command.

This command applies to both on-ramp and off-ramp Store and Forward Fax functions.

Note VoIP peers are specific to Voice over IP and not used with Store and Forward Fax.

Example

The following example accesses dial-peer configuration mode and configures a POTS peer identified as dial peer 10 and an MMoIP dial peer identified as dial peer 20:

```
configure terminal
dial-peer voice 10 pots
dial-peer voice 20 mmoip
```

The following example disables the MMoIP peer identified as dial peer 20:

```
configure terminal
no dial-peer voice 20
```

direct-inward-dial

To enable the Direct Inward Dial (DID) call treatment for the incoming called number, use the **direct-inward-dial** dial-peer configuration command. Use the **no** form of this command to disable DID.

direct-inward-dial
no direct-inward-dial

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Dial-peer configuration

Command History

Release	Modification
11.3(1)NA	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

Use the **direct-inward-dial** command to enable the DID call treatment for the incoming called numbers. When this feature is enabled, the incoming call is treated as if the digits are received from the DID trunk. The called number is used to select the outgoing dial peer. No dial tone will be presented to the caller.

Use the **no** form of this command to disable DID. When disabled, the called number is used to select the outgoing dial peer. The caller will be prompted for a called number via dial tone.

This command is only applicable to POTS dial peers. This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example enables DID call treatment for incoming called numbers:

```
dial peer voice 10 pots
direct-inward-dial
```

dsn

To specify that a delivery status notice be delivered to the sender, use the **dsn** MMoIP dial-peer configuration command. Use the **no** form of this command to cancel a specific delay status notice option.

```
dsn {delay | failure | success}
no dsn {delay | failure | success}
```

Syntax Description

delay	Indicates that when the mail is sent, the next-hop mailer is requested to send an indication to the FROM address if the mail message is delayed. The definition of delay is made by each mailer and is not controllable by the sender (the AS5300). Each mailer in the path to the recipient that supports the DSN extension receives the same request.
failure	Indicates that when the mail is sent, the next-hop mailer is requested to send a message to the FROM address if the mail message failed to be delivered. Each mailer in the path to the recipient that supports the DSN extension receives the same request.
success	Indicates that when the mail is sent, the next-hop mailer is requested to send a message to the FROM address if the mail message is successfully delivered to the recipient. Each mailer in the path to the recipient that supports the DSN extension receives the same request.

Note In the absence of any other DSN settings (“no dsn,” or a mailer in the path that does not support the DSN extension) a failure to deliver will always cause a non-delivery message to be generated. This non-delivery message is colloquially termed a “bounce.”

Defaults

The default is **success** and **failure**.

Command Modes

Dial-peer configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Delivery status notifications (DSNs) are messages or responses that are automatically generated and sent to the sender or originator of an e-mail message by the SMTP server, notifying the sender of the status of the e-mail message. Specifications for DSN are described in RFC 1891, RFC 1892, RFC 1893, and RFC 1894.

The on-ramp DSN request is included as part of the fax-mail message sent by the on-ramp gateway when the matching MMoIP dial peer has been configured. The on-ramp DSN response is generated by the SMTP server when the fax-mail message is accepted. The DSN is sent back to the user defined in using the **mta send mail-from** command. The off-ramp DSN is requested by the e-mail client. The DSN response is generated by the SMTP server when it receives a request as part of the fax-mail message.

Note DSNs can only be generated if the mail client on the SMTP server is capable of responding to a DSN request.

Because the SMTP server generates the DSNs, you need to configure both the mail from: and rcpt to: commands for the DSN feature to be operational. For example:

```
mail from: <user@mail-server.company.com>
rcpt to: <fax=555-1212@company.com> NOTIFY=SUCCESS,FAILURE,DELAY
```

There are three different states that can be reported back to the sender:

- Delay—Indicates that, for some reason, the message was delayed in being delivered to the recipient.
- Success—Indicates that the message was successfully delivered to the recipient's mailbox.
- Failure—Indicates that, for some reason, the SMTP server was unable to deliver the message to the recipient.

Because these delivery states are not mutually exclusive, you can configure Store and Forward Fax to generate these messages for all or any combination of these events.

DSN messages notify the sender of the status of a particular e-mail message containing a fax TIFF image. Use the **dsn** command to specify which notification messages will be sent to the user.

The **dsn** command allows you to select more than one notification option by reissuing the command, specifying a different notification option each time. To discontinue a specific notification option, use the **no** form of the command for that specific keyword.

Note If the keyword **failure** is not included when configuring DSN, the sender will receive absolutely no notification of message delivery failure. As a failure is usually significant, care should be taken to always include **failure** as part of the **dsn** command configuration.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example specifies that a DSN message be returned to the sender when the e-mail message containing the fax has been successfully delivered to the recipient or if the message containing the fax has failed, for whatever reason, to be delivered:

```
dial-peer voice 10 mmoip
  dsn success
  dsn failure
```

The following example specifies that a DSN message be returned to the sender either when the e-mail message containing the fax has been successfully delivered to the recipient or when the message has been delayed:

```
dial-peer voice 10 mmoip
  dsn success
  dsn delayed
```

Related Commands

Command	Description
mta send mail-from hostname	Specifies the originator (hostname portion) of the e-mail fax message.
mta send mail-from username	Specifies the originator (username portion) of the e-mail fax message.

fax receive called-subscriber

To define the called subscriber identifier (CSI), use the **fax receive called-subscriber** global configuration command. Use the **no** form of this command to disable the configured number.

```
fax called-subscriber {$d$ | string}
no fax called-subscriber {$d$ | string}
```

Syntax Description

\$d\$	Wildcard specifies that the information displayed is captured from the configured destination pattern.
<i>string</i>	Specifies the destination telephone number. Valid entries are the plus sign (+), numbers 0 through 9, and the space character. This string can specify an E.164 telephone number; if you choose to configure an E.164 telephone number, you must use the plus sign as the first character.

Defaults

Enabled with a null string.

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Use the **fax called-subscriber** command to define the number displayed in the LCD of the sending fax device when you are sending a fax to a recipient. Typically, with a standard Group 3 fax device, this is the telephone number associated with the receiving fax device. The command defines the CSI.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example configures the number “555-1234” as the called-subscriber number:

```
configure terminal
fax received called-subscriber 5551234
```

fax send center-header

To specify the data that will appear in the center position of the fax header information, use the **fax send center-header** global configuration command. Use the **no** form of this command to disable the selected options.

```
fax send center-header {$a$ | $d$ | $p$ | $s$ | $t$ | string}  
no fax send center-header {$a$ | $d$ | $p$ | $s$ | $t$ | string}
```

Syntax Descriptions

<i>\$a\$</i>	Wildcard that inserts the date in the selected position.
<i>\$d\$</i>	Wildcard that inserts the destination address in the selected position.
<i>\$p\$</i>	Wildcard that inserts the page count in the selected position.
<i>\$s\$</i>	Wildcard that inserts the sender's address in the selected position.
<i>\$t\$</i>	Wildcard that inserts the transmission time in the selected position.
<i>string</i>	Text string that provides personalized information. Valid characters are any text plus wildcards—for example, Time:\$t\$.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Mail messages that contain only text or contain text attachments (MIME media type of text) can be converted by the off-ramp AS5300 into a format understood by fax machines using the Cisco AS5300's text-to-fax converter. When this conversion is performed, this **fax send center-header** command is used to indicate what header information should be added to the center top those pages.

Mail messages with TIFF attachments (MIME media type of image and subtype of TIFF) are expected to include their own per-page headers, and the Cisco AS5300's software does not modify TIFF attachments.

Note Because the Cisco AS5300 does not alter fax TIFF attachments, you cannot configure faxed header information for faxes being converted from TIFF files to standard fax transmissions.

This command lets you configure multiple options at once—meaning that you can combine one or more wild cards with text string information to personalize your fax header information.

Note If the information you have selected for the **fax send center-header** command exceeds the space allocated for the center fax header, the information is truncated.

This command applies to off-ramp Store and Forward Fax functions.

Examples

The following example selects the transmission time of the fax as the center fax header information:

```
configure terminal
fax send center-header $t$
```

The following example configures the company name “Widget” and its address as the center fax header information:

```
configure terminal
fax send center-header widget $$s$
```

Related Commands

Command	Description
fax send left-header	Specifies the data that will appear on the left in the fax header.
fax send right-header	Specifies the data that will appear on the right in the fax header.

fax send coverpage comment

To define personalized text for the title field of a fax cover sheet, use the **fax send coverpage comment** global configuration command. Use the **no** form of this command to disable the defined comment.

fax send coverpage comment *string*
no fax send coverpage comment *string*

Syntax Description

string Text string that adds personalized text in the title field of the fax cover sheet. Valid characters are any ASCII characters.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

The **fax send coverpage comment** command can be overridden by the **fax send coverpage e-mail controllable** command.

This command applies to off-ramp Store and Forward Fax functions.

Examples

The following example configures an individualized title comment of “Acme Fax Services” for generated fax cover sheets:

```
configure terminal
fax send coverpage enable
fax send coverpage comment Acme Fax Services
```

Related Commands

Command	Description
fax send coverpage e-mail-controllable	Controls the cover page generation on a per-recipient basis, based on the information contained in the destination address of the e-mail message.
fax send coverpage enable	Enables the Cisco AS5300 to generate fax cover sheets.
fax send coverpage show-detail	Prints all of the e-mail header information as part of the fax cover sheet.

fax send coverpage e-mail-controllable

To defer to the cover page setting in the e-mail header to generate a standard fax cover sheet, use the **fax send coverpage e-mail-controllable** global configuration command. Use the **no** form of this command to disable standard fax sheet generation.

fax send coverpage e-mail-controllable
no fax send coverpage e-mail-controllable

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

You can also use the destination address of an e-mail message to control the cover page generation on a per-recipient basis. Use the **fax send coverpage e-mail-controllable** command to configure the router to defer to the cover page setting in the e-mail header.

In essence, the off-ramp router defers to the setting configured in the e-mail address itself. For example, if the address has a parameter set to `cover=no`, this parameter will override the setting for the **fax send coverpage enable** command and the off-ramp gateway will not generate and send a fax cover page. If the address has a parameter set to `cover=yes`, the off-ramp gateway will defer to this and generate and send a fax cover page.

Table 3 shows examples of what the user would enter in the To: field of the e-mail message.

Table 3 Example Entries for the To: Field

Example for To: Field Entries	Description
FAX=+1-312-555-3260@fax.com	Fax sent to an E.164-compliant long distance telephone number in the United States. If the fax coverpage enable command has been configured, Store and Forward Fax will generate a fax cover page.
FAX=+1-312-555-3260/cover=no@fax.com	Fax sent to an E.164-compliant long distance telephone number in the United States. In this example, the fax coverpage enable command is superseded by the <code>cover=no</code> statement. No cover page will be generated.

Example for To: Field Entries	Description
FAX=+1-312-555-3260/cover=yes@fax.com	Fax sent to an E.164-compliant long distance telephone number in the United States. In this example, the fax coverpage enable command is superseded by the cover=yes statement. Store and Forward Fax will generate a fax coverpage.
FAX=+1-312-555-3260/T33S=123456@fax.com	Need description
FAX=+49-515-555-5637@faxgateway.com	Need description
FAX=+61-2-555-8765@fax.host.com	Need description
FAX=+33-65-555-5555@fax.com	Need description

This command applies to off-ramp Store and Forward Fax functions.

Examples

The following example enables standard generated fax cover sheets:

```
configure terminal
  fax send coverpage enable
  fax send coverpage e-mail-controllable
```

Related Commands

Command	Description
fax send coverpage comment	Defines personalize text for the title field of a fax cover sheet.
fax send coverpage enable	Enables the Cisco AS5300 to generate fax cover sheets.
fax send coverpage show-detail	Prints all of the e-mail header information as part of the fax cover sheet.

fax send coverpage enable

To enable the Cisco AS5300 to generate fax cover sheets for faxes that originate from e-mail messages, use the **fax send coverpage enable** global configuration command. Use the **no** form of this command to disable fax cover sheet generation functionality.

fax send coverpage enable
no fax send coverpage enable

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Note This command is applicable only for faxes originating as e-mail messages. The Cisco AS5300 does not alter fax TIFF attachments. Therefore you cannot use this command to enable the AS5300 to generate fax cover pages for faxes being converted from TIFF files to standard fax transmissions.

This command applies to off-ramp Store and Forward Fax functions.

Example

The following example enables Cisco AS5300-generated fax cover sheets:

```
configure terminal
fax send coverpage enable
```

Related Commands

Command	Description
fax send coveragepage comment	Defines personalized text for the title field of a fax cover sheet.
fax send coveragepage e-mail-controllable	Controls the cover page generation on a per-recipient basis, based on the information contained in the destination address of the e-mail message.
fax send coveragepage show-detail	Prints all of the e-mail header information as part of the fax cover sheet.

fax send coverpage show-detail

To print all of the e-mail header information as part of the fax cover sheet, use the **fax send coverpage show-detail** global configuration command. Use the **no** form of this command to disable the e-mail header information being displayed.

fax send coverpage show-detail
no fax send coverpage show-detail

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

This command applies to off-ramp Store and Forward Fax functions.

Note This command is applicable only for faxes originating as e-mail messages. The Cisco AS5300 does not alter fax TIFF attachments. Therefore, you cannot use this command to enable the AS5300 to display additional fax cover page information for faxes being converted from TIFF files to standard fax transmissions.

Examples

The following example configures an individualized generated fax cover sheet that contains the e-mail header text:

```
configure terminal
fax send coverpage enable
no fax send coverpage e-mail-controllable
fax send coverpage show-detail
```

Related Commands

Command	Description
fax send coverpage comment	Defines personalized text for the title field of a fax cover sheet.
fax send coverpage e-mail-controllable	Controls the cover page generation on a per-recipient basis, based on the information contained in the destination address of the e-mail message.
fax send coverpage enable	Enables the Cisco AS5300 to generate fax cover sheets.

fax send left-header

To specify the data that will appear on the left in the fax header, use the **fax send left-header** global configuration command. Use the **no** form of this command to disable the selected options.

```
fax send left-header {$a$ | $d$ | $p$ | $s$ | $t$ | string}  
no fax send left-header {$a$ | $d$ | $p$ | $s$ | $t$ | string}
```

Syntax Description

<i>\$a\$</i>	Wildcard that inserts the date in the selected position.
<i>\$d\$</i>	Wildcard that inserts the destination address in the selected position.
<i>\$p\$</i>	Wildcard that inserts the page count in the selected position.
<i>\$s\$</i>	Wildcard that inserts the sender's address in the selected position.
<i>\$t\$</i>	Wildcard that inserts the transmission time in the selected position.
<i>string</i>	Text string that provides personalized information. Valid characters are any combination of ASCII characters and the wildcards listed above.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Mail messages that contain only text or contain text attachments (MIME media type of text) can be converted by the off-ramp AS5300 into a format understood by fax machines using the AS5300's text-to-fax converter. When this conversion is performed, this **fax send left-header** command is used to indicate what header information should be added to the left top of those pages.

Mail messages with TIFF attachments (MIME media type of image and subtype of TIFF) are expected to include their own per-page headers and the AS5300's software does not modify TIFF attachments.

This command lets you configure multiple options at once—meaning that you can combine one or more wild cards with text string information to personalize your fax header information.

Note If the information you select for the **fax send left-header** command exceeds the space allocated for the left fax header, the information is truncated.

This command applies to off-ramp Store and Forward Fax functions.

Example

The following example selects the transmission time of the fax as the left fax header information:

```
configure terminal
fax send left-header $t$
```

The following example configures the company name “Widget” and its address as the left fax header information:

```
configure terminal
fax send left-header widget $$s$
```

Related Commands

Command	Description
fax send center-header	Specifies the data that will appear in the center of the fax header.
fax send right-header	Specifies the data that will appear on the right in the fax header.

fax send max-speed

To specify the maximum speed at which an outbound fax will be transmitted, use the **fax send max-speed** global configuration command. Use the **no** form of this command to disable the selected speed.

```
fax send max-speed { 12000 | 14400 | 2400 | 4800 | 7200 | 9600 }  
no fax send max-speed { 12000 | 14400 | 2400 | 4800 | 7200 | 9600 }
```

Syntax Description

12000	Indicates a transmission speed of 12000 bits per second (bps).
14400	Indicates a transmission speed of 14400 bps.
2400	Indicates a transmission speed of 2400 bps.
4800	Indicates a transmission speed of 4800 bps.
7200	Indicates a transmission speed of 7200 bps.
9600	Indicates a transmission speed of 9600 bps.

Defaults

14400

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

This command applies to off-ramp Store and Forward Fax functions.

Examples

The following example sets the outbound fax transmission rate at 2400 bps:

```
configure terminal  
fax send max-speed 2400
```

fax send right-header

To specify the data that will appear on the right in the fax header information, use the **fax send right-header** global configuration command. Use the **no** form of this command to disable the selected options.

```
fax send right-header {$a$ | $d$ | $p$ | $s$ | $t$ | string}
no fax send right-header {$a$ | $d$ | $p$ | $s$ | $t$ | string}
```

Syntax Description

<i>\$a\$</i>	Wildcard that inserts the date in the selected position.
<i>\$d\$</i>	Wildcard that inserts the destination address in the selected position.
<i>\$p\$</i>	Wildcard that inserts the page count in the selected position.
<i>\$s\$</i>	Wildcard that inserts the sender's address in the selected position.
<i>\$t\$</i>	Wildcard that inserts the transmission time in the selected position.
<i>string</i>	Text string that provides personalized information. Valid characters are any combination of ASCII characters and the wildcards listed above.

Defaults

No connection

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Mail messages that contain only text or contain text attachments (MIME media type of text) can be converted by the off-ramp AS5300 into a format understood by fax machines using the AS5300's text-to-fax converter. When this conversion is performed, this **fax send right-header** command is used to indicate what header information should be added to right top of those pages.

Mail messages with TIFF attachments (MIME media type of image and subtype of TIFF) are expected to include their own per-page headers and the AS5300's software does not modify TIFF attachments.

This command lets you configure multiple options at once—meaning that you can combine one or more wildcards with text string information to personalize your fax header information.

Note If the information you select for the **fax send right-header** command exceeds the space allocated for the right fax header, the information is truncated.

This command applies to off-ramp Store and Forward Fax functions.

Examples

The following example selects the date of the fax as the right fax header information:

```
configure terminal
fax send right-header $a$
```

The following example configures the company name “Widget” and its address as the right fax header information:

```
configure terminal
fax send right-header widget $s$
```

Related Commands

Command	Description
fax send center-header	Specifies the data that will appear in the center in the fax header.
fax send left-header	Specifies the data that will appear on the left in the fax header.

fax send transmitting-subscriber

To define the transmitting subscriber identifier (TSI), use the **fax send transmitting-subscriber** global configuration command. Use the **no** form of this command to disable the configured value.

```
fax send transmitting-subscriber {$$ | string}
no fax send transmitting-subscriber {$$ | string}
```

Syntax Description

<i>\$\$</i>	Wildcard that inserts the sender's name from the RFC 822 header (captured by the on-ramp from the sending fax machine) in the selected position.
<i>string</i>	Specifies the destination telephone number. Valid entries are the plus sign (+), numbers 0 through 9, and the space character. This string can specify an E.164 telephone number; if you choose to configure an E.164 telephone number, you must use the plus sign as the first character.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

The transmitting subscriber number is the number displayed in the LCD of the receiving fax device. Typically, with a standard Group 3 fax device, this is the telephone number associated with the transmitting or sending fax device. This command defines the TSI.

This command applies to off-ramp Store and Forward Fax functions.

Examples

The following example configures the company's name (as captured by the on-ramp from the sending fax machine as +18005551234) as the TSI:

```
configure terminal
fax send transmitting-subscriber +14085551234
```

image encoding

To select a specific encoding method for fax images associated with an MMoIP dial peer, use the **image encoding** dial-peer configuration command. Use the **no** form of this command to restore the default value.

```
image encoding { mh | mr | mmr | passthrough }
no image encoding { mh | mr | mmr | passthrough }
```

Syntax Description

mh	Specifies Modified Huffman image encoding. This is the IETF standard.
mr	Specifies Modified Read image encoding.
mmr	Specifies Modified Modified Read image encoding.
passthrough	Specifies that the image will not be modified by an encoding method.

Defaults

Passthrough

Command Modes

Dial-peer configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Use the **image encoding** command to specify an encoding method for e-mail fax TIFF images for a specific MMoIP dial peer. This command applies primarily to the on-ramp MMoIP dial peer. Although you can optionally create an off-ramp dial peer and configure a particular image encoding value for that off-ramp call leg, Store and Forward Fax ignores the off-ramp MMoIP setting and transmits the file using Modified Huffman encoding.

There are four available encoding methods:

Modified Huffman (MH)—One-dimensional data compression scheme that compresses data in only one direction (horizontal). Modified Huffman compression does not allow the transmission of redundant data. This encoding method produces the largest image file size.

Modified Read (MR)—Two-dimensional data compression scheme (used by fax devices) that handles the data compression of the vertical line and that concentrates on the space between lines and within given characters.

Modified Modified Read (MMR)—Data compression scheme used by newer Group 3 fax devices. This encoding method produces the smallest possible image file size and is slightly more efficient than Modified Read.

Passthrough—No encoding method will be applied to the image—meaning that the image will be encoded by whatever encoding method is used by the fax device.

The IETF standard for transmitting fax TIFF images is Modified Huffman encoding with fine or standard resolution. RFC 2301 requires compliant receivers support TIFF images with MH encoding and fine or standard resolution. If a receiver supports features beyond this minimal requirement, you might want to configure the Cisco AS5300 to send enhanced-quality documents to that receiver.

The primary reason to use a different encoding scheme from MH is to save network bandwidth. MH ensures interoperability with all Internet fax devices but it is the least efficient of the encoding schemes for transmitting fax TIFF images. For most images, MR is more efficient than MH and MMR is more efficient than MR. If you know the recipient is capable of receiving more efficient encodings than just MH, Store and Forward Fax allows you to send the most efficient encoding the recipient can process. For end-to-end closed networks, you can choose any encoding scheme because the off-ramp gateway can process MH, MR, and MMR.

Another factor to take into account is the viewing software. Many viewing applications (for example, those that come with Windows '95 or Windows NT) are able to display MH, MR, and MMR. Therefore you should decide, based on the viewing application and the available bandwidth, which encoding scheme is right for your network.

This command applies to both on-ramp and off-ramp Store and Forward Fax functions.

Examples

The following example selects Modified Modified Read as the encoding method for fax TIFF images sent by MMoIP dial peer 10:

```
dial-peer voice 10 mmoip
  image encoding mmr
```

Related Commands

Command	Description
image-resolution	Specifies a particular fax image resolution for a specific MMoIP dial peer.

image resolution

To specify a particular fax image resolution for a specific MMoIP dial peer, use the **image resolution** dial-peer configuration command. Use the **no** form of this command to restore the default value.

image resolution { **fine** | **standard** | **superfine** | **passthrough** }
no connection { **fine** | **standard** | **superfine** | **passthrough** }

Syntax Description

fine	Configures the fax TIFF image resolution to be 204-by-196 pixels per inch.
standard	Configures the fax TIFF image resolution to be 204-by-98 pixels per inch.
super-fine	Configures the fax TIFF image resolution to be 204-by-391 pixels per inch.
passthrough	Indicates that the resolution of the fax TIFF image will not be altered.

Defaults

Passthrough

Command Modes

Dial-peer configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Use the **image resolution** command to specify a specific resolution (in pixels per inch) for e-mail fax TIFF images sent by the specified MMoIP dial peer. This command applies primarily to the on-ramp MMoIP dial peer. Although you can optionally create an off-ramp dial peer and configure a particular image resolution value for that off-ramp call leg, Store and Forward Fax ignores the off-ramp MMoIP setting and transmits the file using fine resolution.

This command enables you to increase or decrease the resolution of a fax TIFF image, thereby changing not only the resolution but the size of the fax TIFF file. The IETF standard for transmitting fax TIFF images is Modified Huffman encoding with fine or standard resolution. The primary reason to configure a different resolution is to save network bandwidth.

This command applies to both on-ramp and off-ramp Store and Forward Fax functions.

Examples

The following example selects the resolution fine (meaning 204-by-196 pixels per inch) for e-mail fax TIFF images associated with MMoIP dial peer 10:

```
dial-peer voice 10 mmoip
  image encoding mh
  image resolution fine
```

Related Commands

Command	Description
image encoding	Specifies a specific encoding method for e-mail TIFF images for a specific MMoIP dial peer.

incoming called-number

To specify an incoming called number of an MMoIP or POTS dial peer, use the **incoming called-number** dial-peer configuration command. Use the **no** form of this command to reset the default value for this command.

incoming called-number *string*
no incoming called-number *string*

Syntax Description

string Specifies the incoming called telephone number. Valid entries are any series of digits that specify the E.164 telephone number.

Defaults

No incoming called number is defined.

Command Modes

Dial-peer configuration

Command History

Release	Modification
11.3(1)T	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

Use the **incoming-called number** command to define the destination telephone number for a particular dial peer. For the on-ramp POTS dial peer, this telephone number is the DNIS number of the incoming fax call. For the off-ramp MMoIP dial peer, this telephone number is the destination fax machine telephone number.

This command applies to both on-ramp and off-ramp Store and Forward Fax functions.

Examples

The following example configures the number (310)555-9261 as the incoming called number for MMoIP dial peer 10:

```
dial-peer voice 10 mmoip
  incoming 3105559261
```

information-type

To select a particular information type for either an MMoIP or a POTS dial peer, use the **information-type** dial-peer configuration command. Use the **no** form of this command to reset the default value for this command.

```
information type {fax | voice}
no information type {fax | voice}
```

Syntax Description

fax Indicates that the information type has been set to store and forward fax.

voice Indicates that the information type has been set to voice.

Defaults

Voice

Command Modes

Dial-peer configuration

Command History

Release	Modification
11.3(1)T	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

This command applies to both on-ramp and off-ramp Store and Forward Fax functions.

Examples

The following example sets the information type for MMoIP dial peer 10 to fax:

```
dial-peer voice 10 mmoip
  information-type fax
```

max-conn

To specify a maximum number of connections for a particular MMoIP or POTS dial peer, use the **max-conn** dial-peer configuration command. Use the **no** form of this command to set an unlimited number of connections for this dial peer.

max-conn *number*
no max-conn *number*

Syntax Description

number Specifies the maximum number of connections for this dial peer. Valid values for this field are 1 to 2147483647.

Defaults

The **no** form of this command is the default, meaning unlimited number of connections.

Command Modes

Dial-peer configuration

Command History

Release	Modification
11.3(1)T	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

Use the **max-conn** command to define the maximum number of connections used simultaneously on the Cisco AS5300 to transmit fax-mail.

This command applies to off-ramp Store and Forward Fax functions.

Examples

The following example configures the maximum number of connections for MMoIP dial peer 10 as 5:

```
dial-peer voice 10 mmoip  
max-conn 5
```

Related Commands

Command	Description
mta receive maximum-recipients	Specifies the maximum number of recipients for all SMTP connections.

mdn

To request that a message disposition notice be generated when the message is processed (“opened”), use the **mdn** command. Use the **no** form of this command to restore the default value.

mdn
no mdn

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Dial-peer configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Message disposition notification is an e-mail message that is generated and sent to the sender when the message is opened by the receiver. Use the **mdn** command to request that an e-mail response message be sent to the sender when the e-mail containing the fax TIFF image has been opened.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example requests that a message disposition notice be generated by the recipient:

```
dial-peer voice 10 mmoip
mdn
```

Related Commands

Command	Description
mta receive generate-mdn	Specifies that the Cisco AS5300 acting as the off-ramp gateway will respond to a request for an MDN.
mta send-return receipt-to hostname	Specifies the hostname address where MDNs are sent.
mta send-return receipt-to username	Specifies the username address where MDNs are sent.

mmoip aaa global password

To define a password to be used with CiscoSecure for Windows NT when using Store and Forward Fax with a modem card, use the **mmoip aaa global password** global configuration command. Use the **no** form of this command to restore the default value.

mmoip aaa default password *password*
no mmoip aaa default password *password*

Syntax Description

password Character string used to define the CiscoSecure for Windows NT password to be used with Store and Forward Fax. Maximum length is 64 alphanumeric characters.

Defaults

No password defined.

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

CiscoSecure for Windows NT might require a separate password in order to complete authentication, no matter what security protocol you use. This command defines the password to be used with CiscoSecure for Windows NT. All records on the Windows NT server use this defined password.

This command applies to on-ramp Store and Forward Fax functions when using a modem card. It is not used with voice feature cards.

Examples

The following example defines a password (abercrombie) when CiscoSecure for Windows NT is used with Store and Forward Fax:

```
configure terminal
mmoip aaa global-password abercrombie
```

mmoip aaa method fax accounting

To define the name of the method list to be used for AAA accounting with Store and Forward Fax on a modem card, use the **mmoip aaa method fax accounting** global configuration command. Use the **no** form of this command to restore the default value.

```
mmoip aaa method fax accounting method-list-name
no mmoip aaa method fax accounting method-list-name
```

Syntax Description

method-list-name Character string used to name a list of accounting methods to be used with Store and Forward Fax.

Defaults

No AAA accounting method list defined.

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

This command defines the name of the AAA accounting method list to be used with Store and Forward Fax. The method list itself, which defines the type of accounting services provided for Store and Forward Fax, is defined using the **aaa accounting** global configuration command. Unlike standard AAA (where each defined method list can be applied to specific interfaces and lines), the AAA accounting method lists used in Store and Forward Fax are applied globally on the Cisco AS5300.

After the accounting method lists have been defined, they are enabled by using the **mmoip aaa receive-accounting enable** command.

This command applies to both on-ramp and off-ramp Store and Forward Fax functions when using a modem card. It is not used with voice feature cards.

Examples

The following example defines a AAA accounting method list (called sherman) to be used with Store and Forward Fax:

```
configure terminal
aaa new-model
mmoip aaa method fax accounting sherman
```

Related Commands

Command	Description
mmoip aaa receive-accounting enable	Enables on-ramp AAA accounting services.

mmoip aaa method fax authentication

To define the name of the method list to be used for AAA authentication with Store and Forward Fax, use the **mmoip aaa method fax authentication** global configuration command. Use the **no** form of this command to restore the default value.

```
mmoip aaa method fax authentication method-list-name
no mmoip aaa method fax authentication method-list-name
```

Syntax Description

method-list-name Character string used to name a list of authentication methods to be used with Store and Forward Fax.

Defaults

No AAA authentication method list defined.

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

This command defines the name of the AAA authentication method list to be used with Store and Forward Fax. The method list itself, which defines the type of authentication services provided for Store and Forward Fax, is defined using the **aaa authentication** global configuration command. Unlike standard AAA (where each defined method list can be applied to specific interfaces and lines), AAA authentication method lists used with Store and Forward Fax are applied globally on the Cisco AS5300.

After the authentication method lists have been defined, they are enabled by using the **mmoip aaa receive-authentication enable** command.

This command applies to both on-ramp and off-ramp Store and Forward Fax functions.

Examples

The following example defines a AAA authentication method list (called peabody) to be used with Store and Forward Fax:

```
configure terminal
aaa new-model
mmoip aaa method fax authentication peabody
```

mmoip aaa method fax authentication

Related Commands

Command	Description
mmoip aaa receive-authentication enable	Enables on-ramp AAA authentication services.

mmoip aaa receive-accounting enable

To enable on-ramp AAA accounting services, use the **mmoip aaa receive-accounting enable** global configuration command. Use the **no** form of this command to restore the default value.

```
mmoip aaa receive-accounting enable
no mmoip aaa receive-accounting enable
```

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

This command enables AAA accounting services if a AAA accounting method list has been defined using both the **aaa accounting** command and the **mmoip aaa method fax accounting** command.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example enables a AAA accounting method list (called sherman) to be used with inbound Store and Forward Fax. In this example, Store and Forward Fax is being configured to track start and stop connection accounting records.

```
configure terminal
aaa new-model
mmoip aaa method fax accounting sherman
aaa accounting connection sherman stop-only radius
mmoip aaa receive-accounting enable
```

Related Commands

Command	Description
mmoip aaa method fax accounting	Defines the name of the method list to be used for AAA accounting with Store and Forward Fax.

mmoip aaa receive-authentication enable

To enable on-ramp AAA authentication services, use the **mmoip aaa receive-authentication enable** global configuration command. Use the **no** form of this command to restore the default value.

mmoip aaa receive-authentication enable
no mmoip aaa receive-authentication enable

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

This command enables AAA authentication services if a AAA authentication method list has been defined using both the **aaa authentication** command and the **mmoip aaa method fax authentication** command.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example enables a AAA authentication method list (called peabody) to be used with inbound Store and Forward Fax. In this example, RADIUS (and if the RADIUS server fails, then local) authentication is being configured for Store and Forward Fax.

```
configure terminal
aaa new-model
mmoip aaa method fax authentication peabody
aaa authentication login peabody radius local
mmoip aaa receive-authentication enable
```

Related Commands

Command	Description
mmoip aaa method fax authentication	Defines the name of the method list to be used for AAA authentication with Store and Forward Fax.

mmoip aaa receive-id primary

To specify the primary location where AAA retrieves its account identification information for on-ramp faxing, use the **mmoip aaa receive-id primary** global configuration command. Use the **no** form of this command to restore the default value, which means that account identification source is undefined.

```
mmoip aaa receive-id primary {ani | dnis | gateway | redialer-id | redialer-dnis}
no mmoip aaa receive-id primary {ani | dnis | gateway | redialer-id | redialer-dnis}
```

Syntax Description

ani	Indicates that AAA uses the calling party telephone number (automatic number identification or ANI) as the AAA account identifier.
dnis	Indicates that AAA uses the called party telephone number (dialed number identification service or DNIS) as the AAA account identifier.
gateway	Indicates that AAA uses the router-specific name derived from the host name and domain name as the AAA account identifier, displayed in the following format: <i>router-name.domain-name</i> .
redialer-id	Indicates that AAA uses the account string returned by the external redialer device as the AAA account identifier. In this case, the redialer ID is either the redialer serial number or the redialer account number.
redialer-dnis	Indicates that AAA uses the called party telephone number (dialed number identification service or DNIS) as the AAA account identifier captured by the redialer if a redialer device is present.

Defaults

No account identification source is defined.

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Normally, when AAA is being used for simple user authentication, AAA uses the username information defined in the user profile for authentication. With Store and Forward Fax, you can specify that the ANI, DNIS, gateway ID, redialer ID, or redialer DNIS be used to identify the user for authentication. This command defines what AAA uses for the primary identifier for inbound or on-ramp user authentication with Store and Forward Fax.

Store and Forward Fax allows you to define either a primary or a secondary identifier. (You configure the secondary identifier using the **mmoip aaa receive-id secondary** command.)

AAA does not use these methods sequentially—meaning that if the primary identifier is defined and AAA cannot authenticate the primary identifier information, it will not use the secondary identifier for authentication. Authentication simply fails.

Defining only the secondary identifier enables you to service two different scenarios simultaneously—for example, if you are offering fax services to two different companies, one of which uses redialers and the other of which does not. In this case, configure the **mmoip aaa receive-id primary** command to use the redialer DNIS, and configure the **mmoip aaa receive id secondary** command to use ANI. With this configuration, when a user dials in and the redialer-DNIS is not null, then the redialer DNIS is used as the authentication identifier. If a user dials in and the redialer DNIS is null, then ANI is used as the authentication identifier.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example defines the DNIS captured by the redialer as the AAA authentication identifier for Store and Forward Fax:

```
configure terminal
aaa new-model
mmoip aaa receive-id primary redialer-dnis
```

Related Commands

Command	Description
mmoip aaa receive-id secondary	Specifies the primary location where AAA retrieves its account identification information for on-ramp faxing.

mmoip aaa receive-id secondary

To specify the secondary location where AAA retrieves its account identification information for on-ramp faxing if the primary identifier has not been defined, use the **mmoip aaa receive-id secondary** global configuration command. Use the **no** form of this command to restore the default value, which means that account identification source is undefined.

```
mmoip aaa receive-id secondary {ani | dnis | gateway | redialer-id | redialer-dnis}
no mmoip aaa receive-id secondary {ani | dnis | gateway | redialer-id | redialer-dnis}
```

Syntax Description

ani	Indicates that AAA uses the calling party telephone number (automatic number identification or ANI) as the AAA account identifier.
dnis	Indicates that AAA uses the called party telephone number (dialed number identification service or DNIS) as the AAA account identifier.
gateway	Indicates that AAA uses the router-specific name derived from the host name and domain name as the AAA account identifier, displayed in the following format: <i>router-name.domain-name</i> .
redialer-id	Indicates that AAA uses the account string returned by the external redialer device as the AAA account identifier. In this case, the redialer ID is either the redialer serial number or the redialer account number.
redialer-dnis	Indicates that AAA uses the called party telephone number (dialed number identification service or DNIS) as the AAA account identifier captured by the redialer if a redialer device is present.

Defaults

No account identification source is defined.

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Normally, when AAA is being used for simple user authentication, AAA uses the username information defined in the user profile for authentication. With Store and Forward Fax, you can specify that the ANI, DNIS, gateway ID, redialer DNIS, or redialer ID be used to identify the user for authentication. This command defines what AAA uses for the secondary identifier for inbound or on-ramp user authentication with Store and Forward Fax if the primary identifier has not been defined.

Store and Forward Fax allows you to define either a primary or a secondary identifier. (You configure the primary identifier using the **mmoip aaa receive-id primary** command.)

AAA does not use these methods sequentially—meaning that if the primary identifier is defined and AAA cannot match the primary identifier information, it will not use the secondary identifier for authentication. Authentication simply fails.

Defining only the secondary identifier enables you to service two different scenarios simultaneously—for example, if you are offering fax services to two different companies, one of which uses redialers and the other of which does not. In this case, configure the **mmoip aaa receive-id primary** command to use the redialer DNIS, and configure the **mmoip aaa receive id secondary** command to use ANI. With this configuration, when a user dials in and the redialer-DNIS is not null, then the redialer DNIS is used as the authentication identifier. If a user dials in and the redialer DNIS is null, then ANI is used as the authentication identifier.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example defines the DNIS captured by the redialer as the secondary AAA authentication identifier for Store and Forward Fax:

```
configure terminal
aaa new-model
mmoip aaa receive-id secondary redialer-dnis
```

Related Commands

Command	Description
mmoip aaa receive-id primary	Specifies the primary location where AAA retrieves its account identification information for on-ramp faxing.

mmoip aaa send-accounting enable

To enable off-ramp AAA accounting services when using Store and Forward Fax on a modem card, use the **mmoip aaa send-accounting enable** global configuration command. Use the **no** form of this command to restore the default value.

```
mmoip aaa send-accounting enable
no mmoip aaa send-accounting enable
```

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Mode

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

This command enables AAA accounting services if a AAA accounting method list has been defined using both the **aaa accounting** command and the **mmoip aaa method fax accounting** command.

This command applies to off-ramp Store and Forward Fax functions when using a modem card. It is not used with voice feature cards.

Examples

The following example enables a AAA accounting method list (called sherman) to be used with outbound Store and Forward Fax. In this example, Store and Forward Fax is being configured to track start and stop connection accounting records.

```
configure terminal
aaa new-model
mmoip aaa method fax accounting sherman
aaa accounting connection sherman stop-only radius
mmoip aaa send-accounting enable
```

Related Commands

Command	Description
mmoip aaa method fax accounting	Defines the name of the method list to be used for AAA accounting with Store and Forward Fax.

mmoip aaa send-authentication enable

To enable off-ramp AAA authentication services, use the **mmoip aaa send-authentication enable** global configuration command. Use the **no** form of this command to restore the default value.

mmoip aaa send-authentication enable
no mmoip aaa send-authentication enable

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

This command enables AAA authentication services if a AAA authentication method list has been defined using both the **aaa authentication** command and the **mmoip aaa method fax authentication** command.

This command applies to off-ramp Store and Forward Fax functions.

Examples

The following example enables a AAA authentication method list (called peabody) to be used with outbound Store and Forward Fax. In this example, RADIUS (and if the RADIUS server fails, then local) authentication is being configured for Store and Forward Fax.

```
configure terminal
aaa new-model
mmoip aaa method fax authentication peabody
aaa authentication login peabody radius local
mmoip aaa send-authentication enable
```

Related Commands

Command	Description
mmoip aaa method fax authentication	Defines the name of the method list to be used for AAA authentication with Store and Forward Fax.

mmoip aaa send-id primary

To specify the primary location where AAA retrieves its account identification information for off-ramp faxing, use the **mmoip aaa send-id primary** global configuration command. Use the **no** form of this command to restore the default value, which means that account identification source is undefined.

```
mmoip aaa send-id primary {account-id | envelope-from | envelope-to | gateway}
no mmoip aaa send-id primary {account-id | envelope-from | envelope-to | gateway}
```

Syntax Description

account-id	Indicates that AAA uses the account username from the originating fax-mail system as the AAA account identifier. This means the off-ramp gateway uses the account identifier in the x-account ID field of the e-mail header. The benefit of using this attribute offers end-to-end authentication and accounting tracking.
envelope-from	Indicates that AAA uses the account username from the fax-mail header as the AAA account identifier.
envelope-to	Indicates that AAA uses the recipient derived from the fax-mail header as the AAA account identifier.
gateway	Indicates that AAA uses the router-specific name derived from the host name and domain name as the AAA account identifier, displayed in the following format: <i>router-name.domain-name</i> .

Defaults

No account identification source is defined.

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Normally, when AAA is being used for simple user authentication, AAA uses the username information defined in the user profile for authentication. With Store and Forward Fax, you can specify that the account ID, username, or recipient name from the e-mail header information be used to identify the user for authentication. This command defines what AAA uses for the primary identifier for outbound or off-ramp user authentication with Store and Forward Fax.

Store and Forward Fax allows you to define either a primary or a secondary identifier. (You configure the secondary identifier using the **mmoip aaa send-id secondary** command.) AAA extracts the authentication identifier information from the defined sources. If the field is blank (meaning undefined), AAA will use the secondary identifier source if configured. The secondary identifier is

used only when the primary identifier is null. In this case, when AAA sees that the primary identifier is null, it will check to see if a secondary identifier has been defined and use that value for user authentication.

AAA does not use these methods sequentially—meaning that if the primary identifier is defined and AAA cannot authenticate the primary identifier information, it will not use the secondary identifier for authentication. Authentication simply fails.

When you enable authentication, the on-ramp gateway inserts whatever value you configure for the **mmoip aaa receive-id primary** command in the X-account-ID field of the e-mail header. This X-account ID field contains the value that is used for authentication and accounting by the on-ramp gateway. For example, if the **mmoip aaa receive-id primary** command is set to **gateway**, the on-ramp gateway name (for example, hostname.domain-name) is inserted in the X-account ID field of the e-mail header of the fax-mail message.

If you want to use this configured gateway value in the X-account ID field, you must configure the **mmoip aaa send-id primary** command with the **account-id** keyword. This particular keyword enables Store and Forward Fax to generate end-to-end authentication and accounting tracking records. If you do not enable authentication on the on-ramp gateway, the X-account-ID field is left blank.

This command applies to off-ramp Store and Forward Fax functions.

Examples

The following example defines the recipient name as defined in the envelope-to field of the e-mail header to be used as the AAA authentication identifier for Store and Forward Fax:

```
configure terminal
aaa new-model
mmoip aaa send-id primary envelope-to
```

Related Commands

Command	Description
mmoip aaa send-id secondary	Specifies the secondary location where AAA retrieves its account identification information for off-ramp faxing.

mmoip aaa send-id secondary

To specify the secondary location where AAA retrieves its account identification information for off-ramp faxing, use the **mmoip aaa send-id secondary** global configuration command. Use the **no** form of this command to restore the default value, which means that account identification source is undefined.

```
mmoip aaa send-id secondary {account-id | envelope-from | envelope-to | gateway}
no mmoip aaa send-id secondary {account-id | envelope-from | envelope-to | gateway}
```

Syntax Description

account-id	Indicates that AAA uses the account username from the originating fax-mail system as the AAA account identifier. This means the off-ramp gateway uses the account identifier in the x-account ID field of the e-mail header. The benefit of using this attribute offers end-to-end authentication and accounting tracking.
envelope-from	Indicates that AAA uses the account username from the fax-mail header as the AAA account identifier.
envelope-to	Indicates that AAA uses the recipient derived from the fax-mail header as the AAA account identifier.
gateway	Indicates that AAA uses the router-specific name derived from the host name and domain name as the AAA account identifier, displayed in the following format: <i>router-name.domain-name</i> .

Defaults

No account identification source is defined.

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Normally, when AAA is being used for simple user authentication, AAA uses the username information defined in the user profile for authentication. With Store and Forward Fax, you can specify that the account ID, username, or recipient name from the e-mail header information be used to identify the user for authentication. This command defines what AAA uses for the secondary identifier for outbound or off-ramp user authentication with Store and Forward Fax.

Store and Forward Fax allows you to define either a primary or a secondary identifier. (You configure the secondary identifier using the **mmoip aaa send-id primary** command.) AAA extracts the authentication identifier information from the defined sources. If the field is blank (meaning undefined), AAA will use the secondary identifier source if configured. The secondary identifier is

used only when the primary identifier is null. In this case, when AAA sees that the primary identifier is null, it will check to see if a secondary identifier has been defined and use that value for user authentication.

AAA does not use these methods sequentially—meaning that if the primary identifier is defined and AAA cannot match the primary identifier information, it will not use the secondary identifier for authentication. Authentication simply fails.

When you enable authentication, the on-ramp gateway inserts whatever value you configure for the **mmoip aaa receive-id secondary** command in the X-account-ID field of the e-mail header (if Store and Forward uses the defined secondary identifier). This X-account ID field contains the value that is used for authentication and accounting by the on-ramp gateway. For example, if the **mmoip aaa receive-id secondary** command is set to **gateway**, the on-ramp gateway name (for example, hostname.domain-name) is inserted in the X-account ID field of the e-mail header of the fax-mail message.

If you want to use this configured gateway value in the X-account ID field, you must configure the **mmoip aaa send-id secondary** command with the **account-id** keyword. This particular keyword enables Store and Forward Fax to generate end-to-end authentication and accounting tracking records. If you do not enable authentication on the on-ramp gateway, the X-account-ID field is left blank.

This command applies to off-ramp Store and Forward Fax functions.

Examples

The following example defines the recipient name as defined in the envelope-to field of the e-mail header to be used as the AAA authentication identifier for Store and Forward Fax:

```
configure terminal
aaa new-model
mmoip aaa send-id secondary envelope-to
```

Related Commands

Command	Description
mmoip aaa send-id primary	Specifies the primary location where AAA retrieves its account identification information for off-ramp faxing

mta receive aliases

To specify a host name accepted as an SMTP alias for off-ramp faxing, use the **mta receive aliases** global configuration command. Use the **no** form of this command to disable this alias.

mta receive aliases *string*
no mta receive aliases *string*

Syntax Description

string Specifies the host name or IP address to be used as an alias for the SMTP server. If you specify an IP address to be used as an alias, you must enclose the IP address in brackets as follows: {xxx.xxx.xxx.xxx}.

Defaults

Enabled with an empty string

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

This command creates an accept or reject alias list. The first alias is used by the mailer to identify itself in SMTP banners and when generating its own RFC 822 Received: header.

Note This command does not automatically include reception for a domain IP address—it must be explicitly added. To explicitly add a domain IP address, use the following format: **mta receive alias** [*ip-address*]. Use the IP address of the Ethernet and/or the FastEthernet interface of the off-ramp gateway.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example specifies the host name `seattle-fax-offramp.example.com` as the alias for the SMTP server:

```
configure terminal
 mta receive aliases seattle-fax-offramp.example.com
```

mta receive aliases

The following example specifies the host name 172.16.0.0 as the alias for the SMTP server:

```
configure terminal
mta receive aliases [172.16.0.0]
```

Related Commands

Command	Description
mta receive generate-mdn	Specifies that the off-ramp gateway process a response message delivery notification (MDN) from an SMTP server.
mta receive maximum-recipients	Defines the number of simultaneous SMTP recipients handled by the off-ramp gateway.

mta receive generate-mdn

To specify that the off-ramp gateway process a response message delivery notification (MDN) from an SMTP server, use the **mta receive generate-mdn** global configuration command. Use the **no** form of this command to disable message delivery notice generation.

```
mta receive generate-mdn
no mta receive generate-mdn
```

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

When message delivery notification is enabled on a sending Cisco AS5300, the device inserts a flag in the off-ramp message e-mail header, requesting that the receiving Cisco AS5300 generate the message delivery notification and return that message to the sender when the e-mail message containing the fax image is opened. Use the **mta receive generate-mdn** command to enable the receiving device—the off-ramp gateway—to process the response message delivery notification.

Depending on the configuration, usage, and features of the mailers used at a site, it might be desirable to enable or disable MDN generation. (DSN generation cannot be disabled.)

Specifications for MDN are described in RFC 2298.

This command applies to off-ramp Store and Forward Fax functions.

Examples

The following enables the receiving device to generate message delivery notices:

```
configure terminal
mta receive generate-mdn
```

Related Commands

Command	Description
mdn	Requests that an MDN be sent to the destinations defined by the mta send return-receipt-to command.
mta receive aliases	Defines a host name to be used as an alias for the off-ramp gateway.
mta receive maximum-recipients	Defines the number of simultaneous SMTP recipients handled by the off-ramp gateway.

mta receive maximum-recipients

To specify the maximum recipients for all SMTP connections, use the **mta receive maximum-recipients** global configuration command. Use the **no** form of this command to restore the default value.

```
mta receive maximum-recipients number
no mta receive maximum-recipients
```

Syntax Description

number Specifies the maximum number of recipients for all SMTP connections. Valid entries are from 0 to 1024.

Defaults

The default is 0 recipients. This means that incoming mail messages will not be accepted, thus no faxes will be transmitted by the off-ramp gateway.

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

This command applies to off-ramp Store and Forward Fax functions.

Note Unless the transmitting mailer supports the X-SESSION SMTP service extension, each incoming SMTP connection will only be allowed to send to one recipient and thus only consume one outgoing modem.

Use the **mta receive maximum-recipients** command to configure the maximum number of modems you want to allocate for fax usage at any one time. You can use this command to limit the resource usage on the gateway. When the value for the *number* argument is set to 0, no new connections can be established. This is particularly useful when preparing to shut down the system.

Examples

The following example defines 10 as the maximum number of recipients for all SMTP connections:

```
configure terminal
 mta receive maximum-recipients 10
```

mta receive maximum-recipients

Related Commands

Command	Description
mta receive aliases	Defines a host name to be used as an alias for the off-ramp gateway.
mta receive generate-mdn	Specifies that the off-ramp gateway process a response message delivery notification (MDN) from an SMTP server.

mta send mail-from

To specify the mail-from address (also called the RFC 821 envelope-from or the Return-Path address), use the **mta send mail-from** global configuration command. Use the **no** form of this command to disable this return path information.

```
mta send mail-from {hostname string | {username string | username $$}}
no mta send mail-from {hostname string | {username string | username $$}}
```

Syntax Description

hostname <i>string</i>	Text string that specifies the SMTP host name or IP address. If you specify an IP address, you must enclose the IP address in brackets as follows: {xxx.xxx.xxx.xxx}.
username <i>string</i>	Text string that specifies the sender's username.
username <i>\$\$</i>	Wildcard that specifies that the username will be derived from the calling number.

Defaults

None.

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Use the **mta send mail-from** command to designate the sender of the fax TIFF attachment. This value is equivalent to the return path information in an e-mail message.

The postmaster address, configured with the **mta send postmaster** command, is used if the mail-from address is blank.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example specifies that the mail-from username information will be derived from the sender's calling number:

```
configure terminal
 mta send mail-from username $$
```

Related Commands

Command	Description
mta send origin-prefix	Defines additional identifying information to be appended in front of the e-mail header.
mta send postmaster	Defines the address used as the mta send mail-from address if the evaluated string is blank.
mta send return-receipt-to	Specifies the address where MDNs are sent if you request MDNs.
mta send server	Specifies the destination server for the on-ramp.
mta send subject	Defines the text that appears in the subject field of the fax-mail message.

mta send origin-prefix

To add additional information to the e-mail prefix header, use the **mta send origin-prefix** global configuration command. Use the **no** form of this command to disable the defined string.

```
mta send origin-prefix string
no mta send origin-prefix string
```

Syntax Description

<i>string</i>	Text string that adds comments to the e-mail prefix header. If this string contains more than one word, the string value should be contained within quotation marks (“”).
---------------	---

Defaults

Null string

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Normally, the Store and Forward Fax feature provides the slot and port number from which this e-mail came in the e-mail prefix header information. Use this command to append the defined text string to the front of the e-mail prefix header information. This test string is a prefix string that is appended with the modem port and slot number and passed in the `originator_comment` field of the `esmtplib_client_engine_open()` call. Eventually, this ends up in the Received header field of the fax-mail message. For example:

```
Received (test onramp Santa Cruz slot1 port15) by router-5300.cisco.com for
<test-test@cisco.com> (with Cisco NetWorks); Fri, 25 Dec 1998 001500 -0800
```

In other words, using the command **mta send origin-prefix dog** will cause the Received header to contain the following information:

```
Received (dog, slot 3 modem 8) by as5300-sj.example.com .....
```

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example provides the user with additional information:

```
configure terminal
 mta send origin-prefix Cisco-Powered Fax System
```

Related Commands

Command	Description
mta send mail-from	Specifies the mail-from address.
mta send postmaster	Defines the address used as the mta send mail-from address if the evaluated string is blank.
mta send return-receipt-to	Specifies the address where MDNs are sent if you request MDNs.
mta send server	Specifies the destination server for the on-ramp.
mta send subject	Defines the text that appears in the subject field of the fax-mail message.

mta send postmaster

To define where an e-mail should be delivered (the mail server postmaster account) if it cannot be delivered to the defined destination, use the **mta send postmaster** global configuration command. Use the **no** form of this command to disable this defined postmaster.

```
mta send postmaster e-mail-address
no mta send postmaster e-mail-address
```

Syntax Description

e-mail-address Defines where this e-mail should be delivered (the mail server postmaster account) if it cannot be delivered to the defined destination.

Defaults

Undefined

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

If you have configured the Cisco AS5300 to generate DSNs and MDNs but you have not configured the sender information (using the **mta send mail-from** command) or the SMTP server, DSNs and MDNs will be delivered to this e-mail address.

The address defined by this command is used as the mta send mail-from address if the evaluated string is blank. An address, such as fax-administrator@example.com, is recommended (where example.com is replaced with your domain name, and fax-administrator is aliased to the person responsible for the operation of the AS5300's fax functions). At some sites, this may be the same person as the e-mail postmaster, but at most sites this is likely to be a different person and thus should be a different e-mail address.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example configures the e-mail address fax-admin@example.com as the sender for all incoming faxes. Thus, any returned DSNs will be delivered to fax-admin@example.com if the Mail From field is otherwise blank.

```
configure terminal
 mta send postmaster fax-admin@example.com
```

Related Commands

Command	Description
mta send mail-from	Specifies the mail-from address.
mta send origin-prefix	Adds additional information to the e-mail prefix header.
mta send return-receipt-to	Specifies the address where MDNs are sent if you request MDNs.
mta send server	Specifies the destination server for the on-ramp.
mta send subject	Defines the text that appears in the subject field of the fax-mail message.

mta send return-receipt-to

To specify the address where MDNs will be sent, use the **mta send return-receipt-to** global configuration command. Use the **no** form of this command to restore the default value.

```
mta send return-receipt-to {hostname string | {username string | $$}}
```

```
no mta send return-receipt-to {hostname string | {username string | $$}}
```

Syntax Description

hostname <i>string</i>	Text string that specifies the SMTP host name where MDNs will be sent.
username <i>string</i>	Text string that specifies the sender's username where MDNs will be sent.
\$\$	Wild card that specifies that the calling number (ANI) is used to generate the disposition-notification-to e-mail address.

Defaults

None defined

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Use the **mta send return-receipt-to** command to define where you want MDNs to be sent after the fax-mail is opened.

Note Store and Forward Fax supports Eudora's proprietary format, meaning that the header Store and Forward Fax generates is in compliance with RFC 2298 (MDN).

Note MMoIP dial peers must have MDN enabled to generate return receipts in off-ramp fax-mail messages.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example configures scoobee as the SMTP mail server to which DSNs will be sent:

```
configure terminal
mta send return-receipt-to hostname server.com
mta send return-receipt-to username scoobee
```

Related Commands

Command	Description
mta send mail-from	Specifies the mail-from address.
mta send origin-prefix	Adds additional information to the e-mail prefix header.
mta send postmaster	Defines the address used as the mta send mail-from address if the evaluated string is blank.
mta send server	Specifies the destination server for the on-ramp.
mta send subject	Defines the text that appears in the subject field of the fax-mail message.

mta send server

To specify a destination mail server or servers, use the **mta send server** global configuration command. Use the **no** form of this command to disable the specified destination mail server.

```
mta send server {host-name | IP-address}
no mta send server {host-name | IP-address}
```

Syntax Description

<i>host-name</i>	Defines the host name of the destination mail server.
<i>IP-address</i>	Defines the IP address of the destination mail server.

Defaults

IP address defined as 0.0.0.0

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

Use the **mta send server** command to provide a backup destination server in case the first configured mail server is unavailable. (This command is not intended to be used for load distribution.)

You can configure up to 10 different destination mail servers using the **mta send server** command. If you configure more than one destination mail server, the Cisco AS5300 attempts to contact the first mail server configured. If that mail server is unavailable, it will contact the next configured destination mail server.

DNS MX records are not used to look up hostnames provided to this command.

Note When you use the **mta send server** command, you should configure the Cisco AS5300 to perform name look-ups using the **ip name-server** command.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example defines the mail servers scoobee.example.com and doogie.example.com as the destination mail servers:

```
configure terminal
 mta send server scoobee.example.com
 mta send server doogie.example.com
```

Related Commands

Command	Description
mta send mail-from	Specifies the mail-from address.
mta send origin-prefix	Adds additional information to the e-mail prefix header.
mta send postmaster	Defines the address used as the mta send mail-from address if the evaluated string is blank.
mta send return-receipt-to	Specifies the address where MDNs are sent if you request MDNs.
mta send subject	Defines the text that appears in the subject field of the fax-mail message.

mta send subject

To specify the subject header of the e-mail, use the **mta send subject** global configuration command. Use the **no** form of this command to disable this string.

mta send subject *string*
no mta send subject *string*

Syntax Description

string Text string that specifies the subject header of an e-mail message.

Defaults

Null string

Command Modes

Global configuration

Command History

Release	Modification
12.0(4)T	This command was introduced.

Usage Guidelines

This command applies to on-ramp Store and Forward Fax functions.

Note The string does not need to be enclosed in quotation marks.

Examples

The following example defines the subject header of an e-mail message as “fax attachment”:

```
configure terminal
 mta send subject fax attachment
```

mta send subject

Related Commands

Command	Description
mta send mail-from	Specifies the mail-from address.
mta send origin-prefix	Adds additional information to the e-mail prefix header.
mta send postmaster	Defines the address used as the mta send mail-from address if the evaluated string is blank.
mta send return-receipt-to	Specifies the address where MDNs are sent if you request MDNs.
mta send server	Specifies the destination server for the on-ramp.

prefix

To specify the prefix of the dialed digits for this dial peer, use the **prefix** dial-peer configuration command. Use the **no** form of this command to disable this feature.

prefix *string*
no prefix

Syntax Description

string Integers representing the prefix of the telephone number associated with the specified dial peer. Valid numbers are 0 through 9, and a comma (,). Use the comma to include a pause in the prefix.

Defaults

Null string

Command Modes

Dial-peer configuration

Command History

Release	Modification
11.3(1)T	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

Use the **prefix** command to specify a prefix for a specific dial peer. When an outgoing call is initiated to this dial peer, the **prefix** *string* value is sent to the telephony interface first, before the telephone number associated with the dial peer.

If you want to configure different prefixes for dialed numbers on the same interface, you need to configure different dial peers.

This command is applicable only to POTS dial peers. This command applies to off-ramp Store and Forward Fax functions.

Examples

The following example specifies a prefix of 9 and then a pause:

```
dial-peer voice 10 pots
  prefix 9,
```

session protocol

To establish a session protocol for calls between the local and remote routers via the packet network, use the **session protocol** dial-peer configuration command. Use the **no** form of this command to reset the default value for this command.

session protocol {smtp}
no session protocol

Syntax Description

smtp Specifies Simple Mail Transfer Protocol (SMTP) session protocol.

Defaults

smtp

Command Modes

Dial-peer configuration

Command History

Release	Modification
11.3(1)T	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

For this release, SMTP is the only available session protocol.

This command applies to both on-ramp and off-ramp Store and Forward Fax functions.

Examples

The following example selects SMTP as the session protocol:

```
dial-peer voice 10 mmoip
  session protocol smtp
```

session target

To specify a network-specific address for a specified dial peer, use the **session target** dial peer configuration command. Use the **no** form of this command to restore the default value.

```
session target {mailto:{name | $d$}@domain-name | ipv4:destination-address | dns:[$s$. |
$d$. | $u$. | $e$.] host-name | loopback:rtp | loopback:compressed |
loopback:uncompressed}
no session target
```

Syntax Description

mailto: <i>name</i>	Specific recipient e-mail address, name, or mailing list alias.
mailto: <i>\$d\$</i>	Wildcard that inserts the destination pattern of the recipient.
<i>@domain-name</i>	Specifies the appropriate domain name associated with the e-mail address.
ipv4: <i>destination-address</i>	IP address of the dial peer.
dns: <i>host-name</i>	Indicates that the domain name server will be used to resolve the name of the IP address. Valid entries for this parameter are characters representing the name of the host device. (Optional) You can use one of the following three wildcards with this keyword when defining the session target for VoIP peers: <ul style="list-style-type: none"> • \$s\$.—Indicates that the source destination pattern will be used as part of the domain name. • \$d\$.—Indicates that the destination number will be used as part of the domain name. • \$u\$.—Indicates that the unmatched portion of the destination pattern (such as a defined extension number) will be used as part of the domain name. • \$e\$.—Indicates that the destination pattern is used as part of the domain name in reverse dotted format for tpc.int DNS format. For example, if the destination number is 310 555-1234 and the session target is configured as \$e\$.cisco.com, the translated DNS name will be 4.3.2.1.5.5.5.0.1.3.cisco.com.
loopback:rtp	Indicates that all voice data will be looped back to the originating source. This applies to VoIP peers.
loopback:compressed	Indicates that all voice data will be looped back in compressed mode to the originating source. This applies to POTS peers.
loopback:uncompressed	Indicates that all voice data will be looped back in uncompressed mode to the originating source. This applies to POTS peers.

Defaults

The default for this command is enabled with no IP address or domain name defined.

Command Modes

Dial peer configuration

Command History

Release	Modification
11.3(1)T	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

Use the **session target** command to specify a network-specific address or domain name for a dial peer. Whether you select a network-specific address or a domain name depends on the session protocol you select. The syntax of this command complies with the simple syntax of mailto as described in RFC 1738.

Use the **session target mailto** to deliver fax-mail to multiple recipients by specifying an email alias as the name argument and have that alias expanded by the mailer.

The **session target loopback** command is used for testing the voice transmission path of a call. The loopback point will depend on the call origination and the loopback type selected.

The **session target dns** command can be used with or without the specified wildcards. Using the optional wildcards can reduce the number of VoIP dial peer session targets you need to configure if you have groups of numbers associated with a particular router.

This command applies to on-ramp Store and Forward Fax functions.

Examples

The following example configures a session target using dns for a host, “voice_router,” in the domain “cisco.com”:

```
dial-peer voice 10 voip
  session target dns:voice_router.cisco.com
```

The following example configures a session target using DNS, with the optional **\$u\$** wildcard. In this example, the destination pattern has been configured to allow for any four-digit extension, beginning with the numbers 1310222. The optional wildcard **\$u\$** indicates that the router will use the unmatched portion of the dialed number—in this case, the four-digit extension, to identify the dial peer. As in the previous example, the domain is “cisco.com.”

```
dial-peer voice 10 voip
  destination-pattern 1310222....
  session target dns:$u$.cisco.com
```

The following example configures a session target using DNS, with the optional **\$d\$** wildcard. In this example, the destination pattern has been configured for 13105551111. The optional wildcard **\$d\$** indicates that the router will use the destination pattern to identify the dial peer in the “cisco.com” domain.

```
dial-peer voice 10 voip
  destination-pattern 13105551111
  session target dns:$d$.cisco.com
```

The following example delivers fax-mail to multiple recipients:

```
dial-peer voice 10 mmoip
  session target marketing-information@mailers.example.com
```

Assuming that mailers.example.com is running sendmail, you can put the following information into its /etc/aliases file:

```
marketing-information:
  john@example.com,
  fax=+14085551212@sj-offramp.example.com
```

show call active

To show active call information for a fax transmission in progress, use the **show call active fax** privileged EXEC command.

```
show call active { voice | fax }  
no show call active { voice | fax }
```

Syntax Description

voice	Specifies that the active call table displays voice call information.
fax	Specifies that the active call table displays fax call information.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.3(1)T	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

Use the **show call active** privileged EXEC command to display the contents of the active call table. If you use the **voice** keyword, the active call table displays information about all of the voice calls currently connected through the router or access server. If you use the **fax** keyword, the active call table shows all of the fax calls currently connected through the router.

This command applies to both on-ramp and off-ramp Store and Forward Fax functions.

Examples

The following is sample output from the **show call active voice** command:

```
router# show call active voice  
GENERIC:  
SetupTime=179388054 ms  
Index=1  
PeerAddress=+5...  
PeerSubAddress=  
PeerId=5  
PeerIfIndex=32  
LogicalIfIndex=29  
ConnectTime=179389793 ms  
CallState=4  
CallOrigin=2  
ChargedUnits=0  
InfoType=2  
TransmitPackets=532  
TransmitBytes=10640  
ReceivePackets=147  
ReceiveBytes=2940
```

```

TELE:
ConnectionId=[0xE3EA3FF8 0xFF6D0105 0x0 0x6AEC71E4]
TxDuration=23230 ms
VoiceTxDuration=2940 ms
FaxTxDuration=0 ms
CoderTypeRate=g729r8
NoiseLevel=-84
ACOMLevel=20
OutSignalLevel=-66
InSignalLevel=-66
InfoActivity=2
ERLLevel=20
SessionTarget=

```

```

GENERIC:
SetupTime=179388237 ms
Index=1
PeerAddress=+3622
PeerSubAddress=
PeerId=3
PeerIfIndex=31
LogicalIfIndex=0
ConnectTime=179389793 ms
CallState=4
CallOrigin=1
ChargedUnits=0
InfoType=2
TransmitPackets=143
TransmitBytes=2860
ReceivePackets=580
ReceiveBytes=11600

```

```

VOIP:
ConnectionId[0xE3EA3FF8 0xFF6D0105 0x0 0x6AEC71E4]
RemoteIPAddress=172.24.96.200
RemoteUDPPort=16422
RoundTripDelay=37 ms
SelectedQoS=best-effort
SessionProtocol=cisco
SessionTarget=ipv4:172.24.96.200
OnTimeRvPayout=9920
GapFillWithSilence=0 ms
GapFillWithPrediction=0 ms
GapFillWithInterpolation=0 ms
GapFillWithRedundancy=0 ms
HiWaterPayoutDelay=70 ms
LoWaterPayoutDelay=30 ms
ReceiveDelay=30 ms
VAD = enabled
CoderTypeRate=g729r8

```

The following is sample output from the **show call active fax brief** command:

```

router# show call active fax brief

<ID>: <start>hs.<index> +<connect> pid:<peer_id> <dir> <addr> <state> \
tx:<packets>/<bytes> rx:<packets>/<bytes> <state>
IP <ip>:<udp> rtt:<time>ms pl:<play>/<gap>ms lost:<lost>/<early>/<late>
delay:<last>/<min>/<max>ms <codec>
FR <protocol> [int dlci cid] vad:<y/n> dtmf:<y/n> seq:<y/n>
sig:<on/off> <codec> (payload size)
Tele <int>: tx:<tot>/<v>/<fax>ms <codec> noise:<l> acom:<l> i/o:<l>/<l> dBm

```

show call active

```
1      : 22021hs.1 +2263 pid:0 Answer wook song active
tx:0/0 rx:0/41190
IP 0.0.0.0 AcceptedMime:2 DiscardedMime:1

1      : 23193hs.1 +1091 pid:3469 Originate 527.... active
tx:10/13838 rx:0/0
Tele  : tx:31200/10910/20290ms noise:-1 acom:-1 i/0:0/0 dBm
```

The following is sample output from the **show call active fax** command:

```
router# show call active fax

GENERIC:
SetupTime=22021 ms
Index=1
PeerAddress=wook song
PeerSubAddress=
PeerId=0
PeerIfIndex=0
LogicalIfIndex=0
ConnectTime=24284
CallState=4
CallOrigin=2
ChargedUnits=0
InfoType=10
TransmitPackets=0
TransmitBytes=0
ReceivePackets=0
ReceiveBytes=41190

MMOIP:
ConnectionId[0x37EC7F41 0xB0110001 0x0 0x35C34]
RemoteIPAddress=0.0.0.0
SessionProtocol=SMTP
SessionTarget=
MessageId=
AccountId=
ImgEncodingType=MH
ImgResolution=fine
AcceptedMimeTypes=2
DiscardedMimeTypes=1
Notification=None

GENERIC:
SetupTime=23193 ms
Index=1
PeerAddress=527....
PeerSubAddress=
PeerId=3469
PeerIfIndex=157
LogicalIfIndex=30
ConnectTime=24284
CallState=4
CallOrigin=1
ChargedUnits=0
InfoType=10
TransmitPackets=5
TransmitBytes=6513
ReceivePackets=0
ReceiveBytes=0

TELE:
ConnectionId=[0x37EC7F41 0xB0110001 0x0 0x35C34]
TxDuration=24010 ms
```

```

FaxTxDuration=10910 ms
FaxRate=14400
NoiseLevel=-1
ACOMLevel=-1
OutSignalLevel=0
InSignalLevel=0
InfoActivity=0
ERLLevel=-1
SessionTarget=
ImgPages=0

```

Table 4 provides an alphabetical listing of the **show call active** fields and a description of each field.

Table 4 show call active Field Descriptions

Field	Description
ACOM Level	Current ACOM level for this call. This value is the sum of the Echo Return Loss, Echo Return Loss Enhancement, and nonlinear processing loss for this call.
CallOrigin	Call origin: answer or originate.
CallState	Current state of the call.
CoderTypeRate	Negotiated coder transmit rate of voice/fax compression during this call.
ConnectionId	Global call identifier for this gateway call.
ConnectTime	Time at which the call was connected.
Dial-Peer	Tag of the dial peer transmitting this call.
ERLLevel	Current Echo Return Loss (ERL) level for this call.
FaxTxDuration	Duration of fax transmission from this peer to voice gateway for this call. You can derive the Fax Utilization Rate by dividing the FaxTxDuration value by the TxDuration value.
GapFillWithInterpolation	Duration of voice signal played out with signal synthesized from parameters or samples of data preceding and following in time because voice data was lost or not received in time from voice gateway for this call.
GapFillWith Redundancy	Duration of voice signal played out with signal synthesized from redundancy parameters available because voice data was lost or not received in time from voice gateway for this call.
GapFillWithPrediction	Duration of voice signal played out with signal synthesized from parameters or samples of data preceding in time because voice data was lost or not received in time from the voice gateway for this call. Examples of such pullout are frame-eraser or frame-concealment strategies in G.729 and G.723.1 compression algorithms.
GapFillWith Silence	Duration of voice signal replaced with silence because voice data was lost or not received in time for this call.
HiWaterPayoutDelay	High water mark Voice Payout FIFO Delay during this call.
Index	Dial-peer identification number.
InfoActivity	Active information transfer activity state for this call.
InfoType	Information type for this call.
InSignalLevel	Active input signal level from the telephony interface used by this call.
LogicalIfIndex	Index number of the logical interface for this call.
LoWaterPayoutDelay	Low water mark Voice Payout FIFO Delay during this call.
NoiseLevel	Active noise level for this call.

Table 4 show call active Field Descriptions (continued)

Field	Description
OnTimeRvPlyout	Duration of voice playout from data received in time for this call. You can derive the Total Voice Playout Duration for Active Voice by adding the OnTimeRvPlyout value to the GapFill values.
OutSignalLevel	Active output signal level to telephony interface used by this call.
PeerAddress	Destination pattern associated with this peer.
PeerId	ID value of the peer table entry to which this call was made.
PeerIfIndex	Voice-port index number for this peer.
PeerSubaddress	Subaddress to which this call is connected.
ReceiveBytes	Number of bytes received by the peer during this call.
ReceiveDelay	Average Playout FIFO Delay plus the Decoder Delay during this call.
ReceivePackets	Number of packets received by this peer during this call.
RemoteIPAddress	Remote system IP address for the VoIP call.
RemoteUDPPort	Remote system UDP listener port to which voice packets are transmitted.
RoundTripDelay	Voice packet round trip delay between the local and remote system on the IP backbone during this call.
SelectedQoS	Selected RSVP quality of service (QoS) for this call.
SessionProtocol	Session protocol used for an Internet call between the local and remote router via the IP backbone.
SessionTarget	Session target of the peer used for this call.
SetupTime	Value of the system UpTime when the call associated with this entry was started.
TransmitBytes	Number of bytes transmitted from this peer during this call.
TransmitPackets	Number of packets transmitted from this peer during this call.
TxDuration	Duration of transmit path open from this peer to the voice gateway for this call.
VADEnable	Whether voice activation detection (VAD) was enabled for this call.
VoiceTxDuration	Duration of voice transmission from this peer to voice gateway for this call. You can derive the Voice Utilization Rate by dividing the VoiceTxDuration value by the TxDuration value.

Related Commands

Command	Description
show call history fax	Shows call history information for fax transmissions.

show call history

To display the fax call history table for a fax transmission, use the **show call history fax** privileged EXEC command.

```
show call history { voice | fax } [last number | brief]
no show call history { voice | fax } [last number | brief]
```

Syntax Description

voice	Specifies that the call history tables displays voice call information.
fax	Specifies that the call history table displays fax call information.
last number	(Optional) Displays the last calls connected, where the number of calls displayed is defined by the argument <i>number</i> . Valid values are from 1 to 2147483647.
brief	(Optional) Displays a truncated version of the call history table.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.3(1)T	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

The fax call history table contains a listing of all fax calls connected through this router in descending time order since Store and Forward Fax was enabled. You can display subsets of the fax call history table by using specific keywords. To display the last calls connected through this router, use the keyword **last**, and define the number of calls to be displayed with the argument *number*. To display a truncated version of the call history table, use the **brief** keyword.

This command applies to both on-ramp and off-ramp Store and Forward Fax functions.

Examples

The following is sample output from the **show call history voice** command:

```
router# show call history voice brief
<ID>: <start>hs.<index> +<connect> +<disc> pid:<peer_id> <direction> <addr>
tx:<packets>/<bytes> rx:<packets>/<bytes> <disc-cause>(<text>)
IP <ip>:<udp> rtt:<time>ms pl:<play>/<gap>ms delay:<last>/<min>/<max>ms <codec>
Telephony <int>: tx:<tot>/<voice>/<fax>ms <codec> noise:<lvl>dBm acom:<lvl>dBm

234 : 158305740hs.1280 +241 +9199 pid:0 Answer +3...
tx:3804/76080 rx:1358/27160 10 (normal call clearing.)
IP 172.24.96.200:16468 rtt:33ms pl:25990/0ms delay:30/30/70ms g729r8

234 : 158305745hs.1281 +236 +9195 pid:6 Originate +68888
tx:1358/27160 rx:3804/76080 10 (normal call clearing.)
```

show call history

```
Telephony 0:D:22: tx:91850/76080/0ms g729r8 noise:-84dBm acom:20dBm

235 : 158344850hs.1282 +230 +28773 pid:0 Answer +3...
tx:11063/221260 rx:4604/92080 10 (normal call clearing.)
IP 172.24.96.200:16474 rtt:41ms pl:88260/290ms delay:40/30/130ms g729r8

235 : 158344856hs.1283 +224 +28769 pid:6 Originate +68888
tx:4604/92080 rx:11063/221260 10 (normal call clearing.)
Telephony 0:D:22: tx:287590/221280/0ms g729r8 noise:-75dBm acom:20dBm
```

The following is sample output from the **show call history fax brief** command:

```
router# show call history fax brief
<ID>: <start>hs.<index> +<connect> +<disc> pid:<peer_id> <direction> <addr>
tx:<packets>/<bytes> rx:<packets>/<bytes> <disc-cause>(<text>)
IP <ip>:<udp> rtt:<time>ms pl:<play>/<gap>ms lost:<lost>/<early>/<late>
delay:<last>/<min>/<max>ms <codec>
Telephony <int>: tx:<tot>/<voice>/<fax>ms <codec> noise:<lvl>dBm acom:<lvl>dBm

2 : 5996450hs.25 +-1 +3802 pid:100 Answer 408
tx:0/0 rx:0/0 1F (T30 T1 EOM timeout)
Telephony : tx:38020/38020/0ms g729r8 noise:0dBm acom:0dBm

2 : 5996752hs.26 +-1 +3500 pid:110 Originate uut1@linux2.allegro.com
tx:0/0 rx:0/0 3F (The e-mail was not sent correctly. Remote SMTP server said: 354 )
IP 14.0.0.1 AcceptedMime:0 DiscardedMime:0

3 : 6447851hs.27 +1111 +3616 pid:310 Originate 576341.
tx:11/14419 rx:0/0 10 (Normal connection)
Telephony : tx:36160/11110/25050ms g729r8 noise:115dBm acom:-14dBm

3 : 6447780hs.28 +1182 +4516 pid:0 Answer
tx:0/0 rx:0/0 10 (normal call clearing.)
IP 0.0.0.0 AcceptedMime:0 DiscardedMime:0

4 : 6464816hs.29 +1050 +3555 pid:310 Originate 576341.
tx:11/14413 rx:0/0 10 (Normal connection)
Telephony : tx:35550/10500/25050ms g729r8 noise:115dBm acom:-14dBm

4 : 6464748hs.30 +1118 +4517 pid:0 Answer
tx:0/0 rx:0/0 10 (normal call clearing.)
IP 0.0.0.0 AcceptedMime:0 DiscardedMime:0

5 : 6507900hs.31 +1158 +2392 pid:100 Answer 4085763413
tx:0/0 rx:3/3224 10 (Normal connection)
Telephony : tx:23920/11580/12340ms g729r8 noise:0dBm acom:0dBm

5 : 6508152hs.32 +1727 +2140 pid:110 Originate uut1@linux2.allegro.com
tx:0/2754 rx:0/0 3F (service or option not available, unspecified)
IP 14.0.0.4 AcceptedMime:0 DiscardedMime:0

6 : 6517176hs.33 +1079 +3571 pid:310 Originate 576341.
tx:11/14447 rx:0/0 10 (Normal connection)
Telephony : tx:35710/10790/24920ms g729r8 noise:115dBm acom:-14dBm

6 : 6517106hs.34 +1149 +4517 pid:0 Answer
tx:0/0 rx:0/0 10 (normal call clearing.)
IP 0.0.0.0 AcceptedMime:0 DiscardedMime:0

7 : 6567382hs.35 +1054 +3550 pid:310 Originate 576341.
tx:11/14411 rx:0/0 10 (Normal connection)
Telephony : tx:35500/10540/24960ms g729r8 noise:115dBm acom:-14dBm
```

```
7      : 6567308hs.36 +1128 +4517 pid:0 Answer
tx:0/0 rx:0/0 10 (normal call clearing.)
IP 0.0.0.0 AcceptedMime:0 DiscardedMime:0
```

The following is output from the **show call history** command.

```
router# show call history fax 1 2

GENERIC:
SetupTime=23193 ms
Index=1
PeerAddress=527....
PeerSubAddress=
PeerId=3469
PeerIfIndex=157
LogicalIfIndex=30
DisconnectCause=10
DisconnectText=normal call clearing.: Normal connection
ConnectTime=24284
DisconectTime=31288
CallOrigin=1
ChargedUnits=0
InfoType=fax
TransmitPackets=62
TransmitBytes=88047
ReceivePackets=0
ReceiveBytes=0

TELE:
ConnectionId=[0x37EC7F41 0xB0110001 0x0 0x35C34]
TxDuration=80950 ms
FaxTxDuration=10910 ms
FaxRate=14400
NoiseLevel=-1
ACOMLevel=-1
SessionTarget=
ImgPages=3

GENERIC:
SetupTime=22021 ms
Index=2
PeerAddress=wook song
PeerSubAddress=
PeerId=0
PeerIfIndex=0
LogicalIfIndex=0
DisconnectCause=10
DisconnectText=normal call clearing.
ConnectTime=24284
DisconectTime=31545
CallOrigin=2
ChargedUnits=0
InfoType=fax
TransmitPackets=0
TransmitBytes=0
ReceivePackets=0
ReceiveBytes=41190

MMOIP:
ConnectionId[0x37EC7F41 0xB0110001 0x0 0x35C34]
RemoteIPAddress=0.0.0.0
SessionProtocol=SMTP
SessionTarget=
MessageId=
```

```
AccountId=
ImgEncodingType=MH
ImgResolution=fine
AcceptedMimeTypes=2
DiscardedMimeTypes=1
Notification=None
```

Table 5 provides an alphabetical listing of the fields for the **show call history** command and a description of each field.

Table 5 show call history field Descriptions

Field	Description
ACOMLevel	Average ACOM level for this call. This value is the sum of the Echo Return Loss, Echo Return Loss Enhancement, and nonlinear processing loss for a particular call.
CallOrigin	Call origin: answer or originate.
CoderTypeRate	Negotiated coder rate. This value specifies the transmit rate of voice/fax compression to its associated call leg for this call.
ConnectionID	Global call identifier for the gateway call.
ConnectTime	Time this call was connected.
DisconnectCause	Description explaining why this call was disconnected.
DisconnectText	Descriptive text explaining the disconnect reason.
DisconnectTime	Time this call was disconnected.
FaxDuration	Duration of fax transmission from this peer to voice gateway for this call. You can derive the Fax Utilization Rate by dividing the FaxTxDuration value by the TxDuration value.
GapFillWithInterpolation	Duration of voice signal played out with signal synthesized from parameters or samples of data preceding and following in time because voice data was lost or not received in time from the voice gateway for this call.
GapFillWithRedundancy	Duration of voice signal played out with signal synthesized from redundancy parameters available because voice data was lost or not received in time from the voice gateway for this call.
GapFillWithSilence	Duration of voice signal replaced with silence because the voice data was lost or not received in time for this call.
GapFillWithPrediction	Duration of voice signal played out with signal synthesized from parameters or samples of data preceding in time because voice data was lost or not received in time from the voice gateway for this call.
HiWaterPayoutDelay	High water mark Voice Payout FIFO Delay during the voice call.
Index	Dial peer identification number.
InfoType	Information type for this call.
LogicalIfIndex	Index number of the logical voice port for this call.
LoWaterPayoutDelay	Low water mark Voice Payout FIFO Delay during the voice call.
NoiseLevel	Average noise level for this call.
OnTimeRvPayout	Duration of voice payout from data received on time for this call. You can derive the Total Voice Payout Duration for Active Voice by adding the OnTimeRvPayout value to the GapFill values.
PeerAddress	Destination pattern or number associated with this peer.

Table 5 show call history field Descriptions (continued)

Field	Description
PeerId	ID value of the peer entry table to which this call was made.
PeerIfIndex	Index number of the logical interface through which this call was made. For ISDN media, this would be the index number of the B channel used for this call.
PeerSubAddress	Subaddress to which this call is connected.
ReceiveBytes	Number of bytes received by the peer during this call.
ReceiveDelay	Average Playout FIFO Delay plus the Decoder Delay during this voice call.
ReceivePackets	Number of packets received by this peer during this call.
RemoteIPAddress	Remote system IP address for this call.
RemoteUDPPort	Remote system UDP listener port to which voice packets are transmitted.
RoundTripDelay	Voice packet round trip delay between the local and remote system on the IP backbone for this call.
SelectedQoS	Selected RSVP QoS for this call.
Session Protocol	Session protocol to be used for an Internet call between the local and remote router via the IP backbone.
Session Target	Session target of the peer used for third call.
SetUpTime	Value of the system UpTime when the call associated with this entry was started.
TransmitBytes	Number of bytes transmitted by this peer during this call.
TransmitPackets	Number of packets transmitted by this peer during this call.
TxDuration	Duration of the transmit path open from this peer to the voice gateway for this call.
VADEnable	Whether voice activation detection (VAD) was enabled for this call.
VoiceTxDuration	Duration of voice transmitted from this peer to voice gateway for this call. You can derive the Voice Utilization Rate by dividing the VoiceTxDuration by the TxDuration value.

Related Commands

Command	Description
show call active fax	Shows active call information for a fax transmission in progress.

shutdown (dial peer)

To change the administrative state of the selected dial peer from up to down, use the **shutdown** dial-peer configuration command. Use the **no** form of this command to change the administrative state of this dial peer from down to up.

shutdown
no shutdown

Syntax Description

This command has no arguments or keywords.

Command Modes

Dial-peer configuration

Command History

Release	Modification
11.3(1)T	This command was introduced.
12.0(4)T	This command was modified for Store and Forward Fax.

Usage Guidelines

When a dial peer is shut down, you cannot initiate calls to that peer.

This command applies to both on-ramp and off-ramp Store and Forward Fax functions.

Example

The following example changes the administrative state of MMoIP dial peer 10 to down:

```
configure terminal
dial-peer voice 10
shutdown
```

The following example changes the administrative state of MMoIP dial peer 10 to up:

```
configure terminal
dial-peer voice 10
no shutdown
```

Related Commands

Command	Description
dial-peer voice	Enters the dial-peer configuration mode, define the type of dial peer, and define the dial-peer tag number.

Debug Commands

This section documents new **debug** commands. All other **debug** commands used with this feature are documented in the Cisco IOS Release 12.0 *Debug Command Reference*.

- **debug fax receive all**
- **debug fax receive called-number**
- **debug fax receive calling-number**
- **debug fax receive specific**
- **debug fax send all**
- **debug fax send calling-number**
- **debug fax send specific**
- **debug fmail client**
- **debug fmail server**
- **debug mmoip aaa**
- **debug mmoip send e-mail**
- **debug mmoip send fax**
- **debug mmoip transfer**
- **debug mta receive all**
- **debug mta receive mail-from**
- **debug mta send all**
- **debug mta send rcpt-to**
- **debug text-to-fax**
- **debug TIFF reader**
- **debug TIFF writer**

debug fax receive all

Use the **debug fax receive all** EXEC command to display Class 2 fax tracing information on all on-ramp fax connections. Use the **no** form of this command to disable debugging output.

[no] debug fax receive all

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The following example displays output from the **debug fax receive all** command. This command, by definition, displays Class 2 information about all on-ramp fax calls as they occur; in this example, only one fax call is being traced.

```
router# debug fax receive all
All fax receptions debugging is on
router#
```

The following output shows that a fax call has come in to the on-ramp gateway, and the on-ramp gateway is verifying calling number (the transmitter), the called number (the receiver) and identifying the appropriate on-ramp dial peer.

```
*Jan 2 194033.945 csm_check_accept_fax_call calling=4085553414 called=5550847, peer
found
*Jan 2 194033.945 ftsp_onramp_new_call new call, calling=4085553414, called=5550847
```

A fax record is created for TTY line 19.

```
*Jan 2 194033.949 create_fax_record tty19
*Jan 2 194033.949 ftsp_ind_call tty19, peer_tag=400, callid=0x48
```

Class 2 modem tracing begins, showing that the modem is being initialized.

```
*Jan 2 194033.949 000000.000 AA
*Jan 2 194034.001 000000.052 TT
*Jan 2 194034.057 000000.108 QOE0S0=0
OK
```

Class 2 modem tracing continues.

```
*Jan 2 194034.057 000000.108 OK
*Jan 2 194037.325 000003.376
RING
000003.376 AT-C0T105

*Jan 2 194037.333 000003.384
OK
```

```
*Jan 2 194037.333 000003.384 ATT106
*Jan 2 194037.337 000003.388
OK
lTE AT+FCLASS=2
*Jan 2 194037.345 000003.396
OK
000003.396 +FDCC=.;+FBOR=

*Jan 2 194037.357 000003.412
OK
000003.412 AT+FLID

*Jan 2 194037.365 000003.416
OK
ATX3DT;

*Jan 2 194040.281 000006.332
OK
```

In the following output, the on-ramp gateway is about to present a dial tone to the user.

```
about to play dial-tone
```

In the following output, the on-ramp gateway receives digits form the caller.

```
*Jan 2 194043.105 000009.156 0 Digit 0
*Jan 2 194043.241 000009.292 1 Digit 1
*Jan 2 194043.389 000009.440 2 Digit 2
*Jan 2 194043.541 000009.592 3 Digit 3
*Jan 2 194043.693 000009.744 4 Digit 4
*Jan 2 194043.841 000009.892 5 Digit 5
*Jan 2 194044.005 000010.056 6 Digit 6
*Jan 2 194044.153 000010.204 7 Digit 7
*Jan 2 194044.305 000010.356 8 Digit 8
*Jan 2 194044.441 000010.492 9 Digit 9
*Jan 2 194044.605 000010.656 0 Digit 0
*Jan 2 194044.741 000010.792 1 Digit 1
*Jan 2 194044.905 000010.956 2 Digit 2
*Jan 2 194045.041 000011.092 3 Digit 3
*Jan 2 194045.193 000011.244 4 Digit 4
*Jan 2 194045.341 000011.392 5 Digit 5
*Jan 2 194045.493 000011.544 6 Digit 6
*Jan 2 194045.641 000011.692 7 Digit 7
*Jan 2 194045.793 000011.844 8 Digit 8
*Jan 2 194045.941 000011.992 9 Digit 9
```

```
*Jan 2 194046.093 000012.144 # Digit #
*Jan 2 194046.241 000012.292 1 Digit 1
*Jan 2 194046.393 000012.444 4 Digit 4
*Jan 2 194046.541 000012.592 0 Digit 0
*Jan 2 194046.693 000012.744 8 Digit 8
*Jan 2 194046.841 000012.892 5 Digit 5
*Jan 2 194046.993 000013.044 7 Digit 7
*Jan 2 194047.141 000013.192 1 Digit 1
*Jan 2 194047.305 000013.356 0 Digit 0
*Jan 2 194047.441 000013.492 8 Digit 8
*Jan 2 194047.605 000013.656 4 Digit 4
*Jan 2 194047.741 000013.792 7 Digit 7
*Jan 2 194058.393 000024.444
+FCON
```

The following output shows that the fax call is connected from the on-ramp router to the calling party. Class 2 modem tracing continues.

```
+FTSI          +31 703712194"
ld19h %FTSP-6-FAX_CONNECT Reception
*Jan 2 194058.393 RxPhaseA CONNECT
*Jan 2 194058.393 CollectDTMF tty=19, ftsp set time=15723604,con time=15726049,tx
dur=24450 Redialer Serial Number 01234567890123456789
*Jan 2 194058.393 ftsp_onramp_match_digits tty19, redialer in use
*Jan 2 194058.393 ftsp_onramp_match_digits destPat(5710847), matched(7), tag(401)
target (mailtotest@nt4server.allegro.com) RxPhaseB RxTSI
*Jan 2 194058.665 000024.716
+FDCS0,3,0,2,0,0,0,5
RxPhaseB RxDCS
*Jan 2 194100.641 000026.692
OK
RxPhaseB OK PhB
000026.692 AT+FDR
*Jan 2 194101.949 000028.000
+FCFR
+FDCS0,3,0,2,0,0,0,5
RxPhaseB Rx CFR
RxPhaseB RxDCS
*Jan 2 194102.573 000028.624
CONNECT
RxPhaseB RxCon
RxPhaseC
000028.624DC2
```

```

*Jan  2 194130.761 000056.812
+FPST1,0

+FET2

OK
RxPhaseD RxFPTS
RxPhaseD MCF
RxPhaseD MODEM_FET

*Jan  2 194130.761 RxPhaseD tty=19,ensp set time=15726049,con time=15729286 RxPhaseD Rx
EOP
RxPhaseD MODEM_OK
000056.812 AT+FDR

```

The following output shows that the fax transmission is complete.

```

*Jan  2 194133.469 000059.520
+FHNG00
RxPhaseE Received Hangup Call complete

*Jan  2 194133.533 000059.584
OK
RxPhaseE Received OK Ending Call

```

The following output shows that the calling party disconnects following fax transmission.

```

1d19h %FTSP-6-FAX_DISCONNECT Reception
*Jan  2 194133.533 fap_onramp_end_call disconnect-
1d19h %LINK-3-UPDOWN Interface Serial10, changed state to down
*Jan  2 194134.537 all booleans set
*Jan  2 194134.537 ftsp_do_call_history disc cause=16, Normal connection delete_f_rec()
calling free()

```

Related Commands

Command	Description
debug fax receive called-number	Displays Class 2 fax tracing information about on-ramp connections filtered on a specific called number.
debug fax receive calling-number	Displays Class 2 fax tracing information about on-ramp connections filtered on a specific calling number.
debug fax receive specific	Enables debug fax receive all command Class 2 fax tracing information to be filtered using the calling number or called number.

debug fax receive called-number

Use the **debug fax receive called-number** EXEC command to display Class 2 fax tracing information about on-ramp connections filtered on a particular called number. Use the **no** form of this command to disable debugging output.

[no] debug fax receive called-number {*string*}

Syntax Description

string Specifies the called telephone number. Valid entries are any series of digits that specify the E.164 telephone number.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

Note The **debug fax receive called-number** command works with the **debug fax receive specific** command. The **debug fax receive specific** command enables Store and Forward Fax to filter the **debug fax receive all** command information using only the called number. You must enter both commands to filter debug information for a specific called number.

The following example displays output from the **debug fax receive called-number** command. In this example, Store and Forward Fax displays Class 2 information about all on-ramp fax calls for the called number 555-0847.

```
router# debug fax receive specific
router# debug fax receive called-number 5550847
All fax receptions debugging is on
router#
```

The following output shows that a fax call has come in to the on-ramp gateway, and the on-ramp gateway is verifying the calling number (the transmitter), the called number (the receiver), and identifying the appropriate on-ramp dial peer.

```
*Jan 2 194033.945 csm_check_accept_fax_call calling=4085553414 called=5550847, peer
found
*Jan 2 194033.945 ftsp_onramp_new_call new call, calling=4085553414, called=5550847
```

A fax record is created for TTY line 19.

```
*Jan 2 194033.949 create_fax_record tty19
*Jan 2 194033.949 ftsp_ind_call tty19, peer_tag=400, callid=0x48
```

Class 2 modem tracing begins, showing that the modem is being initialized.

```
*Jan 2 194033.949 000000.000 AA
*Jan 2 194034.001 000000.052 TT
*Jan 2 194034.057 000000.108 QOE0S0=0
OK
```

Class 2 modem tracing continues.

```
*Jan 2 194034.057 000000.108 OK
*Jan 2 194037.325 000003.376
RING
000003.376 AT-COT105

*Jan 2 194037.333 000003.384
OK

*Jan 2 194037.333 000003.384 ATT106
*Jan 2 194037.337 000003.388
OK
lTE AT+FCLASS=2
*Jan 2 194037.345 000003.396
OK
000003.396 +FDCC=.;+FBOR=

*Jan 2 194037.357 000003.412
OK
000003.412 AT+FLID

*Jan 2 194037.365 000003.416
OK
ATX3DT;

*Jan 2 194040.281 000006.332
OK
```

In the following output, the on-ramp gateway is about to present a dial tone to the user.

```
about to play dial-tone
```

In the following output, the on-ramp gateway receives digits form the caller.

```
*Jan 2 194043.105 000009.156 0 Digit 0
*Jan 2 194043.241 000009.292 1 Digit 1
*Jan 2 194043.389 000009.440 2 Digit 2
*Jan 2 194043.541 000009.592 3 Digit 3
*Jan 2 194043.693 000009.744 4 Digit 4
*Jan 2 194043.841 000009.892 5 Digit 5
*Jan 2 194044.005 000010.056 6 Digit 6
*Jan 2 194044.153 000010.204 7 Digit 7
*Jan 2 194044.305 000010.356 8 Digit 8
*Jan 2 194044.441 000010.492 9 Digit 9
*Jan 2 194044.605 000010.656 0 Digit 0
*Jan 2 194044.741 000010.792 1 Digit 1
*Jan 2 194044.905 000010.956 2 Digit 2
```

debug fax receive called-number

```
*Jan 2 194045.041 000011.092 3 Digit 3
*Jan 2 194045.193 000011.244 4 Digit 4
*Jan 2 194045.341 000011.392 5 Digit 5
*Jan 2 194045.493 000011.544 6 Digit 6
*Jan 2 194045.641 000011.692 7 Digit 7
*Jan 2 194045.793 000011.844 8 Digit 8
*Jan 2 194045.941 000011.992 9 Digit 9
*Jan 2 194046.093 000012.144 # Digit #
*Jan 2 194046.241 000012.292 1 Digit 1
*Jan 2 194046.393 000012.444 4 Digit 4
*Jan 2 194046.541 000012.592 0 Digit 0
*Jan 2 194046.693 000012.744 8 Digit 8
*Jan 2 194046.841 000012.892 5 Digit 5
*Jan 2 194046.993 000013.044 7 Digit 7
*Jan 2 194047.141 000013.192 1 Digit 1
*Jan 2 194047.305 000013.356 0 Digit 0
*Jan 2 194047.441 000013.492 8 Digit 8
*Jan 2 194047.605 000013.656 4 Digit 4
*Jan 2 194047.741 000013.792 7 Digit 7
*Jan 2 194058.393 000024.444
+FCON
```

The following output shows that the fax call is connected from the on-ramp router to the calling party. Class 2 modem tracing continues.

```
+FTSI          +31 703712194"
1d19h %FTSP-6-FAX_CONNECT Reception
*Jan 2 194058.393 RxPhaseA CONNECT
*Jan 2 194058.393 CollectDTMF tty=19, ftsp set time=15723604,con time=15726049,tx
dur=24450 Redialer Serial Number 01234567890123456789

*Jan 2 194058.393 ftsp_onramp_match_digits tty19, redialer in use

*Jan 2 194058.393 ftsp_onramp_match_digits destPat(5710847), matched(7), tag(401)
target (mailtotest@nt4server.allegro.com) RxPhaseB RxTSI

*Jan 2 194058.665 000024.716
+FDCS0,3,0,2,0,0,0,5
RxPhaseB RxDCS

*Jan 2 194100.641 000026.692
OK
RxPhaseB OK PhB
000026.692 AT+FDR
```

```

*Jan  2 194101.949 000028.000
+FCFR

+FDSC0,3,0,2,0,0,0,5
RxPhaseB Rx CFR
RxPhaseB RxDCS

*Jan  2 194102.573 000028.624
CONNECT
RxPhaseB RxCon
RxPhaseC
000028.624DC2

*Jan  2 194130.761 000056.812
+FPST1,0

+FET2

OK
RxPhaseD RxFPTS
RxPhaseD MCF
RxPhaseD MODEM_FET

*Jan  2 194130.761 RxPhaseD tty=19,ensp set time=15726049,con time=15729286 RxPhaseD Rx
EOP
RxPhaseD MODEM_OK
000056.812 AT+FDR

```

The following output shows that the fax transmission is complete.

```

*Jan  2 194133.469 000059.520
+FHNG00
RxPhaseE Received Hangup Call complete

*Jan  2 194133.533 000059.584
OK
RxPhaseE Received OK Ending Call

```

The following output shows that the calling party disconnects following fax transmission.

```

1d19h %FTSP-6-FAX_DISCONNECT Reception
*Jan  2 194133.533 fap_onramp_end_call disconnect-
1d19h %LINK-3-UPDOWN Interface Serial10, changed state to down
*Jan  2 194134.537 all booleans set
*Jan  2 194134.537 ftsp_do_call_history disc cause=16, Normal connection delete_f_rec()
calling free()

```

Related Commands

Command	Description
debug fax receive all	Displays Class 2 fax tracing information about all on-ramp connections.
debug fax receive calling-number	Displays Class 2 fax tracing information about on-ramp connections filtered on a specific calling number.
debug fax receive specific	Enables debug fax receive all command Class 2 fax tracing information to be filtered using the calling number or called number.

debug fax receive calling-number

Use the **debug fax receive calling-number** EXEC command to display Class 2 fax tracing information about on-ramp connections filtering on a particular calling number. Use the **no** form of this command to disable debugging output.

[no] debug fax receive calling-number *{string}*

Syntax Description

string Specifies the calling telephone number. Valid entries are any series of digits that specify the E.164 telephone number.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

Note The **debug fax receive calling-number** command works with the **debug fax receive specific** command. The **debug fax receive specific** command enables Store and Forward Fax to filter the **debug fax receive all** command information using only the calling number. You must enter both commands to filter debug information for a specific calling number.

The following example displays output from the **debug fax receive calling-number** command. In this example, Store and Forward Fax displays Class 2 information about all on-ramp fax calls for the calling number 408 555-3414.

```
router# debug fax receive specific
router# debug fax receive calling-number 4085553414
All fax receptions debugging is on
router#
```

The following output shows that a fax call has come in to the on-ramp gateway, and the on-ramp gateway is verifying the calling number (the transmitter), the called number (the receiver) and identifying the appropriate on-ramp dial peer.

```
*Jan  2 194033.945 csm_check_accept_fax_call calling=4085553414 called=5550847, peer
found
*Jan  2 194033.945 ftsp_onramp_new_call new call, calling=4085553414, called=5550847
```

A fax record is created for TTY line 19.

```
*Jan  2 194033.949 create_fax_record tty19
*Jan  2 194033.949 ftsp_ind_call tty19, peer_tag=400, callid=0x48
```

Class 2 modem tracing begins, showing that the modem is being initialized.

```
*Jan 2 194033.949 000000.000 AA
*Jan 2 194034.001 000000.052 TT
*Jan 2 194034.057 000000.108 QOE0S0=0
OK
```

Class 2 modem tracing continues.

```
*Jan 2 194034.057 000000.108 OK
*Jan 2 194037.325 000003.376
RING
000003.376 AT-COT105

*Jan 2 194037.333 000003.384
OK

*Jan 2 194037.333 000003.384 ATT106
*Jan 2 194037.337 000003.388
OK
lTE AT+FCLASS=2
*Jan 2 194037.345 000003.396
OK
000003.396 +FDCC=.;+FBOR=

*Jan 2 194037.357 000003.412
OK
000003.412 AT+FLID

*Jan 2 194037.365 000003.416
OK
ATX3DT;

*Jan 2 194040.281 000006.332
OK
```

In the following output, the on-ramp gateway is about to present a dial tone to the user.

```
about to play dial-tone
```

In the following output, the on-ramp gateway receives digits form the caller.

```
*Jan 2 194043.105 000009.156 0 Digit 0
*Jan 2 194043.241 000009.292 1 Digit 1
*Jan 2 194043.389 000009.440 2 Digit 2
*Jan 2 194043.541 000009.592 3 Digit 3
*Jan 2 194043.693 000009.744 4 Digit 4
*Jan 2 194043.841 000009.892 5 Digit 5
*Jan 2 194044.005 000010.056 6 Digit 6
*Jan 2 194044.153 000010.204 7 Digit 7
*Jan 2 194044.305 000010.356 8 Digit 8
*Jan 2 194044.441 000010.492 9 Digit 9
*Jan 2 194044.605 000010.656 0 Digit 0
*Jan 2 194044.741 000010.792 1 Digit 1
*Jan 2 194044.905 000010.956 2 Digit 2
```

debug fax receive calling-number

```
*Jan 2 194045.041 000011.092 3 Digit 3
*Jan 2 194045.193 000011.244 4 Digit 4
*Jan 2 194045.341 000011.392 5 Digit 5
*Jan 2 194045.493 000011.544 6 Digit 6
*Jan 2 194045.641 000011.692 7 Digit 7
*Jan 2 194045.793 000011.844 8 Digit 8
*Jan 2 194045.941 000011.992 9 Digit 9
*Jan 2 194046.093 000012.144 # Digit #
*Jan 2 194046.241 000012.292 1 Digit 1
*Jan 2 194046.393 000012.444 4 Digit 4
*Jan 2 194046.541 000012.592 0 Digit 0
*Jan 2 194046.693 000012.744 8 Digit 8
*Jan 2 194046.841 000012.892 5 Digit 5
*Jan 2 194046.993 000013.044 7 Digit 7
*Jan 2 194047.141 000013.192 1 Digit 1
*Jan 2 194047.305 000013.356 0 Digit 0
*Jan 2 194047.441 000013.492 8 Digit 8
*Jan 2 194047.605 000013.656 4 Digit 4
*Jan 2 194047.741 000013.792 7 Digit 7
*Jan 2 194058.393 000024.444
+FCON
```

The following output shows that the fax call is connected from the on-ramp router to the calling party. Class 2 modem tracing continues.

```
+FTSI          +31 703712194"
1d19h %FTSP-6-FAX_CONNECT Reception
*Jan 2 194058.393 RxPhaseA CONNECT
*Jan 2 194058.393 CollectDTMF tty=19, ftsp set time=15723604,con time=15726049,tx
dur=24450 Redialer Serial Number 01234567890123456789

*Jan 2 194058.393 ftsp_onramp_match_digits tty19, redialer in use

*Jan 2 194058.393 ftsp_onramp_match_digits destPat(5710847), matched(7), tag(401)
target (mailtotest@nt4server.allegro.com) RxPhaseB RxTSI

*Jan 2 194058.665 000024.716
+FDCS0,3,0,2,0,0,0,5
RxPhaseB RxDCS

*Jan 2 194100.641 000026.692
OK
RxPhaseB OK PhB
000026.692 AT+FDR
```

```
*Jan 2 194101.949 000028.000
+FCFR

+FDCS0,3,0,2,0,0,0,5
RxPhaseB Rx CFR
RxPhaseB RxDCS

*Jan 2 194102.573 000028.624
CONNECT
RxPhaseB RxCon
RxPhaseC
000028.624DC2

*Jan 2 194130.761 000056.812
+FPST1,0

+FET2

OK
RxPhaseD RxFPTS
RxPhaseD MCF
RxPhaseD MODEM_FET

*Jan 2 194130.761 RxPhaseD tty=19,ensp set time=15726049,con time=15729286 RxPhaseD Rx
EOP
RxPhaseD MODEM_OK
000056.812 AT+FDR
```

The following output shows that the fax transmission is complete.

```
*Jan 2 194133.469 000059.520
+FHNG00
RxPhaseE Received Hangup Call complete

*Jan 2 194133.533 000059.584
OK
RxPhaseE Received OK Ending Call
```

The following output shows that the calling party disconnects following fax transmission.

```
1d19h %FTSP-6-FAX_DISCONNECT Reception
*Jan 2 194133.533 fap_onramp_end_call disconnect-
1d19h %LINK-3-UPDOWN Interface Serial10, changed state to down
*Jan 2 194134.537 all booleans set
*Jan 2 194134.537 ftsp_do_call_history disc cause=16, Normal connection delete_f_rec()
calling free()
```

Related Commands

Command	Description
debug fax receive all	Displays Class 2 fax tracing information about all on-ramp connections.
debug fax receive called-number	Displays Class 2 fax tracing information about on-ramp connections filtered on a specific called number.
debug fax receive specific	Enables debug fax receive all command Class 2 fax tracing information to be filtered using the calling number or called number.

debug fax receive specific

Use the **debug fax receive specific** EXEC command to enable Class 2 fax protocol tracing information for on-ramp activities to be filtered using either a calling or called number. Use the **no** form of this command to disable filtering debugging output.

[no] debug fax receive specific

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

Note The **debug fax receive specific** command is used in conjunction with both the **debug fax receive called-number** and the **debug fax receive calling-number** commands; essentially the **debug fax receive specific** command enables Store and Forward Fax to filter the **debug fax receive all** command information using either the calling number or the called number, depending on which command you have enabled.

The following example displays output from the **debug fax receive calling-number** command, which is enabled using the **debug fax receive specific** command. In this example, Store and Forward Fax displays Class 2 information about all on-ramp fax calls for the calling number 408 555-3414.

```
router# debug fax receive specific
router# debug fax receive calling-number 4085553414
All fax receptions debugging is on
router#
```

The following output shows that a fax call has come in to the on-ramp gateway, and the on-ramp gateway is verifying the calling number (the transmitter), the called number (the receiver) and identifying the appropriate on-ramp dial peer.

```
*Jan  2 194033.945 csm_check_accept_fax_call calling=4085553414 called=5550847, peer
found
*Jan  2 194033.945 ftsp_onramp_new_call new call, calling=4085553414, called=5550847
```

A fax record is created for TTY line 19.

```
*Jan  2 194033.949 create_fax_record tty19
*Jan  2 194033.949 ftsp_ind_call tty19, peer_tag=400, callid=0x48
```

Class 2 modem tracing begins, showing that the modem is being initialized.

```
*Jan  2 194033.949 000000.000 AA
```

```
*Jan 2 194034.001 000000.052 TT
*Jan 2 194034.057 000000.108 QOE0S0=0
OK
```

Class 2 modem tracing continues.

```
*Jan 2 194034.057 000000.108 OK
*Jan 2 194037.325 000003.376
RING
000003.376 AT-COT105

*Jan 2 194037.333 000003.384
OK

*Jan 2 194037.333 000003.384 ATT106
*Jan 2 194037.337 000003.388
OK
lTE AT+FCLASS=2
*Jan 2 194037.345 000003.396
OK
000003.396 +FDCC=.;+FBOR=

*Jan 2 194037.357 000003.412
OK
000003.412 AT+FLID

*Jan 2 194037.365 000003.416
OK
ATX3DT;

*Jan 2 194040.281 000006.332
OK
```

In the following output, the on-ramp gateway is about to present a dial tone to the user.

```
about to play dial-tone
```

In the following output, the on-ramp gateway receives digits form the caller.

```
*Jan 2 194043.105 000009.156 0 Digit 0
*Jan 2 194043.241 000009.292 1 Digit 1
*Jan 2 194043.389 000009.440 2 Digit 2
*Jan 2 194043.541 000009.592 3 Digit 3
*Jan 2 194043.693 000009.744 4 Digit 4
*Jan 2 194043.841 000009.892 5 Digit 5
*Jan 2 194044.005 000010.056 6 Digit 6
*Jan 2 194044.153 000010.204 7 Digit 7
*Jan 2 194044.305 000010.356 8 Digit 8
*Jan 2 194044.441 000010.492 9 Digit 9
*Jan 2 194044.605 000010.656 0 Digit 0
*Jan 2 194044.741 000010.792 1 Digit 1
*Jan 2 194044.905 000010.956 2 Digit 2
```

debug fax receive specific

```
*Jan 2 194045.041 000011.092 3 Digit 3
*Jan 2 194045.193 000011.244 4 Digit 4
*Jan 2 194045.341 000011.392 5 Digit 5
*Jan 2 194045.493 000011.544 6 Digit 6
*Jan 2 194045.641 000011.692 7 Digit 7
*Jan 2 194045.793 000011.844 8 Digit 8
*Jan 2 194045.941 000011.992 9 Digit 9
*Jan 2 194046.093 000012.144 # Digit #
*Jan 2 194046.241 000012.292 1 Digit 1
*Jan 2 194046.393 000012.444 4 Digit 4
*Jan 2 194046.541 000012.592 0 Digit 0
*Jan 2 194046.693 000012.744 8 Digit 8
*Jan 2 194046.841 000012.892 5 Digit 5
*Jan 2 194046.993 000013.044 7 Digit 7
*Jan 2 194047.141 000013.192 1 Digit 1
*Jan 2 194047.305 000013.356 0 Digit 0
*Jan 2 194047.441 000013.492 8 Digit 8
*Jan 2 194047.605 000013.656 4 Digit 4
*Jan 2 194047.741 000013.792 7 Digit 7
*Jan 2 194058.393 000024.444
+FCON
```

The following output shows that the fax call is connected from the on-ramp router to the calling party. Class 2 modem tracing continues.

```
+FTSI          +31 703712194"
1d19h %FTSP-6-FAX_CONNECT Reception
*Jan 2 194058.393 RxPhaseA CONNECT
*Jan 2 194058.393 CollectDTMF tty=19, ftsp set time=15723604, con time=15726049, tx
dur=24450 Redialer Serial Number 01234567890123456789

*Jan 2 194058.393 ftsp_onramp_match_digits tty19, redialer in use

*Jan 2 194058.393 ftsp_onramp_match_digits destPat(5710847), matched(7), tag(401)
target (mailtotest@nt4server.allegro.com) RxPhaseB RxTSI

*Jan 2 194058.665 000024.716
+FDCS0,3,0,2,0,0,0,5
RxPhaseB RxDCS

*Jan 2 194100.641 000026.692
OK
RxPhaseB OK PhB
000026.692 AT+FDR

*Jan 2 194101.949 000028.000
```

```

+FCFR

+FDCS0,3,0,2,0,0,0,5
RxPhaseB Rx CFR
RxPhaseB RxDCS

*Jan 2 194102.573 000028.624
CONNECT
RxPhaseB RxCon
RxPhaseC
000028.624DC2

*Jan 2 194130.761 000056.812
+FPTS1,0

+FET2

OK
RxPhaseD RxFPTS
RxPhaseD MCF
RxPhaseD MODEM_FET

*Jan 2 194130.761 RxPhaseD tty=19,ensp set time=15726049,con time=15729286 RxPhaseD Rx
EOP
RxPhaseD MODEM_OK
000056.812 AT+FDR

```

The following output shows that the fax transmission is complete.

```

*Jan 2 194133.469 000059.520
+FHNG00
RxPhaseE Received Hangup Call complete

*Jan 2 194133.533 000059.584
OK
RxPhaseE Received OK Ending Call

```

The following output shows that the calling party disconnects following fax transmission.

```

1d19h %FTSP-6-FAX_DISCONNECT Reception
*Jan 2 194133.533 fap_onramp_end_call disconnect-
1d19h %LINK-3-UPDOWN Interface Serial10, changed state to down
*Jan 2 194134.537 all booleans set
*Jan 2 194134.537 ftsp_do_call_history disc cause=16, Normal connection delete_f_rec()
calling free()

```

Related Commands

Command	Description
debug fax receive all	Displays Class 2 fax tracing information about all on-ramp connections.
debug fax receive called-number	Displays Class 2 fax tracing information about on-ramp connections filtered on a specific called number.
debug fax receive calling-number	Displays Class 2 fax tracing information about on-ramp connections filtered on a specific calling number.

debug fax send all

Use the **debug fax send all** EXEC command to display Class 2 fax protocol tracing information for all off-ramp faxing activities. Use the **no** form of this command to disable debugging output.

[no] debug fax send all

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The following example displays output from the **debug fax send all** command. This command, by definition, displays Class 2 information about all off-ramp fax calls as they occur; in this example, only one fax call is being traced.

```
router# debug fax send all
```

The following output shows that the off-ramp gateway is placing a fax call.

```
*Jan 1 175435.703 ftsp_offramp_match_digits phone number to translate 5553413
*Jan 1 175435.703 destPat(5553413), matched(6), prefix() peer_tag(310)
*Jan 1 175435.703 ftsp_offramp_match_digits target 5763413
*Jan 1 175435.743 fap_offcm tty(72), Got dial message000000.000 AT&F\Q0S7=255
```

Class 2 modem tracing begins, including modem initialization.

```
000000.080 A
000000.096 T
000000.128 &F
000000.144 \Q
000000.160 0S7=255
000000.160
OK
```

In the following output, Class 2 modem tracing continues.

```
000000.160 E0V1
000000.192 A
000000.192 TE
000000.208 0
000000.208
OK

000000.208AT+FCLASS=2
000000.288
OK

000000.288 +FDCC= . . ; +FBOR=
```

```
000000.368
OK
```

```
000000.368 AT+FLID
000000.432
OK
```

The following output shows that the off-ramp gateway is dialing out.

```
000000.432 ATDTW5553413

*Jan 1 175436.419 ftsp_setup_for_oc tty72, callid=0x1C
*Jan 1 175436.419 ftsp_setup_for_oc ctl=2, cas grp=-1, snmp_ix=102
*Jan 1 175436.419 ftsp_off_ramp_active_call_init tty72 callid=0x1C,
```

The following output identifies the SMNP index of the off-ramp device.

```
snmp_ix=102
000011.784
+FCON
```

```
Phase A Start
```

The following output shows that the called party has answered and that the fax transmission is beginning. Class 2 modem tracing continues.

```
175449 %FTSP-6-FAX_CONNECT Transmission
*Jan 1 175447.527 TxPhaseA MODEM_FCON
000012.524
+FNSFB5 00 2E 57 46 58 3A 37 2E 30
```

```
Phase B Start
TxPhaseB MODEM_FNSF
000013.276
+FCSI" Allegro Fax machine"
```

```
Phase B Start
TxPhaseB MODEM_FCSI
000013.756
+FDIS1,5,0,2,3,0,1,0
```

```
OK
```

```
Phase B Start
TxPhaseB MODEM_FDIS
TxPhaseB MODEM_OK
```

```
*Jan 1 175449.499 TxPhaseB, tty(72), Tx Speed=14400bps
```

```
*Jan 1 175449.499 000013.756 AT+FDIS
000013.820
OK
```

```
Phase B Start
TxPhaseB MODEM_OK
000013.820 AT+FDT
000020.704
+FDCS0,5,0,2,0,0,0,0
```

```
Phase B Start
TxPhaseB MODEM_FDCS
```

```
*Jan 1 175456.447 calc_min_line_bytes normal resolution
000021.280
CONNECT
```

```
Phase B Start
TxPhaseB MODEM_CONNECT
000021.296
Phase C Start
TxPhaseC MODEM_XON

*Jan 1 175457.139 asfax_txservice tty(72), MPS b000024.788
OK

Tx Phase D Start
TxPhaseD MODEM_OK
Tx Phase D MPS
000027.128
+FPTS1

OK

Tx Phase D Start
TxPhaseD MODEM_FPTS
RxFPTS +FPTS1
TxPhaseD MCF
TxPhaseD MPS
Phase C Start
TxPhaseC MODEM_OK
000027.768
CONNECT

Phase C Start
TxPhaseC MODEM_CONNECT
000027.784
Phase C Start
TxPhaseC MODEM_XON

*Jan 1 175503.687 asfax_txservice tty(72), EOP000032.444
OK

Tx Phase D Start
TxPhaseD MODEM_OK
Tx Phase D EOP
000034.716
+FPTS1

Tx Phase D Start
TxPhaseD MODEM_FPTS
RxFPTS +FPTS1
TxPhaseD MCF
Enabling smtp for receiving data, body_page_number 2, body_page_number_sent 1
000036.272
+FHNG0

TxPhaseE MODEM_FHNG
000036.832
OK

TxPhaseE MODEM_OK
```

The following output shows that the fax transmission is complete.

```
175514 %FTSP-6-FAX_DISCONNECT Transmission
*Jan 1 175512.575 tty(72) fax transmit done
175514 %LINK-3-UPDOWN Interface Serial222, changed state to down
```

Related Commands

Command	Description
debug fax send calling-number	Displays Class 2 fax tracing information about off-ramp connections filtered on a specific called number.
debug fax send specific	Enables debug fax send all command Class 2 fax tracing information to be filtered using the calling number.

debug fax send calling-number

Use the **debug fax send calling-number** EXEC command to display information for a particular outbound calling number. Use the **no** form of this command to disable debugging output.

[no] debug fax send calling-number {*string*}

Syntax Description

string Specifies the telephone number to which the fax transmission was sent. Valid entries are any series of digits that specify the E.164 telephone number.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

Note The **debug fax send calling-number** command works with the **debug fax send specific** command. The **debug fax send specific** command enables Store and Forward Fax to filter the **debug fax send all** command information using only the calling number. You must enter both commands to filter debug information for a specific calling number.

The following example displays output from the **debug fax send calling-number** command. In this example, Store and Forward Fax displays Class 2 information about all off-ramp fax calls for the calling number 555-3414.

```
router# debug fax send specific
router# debug fax send calling-number 5553413
```

The following output shows that the off-ramp gateway is placing a fax call.

```
*Jan 1 175435.703 ftsp_offramp_match_digits phone number to translate 5553413
*Jan 1 175435.703 destPat(5553413), matched(6), prefix() peer_tag(310)
*Jan 1 175435.703 ftsp_offramp_match_digits target 5553413
*Jan 1 175435.743 fap_offcm tty(72), Got dial message000000.000 AT&F\Q0S7=255
```

Class 2 modem tracing begins, including modem initialization.

```
000000.080 A
000000.096 T
000000.128 &F
000000.144 \Q
000000.160 OS7=255
000000.160
OK
```

In the following output, Class 2 modem tracing continues.

```
000000.160 EOV1
000000.192 A
000000.192 TE
000000.208 0
000000.208
OK

000000.208AT+FCLASS=2
000000.288
OK

000000.288 +FDCC=.;+FBOR=
000000.368
OK

000000.368 AT+FLID
000000.432
OK
```

The following output shows that the off-ramp gateway is dialing out.

```
000000.432 ATDTW5553413

*Jan 1 175436.419 ftsp_setup_for_oc tty72, callid=0x1C
*Jan 1 175436.419 ftsp_setup_for_oc ctl=2, cas grp=-1, snmp_ix=102
*Jan 1 175436.419 ftsp_off_ramp_active_call_init tty72 callid=0x1C,
```

The following output identifies the SMNP index of the off-ramp device.

```
snmp_ix=102
000011.784
+FCON

Phase A Start
```

The following output shows that the called party has answered and that the fax transmission is beginning. Class 2 modem tracing continues.

```
175449 %FTSP-6-FAX_CONNECT Transmission
*Jan 1 175447.527 TxPhaseA MODEM_FCON
000012.524
+FNSFB5 00 2E 57 46 58 3A 37 2E 30

Phase B Start
TxPhaseB MODEM_FNSF
000013.276
+FCSI" Allegro Fax machine"

Phase B Start
TxPhaseB MODEM_FCSI
000013.756
+FDIS1,5,0,2,3,0,1,0

OK

Phase B Start
TxPhaseB MODEM_FDIS
TxPhaseB MODEM_OK

*Jan 1 175449.499 TxPhaseB, tty(72), Tx Speed=14400bps

*Jan 1 175449.499 000013.756 AT+FDIS
000013.820
```

```
OK

Phase B Start
TxPhaseB MODEM_OK
000013.820 AT+FDT
000020.704
+FDCS0,5,0,2,0,0,0,0

Phase B Start
TxPhaseB MODEM_FDCS

*Jan 1 175456.447 calc_min_line_bytes normal resolution
000021.280
CONNECT

Phase B Start
TxPhaseB MODEM_CONNECT
000021.296
Phase C Start
TxPhaseC MODEM_XON

*Jan 1 175457.139 asfax_txservice tty(72), MPS b000024.788
OK

Tx Phase D Start
TxPhaseD MODEM_OK
Tx Phase D MPS
000027.128
+FPTS1

OK

Tx Phase D Start
TxPhaseD MODEM_FPTS
RxFPTS +FPTS1
TxPhaseD MCF
TxPhaseD MPS
Phase C Start
TxPhaseC MODEM_OK
000027.768
CONNECT

Phase C Start
TxPhaseC MODEM_CONNECT
000027.784
Phase C Start
TxPhaseC MODEM_XON

*Jan 1 175503.687 asfax_txservice tty(72), EOP000032.444
OK

Tx Phase D Start
TxPhaseD MODEM_OK
Tx Phase D EOP
000034.716
+FPTS1

Tx Phase D Start
TxPhaseD MODEM_FPTS
RxFPTS +FPTS1
TxPhaseD MCF
Enabling smtp for receiving data, body_page_number 2, body_page_number_sent 1
000036.272
+FHNG0
```

```
TxPhaseE MODEM_FHNG  
000036.832  
OK
```

```
TxPhaseE MODEM_OK
```

The following output shows that the fax transmission is complete.

```
175514 %FTSP-6-FAX_DISCONNECT Transmission  
*Jan 1 175512.575 tty(72) fax transmit done  
175514 %LINK-3-UPDOWN Interface Serial222, changed state to down
```

Related Commands

Command	Description
debug fax send all	Displays Class 2 fax tracing information about all off-ramp connections.
debug fax send specific	Enables debug fax send all command Class 2 fax tracing information to be filtered using the calling number.

debug fax send specific

Use the **debug fax send specific** EXEC command to enable filtering information on an outbound calling number. Use the **no** form of this command to disable debugging output.

[no] debug fax send specific

Syntax Description

This command uses no arguments or keywords.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

Note The **debug fax send specific** command is used in conjunction with the **debug fax send calling-number** command; essentially the **debug fax receive specific** command enables Store and Forward Fax to filter the **debug fax receive all** command information using the calling number.

The following example displays output from the **debug fax send calling-number** command, which has been enabled by using the **debug fax send specific** command. In this example, Store and Forward Fax displays Class 2 information about all off-ramp fax calls for the calling number 555-3414.

```
router# debug fax send specific
router# debug fax send calling-number 5553414
```

The following output shows that the off-ramp gateway is placing a fax call.

```
*Jan 1 175435.703 ftsp_offramp_match_digits phone number to translate 5553413
*Jan 1 175435.703 destPat(5553413), matched(6), prefix() peer_tag(310)
*Jan 1 175435.703 ftsp_offramp_match_digits target 5763413
*Jan 1 175435.743 fap_offcm tty(72), Got dial message000000.000 AT&F\Q0S7=255
```

Class 2 modem tracing begins, including modem initialization.

```
000000.080 A
000000.096 T
000000.128 &F
000000.144 \Q
000000.160 OS7=255
000000.160
OK
```

In the following output, Class 2 modem tracing continues.

```
000000.160 E0V1
000000.192 A
```

```

000000.192 TE
000000.208 0
000000.208
OK

000000.208AT+FCLASS=2
000000.288
OK

000000.288 +FDCC=.;+FBOR=
000000.368
OK

000000.368 AT+FLID
000000.432
OK

```

The following output shows that the off-ramp gateway is dialing out.

```

000000.432 ATDTW5553413

*Jan 1 175436.419 ftsp_setup_for_oc tty72, callid=0x1C
*Jan 1 175436.419 ftsp_setup_for_oc ctl=2, cas grp=-1, snmp_ix=102
*Jan 1 175436.419 ftsp_off_ramp_active_call_init tty72 callid=0x1C,

```

The following output identifies the SMNP index of the off-ramp device.

```

snmp_ix=102
000011.784
+FCON

Phase A Start

```

The following output shows that the called party has answered and that the fax transmission is beginning. Class 2 modem tracing continues.

```

175449 %FTSP-6-FAX_CONNECT Transmission
*Jan 1 175447.527 TxPhaseA MODEM_FCON
000012.524
+FNSFB5 00 2E 57 46 58 3A 37 2E 30

Phase B Start
TxPhaseB MODEM_FNSF
000013.276
+FCSI" Allegro Fax machine"

Phase B Start
TxPhaseB MODEM_FCSI
000013.756
+FDIS1,5,0,2,3,0,1,0

OK

Phase B Start
TxPhaseB MODEM_FDIS
TxPhaseB MODEM_OK

*Jan 1 175449.499 TxPhaseB, tty(72), Tx Speed=14400bps

*Jan 1 175449.499 000013.756 AT+FDIS
000013.820
OK

Phase B Start
TxPhaseB MODEM_OK

```

debug fax send specific

```
000013.820 AT+FDT
000020.704
+FDCS0,5,0,2,0,0,0,0

Phase B Start
TxPhaseB MODEM_FDCS

*Jan 1 175456.447 calc_min_line_bytes normal resolution
000021.280
CONNECT

Phase B Start
TxPhaseB MODEM_CONNECT
000021.296
Phase C Start
TxPhaseC MODEM_XON

*Jan 1 175457.139 asfax_txservice tty(72), MPS b000024.788
OK

Tx Phase D Start
TxPhaseD MODEM_OK
Tx Phase D MPS
000027.128
+FPTS1

OK

Tx Phase D Start
TxPhaseD MODEM_FPTS
Rx FPTS +FPTS1
TxPhaseD MCF
TxPhaseD MPS
Phase C Start
TxPhaseC MODEM_OK
000027.768
CONNECT

Phase C Start
TxPhaseC MODEM_CONNECT
000027.784
Phase C Start
TxPhaseC MODEM_XON

*Jan 1 175503.687 asfax_txservice tty(72), EOP000032.444
OK

Tx Phase D Start
TxPhaseD MODEM_OK
Tx Phase D EOP
000034.716
+FPTS1

Tx Phase D Start
TxPhaseD MODEM_FPTS
Rx FPTS +FPTS1
TxPhaseD MCF
Enabling smtp for receiving data, body_page_number 2, body_page_number_sent 1
000036.272
+FHNG0

TxPhaseE MODEM_FHNG
000036.832
OK
```

```
TxPhaseE MODEM_OK
```

The following output shows that the fax transmission is complete.

```
175514 %FTSP-6-FAX_DISCONNECT Transmission
*Jan  1 175512.575 tty(72) fax transmit done
175514 %LINK-3-UPDOWN Interface Serial222, changed state to down
```

Related Commands

Command	Description
debug fax send all	Displays Class 2 fax tracing information about all off-ramp connections.
debug fax send calling-number	Displays Class 2 fax tracing information about off-ramp connections filtered on a specific called number.

debug fmail client

Use the **debug fmail client** command to display e-mail parameters (such as Mail from and Envelope to and Envelope from) as well as the progress of the SMTP client. Use the **no** form of this command to disable debugging output.

[no] debug fmail client

Syntax Description

This command uses no arguments or keywords.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The following example shows how the **debug fmail client** command traces the component that communicates with the SMTP client on the on-ramp Cisco AS5300.

```
router# debug fmail client
```

In the following output, the fax-mail client is trying to establish a session with an e-mail server.

```
*Jan 1 18:04:39.419: fmccm: tty(1), establishing a connection
*Jan 1 18:04:39.419: fmccm tty(1): Envelope to: uut1@linux2.allegro.com
*Jan 1 18:04:39.419: fmccm tty(1), Mail from user name is fully specified
*Jan 1 18:04:39.419: fmccm: tty(1), Envelope from:
FAX=4085763413@allegrouut1.allegro.com
```

In the following output, the fax-mail client opens a session with e-mail server.

```
*Jan 1 18:04:39.423: fmccm: Opening connection with email host 14.0.0.4

*Jan 1 18:04:39.423: ensp_ind_call: tty1 peer_tag=110 onRamp
18:04:50: %FTSP-6-FAX_CONNECT: Reception
18:05:01: %FTSP-6-FAX_DISCONNECT: Reception
*Jan 1 18:04:59.043: fm_cpd:: tty(1),Received TIFF_PAGE_READY messagfm_cpd:: tty(1),
Received TIFF_PAGE_READY message
*Jan 1 18:04:59.043: fm_cpd:: tty(1),END_OF_FAX_PAGE received
*Jan 1 18:04:59.043: fm_cpd:: tty(1),Received TIFF_PAGE_READY messagfm_cpd:: tty(1),
Received TIFF_PAGE_READY message
18:05:01: %LINK-3-UPDOWN: Interface Serial2:0, changed state to down
*Jan 1 18:05:00.831: fmc_bfc: tty(1): esmtp response status 0
*Jan 1 18:05:00.831: fmc_bfc:: tty(1), Faxmail message id =
002D2000180439695@allegrouut1.allegro.com
*Jan 1 18:05:00.831: fmc_bfc: tty(1): Calling fap_onramp_process_boolean() for cleanup
*Jan 1 18:05:00.831: ensp_do_call_history: disc cause=63, service or option not
available, unspecified
```

Related Commands

Command	Description
<code>debug fmail server</code>	Displays communications with the SMTP server.

debug fmail server

Use the **debug fmail server** EXEC command to display communication with the SMTP server. Use the **no** form of this command to disable debugging output.

[no] debug fmail server

Syntax Description

This command uses no arguments or keywords.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The following output shows how the **debug fmail server** command provides information about cover-page generation and progress of the data that the off-ramp Cisco AS5300 is processing from the SMTP server.

```
router# debug fmail server
```

In the following output, the off-ramp gateway receives an e-mail message from a mail server.

```
from uut1@linux2.allegro.com, ph#in fax=5553413

*Jan 1 175725.383 decode_minaddr (pstn fax=5553413)
*Jan 1 175725.383 decode_minaddr Fax Number5553413
*Jan 1 175725.383 decode_minaddr phone string returned [5763413]tel_number_dial
5763413

*Jan 1 175725.383 create fax payload
*Jan 1 175725.383 ensp_ind_call offRamp
*Jan 1 175725.383 Entering faxmail_server_new_recipient()
*Jan 1 175725.383 envelope_to 35, [fax=5763413@allegrouut1.allegro.com]
*Jan 1 175725.383 allocate_modem mica_last_used 72
*Jan 1 175725.383 allocate_modem microcom_last_used 0
*Jan 1 175725.383 statbits 10420
```

In the following output, the off-ramp gateway looks for a free modem.

```
*Jan 1 175725.383 statbits2 5
*Jan 1 175725.383 statbits 10420
*Jan 1 175725.383 statbits2 5
*Jan 1 175725.383 statbits 10420
*Jan 1 175725.383 statbits2 5
*Jan 1 175725.383 statbits 10420
*Jan 1 175725.383 statbits2 5
*Jan 1 175725.383 statbits 10420
*Jan 1 175725.387 statbits2 5
*Jan 1 175725.387 statbits 10020
*Jan 1 175725.387 statbits2 1
```

In the following output, the off-ramp gateway finds and seizes an available MICA modem.

```
*Jan 1 175725.387 allocate_modem found a mica modem
*Jan 1 175725.391 allocate_modem seizing modem 72
*Jan 1 175725.391 create_fax_record tty72
*Jan 1 175725.391 cover_page is enabled for fax=5763413@allegrouut1.allegro.com

*Jan 1 175725.391 fax_record->tel_number_dial 5763413
*Jan 1 175725.391 Total rcpt so far 1
rfc_payload->envelope_from 24, [uut1@linux2.allegro.com]
```

In the following output, the off-ramp gateway matches the MMoIP dial peer information.

```
*Jan 1 175725.399 ensp_offramp_match_digits destPat(5763413), matched(6), tag(300)
target ()
*Jan 1 175725.399 decode_minaddr (pstn fax=5763413@allegrouut1.allegro.com)
*Jan 1 175725.399 decode_minaddr Fax Number5763413
*Jan 1 175725.399 decode_minaddr phone string returned [5763413]from_personal_name 4,
[uut1]
cover_page_from1 8, ["uut1", ]

*Jan 1 175725.399 >>> from_raw 23, [uut1@linux2.allegro.com]
*Jan 1 175725.399 Non-digit character encountered [u]cover_page_from2
[uut1@linux2.allegro.com]
```

In the following output, the off-ramp gateway displays the data included in the Store and Forward Fax-generated cover page.

```
//Cover page
-----
Title:          This is the offramp

To:            5553413

From:          "uut1", uut1@linux2.allegro.com

Date:          Thu, 21 Jan 1999 10:44:21 -0800

Subject:       test

-----
]

*Jan 1 17:57:25.399: Calling text2fax_data_handler for cover page
*Jan 1 17:57:25.411: Returned buffer length: 1548 (mime != text)
*Jan 1 17:57:25.411: faxmail_server_put_buffer: buffer_info == BUFF_END_OF_PART
*Jan 1 17:57:25.415: Returned buffer length: 1548 (mime != text)
*Jan 1 17:57:25.415: faxmail_server_put_buffer: buffer_info == BUFF_END_OF_PART
*Jan 1 17:57:25.415: Returned buffer length: 624 (mime == text)
*Jan 1 17:57:25.415: faxmail_server_put_buffer: buffer_info == BUFF_END_OF_PART
*Jan 1 17:57:25.415: [
test
]

*Jan 1 17:57:25.415: Calling text2fax_data_handler - TEXT_BODY_PAGE
*Jan 1 17:57:25.431: Authentication bypassed...not enabled
```

In the following output, the off-ramp gateway places the call to the receiving fax machine.

```
*Jan 1 17:57:25.431: Sending dial messages now
*Jan 1 17:57:25.431: faxmail_server_send_dial_message to fap 5763413
*Jan 1 17:57:25.431: send DIAL
*Jan 1 17:57:25.535: Returned buffer length: 1548 (mime != text)
*Jan 1 17:57:25.535: faxmail_server_put_buffer: buffer_info == BUFF_END_OF_PART
```

```
*Jan 1 17:57:25.535: Returned buffer length: 624 (mime == text)
*Jan 1 17:57:25.535: Got a page with only returns and newline's - setting
buffer_length=0
*Jan 1 17:57:25.535: faxmail_server_put_buffer: buffer_info == BUFF_END_OF_PART
*Jan 1 17:57:25.535: []

*Jan 1 17:57:25.535: Calling text2fax_data_handler - TEXT_BODY_PAGE
*Jan 1 17:57:25.535: Returned buffer length: 1548 (mime != text)
*Jan 1 17:57:25.539: Returned buffer length: 1548 (mime != text)
*Jan 1 17:57:25.547: Returned buffer length: 1548 (mime != text)
*Jan 1 17:57:25.551: Returned buffer length: 1548 (mime != text)
*Jan 1 17:57:25.555: faxmail_server_put_buffer: buffer_info == BUFF_END_OF_PART
*Jan 1 17:57:25.555: Returned buffer length: 624 (mime == text)
*Jan 1 17:57:25.555: faxmail_server_put_buffer: buffer_info == BUFF_LAST
*Jan 1 17:57:25.555: []

*Jan 1 17:57:25.555: Calling text2fax_data_handler - TEXT_BODY_PAGE
*Jan 1 17:57:25.555: Stopping smtp from receiving data, fax_payload->body_pages 2,
body_page_number_sent 0
*Jan 1 17:57:25.555: All reserved modems have been previous dialed.
```

In the following output, the receiving fax machine answers the call from the off-ramp gateway.

```
17:57:38: %FTSP-6-FAX_CONNECT: Transmission
```

The following output shows that the transmission is complete.

```
17:58:03: %FTSP-6-FAX_DISCONNECT: Transmission
*Jan 1 17:58:01.619: Entering faxmail_server_fap_done(f_rec: 616EB70C, fmode:
5) faxmail_server_fap_done: status: 23, num_pages: 2

17:58:03: %LINK-3-UPDOWN: Interface Serial1:0, changed state to down
*Jan 1 17:58:10.559: ensp_do_call_history: disc cause=16, normal call clearing.
*Jan 1 17:58:10.559: Remove fax_record from Q..., frec 616EB70C
*Jan 1 17:58:10.559: delete_f_rec(): calling free()
*Jan 1 17:58:10.559: fax_record 616EB70C is deleted
*Jan 1 17:58:10.559: Entering faxmail_server_dispose_context (to
delete fax_payload: 0x612B4B40)
*Jan 1 17:58:10.559: delete_f_rec(): calling free()
*Jan 1 17:58:10.559: delete_fax_payload: fax_payload freed !!!
```

Related Commands

Command	Description
debug fmail client	Displays e-mail parameters (such as Mail from and Envelope to and Envelope from) as well as the progress of the SMTP client.

debug mmoip aaa

Use the **debug mmoip aaa** EXEC command to display output relating to AAA services with Store and Forward Fax. Use the **no** form of this command to disable debugging output.

[no] debug mmoip aaa

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The following output shows how the **debug mmoip aaa** command provides information about AAA on-ramp or off-ramp authentication:

```
router# debug mmoip aaa
5d10h:fax_aaa_begin_authentication:User-Name = mmoip-b.cisco.com
5d10h:fax_aaa_begin_authentication:fax_account_id_origin = GATEWAY_ID
5d10h:fax_aaa_end_authentication_callback:Authentication successful
```

The following output shows how the **debug mmoip aaa** command provides information about AAA off-ramp accounting:

```
router# debug mmoip aaa
5d10h:fax_aaa_start_accounting:User-Name = mmoip-b.cisco.com
5d10h:fax_aaa_start_accounting:Calling-Station-Id = gmercuri@mail-server.cisco.com
5d10h:fax_aaa_start_accounting:Called-Station-Id = fax=571-0839@mmoip-b.cisco.com
5d10h:fax_aaa_start_accounting:fax_account_id_origin = GATEWAY_ID
mmoip-b#ax_aaa_start_accounting:fax_msg_id = <37117AF3.3D98300E@mail-server.cisco.com>
5d10h:fax_aaa_start_accounting:fax_pages = 2
5d10h:fax_aaa_start_accounting:fax_coverpage_flag = TRUE
5d10h:fax_aaa_start_accounting:fax_modem_time = 26/32
5d10h:fax_aaa_start_accounting:fax_connect_speed = 14400bps
5d10h:fax_aaa_start_accounting:fax_recipient_count = 1
5d10h:fax_aaa_start_accounting:fax_auth_status = USER SUCCESS
5d10h:fax_aaa_start_accounting:gateway_id = mmoip-b.cisco.com
5d10h:fax_aaa_start_accounting:call_type = Fax Send
5d10h:fax_aaa_start_accounting:port_used = slot:0 modem port:0
5d10h:fax_aaa_do_offramp_accounting tty(6), Stopping accounting

5d10h:fax_aaa_stop_accounting:ftdb->cact->generic.callActiveTransmitBytes = 18038
5d10h:fax_aaa_stop_accounting:ftdb->cact->generic.callActiveTransmitPackets = 14
```

The following output shows how the **debug mmoip aaa** command provides information about AAA on-ramp accounting:

```
router# debug mmoip aaa
5d10h:fax_aaa_start_accounting:User-Name = mmoip-b.cisco.com
5d10h:fax_aaa_start_accounting:Calling-Station-Id = FAX=408@mail-from-hostname.com
5d10h:fax_aaa_start_accounting:Called-Station-Id = FAX=5710839@mail-server.cisco.com
5d10h:fax_aaa_start_accounting:fax_account_id_origin = GATEWAY_ID
5d10h:fax_aaa_start_accounting:fax_msg_id = 00391997233216263@mmoip-b.cisco.com
5d10h:fax_aaa_start_accounting:fax_pages = 2
5d10h:fax_aaa_start_accounting:fax_modem_time = 22/32
5d10h:fax_aaa_start_accounting:fax_connect_speed = 14400bps
5d10h:fax_aaa_start_accounting:fax_auth_status = USER SUCCESS
5d10h:fax_aaa_start_accounting:email_server_address = 1.14.116.1
5d10h:fax_aaa_start_accounting:email_server_ack_flag = TRUE
5d10h:fax_aaa_start_accounting:gateway_id = mmoip-b.cisco.com
5d10h:fax_aaa_start_accounting:call_type = Fax Receive
5d10h:fax_aaa_start_accounting:port_used = Cisco Powered Fax System slot:1 port:4
5d10h:fax_aaa_do_onramp_accounting tty(5), Stopping accounting

5d10h:fax_aaa_stop_accounting:endb->cact->generic.callActiveTransmitBytes = 26687
5d10h:fax_aaa_stop_accounting:ftdb->cact->generic.callActiveReceiveBytes = 18558
5d10h:fax_aaa_stop_accounting:ftdb->cact->generic.callActiveReceivePackets = 14
```

debug mmoip send email

Use the **debug mmoip send email** EXEC command to test connectivity between the on-ramp gateway and the e-mail server by sending a test e-mail to a specified e-mail address. Use the **no** form of this command to disable debugging output.

[no] debug mmoip send email {*string*}

Syntax Description

string Specifies the e-mail address of the sender; for example, `george@mail-server.com`.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The **debug mmoip send email** command is used to test connectivity between the on-ramp gateway and the e-mail server. Basically, this **debug** command sends an e-mail message to the recipient specified in the e-mail address string. There is no specific output associated with the **debug mmoip send email** command; to see how the on-ramp gateway and e-mail server interact when processing the test e-mail message, enable the **debug fmail client** command.

The following example tests connectivity between the on-ramp gateway and the e-mail server by sending a test e-mail message to `ilya@mail-server.com`.

```
router# debug fmail client
router# debug mmoip send email ilya@mail-server.com

router#
01:22:59:faxmail_client_send_test:Sending the test message to
ilya@mail-server.com from testing@mmoip-a.cisco.com...
01:22:59:faxmail_client_send_test:Opening client engine.
01:22:59:faxmail_client_send_test:Sending 59 bytes ...
01:22:59:faxmail_client_send_test:Done sending test email.
```

debug mmoip send fax

Use the **debug mmoip send fax** EXEC command to send an off-ramp test fax. Use the **no** form of this command to disable debugging output.

[no] debug mmoip send fax{*string*}

Syntax Description

string Specifies the E.164 telephone number to be used for sending the test fax.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The **debug mmoip send fax** command is used to test connectivity between the off-ramp gateway and a recipient fax device. Basically, this debug command sends a test fax transmission to the recipient specified in the telephone number string. There is no specific output associated with the **debug mmoip send fax** command; to see how the off-ramp gateway and fax device interact when processing the test fax, enable the **debug fax send all** command.

The following example sends a test fax message to the telephone number 5550839:

```
router# debug fax send all
router# debug mmoip send fax 5550839
```

The following output shows that the off-ramp gateway is placing a fax call.

```
01:28:18:ftsp_offramp_match_digits:phone number to translate:5550839
01:28:18: destPat(5.....), matched(1), prefix() peer_tag(1)
01:28:18:ftsp_offramp_match_digits:target:710839
01:28:18:fap_offcm:tty(4), Got dial message00:00:00.000:AT&F\Q0S7=255
```

Class 2 modem tracing begins, including modem initialization.

```
00:00:00.008:AA
00:00:00.068:TT
00:00:00.128:&F\Q0S7=255
00:00:00.128:
OK

00:00:00.128:E0V1
00:00:00.140:ATE0
OK

00:00:00.140:AT+FCLASS=2
00:00:00.148:
OK

00:00:00.148:+FDCC=.;+FBOR=
00:00:00.168:AT+FLID
```

```
00:00:00.180:  
OK
```

```
00:00:00.180:ATDTW710839
```

The following output shows that the fax transmission is complete; in this particular example, there was a transmission error, and the modem timed out.

```
01:28:25:ftsp_setup_for_oc:tty4, callid=0xA  
01:28:25:ftsp_setup_for_oc ctl=0, cas grp=-1, snmp_ix=30  
01:28:25:ftsp_off_ramp_active_call_init tty4 callid=0xA, snmp_ix=30  
01:29:18:fap_offpmt:tty(4), TxPhaseA:modem timeout  
01:29:18:%FTSP-6-FAX_DISCONNECT:Transmission error
```

debug mmoip transfer

Use the **debug mmoip transfer** EXEC command to send output of the TIFF writer to a TFTP server. Use the **no** form of this command to disable debugging output.

[no] debug mmoip transfer {*prefix-filename tftp-server-name*}

Syntax Description

<i>prefix-filename</i>	Specifies the name of the TIFF file. The format for the TIFF file name is “telephone-number.TIFF.”
<i>tftp-server-name</i>	Identifies the TFTP server to which the output from the TIFF writer is sent.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The **debug mmoip transfer** sends the content of the fax data received to the TFTP server named by the *tftp-server-name* variable into the file identified by the *prefix-filename* variable. Each page of the fax transmission is a separate file, designated by the letter p, followed by the page number.

For example, the following command transfers the received fax content to a TFTP server named keyer. The first page of the transmission goes to the file /tftpboot/test/testp1.tiff, the second page goes to the file named /tftpboot/test/testp2.tiff and so on.

```
router# debug mmoip transfer /tftpboot/test/test keyer
```

The named files must exist on the TFTP server and be writable for the debug operation to be successful.

debug mta send all

Use the **debug mta send all** EXEC command to display output for all of the on-ramp client connections. Use the **no** form of this command to disable debugging output.

[no] debug mta send all

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

This display shows the messages exchanged (for example, the handshake) between the e-mail server and the on-ramp gateway.

```
router# debug mta send all
All email send debugging is on
router#
```

The following output shows that the calling party is connected to the on-ramp router. R specifies the information received from the mail server. S specifies the messages sent from the on-ramp gateway to the mail server.

```
1d19h: %FTSP-6-FAX_CONNECT: Receptionssocket 0 attempting to connect to IP address
14.0.0.1
socket 0 readable for first time - let's try to read it
R: 220 nt4server.allegro.com ESMTP Server (Microsoft Exchange Internet Mail Service
5.5.1960.3) ready
S: EHLO allegrouut1.allegro.com
R: 250-nt4server.allegro.com supports the following extensions:
R: 250-XEXCH50
R: 250-HELP
R: 250-ETRN
R: 250-DSN
R: 250-SIZE 0
R: 250-AUTH=LOGIN
R: 250 TLS
S: MAIL FROM:<FAX=4085763414@allegrouut1.allegro.com> RET=HDRS
R: 250 OK - mail from <FAX=4085763414@allegrouut1.allegro.com>
S: RCPT TO:<test@nt4server.allegro.com> NOTIFY=SUCCESS,FAILURE
ORCPT=rfc822;FAX+3D4085763414@allegrouut1.allegro.com
R: 250 OK - Recipient <test@nt4server.allegro.com>
R: 354 Send data. End with CRLF.CRLF
S: Received: (originator..... slot:1 port:16) by allegrouut1.allegro.com for
<test@nt4server.allegro.com> (with Cisco NetWorks); Sun, 02 Jan 2000 19:30:56 +0000
S: To: "14085710847" <test@nt4server.allegro.com>
S: Message-ID: <00152000193056665@allegrouut1.allegro.com>
S: Date: Sun, 02 Jan 2000 19:30:56 +0000
S: Subject: onramp test
```

```

S: X-Mailer: IOS (tm) 5300 Software (C5300-IS-M)
S: MIME-Version: 1.0
S: Content-Type: multipart/mixed;
S:  boundary="yradnuoB=_00142000193054321.allegrouut1allegro.com"

1d19h: %FTSP-6-FAX_DISCONNECT: ReceptionS: From: "+31 703712194"
<FAX=4085763414@allegrouut1.allegro.com>
S: X-Account-Id: null
S: --yradnuoB=_00142000193054321.allegrouut1allegro.com
S: Content-ID: <00162000193129665@allegrouut1.allegro.com>
S: Content-Type: image/tiff; application=faxbw
S: Content-Transfer-Encoding: base64
writing lingering data for socket 0
writing lingering data for socket 0
writing lingering data for socket 0
writing lingering data for socket 0
writing lingering data for socket 0
writing lingering data for socket 0
writing lingering data for socket 0
writing lingering data for socket 0

1d19h: %LINK-3-UPDOWN: Interface Serial1:0, changed state to downwriting lingering data
for socket 0
S: --yradnuoB=_00142000193054321.allegrouut1allegro.com--
Sending terminating dot ...(socket=0)
S: .
R: 250 OK
S: QUIT

```

The following output shows that the fax transmission is complete.

```

R: 221 closing connection
Freeing SMTP ctx at 0x613C8620
returned from work_routine, context freed

```

Related Commands

Command	Description
debug mta receive all	Display output for all of the off-ramp client connections.
debug mta send rcpt-to	Display output for a specific on-ramp SMTP client connection during an e-mail transmission.

debug mta send rcpt-to

Use the **debug mta send rcpt-to** EXEC command to display output for a specific on-ramp SMTP client connection during an e-mail transmission. Use the **no** form of this command to disable debugging output.

[no] debug mta send rcpt-to{string}

Syntax Description

string Specifies the e-mail address.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The following example shows debugging information displayed when the **debug mmoip send email** command has been enabled and the SMTP client is sending an e-mail message.

```

router# debug mta send all
All email send debugging is on
router# debug mmoip send email ilyau@company.com

router# socket 0 attempting to connect to IP address 172.69.95.82
socket 0 readable for first time - let's try to read it
R:220 quisp.cisco.com ESMTP Sendmail 8.8.4-Cisco.1/8.6.5 ready at Tue, 6
Apr 1999 13:35:39 -0700 (PDT)
S:EHLO mmoip-c.cisco.com
R:250-quisp.cisco.com Hello [172.22.95.16], pleased to meet you
R:250-EXPN
R:250-VERB
R:250-8BITMIME
R:250-SIZE
R:250-DSN
R:250-ETRN
R:250-XUSR
R:250 HELP
S:MAIL FROM:<testing@> RET=HDRS
R:250 <testing@>... Sender ok
S:RCPT TO:<ilyau@cisco.com> NOTIFY=SUCCESS ORCPT=rfc822;testing@
R:250 <ilyau@cisco.com>... Recipient ok
R:354 Enter mail, end with "." on a line by itself
S:Received:(Cisco Powered Fax System) by mmoip-c.cisco.com for
<ilyau@cisco.com> (with Cisco NetWorks); Fri, 17 Oct 1997 14:54:27 +0800
S:To: <ilyau@cisco.com>
S:Message-ID:<000F1997145427146@mmoip-c.cisco.com>
S>Date:Fri, 17 Oct 1997 14:54:27 +0800
S:Subject:mmoip-c subject here
S:X-Mailer:IOS (tm) 5300 Software (C5300-IS-M)
S:MIME-Version:1.0
S:Content-Type:multipart/mixed;

```

```
S: boundary="yradnuoB=_000E1997145426826.mmoip-ccisco.com"  
S:From:"Test User" <testing@>  
S:--yradnuoB=_000E1997145426826.mmoip-ccisco.com  
S:Content-ID:<00101997145427150@mmoip-c.cisco.com>  
S:--yradnuoB=_000E1997145426826.mmoip-ccisco.com--  
Sending terminating dot ...(socket=0)  
S:.  
R:250 NAA09092 Message accepted for delivery  
S:QUIT  
R:221 quisp.cisco.com closing connection  
Freeing SMTP ctx at 0x6121D454  
returned from work_routine, context freed
```

Related Commands

Command	Description
debug mta send all	Displays output for all of the on-ramp client connections.

debug text-to-fax

Use the **debug text-to-fax** EXEC command to show information relating to the off-ramp text-to-fax conversion. Use the **no** form of this command to disable debugging output.

[no] debug text-to-fax

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The following debug output shows the off-ramp text-to-fax conversion.

```
router# debug text-to-fax
Text to fax debugging is on
router#6d03h: text2fax_data_handler: START_OF_CONNECTION
6d03h: text2fax_data_handler: new_context
6d03h: text2fax_data_handler: resolution: fine
6d03h: text2fax_data_handler: buffer size: 50
6d03h: text2fax_put_buffer: START_OF_FAX_PAGE
6d03h: text2fax_put_buffer: START_OF_FAX_PAGE
6d03h: text2fax_put_buffer: END_OF_FAX_PAGE. Dial now ...if not in progress

6d03h: text2fax_data_handler: START_OF_DATA
6d03h: text2fax_data_handler: END_OF_DATA
6d03h: text2fax_data_handler: Dispose context
6d03h: text2fax_data_handler: START_OF_CONNECTION
6d03h: text2fax_data_handler: END_OF_CONNECTION
6d03h: %FTSP-6-FAX_CONNECT: Transmission
6d03h: %FTSP-6-FAX_DISCONNECT: Transmission
6d03h: %LINK-3-UPDOWN: Interface Serial1:22, changed state to down
```

debug tiff reader

Use the **debug tiff reader** EXEC command to display output about the off-ramp TIFF reader. Use the **no** form of this command to disable debugging output.

[no] debug tiff-reader

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The following debug example displays information about the off-ramp TIFF reader.

```
router# debug tiff reader
*Jan 1 18:59:13.683: tiff_reader_data_handler: new context
*Jan 1 18:59:13.683: tiff_reader_data_handler: resolution: standard
*Jan 1 18:59:13.683: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() ENGINE_START/DONE gggg(pl 616E9994)

*Jan 1 18:59:13.691: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.699: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)

*Jan 1 18:59:13.703: tiff_reader_put_buffer: START_OF_FAX_PAGEi>> tiff_reader_engine()
case FAX_EBUFFER gggg

*Jan 1 18:59:13.711: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.719: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.727: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.735: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.743: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.751: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.759: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.767: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.775: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
```

```

i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.787: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.795: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.803: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.811: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.819: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.827: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.835: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.843: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.851: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.863: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.871: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.879: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.887: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.895: tiff_reader_data_handler: buffer size: 1524
*Jan 1 18:59:13.903: tiff_reader_data_handler: buffer size: 1524i>>
tiff_reader_engine() case FAX_EBUFFER pppp(pl 616E9994)
i>> tiff_reader_engine() case FAX_EBUFFER gggg

*Jan 1 18:59:13.907: tiff_reader_data_handler: buffer size: 311i>> tiff_r_finish()
END_OF_FAX_PAGE pppp

*Jan 1 18:59:13.907: tiff_reader_put_buffer: END_OF_FAX_PAGE. Dial now ...if not in
progress
*Jan 1 18:59:13.907: tiff_reader_data_handler: END_OF_DATA
*Jan 1 18:59:13.907: tiff_reader_data_handler: BUFF_END_OF_PART
*Jan 1 18:59:13.907: tiff_reader_data_handler: Dispose context

```

Related Commands

Command	Description
debug tiff writer	Displays output about the on-ramp TIFF writer.

debug tiff writer

Use the **debug tiff writer** EXEC command to display output about the on-ramp TIFF writer. Use the **no** form of this command to disable debugging output.

[no] debug tiff-writer

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command History

Release	Modification
12.0(4)T	This command was introduced.

Examples

The following debug example shows information about the off-ramp TIFF writer.

```
router# debug tiff writer
*Jan 1 18:54:59.419: tiff_writer_data_process: START_OF_CONNECTION
18:55:10: %FTSP-6-FAX_CONNECT: Reception
*Jan 1 18:55:14.903: tiff_writer_data_process: START_OF_FAX_PAGE
*Jan 1 18:55:14.903: tiff_writer_data_process: tiff file created = 2000:01:01 18:55:14
18:55:21: %FTSP-6-FAX_DISCONNECT: Reception
*Jan 1 18:55:19.039: tiff_writer_data_process: END_OF_CONNECTION or ABORT_CONNECTION
*Jan 1 18:55:19.039: tiff_writer_put_buffer: END_OF_FAX_PAGE

*Jan 1 18:55:19.039: send TIFF_PAGE_READY
*Jan 1 18:55:19.039: send TIFF_PAGE_READY
18:55:21: %LINK-3-UPDOWN: Interface Serial2:0, changed state to down
```

Related Commands

Command	Description
debug tiff reader	Displays output about the on-ramp TIFF reader.

