



Cisco Cable CPE Error Messages

This document describes the cable-specific system messages generated by the following Cisco cable CPE devices:

- Cisco uBR904 cable access router
- Cisco uBR905 cable access router
- Cisco uBR924 cable access router
- Cisco uBR925 cable access router
- Cisco CVA122 Cable Voice Adapter

This document contains the following major sections:

- [System Message Overview, page 2](#)
- [Cisco Cable CPE System Messages, page 4](#)



Note

This document describes the system messages that appear in Cisco IOS Release 12.2(15)T. Other releases might include a subset or superset of these messages.

System Message Overview

Cisco cable CPE devices generate system messages to inform the operator of significant events. This document describes only those system messages that are specific to the Cisco cable CPE devices. For the other system messages that can be generated, see the *Cisco IOS System Error Messages, Cisco IOS Release 12.2* document, at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122sup/122sems/index.htm>

System messages begin with a percent sign (%) and are structured as follows:

```
%FACILITY-SUBFACILITY-SEVERITY-MNEMONIC: Message-text
```

System messages contain the following components:

- **FACILITY** is a code indicating the platform or other component that is generating the message. The most common FACILITY for system messages for Cisco cable CPE devices is UBR900, which signifies messages related to DOCSIS operations. Other facilities can also appear for messages that are related to various subsystems, such as voice subsystems.
- **SEVERITY** is a number that reflects the significance of the error message. All messages have a Cisco severity number that ranges from 0 to 7. The lower the number, the more serious the situation. [Table 1](#) describes the possible severity levels and their meanings.

Table 1 Error Message Severity Levels

Level	Class	Description
0	Emergency	The system has become unusable and requires immediate attention. This problem might also be affecting other parts of the network.
1	Alert	Some type of system or connection failure has occurred and requires immediate attention.
2	Critical	An error occurred that requires immediate attention to avoid system or connection failure.
3	Error	An error condition occurred that requires attention to resolve. Failure to address this problem will result in some type of system or connection failure in the near future.
4	Warning	A condition occurred that indicates attention is needed in near future to avoid potential problems. Failure to address this problem could result in some type of system or connection failure later on.
5	Notice	A situation occurred that is normal but is significant enough that system administrators might want to notice.
6	Informational	An information message that might or might not be significant to the system administrators.
7	Debug	Messages that appear only while debugging is turned on.

- **MNEMONIC** is a string that uniquely identifies the message. System messages are usually organized and referred to by their mnemonic value.

- The Message-text is a string that provides details about the particular error. This string can include specifics about cable interface, IP or MAC addresses, and other information. In this document, the specific information is presented by variable fields that are indicated by square brackets ([]). A decimal number, for example, is represented as [dec], a variable-length character string is represented as [chars], and an Ethernet MAC address is identified as [enet].

For example, the following message is generated when a Cisco cable modem attempts to register using Baseline Privacy Interface (BPI) encryption, but the request is rejected by the CMTS:

```
CMBPKM-1-KEYREJECT: Key request rejected by CMTS: [chars]
```

When the message is actually generated, it includes the reason why the CMTS rejected the registration request. In this particular case, the cable modem did not register using a valid service identifier (SID):

```
129.CABLEMODEM.CISCO: Oct 27 10:58:45: %CMBPKM-1-KEYREJECT: Key request rejected by CMTS:  
Unauthorized SID
```

Cisco Cable CPE System Messages

This section lists the system messages generated by Cisco cable CPE devices. The messages are listed alphabetically, first according to the facility portion of the error message, and then according to the mnemonic portion of the error message.

- [CMBPKM, page 4](#)
- [CM_DSPRM, page 5](#)
- [CM_MONITOR, page 6](#)
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- [POTS, page 8](#)
- [UBR900, page 11](#)

CMBPKM

This section describes messages related to the operation of Baseline Privacy Interface (BPI) key management (BPKM) for BPI and BPI+ encryption.

`%CMBPKM-1-AUTHREJECT: Authorization request rejected by CMTS: [chars]`

Explanation The cable modem attempted to register using BPI or BPI+ encryption, but the CMTS rejected the registration request for the specified reason. The CMTS could also be requiring BPI encryption, but the DOCSIS configuration file being used by the cable modem has not enabled BPI configuration. In either case, the CMTS is not allowing the cable modem to come online.

Recommended Action Verify that you are running the latest released code on the cable modem. Reset the cable modem to force it to reregister with the CMTS.

If the problem persists, ensure that all of the TLV 17 configuration fields (BLP Config Settings) are present in the DOCSIS configuration file that is being downloaded by the cable modem—this set of TLV fields is required to be present when cable modems are registering using BPI encryption, even when each field is configured with the default settings.

Also verify that TLV 29 (Privacy Enable) has been set to 1 (Enable) in the DOCSIS configuration file being downloaded by the cable modem enables BPI configuration. When a CMTS requires BPI or BPI+ encryption, the CMTS cannot allow the cable modem to register without enabling this encryption.

If registering as a DOCSIS 1.1 or DOCSIS 2.0 cable modem using BPI+ encryption, verify that the cable modem is configured with a proper digital certificate that has not expired. If necessary, see the document, *Upgrading the DOCSIS Certificates in Cisco uBR905/uBR925 Cable Access Routers and CVA122 Cable Voice Adapters*.

Verify that the cable modem is downloading the proper DOCSIS configuration file. Also verify that the time-of-day on the CMTS is properly configured. Verify that the CMTS can communicate with the authentication servers at the headend, and that the servers are configured to allow BPI access for this cable modem.

%CMBPKM-1-KEYREJECT: Key request rejected by CMTS: [chars]

Explanation The cable modem attempted to register using BPI or BPI+ encryption, or it is already online and attempted to renew its BPI encryption keys, but the CMTS rejected the request for the specified keys.

Recommended Action If registering as a DOCSIS 1.1 or DOCSIS 2.0 cable modem using BPI+ encryption, verify that the cable modem is configured with a proper digital certificate that has not expired. If necessary, see the document, *Upgrading the DOCSIS Certificates in Cisco uBR905/uBR925 Cable Access Routers and CVA122 Cable Voice Adapters*.

Also verify that the lifetime of the specified key is at least 10 seconds longer than the grace time setting. If the key's lifetime expires before the cable modem can renew the key, the CMTS can reject future key requests and require the cable modem to completely reregister.

CM_DSPRM

This section describes system messages related to the digital signal processors (DSP) used for the Voice-over-IP (VoIP) ports on the Cisco uBR924 and Cisco uBR925 cable access routers, and on the Cisco CVA122 Cable Voice Adapter.

%CM_DSPRM-6-NODSPRMEVENTS: DSPRM event unavailable

Explanation The cable modem could not allocate internal resources that are required by the DSP circuitry. This typically indicates a hardware problem.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

%CM_DSPRM-6-INTERNALERROR: DSPRM internal error[[chars]:[dec]]

Explanation The cable modem has detected the specified internal error. This typically indicates a software error.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

```
%CM_DSPRM-6-NOIOSBUFFERS: IOS buffer pool unavailable [ [chars]:[dec] ]
```

Explanation The cable modem could not allocate the specified buffer memory resources.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If possible, upgrade the cable modem software to a smaller Cisco IOS software image. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

```
%CM_DSPRM-6-NOIOSMEMORY: IOS memory unavailable [ [chars]:[dec] ]
```

Explanation The cable modem could not allocate the specified memory resources for its internal data structures.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If possible, upgrade the cable modem software to a smaller Cisco IOS software image. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

CM_MONITOR

This section describes system messages related to the operation of the Cable Monitor tool, which is a web-based diagnostic tool that provides easy access to the router's configuration and status information, without requiring access to the router's command line interface (CLI).

```
%CM_MONITOR-6-DNS_KILL: Terminating DNS process
```

Explanation The cable interface on the cable modem has come back up and is operational, so the cable modem is terminating the temporary domain name server (DNS) that was used to provide Cable Monitor access using a private network address.

Recommended Action No action is needed.

```
%CM_MONITOR-6-DNS_RESP: Sending DNS response to [int] (request was for [int])
```

Explanation The cable modem has received a domain name service (DNS) request on the Ethernet interface for the specified address, and the domain name server has replied with the specified IP address.

Recommended Action Ensure that the cable interface on the cable modem is properly connected to the proper coaxial cable. Check with the service provider to verify that they are not experiencing any problems over the coaxial cable segment between the CMTS at the headend and the cable modem. Use the Cable Monitor tool to obtain more information and contact the service provider to resolve the connectivity problems.

```
%CM_MONITOR-6-DNS_STAR: Starting DNS process
```

Explanation The cable interface has gone down, so the cable modem has started a temporary domain name server (DNS) so that it can redirect all IP traffic from its Ethernet interface to the private network address being used by the Cable Monitor tool.

Recommended Action Ensure that the cable interface on the cable modem is properly connected to the proper coaxial cable. Check with the service provider to verify that they are not experiencing any problems over the coaxial cable segment between the CMTS at the headend and the cable modem. Use the Cable Monitor tool to obtain more information and contact the service provider to resolve the connectivity problems.

DSPDD

This section describes system messages related to the device driver for the digital signal processors (DSP) used for the Voice-over-IP (VoIP) ports on the Cisco uBR924 and Cisco uBR925 cable access routers, and on the Cisco CVA122 Cable Voice Adapter.

```
%DSPDD-1-DSPFWFAILURE: DSPRM internal error[ [chars]:[dec] ]
```

Explanation The cable modem has detected the specified internal error related to the DSP firmware. This typically indicates a hardware problem.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

```
%DSPDD-1-INTERNALERROR: DSPRM internal error[ [chars]:[dec] ]
```

Explanation The cable modem has detected the specified internal error. This typically indicates a software error.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

```
%DSPDD-1-NOIOSBUFFERS: IOS buffer pool unavailable [ [chars]:[dec] ]
```

Explanation The cable modem could not allocate the specified buffer memory resources.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If possible, upgrade the cable modem software to a smaller Cisco IOS software image. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the

nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

```
%DSPDD-1-NOIOSMEMORY: IOS memory unavailable [ [chars]:[dec] ]
```

Explanation The cable modem could not allocate the specified memory resources for its internal data structures.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If possible, upgrade the cable modem software to a smaller Cisco IOS software image. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

POTS

This section describes the system messages related to the interface between Voice-over-IP ports and the Plain Old Telephony Server (POTS) system on the Cisco uBR924 and Cisco uBR925 cable access routers, and on the Cisco CVA122 Cable Voice Adapter.

```
%POTS-1-NULL_COMMON_PTR: null CSM/POTS Driver common pointer
```

Explanation The requested operation could not be accomplished because of a null pointer. This could indicate a software error, or a problem with the interface to the service provider's remote call gateway.

Recommended Action If voice calls are unavailable, reload router. If the problem persists you may need to contact your service provider.

```
%POTS-1-NOMEMORY: Unit [dec], no memory for [chars]
```

Explanation The requested operation could not be accomplished because of a low memory condition.

Recommended Action Reduce other system activity to ease memory demands. Verify that the cable modem is running released software. If so, reload the cable modem. If possible, upgrade the cable modem software to a smaller Cisco IOS software image. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

`%POTS-3-INVALID_PORT: port [int], Ignoring activation, port number is invalid`

Explanation The POTS driver request is ignored because the specified port does exist or has not been enabled by the service provider.

Recommended Action If the specified voice port has not been enabled in the cable modem's DOCSIS configuration file, it cannot be used for calls. If the port should be available for calls, verify that the DOCSIS configuration file contains the proper vendor-specific information field (VSIF) to enable the proper number of phone lines.

For Cisco cable modems, configure TLV 43 (VSIF), sub-TLV 10 (Number of Phone Lines) to set the number of phone lines. For example, the complete TLV to configure the cable modem for two phone lines would be 43-08-08-03-00-00-0C-10-01-02. This translates to:

43-08—VSIF TLV with a length of 8 bytes.

08-03-00-00-0C—Vendor ID sub-TLV, with a length of 3 bytes and a value of 00.00.0C (Cisco).

10-01-02—Number of phones sub-TLV, with a length of 1 byte and a value of 2 (2 phones).

`%POTS-3-INVALID_EVENT: Port [int], Event [int] finite state machine error`

Explanation The POTS finite state machine event should not be in the specified current state. This is likely a software error, or a problem with the remote call gateway.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

`%POTS-3-VDEV_INIT_ERROR: Port [int] device initialization failure`

Explanation The POTS subsystem initialization has failed for the specified voice port, which means that voice calls cannot be made using that port.

Recommended Action Verify that the port exists—the only valid port values are 0 (port V1) and 1 (port V2). If other values appear, or if this is a valid port number, verify that the cable modem is running released software. If so, reload the cable modem. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

`%POTS-3-PROCESS_EVENT_ERROR: POTS subsystem unexpected event [int].`

Explanation The POTS subsystem process has received the specified invalid event. This is likely a software problem, or a problem with the remote call gateway.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the

nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

`%POTS-3-FSM_ERROR: POTS finite state machine error [chars].`

Explanation The POTS finite state machine utility has encountered the specified problem. This is likely a software problem.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

`%POTS-3-QUEUE_EMPTY: POTS empty process message [chars].`

Explanation A POTS interrupt cannot send the specified message to the POTS process. This is likely a software problem.

Recommended Action Verify that the cable modem is running released software. If so, reload the cable modem. If the problem persists, copy the error message exactly as it appears, and use the **show tech-support** command to collect information about the problem. If you cannot determine the nature of the error from the error message text or from the **show tech-support** command output, contact your Cisco technical support representative and provide the representative with the gathered information.

`%POTS-3-UNSUPPORTED_COUNTRY: CODEC driver doesn't support country [chars].`

Explanation The CODEC driver cannot be configured for the specified country code.

Recommended Action If possible, upgrade the Cisco IOS software to a release that supports the desired country. Otherwise, reconfigure the cable modem for a supported country code.

`%POTS-3-UNSUPPORTED_RX_LOSS: CODEC driver only supports input loss values of -6 and 0, not [dec]`

Explanation The CODEC driver does not support the specified input loss value when using the **input gain** voice-port configuration command.

Recommended Action Reenter the **input gain** command and specify only a value of either -6 or 0 dB.

`%POTS-3-UNSUPPORTED_TX_GAIN: CODEC driver only supports output gain values of 6 and 0, not [dec]`

Explanation The CODEC driver does not support the specified output gain value when using the **output attenuation** voice-port configuration command.

Recommended Action Reenter the **output attenuation** command and specify only a value of either -6 or 0 dB.

`%POTS-3-UNSUPPORTED_SIGNAL_TYPE: Interface only supports loop start.`

Explanation The voice ports on the cable modem support only FXS loop-start signaling. You cannot configure the ports for ground-start signaling.

Recommended Action Use the **signal loop-start** voice-port configuration command to configure the port for loop-start signaling.

`%POTS-3-UNSUPPORTED_OPTION: Interface does not support this option.`

Explanation The voice port cannot be configured for the option.

Recommended Action No action is necessary.

`%POTS-3-UNSUPPORTED_RING_FREQ: CODEC driver only supports ring frequency values of 20, 25, and 50 Hz, not [dec]`

Explanation The voice ports on the cable modem support only 20, 25, and 50 Hz ring frequencies when using the **ring frequency** command.

Recommended Action Reenter the **ring frequency** voice port command with one of the valid options: 20, 25, or 50 Hz.

UBR900

This section lists the CMTS system messages for Cisco cable CPE devices. These system messages use the error codes specified in Appendix I, Error Codes and Messages, of the DOCSIS 1.0 RF specification (ANSI/SCTE 22-1 2002).

`%UBR900-4-CORRUPT_SYSTEM_IMAGE: Modem System Image is corrupt. New image upgrade required`

Explanation The Cisco IOS software image in the cable modem's Flash memory is corrupt and unusable. The cable modem was not provided with a new software image filename to download in its DOCSIS configuration file, so it cannot proceed until a new software image is downloaded to it.

Recommended Action Use the **copy tftp flash** command to download a new software image to the cable modem, or reboot the cable modem using a DOCSIS configuration file that specifies a software image that has a different filename from its current software image. If this problem persists, it could indicate that the cable modem has faulty Flash memory.

%UBR900-4-CORRUPT_SYSTEM_IMAGE_UPGRADING: Modem System Image is corrupt. Image upgrade reinitiated.

Explanation The Cisco IOS software image in the cable modem's Flash memory is corrupt and unusable. The cable modem was provided with a new software image filename in its DOCSIS configuration file, so it has automatically begun to download the new image.

Recommended Action No action is needed. If this problem persists, it could indicate that the cable modem has faulty Flash memory.

%UBR900-4-DHCP_REQ_INFO_NOT_SUPPORTED: D03.0 Requested Info not supported

Explanation The cable modem sent a DHCP request but received a reply from the DHCP server indicating that the cable modem requested information that the DHCP server does not support. This might also indicate that the DHCP server does not consider this cable modem to be an authorized device. This message is DOCSIS event message D03.0, Requested info not supported (event ID 68000300).

Recommended Action Check that the DHCP server is configured properly for DOCSIS cable modems. Verify that the DHCP server is configured to recognize this cable modem's MAC address and to reply to its DHCP requests.

%UBR900-4-DHCP_RSP_OUT_OF_SPEC: D03.1 DHCP response doesn't contain ALL the valid fields as described in the RF spec Appendix C.1

Explanation The cable modem received a response to its DHCP request, but the DHCP server did not include all of the fields that are required by Appendix C in the DOCSIS 1.0 RF specification. This message could also be displayed if one of the required fields contains an invalid value. (These fields are defined in Appendix D of the DOCSIS 1.1 and 2.0 RF specifications.) This message is DOCSIS event message D03.1, DHCP FAILED—Response doesn't contain ALL the valid fields (event ID 68000301).

The required fields include the following. These fields must be present in the DHCP response and contain valid information:

- IP address (yiaddr) to be used by the cable modem.
- IP address of the TFTP server (siaddr) from which the cable modem should download its DOCSIS configuration file.
- Name of the DOCSIS configuration file that the cable modem must download from the TFTP server.
- One or more IP addresses for an [RFC 868](#) time-of-day (ToD) server (Time Server Option, option 4) from which the cable modem can set its onboard clock (required for DOCSIS 1.0 networks, optional for DOCSIS 1.1/2.0 networks).

The following fields are optional:

- DHCP relay agent (giaddr), if the DHCP server is on a different network that requires a relay agent.
- Subnet mask (Subnet Mask, option 1) to be used by the cable modem.
- Time offset (Time Offset, option 2) from Universal Coordinated Time (UTC) that the cable modem should use with its onboard clock.

- One or more IP addresses for a router (Router Option, option 3) to be used to forward IP traffic that originates from the cable modem.
- One or more IP addresses for SYSLOG servers (Log Server Option, option 7) to which the cable modem can send its logging information.

Recommended Action Reconfigure the DHCP server so that it sends all of the required fields in its responses to cable modems.

```
%UBR900-4-FAILED_TO_ACQUIRE_FEC: T02.0 Failed to acquire FEC framing. Error stats?
Retry [dec]'s [dec] of bad frames
```

Explanation The cable modem attempted to lock on to the downstream but could not acquire forward error correction (FEC) framing. This error message is DOCSIS event message is T02.0, SYNC Timing Synchronization failure.

Recommended Action Check the RF plant for cabling and connector problems that could be generating noise on the downstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-4-FAILED_TO_ACQUIRE_MAC_FRAMING: T03.0 Failed to acquire MAC framing.
Error stats? Retry [dec]'s [dec] of bad frames
```

Explanation The cable modem attempted to lock on the downstream and was able to acquire FEC framing, but failed to lock on MAC framing. This error message is DOCSIS event message is T03.0, SYNC Timing Synchronization failure.

Recommended Action Check the RF plant for cabling and connector problems that could be generating noise on the downstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-4-FAILED_TO_ACQUIRE_MPEG2: T2.1 Acquired FEC framing. Failed to acquire
MPEG2 Sync. Retry [dec]\`s
```

Explanation The cable modem attempted to lock on the downstream and was able to acquire FEC framing, but failed to lock on the MPEG2 sync. This error message is DOCSIS event message is T02.1, SYNC Timing Synchronization failure.

Recommended Action Check the RF plant for cabling and connector problems that could be generating noise on the downstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-4-FAILED_TO_ACQUIRE_SYNC: T01.0 Failed to acquire QAM/QPSK symbol timing.
Error stats? Retry [dec]'s
```

Explanation The cable modem could not lock on to the downstream's QAM/QPSK SYNC signal. This error message is DOCSIS event message T01.0, SYNC Timing Synchronization failure.

Recommended Action Check the RF plant for cabling and connector problems that could be generating noise on the downstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-4-FAILED_TO_RECEIVE_SYNC: T04.0 Failed to Receive MAC SYNC frame within
time-out period
```

Explanation The cable modem initially was able to acquire MAC framing but failed to receive the MAC SYNC frame within the timeout period. This error message is DOCSIS event message T04.0, SYNC Timing Synchronization failure.

Recommended Action Check the RF plant for cabling and connector problems that could be generating noise on the downstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-6-IMAGE_UPGRADE_FAILED_FLASH_CHECK: System Image Upgrade FAILED - Image
Size = [dec], Flash Size = [dec].
```

Explanation The upgrade of the Cisco IOS software image on the cable modem failed because the size of the file that is stored in the cable modem's Flash memory is not the correct size. This could mean that the software image is too large for the Flash memory, or that some of the packets were lost or corrupted during the TFTP transfer.

Recommended Action Verify that you have specified the correct Cisco IOS software image. If so, verify that the desired software image can fit within the Flash memory space. If so, try the download again. If the problem persists, choose a different Cisco IOS software release or image that requires a smaller size of Flash memory.

```
%UBR900-6-IMAGE_UPGRADE_FAILED_IMAGE_CHECK: System Image Upgrade FAILED due to
unrecognizable or corrupt image.
```

Explanation The upgrade of the Cisco IOS software image on the cable modem failed because the downloaded image is either the wrong image or was corrupted during the transfer.

Recommended Action Verify that you have specified the correct Cisco IOS software image. In particular, verify that this image is the correct type for your cable modem. The following are the valid images for Cisco cable modems:

- ubr900: Cisco uBR904 cable access routers
- ubr905: Cisco uBR905 cable access routers (initial software versions used "ubr925" images, but current releases use "ubr905")

- uBr920: Cisco uBR924 cable access routers
- uBr925: Cisco uBR925 cable access routers
- cva120: Cisco CVA122/122E Cable Voice Adapters

If the image is the correct one for your cable modem, use the **copy tftp flash** command to download it again from the TFTP server. If the problem persists, download the image again from the Cisco Software Center and copy it again to the TFTP server. If this does not correct the problem, try another Cisco IOS software image, or copy the error message exactly as it appears, and ask your Cisco technical support representative to verify that the software that is on Cisco.com is a valid image file.

`%UBR900-6-IMAGE_UPGRADE_FAILED_TFTP: System Image Upgrade FAILED due to excessive TFTP failures.`

Explanation The cable modem has made 16 unsuccessful attempts to download a new Cisco IOS software image from the TFTP server. This is the maximum number of attempts, so the cable modem has aborted the upgrade procedure. This error message could also occur if the cable modem encountered a fatal TFTP server error that indicates the file could not be read or accessed at all.

Recommended Action Verify that the cable modem has connectivity to the TFTP server. Verify that the TFTP server is not under an excessive load, such as what might happen when an entire network goes down because of a power failure, and thousands of cable modems are trying to register at the same time. Verify that the desired software image exists on the TFTP server and that the permissions for it and its directory allow the file to be read. Verify that the filename and directory name for the file in the DOCSIS configuration file are correct. If possible, try another TFTP server, or try to copy the file manually, using the **copy tftp flash** command.

`%UBR900-6-IMAGE_UPGRADE_INITIATED: System Image Upgrade initiated`

Explanation The cable modem has started to download a new Cisco IOS software image from a TFTP server. This typically occurs when the cable modem downloads a DOCSIS configuration file that requires a software upgrade.

Recommended Action No action is needed.

`%UBR900-6-IMAGE_UPGRADE_INTERRUPTED: System Image Upgrade interrupted during transfer. Upgrade reinitiated`

Explanation The cable modem was in the process of downloading a new Cisco IOS software image, but the connection with the TFTP server was interrupted. The cable modem is therefore restarting the download.

Recommended Action No action is needed, but if this problem persists, it could cause problems because the cable modem attempts the download a maximum of 16 times. If the problem persists, either intermittently or consistently, check the connectivity between the TFTP server and cable modem. Check for possible packet loss at any routers, including the CMTS, that might be handling this traffic. If necessary, try a second TFTP server.

%UBR900-6-IMAGE_UPGRADE_SUCCESSFUL: System Image Upgrade Complete.

Explanation The cable modem has successfully downloaded a new Cisco IOS software image from the TFTP server and has written the new image to its Flash memory. This typically occurs when the cable modem downloads a DOCSIS configuration file that requires a software upgrade.

Recommended Action No action is needed (but be aware that the cable modem reboots after completing the download so that it can load the new software image).

%UBR900-6-IMAGE_UPSTREAM_POWER_HIGH: Upstream Power required at modem registration near maximum

Explanation The cable modem registered with the CMTS using an upstream power setting that is near the maximum possible level on the upstream.

Recommended Action No action is needed, but it is possible that the cable modem could reach the maximum possible transmit level on the upstream, at which point it could be taken offline and forced to reregister. If the problem persists, examine the cable RF plant for any potential cabling or connecting issues that could be introducing noise on the upstream.

%UBR900-4-INVALID_TOD: D04.0 Time of Day, none set or invalid data

Explanation The cable modem received a reply to the request it sent to the ToD server that was specified by the DHCP server. However, the reply from the ToD server was either an empty datagram or it contained invalid data (the ToD server should send a reply that contains only one 32-bit number that indicates the number of seconds since midnight on January 1, 1900). The CM defaults to setting its onboard clock to midnight on January 1, 1970.

Recommended Action Verify that the ToD server is operating according to [RFC 868, Time Protocol](#). The DOCSIS specifications do not allow the use of the Network Time Protocol (NTP) or Simple Network Time Protocol (SNTP) ToD servers.

%UBR900-4-INVALID_UCD: U02.0 UCD invalid or channel unusable

Explanation The cable modem received an Upstream Channel Descriptor (UCD) message from the CMTS, but it contains invalid information or that specifies an upstream that is unusable. This error message is DOCSIS event message is U02.0, Upstream Channel Descriptor.

Recommended Action No action is needed unless the problem persists. If so, verify that the CMTS is running a DOCSIS-certified software image.

%UBR900-4-MAP_ARRIVED_TOO_LATE: M01.0 A transmit opportunity was missed because the MAP arrived too late

Explanation The cable modem missed a transmit opportunity because the Bandwidth Allocation MAP arrived too late for the cable modem to use it. This error message is DOCSIS event message is M01.0, Upstream Bandwidth Allocation.

Recommended Action No action is needed, because it is normal for MAC-layer messages to be occasionally lost. If this problem persists, check the RF plant for cabling and connector problems that could be generating noise on the downstream. If using a Cisco CMTS, you can use the **show**

cable flap-list command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-6-NO_DHCP_OFFER: D01.0 Discover sent no offer received, No available DHCP Server
```

Explanation The cable modem sent a DHCP discover broadcast but no DHCP server or DHCP relay agent replied with a DHCP offer. This message is DOCSIS event message D01.0, DHCP FAILED–Discover sent, no offer received (event ID 68000100).

Recommended Action Verify that the DHCP server is online and operational, and that it is reachable by the cable modem. If a DHCP relay agent is being used, verify that it is online and operational, and that it is reachable by the cable modem. Check the cable RF plant for cabling or connector issues that could be generating sufficient noise to lose a large number of packets. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-6-NO_DHCP_RESPONSE: D02.0 Request sent, no Response
```

Explanation The cable modem sent a DHCP discover broadcast and received a DHCP offer message in response, but when it sent a DHCP request to the indicated DHCP server, it did not receive a DHCP response. This message is DOCSIS event message D02.0, DHCP FAILED–Request sent, No response (event ID 68000200).

Recommended Action Verify that the DHCP server is online and operational, and that it is reachable by the cable modem. Check the logs at the DHCP server to see if the server received the cable modem's request. If a DHCP relay agent is being used, verify that it is sending the proper IP address in the giaddr field to the cable modem. Also, verify that the DHCP server is not under an excessive load, such as what might happen when an entire network goes down because of a power failure, and thousands of cable modems are trying to register at the same time.

```
%UBR900-4-NO_UCD_RCVD: U01.0 No UCD's received. Time-out
```

Explanation The cable modem has not received any periodic Upstream Channel Descriptor (UCD) messages from the CMTS within the timeout period. This error message is DOCSIS event message U01.0, Upstream Channel Descriptor.

Recommended Action Check the RF plant for cabling and connector problems that could be generating noise on the downstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-4-REINIT_MAC: R07.0 Unicast Ranging Received Abort Response.  
Reinitializing MAC.
```

Explanation The cable modem is online and sent a periodic Ranging Request (RNG-REQ) message to the CMTS, but it received an Abort Ranging reply from the CMTS. The cable modem is therefore resetting its cable interface and restarting the registration process. This error message is DOCSIS event message is R07.0, Ranging Request.

Recommended Action No action is needed, because the CMTS can send an Abort Ranging response when it determines that the cable modem is not operating at optimum levels on its current upstream and downstream channels. If this problem persists, check the RF plant for cabling or connector issues that could be generating noise on the upstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-3-RESET_CONFIG_FILE_WATCHDOG_EXPIRED: Cable Interface Reset due to config  
file watchdog timer
```

Explanation The cable modem timed out while trying to download a DOCSIS configuration file from the TFTP server, so it is resetting its cable interface and restarting the registration process.

Recommended Action Verify that the DHCP server is specifying the correct filename for the DOCSIS configuration file and the correct IP address for the TFTP server in the response message it is sending to the cable modem. Verify that the TFTP server is online and reachable by the cable modem. Verify that the DOCSIS configuration file exists on the TFTP server in the correct directory and with the correct filename, and that both the directory and file are readable. Verify that the TFTP server is not under an excessive load, such as what might happen when an entire network goes down because of a power failure, and thousands of cable modems are trying to register at the same time.

```
%UBR900-3-RESET_DHCP_WATCHDOG_EXPIRED: Cable Interface Reset due to DHCP watchdog  
timer expiration
```

Explanation The cable modem has sent 10 DHCP broadcasts but has not received a reply from a DHCP server. It is therefore resetting its cable interface and restarting the registration process.

Recommended Action Verify that the DHCP server is online and operational, and that it is reachable by the cable modem. Verify that the DHCP server recognizes this cable modem as authorized to be on the cable network, and that the server is configured to send it a proper reply.

`%UBR900-3-RESET_LOSS_OF_SYNC: T05.0 Loss of Sync. (Missed 5 in a row, after having SYNCd at one time)`

Explanation The cable modem had locked on the downstream channel for a period of time, but then lost the lock and was unable to reacquire it within five SYNC periods. The cable modem has thus reset the cable interface. This error message is DOCSIS event message is T05.0, SYNC Timing Synchronization failure.

Recommended Action Check the RF plant for cabling and connector problems that could be generating noise on the downstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

`%UBR900-3-RESET_PRIVACY_WATCHDOG_EXPIRED: Cable Interface Reset due to privacy watchdog timer`

Explanation The cable modem timed out while trying to obtain the Baseline Privacy Interface (BPI or BPI+) parameters, so it is resetting its cable interface and restarting the registration process.

Recommended Action Verify that the cable modem has downloaded the correct DOCSIS configuration file. If it is attempting to register using DOCSIS 1.1 BPI+ authentication, verify that it has loaded a proper digital certificate. Verify that the CMTS is properly configured for BPI or BPI+ encryption.

`%UBR900-3-RESET_T2_EXPIRED: R01.0 No Maintenance Broadcasts for Ranging opportunities received, T2 timeout`

Explanation The cable modem did not receive a broadcast maintenance opportunity in which to transmit a Ranging Request (RNG-REQ) within the T2 timeout period (approximately 10 seconds). The cable modem is resetting its cable interface and restarting the registration process. This error message is DOCSIS event message is R01.0, Ranging Request.

Recommended Action Check the configuration on the CMTS. Check the cable plant for RF connector or cabling issues that could be generating noise on the downstream and upstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

`%UBR900-3-RESET_T3_RETRIES_EXHAUSTED: R03.0 Ranging Request Retries exhausted`

Explanation The cable modem has sent 16 Ranging Request (RNG-REQ) messages without receiving a Ranging Response (RNG-RSP) message in reply from the CMTS. The cable modem is therefore resetting its cable interface and restarting the registration process. This typically is caused by noise on the upstream that causes the loss of MAC-layer messages. Noise could also raise the signal-to-noise ratio (SNR) on the upstream to a point where the cable modem's power level is insufficient to transmit any messages. If the cable modem cannot raise its upstream transmit power

level to a level that allows successful communication within the maximum timeout period, it resets its cable interface and restarts the registration process. This error message is DOCSIS event message is R03.0, Ranging Request.

Recommended Action No action is needed if this is an occasional problem. Check the upstream transmit power for the cable modem to see if it is at or near the maximum allowable levels. Check the RF plant for cabling or connector issues that could generate sufficient noise to lose MAC-layer management messages. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-3-RESET_T4_EXPIRED: R04.0 Received Response to Broadcast Maintenance Request, But no Unicast Maintenance opportunities received. T4 timeout.
```

Explanation The cable modem did not received a station maintenance opportunity in which to transmit a Ranging Request (RNG-REQ) message within the T4 timeout period (30 to 35 seconds). The cable modem is resetting its cable interface and restarting the registration process. Typically, this indicates an occasional, temporary loss of service, but if the problem persists, check for possible service outages or maintenance activity on this particular headend system. This error message is DOCSIS event message is R04.0, Ranging Request.

Recommended Action Check the configuration on the CMTS. Check the cable plant for RF connector or cabling issues that could be generating noise on the downstream and upstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-3-RESET_T6_RETRIES_EXHAUSTED: Cable Interface Reset due to t6 timeout
```

Explanation The cable modem has sent 3 Registration Requests (REG-REQ) to the CMTS without receiving a Registration Response (REG-RSP) within the T6 timeout period (3 seconds). The cable modem is therefore resetting its cable interface and restarting the registration process.

This problem can also occur if the DOCSIS configuration file is corrupt, or if it contains a large number of vendor-specific information fields (VSIF). If the configuration file contains a large amount of VSIF information, the cable modem might generate a Registration Request (REG-REQ) that exceeds the maximum size of DOCSIS MAC-layer management messages (1514 bytes plus the header). The CMTS considers this an invalid MAC-layer management message and drops it, without replying.

Recommended Action Verify that the cable modem is connected to the cable interface. Verify that the DOCSIS configuration file is not so large that the resulting REG-REQ message exceeds 1514 bytes. If possible, remove all or most of the VSIF fields to check if the cable modem can come online with the smaller file. If not, verify that the cable interface on the CMTS is online and functional. Check the RF plant for cabling or connector issues that could be generating sufficient noise on the upstream to cause the loss of MAC management messages.

%UBR900-7-RNG_REQ_TRANSMITTED: Periodic ranging request message transmitted.

Explanation The cable modem transmitted a Ranging Request (RNG-REQ) message to the CMTS.

Recommended Action No action is needed.

%UBR900-7-RNG_RSP_MSG_RCVD: Periodic ranging response message received.

Explanation The cable modem received a Ranging Response (RNG-RSP) message from the CMTS.

Recommended Action No action is needed.

%UBR900-6-SYNC_LOST_AND_REACQUIRED: Downstream Sync lock lost, and reacquired before timeout expired

Explanation The cable modem lost its lock on the downstream sync signal (SYNC messages sent by the CMTS), but was able to reacquire the sync signal before the Lost Sync Interval timeout period expired (600 milliseconds).

Recommended Action No action is needed. If the problem persists, examine the cable RF plant for any potential cabling or connecting issues that could be introducing noise on the downstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

%UBR900-3-T3_TIMEOUT_I: R02.0 No Ranging Response received, T3 timeout

Explanation The cable modem sent a Ranging Request (RNG-REQ) message as part of its initial ranging process, but did not receive a Ranging Response (RNG-RSP) message from the CMTS within the T3 timeout period. The cable modem will adjust its upstream transmit power and send another RNG-REQ message, up to the maximum of 16 successive attempts, or until it reaches the maximum transmit power level. This error message is DOCSIS event message is R02.0, Ranging Request.

Recommended Action No action is needed because it is normal for a cable system to occasionally lose MAC-layer messages, especially when multiple cable modems transmit RNG-REQ messages at the same time.

%UBR900-3-T3_TIMEOUT_II: R05.0 Started Unicast Maintenance Ranging no Response received. T3 time-out.

Explanation The cable modem is online and sent a periodic Ranging Request (RNG-REQ) message to the CMTS, without receiving a Ranging Response (RNG-RSP) from the CMTS within the T3 timeout period. The cable modem will send another RNG-REQ message, up to the maximum of 16 successive attempts. This error message is DOCSIS event message is R05.0, Ranging Request.

Recommended Action No action is needed because it is normal for a cable system to occasionally lose MAC-layer messages, especially when multiple cable modems transmit RNG-REQ messages at the same time.

```
%UBR900-3-T3_RETRIES_EXHAUSTED_II: R06.0 Started Unicast Maintenance Ranging no Response received. T3 time-out.
```

Explanation The cable modem is online and has sent 16 periodic Ranging Request (RNG-REQ) messages without receiving a Ranging Response (RNG-RSP) message from the CMTS within the T3 timeout periodic. The cable modem is therefore resetting its cable interface and restarting the registration process. This typically is caused by noise on the upstream that causes the loss of MAC-layer messages. Noise could also raise the signal-to-noise ratio (SNR) on the upstream to a point where the cable modem's power level is insufficient to transmit any messages. If the cable modem cannot raise its upstream transmit power level to a level that allows successful communication within the maximum timeout period, it resets its cable interface and restarts the registration process. This error message is DOCSIS event message is R06.0, Ranging Request.

Recommended Action Check the upstream transmit power for the cable modem to see if it is at or near the maximum allowable levels. Check the RF plant for cabling or connector issues that could generate sufficient noise to lose MAC-layer management messages. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

```
%UBR900-4-TFTP_FAILED_2: D07.0 TFTP Request Failed, OUT OF ORDER packets
```

Explanation The cable modem attempted to download its DOCSIS configuration file from the TFTP server, but the download failed because the cable modem received at least one packet that was out of order. This error message is DOCSIS event message D07.0, TFTP Failed-OUT OF ORDER packets (event ID 68000700).

Recommended Action No action is needed, because the cable modem automatically retries to download the DOCSIS configuration file. If it repeatedly cannot download the DOCSIS configuration file, the cable modem resets its cable interface and restarts the registration process. If this problem persists, check the connectivity between the cable modem and TFTP server. In particular, check for lost packets on the routers that are handling this traffic.

```
%UBR900-4-TFTP_FAILED_3: D08.0 TFTP complete, but failed Message Integrity Check(MIC)
```

Explanation The cable modem successfully downloaded the DOCSIS configuration file, but the Message Integrity Check (MIC) field sent with the configuration file does not match the one that the cable modem generated from the file's contents. This could indicate either that the DOCSIS configuration file was corrupted during the transfer, or that the tool that generated the file is not generating configuration files that conform to the DOCSIS specification. This message could also indicate that a user is attempting to download their own DOCSIS configuration file as part of a theft-of-service attempt.

Recommended Action Verify that the DHCP server is specifying the correct DOCSIS configuration file for the cable modem to download. Verify that the copy of this file on the TFTP server is not corrupt. Use the TFTP server logs to verify that the cable modem is actually downloading the file from the correct TFTP server and not from some other, local TFTP server.

**Tip**

If you are also using a Cisco CMTS, you can use the **cable shared-secret**, **cable dynamic-secret**, and **cable tftp-enforce** commands to ensure that cable modems download a valid DOCSIS configuration file only from authorized TFTP servers at the headend.

%UBR900-4-TFTP_NO_RSP: D05.0 TFTP Request sent, No Response/No Server.

Explanation The cable modem tried to download the DOCSIS configuration file from the TFTP server specified by the DHCP server, but the TFTP server has not replied. This error message is DOCSIS event message D05.0, TFTP Failed–Request sent–No response (event ID 68000500).

Recommended Action Verify that the DHCP server is sending the correct IP address for the TFTP server in the siaddr field. Verify that the TFTP server is online and operational, and that it is reachable from the cable modem. Also, verify that the TFTP server is not under an excessive load, such as what might happen when an entire network goes down because of a power failure, and thousands of cable modems are trying to register at the same time.

**Tip**

It is possible that this message could indicate that a user is attempting to redirect the cable modem to a local TFTP server, so as to download a customized DOCSIS configuration file that would allow a theft-of-service attack. If you are also using a Cisco CMTS, you can use the **cable shared-secret**, **cable dynamic-secret**, and **cable tftp-enforce** commands to ensure that cable modems download a valid DOCSIS configuration file only from authorized TFTP servers at the headend.

%UBR900-4-TFTP_RQ_FAILED_1: D06.0 TFTP Request Failed, configuration file NOT FOUND

Explanation The cable modem attempted to download its DOCSIS configuration file from the TFTP server specified by the DHCP server, but the TFTP server replied that it could not find the requested file. This error message is DOCSIS event message D06.0, TFTP Failed–configuration file NOT FOUND (event ID 68000600).

Recommended Action Verify that the DOCSIS configuration file exists on the TFTP server. Verify that the DHCP server is sending the complete filename for the DOCSIS configuration file in its DHCP response to the cable modem. (This filename should include the complete pathname and filename for the file, as it exists on the TFTP server.)

If this message constantly occurs, it could indicate that a user is attempting a theft-of-server attack by sending their own DHCP response that substitutes other filenames, in an attempt to find a configuration file that would provide a better quality class of service. Check the logs on the TFTP server to verify that the cable modem is trying to download only the DOCSIS configuration file that it is authorized to use.

%UBR900-3-TOD_FAILED_TIMER_EXPIRED: TOD failed, but Cable Interface proceeding to operational state

Explanation The cable modem attempted three times to obtain the current time-of-day (TOD) from the TOD server specified in the response message it received from the TFTP server, but the TOD server did not respond. The cable modem will continue the attempt to contact the TOD server every 5 minutes, but for now it is progressing to downloading its DOCSIS configuration file.

Recommended Action Verify that the TOD server is online and operational, and that it is reachable by the cable modem.

%UBR900-4-TOD_NO_RSP: D04.1 Time of Day request sent no Response received

Explanation The cable modem sent a request to the time-of-day (ToD) server specified by the DHCP server, but did not receive a reply within the timeout period. The CM defaults to setting its onboard clock to midnight on January 1, 1970. The cable modem can proceed with the registration process without receiving a ToD response, but will continue trying to contact the ToD server every 5 minutes until it receives a valid response. This error message is DOCSIS event message D04.1, ToD request sent–No response received (event ID 68000401).

Recommended Action Verify that the ToD server is online and operational, and that it is reachable by the cable modem. Make sure a firewall or access list is not blocking TCP/UDP port 37, which is the well-known port used for ToD operations. Verify that the DHCP server is sending the correct IP address for the ToD server in the Time Server Option (option 4) field. Also, verify that the ToD server is not under an excessive load, such as what might happen when an entire network goes down because of a power failure, and thousands of cable modems are trying to register at the same time.

%UBR900-4-TOD_RSP_INVALID: D04.2 Time of Day Response received but invalid data/format

Explanation The cable modem received a reply to the request it sent to the ToD server that was specified by the DHCP server. However, the reply from the ToD server was either an empty datagram or it contained invalid data (the ToD server should send a reply that contains only one 32-bit number that indicates the number of seconds since midnight on January 1, 1900). This error message is DOCSIS event message D04.2, ToD Response received–invalid data format (event ID 68000402).

Recommended Action Verify that the ToD server is operating according to [RFC 868, Time Protocol](#). The DOCSIS specifications do not allow the use of the Network Time Protocol (NTP) or Simple Network Time Protocol (SNTP) ToD servers.

%UBR900-4-UCC_REQ_INVALID: C01.0 UCC-REQ received with invalid or out of range US Channel ID.

Explanation The cable modem received an Upstream Channel Change Request (UCC-REQ) from the CMTS that contains an upstream channel ID that is either invalid or out of range. This event is DOCSIS event message C01.0, UCC-REQ received with invalid or out of range US channel ID. This error message is DOCSIS event message is C01.0, Upstream Channel Change Request.

Recommended Action Check the configuration on the CMTS and verify that the CMTS is running DOCSIS-certified software.

%UBR900-4-UCD_INVALID_OR_OUT_OF_ORDER_CCC: U05.0 UCD received with invalid or out of order Configuration Change Count

Explanation The cable modem received an Upstream Channel Descriptor (UCD) message from the CMTS, but the Configuration Change Count field contains an invalid value or one that is out of order. This can happen when the value in the current UCD message is either less than the value that was last received, or the field indicates that one or more UCD messages have been missed. This error message is DOCSIS event message is U05.0, Upstream Channel Descriptor.

Recommended Action No action is needed, because it is normal for MAC-layer messages to be occasionally lost. If this problem persists, check the RF plant for cabling and connector problems that could be generating noise on the downstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

%UBR900-4-UNABLE_TO_TX_UCC_RSP: C02.0 UCC-REQ received unable to send UCC-RSP, no TX opportunity.

Explanation The cable modem received an Upstream Channel Change Request (UCC-REQ) from the CMTS, but could not reply with an UCC Response (UCC-RSP) because it could not obtain a transmit timeslot. This event is DOCSIS event message C02.0, UCC-REQ received unable to send UCC-RSP, no TX opportunity. This error message is DOCSIS event message is C02.0, Upstream Channel Change Request.

Recommended Action Check the configuration on the CMTS and verify that it is not reserving all upstream transmit slots for other cable modems and user data. Verify that the CMTS is running DOCSIS-certified software.

%UBR900-6-UNDEFINED_HDR_RECEIVED: Mac Messages received with undefined header

Explanation The cable modem received a DOCSIS MAC message with an unknown header.

Recommended Action No action is needed. Typically, this occurs when a DOCSIS 1.0 cable modem receives a DOCSIS 1.1 or DOCSIS 2.0 MAC management message. If the problem persists, verify that the cable modem is running current, released software.

%UBR900-4-US_CHANNEL_PARM_NOT_SET: U06.0 US Channel wide parameters not set before Burst Descriptors

Explanation The cable modem received an Upstream Channel Descriptor (UCD) message from the CMTS, but it did not set the channel and symbol rate parameters before beginning the set of TLVs that specify the burst descriptors for the upstream channel. This error message is DOCSIS event message is U06.0, Upstream Channel Descriptor.

Recommended Action Verify that the CMTS is properly configured and that it is running a DOCSIS-certified software image.

%UBR900-4-VALID_UCD_AND_SYNC_NO_MAPS: U04.0 UCD and SYNC are valid, No MAPS for THIS channel

Explanation The cable modem received valid Upstream Channel Descriptor (UCD) and SYNC messages from the CMTS, but the upstream channel that is specified in the UCD does not offer the cable modem any MAP minislots in which to transmit. This error message is DOCSIS event message is U04.0, Upstream Channel Descriptor.

Recommended Action Reduce the number of cable modems on this upstream. Verify that cable plant problems are not generating noise that is causing the loss of MAC-layer management messages, resulting in cable modems resending so many additional MAC messages that all available bandwidth is being used.

%UBR900-4-VALID_UCD_NO_SYNC: U03.0 UCD valid, But no SYNC received. TIMED OUT.

Explanation The cable modem received a valid Upstream Channel Descriptor (UCD) message from the CMTS, but it did not receive a SYNC message from the CMTS on the associated downstream within the timeout period. This error message is DOCSIS event message is U03.0, Upstream Channel Descriptor.

Recommended Action Check the RF plant for cabling and connector problems that could be generating noise on the downstream. If using a Cisco CMTS, you can use the **show cable flap-list** command to determine if other cable modems on the upstream are having problems. You can also use the **show interfaces cable upstream** command and examine the noise, microreflection, and uncorrectable error counters to determine the level of noise on the upstream.

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