Configuring and Troubleshooting the Digital Emergency Alert System

Maintenance Guide

Please Read

Important

Please read this entire guide. If this guide provides installation or operation instructions, give particular attention to all safety statements included in this guide.

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About This Guide

Introduction

The Federal Communications Commission (FCC), the National Weather Service, and local authorities send emergency alert messages (EAMs) to service providers who broadcast these messages to television subscribers. These messages include regular tests of the Emergency Alert System (EAS), as well as messages that warn of dangerous conditions such as thunderstorms, floods, tornadoes, hurricanes, and earthquakes.

The FCC requires that service providers receive and send Emergency Alert Messages (EAMs). In addition, the FCC requires that service providers conduct weekly and monthly tests of the Emergency Alert System (EAS). By conducting weekly and monthly tests of the EAS, service providers ensure the reliability of their EAS equipment so that subscribers can receive national, state, and local warning messages about emergency situations.

This guide describes the digital EAS and the various EAS vendor components that interface with our Digital Network Control System (DNCS) and the Digital Broadband Delivery System (DBDS).

Purpose

After reading this guide, you will be able to configure, operate, maintain, and test EAS components on the DNCS and the DBDS. Properly configuring, maintaining, and testing your system lets you follow FCC regulations by receiving and then sending EAMs to subscribers through a correctly configured and fully automatic EAS process. If your system does not perform as expected, this guide also includes a troubleshooting section so you can quickly restore your system to full operation.

Scope

Beginning with DNCS System Release (SR) 2.5/3.5/4.0, you have the option of configuring your EAS as one of the following:

- A centralized configuration, where the central DNCS sends the EAMs to all the subscribers' set-tops.
- A distributed configuration, where the central DNCS sends the EAMs to Regional Network Control Servers (RNCS) in geographically dispersed sites. Each RNCS then delivers the EAMs to the subscribers' set-tops.

This document provides configuration instructions for a centralized EAS. If you have a distributed EAS system, refer to the *Distributed EAS on the Regional Control System, Configuration and Troubleshooting Guide* (part number 4002342).

This document provides configuration instructions for EAS in a SARA environment. For instructions for configuration of EAS in an tru2way™ (formerly OCAP™) environment, refer to the *Configure the DNCS for tru2way EAS Installation and Operation Guide* (part number 4019780).

Audience

This document is written for operators of digital television systems that use the SARA. System operators, field service engineers, and Cisco Services engineers may also find the information in this document helpful.

Document Layout

This document covers multiple DNCS System Releases (SRs). The following chapters have specific information for certain System Releases:

- ***Verify Your EAS Equipment Configuration*** (on page 7) - For all System Releases
- ***Configure the Digital EAS*** (on page 17) - For all System Releases
- ***Configure the DNCS for EAS and Conduct Tests for SR 5.0 and Later*** (on page 29) - For System Release 5.0 and later
- ***Configure the DNCS for EAS and Conduct Tests for System Releases Prior to SR 5.0*** (on page 73) - For System Releases prior to SR 5.0

Example: If your system uses SR 4.3, you would follow the procedures in the following chapters, in order:

- ***Verify Your EAS Equipment Configuration*** (on page 7)
- ***Configure the Digital EAS*** (on page 17)
- ***Configure the DNCS for EAS and Conduct Tests for System Releases Prior to SR 5.0*** (on page 73)
- In addition, if you use the optional FIPS Filtering product, follow the procedures in ***Appendix C - FIPS Filtering*** (on page 155)

Document Version

This is the seventh release of this document. In addition to minor text and graphic changes, the following table provides the technical changes to this document.

Description	See Topic
Updated document for SR 5.0 and separated the document into procedures for all SRs, procedures for SR 5.0 and later, and procedures for System Releases prior to SR 5.0.	■ ***Configure the Digital EAS*** (on page 17) ■ ***Configure the DNCS for EAS and Conduct Tests for SR 5.0 and Later*** (on page 29) ■ ***Configure the DNCS for EAS and Conduct Tests for System Releases Prior to SR 5.0*** (on page 73)
Added RWT and RMT troubleshooting, from FCC documentation	■ ***Troubleshoot Weekly and Monthly Tests*** (on page 140)
Updated FCC EAS Requirements section based on updated FCC guidelines booklet	■ ***Appendix A - FCC EAS Requirements*** (on page 147)
Enhanced the FIPS Filtering section and moved that information into a separate appendix.	■ ***Appendix C - FIPS Filtering*** (on page 155)

1

Overview

Introduction

This chapter provides an explanation of the Digital Emergency Alert System (EAS) process.

In This Chapter

Emergency Alert System Process

This process describes how the EAS works in a typical Digital Broadband Delivery System (DBDS) that **does not** use our Regional Control System solution. If your DBDS uses a Regional Control System, refer to *Distributed EAS on the Regional Control System, Configuration and Troubleshooting Guide* (part number 4002342).

This process also describes how EAS works in a SARA environment. For the process for EAS in an tru2way™ (formerly OCAP™) environment, refer to the *Configure the DNCS for tru2way EAS Installation and Operation Guide* (part number 4019780).

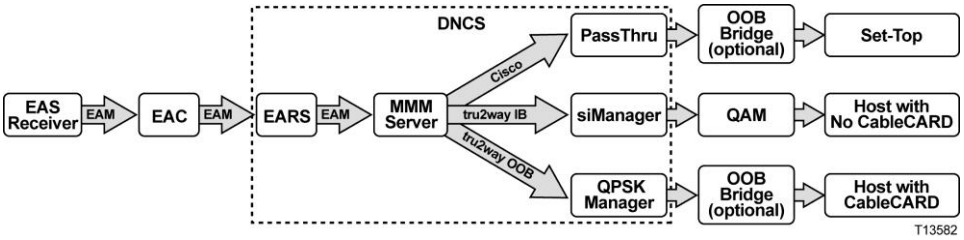
Note: Because many digital systems are very large, an EAM could be very disruptive to a community that is not affected by a particular alert. Therefore, we offer a software product (Federal Information Processing Standards [FIPS] filtering) that you can purchase separately to enable the DNCS to filter and send EAMs to only targeted states, counties, or subdivisions. For more information about FIPS filtering, contact the person who handles your account.

The Digital EAS Process

This section describes the process the Emergency Alert System uses to distribute a message from the FCC to the subscribers' homes.

1. The FCC or local authority broadcasts an Emergency Alert Message (EAM).
2. The RF radio receiver in your headend or at your hub site receives the signal, decodes the EAM, and sends it to the Emergency Alert Controller (EAC).
3. The EAC receives the text and audio information from the EAM. It formats the EAM and sends it to the DNCS.
4. On the DNCS, the Emergency Alert Receiver Server (EARS) process monitors a designated port to receive EAMs. When EARS receives an EAM, it looks for the audio file for the EAM in the /export/home/easftp directory and sends the EAM to the MMMServer.
5. The MMMServer converts the audio file in that directory to AIFF format and places it on the Broadcast File Server (BFS) in the MMMAud Server.
6. The MMMServer sends the EAM to one of the following, depending on the system in use, and as shown in the diagram below:
   - Cisco system: The EAM is sent to the PassThru process which delivers the EAM to all set-tops.
   - OpenCable (In Band): The EAM is sent to the siManager which sends the EAM to hosts without CableCARD modules.
   - OpenCable (Out Of Band): The EAM is sent to the QPSK Manager which sends the EAM to hosts with CableCARD modules.

Note: The in-band and out-of-band OpenCable processes are also shown in the following diagram.



7 The devices react to the EAM in one of the following manners, depending on the type of device and whether force tuning is used:

- Set-tops (no force tune): Read the EAM and display a banner with the alert text. The set-top then reads the audio file (if present) and plays the audio associated with the alert.
- Set-tops (with force tune): Tune to the designated channel that displays the alert text and (if present) audio associated with the alert.
- CableCARD modules (no force tune): Displays a banner with the alert text.
- CableCARD modules (with force tune): Tune to the designated channel that displays the alert text.

Ensure Set-Tops Receive EAS Messages

The PassThru process sends PassThru Digital Storage Media Command and Control (DSM_CC) messages. Some of these messages tell the set-top about an EAS alert.

To provide reliable performance, we recommend installing a patch to ensure that EAS messages are sent from the DNCS to the set-tops.

You can also install the patch yourself. If you do, please contact the person who handles your account so that we can track your installation progress.

Releases Affected

This patch affects all currently supported systems running DNCS System Release (SR) 2.2/3.2, SR 2.5/3.5, and SR 4.0, as well as older, unsupported releases.

Which Patch Do I Need?

We recommend that you load the appropriate patch at your earliest convenience. Use the following table to identify which version of the patch you need to install.

System Release	DNCS Application Patch
2.2/3.2	3.0.1.16p13.2EP16
2.5/3.5	3.5.25p4EP2
4.0	4.0.0.27p3EP1
2.7/3.7/4.2	No patch required
2.7.7/3.7.1/4.2.1	No patch required
2.8/3.8/4.3	No patch required
SR 5.0	No patch required

Important: Each DNCS application patch file listed above is included in any Service Pack (SP) released *after* the patch file is created. If you install the appropriate patch file and then install an SP that does not include the fix to the PassThru condition, you will need to re-install the patch file. Before installing a new SP, review the Release Notes that accompany the SP to verify that the appropriate DNCS patch for this issue is included.

Obtaining the Patch

To receive the patch, call Cisco Services.

Next Steps

This document covers multiple DNCS System Releases (SRs). Each chapter has specific information for certain System Releases. It is important to follow the proper steps for the System Release installed at your facility.

If your system uses System Release 5.0 or later, follow the procedures in the following chapters.

1. ***Verify Your EAS Equipment Configuration*** (on page 7)
2. ***Configure the Digital EAS*** (on page 17)
3. ***Enable FTP and Disable Password Expiration for EAS*** (on page 25)
4. ***Configure the DNCS for EAS and Conduct Tests for SR 5.0 and Later*** (on page 29)
5. ***FIPS Filtering*** (on page 155) (optional)

If your system uses a System Release prior to SR 5.0, follow the procedures in the following chapters.

1. ***Verify Your EAS Equipment Configuration*** (on page 7)
2. ***Configure the Digital EAS*** (on page 17)
3. ***Configure the DNCS for EAS and Conduct Tests for System Releases Prior to SR 5.0*** (on page 73)
4. ***Disable ORBIX Daemon*** (on page 151) (if necessary)
5. ***FIPS Filtering*** (on page 155) (optional)

2

Verify Your EAS Equipment Configuration

Introduction

The Emergency Alert Controller (EAC) resides at your site and serves as an interface between your EAS receiver and the DNCS. The following companies manufacture EAC solutions that are known to work with the DNCS:

- Sage Alerting Systems, Inc. (**MegaHertz**)
- Trilithic, Inc. (**Trilithic**)
- Frontline Communications (**Frontline**)
- Monroe Electronics (**Digital Envoy**)

Note: The Monroe Electronics EAS uses an encoder/decoder manufactured by the HollyAnne Corporation.

This chapter contains procedures to verify the configuration of your EAC equipment.

In This Chapter

Overview

Before you can configure the EAS on the DNCS, you must verify that your third-party EAS equipment is configured and performing correctly. This chapter provides parameters that allow the EAC to communicate with the DNCS. This chapter also provides procedures to verify the performance of your specific third-party EAC and EAS, so that you can achieve optimum system performance when receiving and sending Emergency Alert Messages (EAMs).

Important: Some configuration and troubleshooting information is provided for third-party equipment (such as MegaHertz, Trilithic, Monroe, and Frontline). However, you should always refer to the documentation that comes with that equipment when you configure or troubleshoot that equipment. The scope of this information is to make sure that equipment can communicate with our equipment, not to be a comprehensive configuration and troubleshooting guide for third-party equipment.

This document provides configuration instructions for a centralized EAS. If you have a distributed EAS system, refer to the *Distributed EAS on the Regional Control System, Configuration and Troubleshooting Guide* (part number 4002342).

If you have a system using tru2way (formerly OCAP) instead of SARA, refer to *Configure the DNCS for tru2way EAS Installation and Operation Guide* (part number 4019780).

Verify the MegaHertz System

This section provides procedures for verifying the proper configuration and performance of the EAC if you are using a MegaHertz EAS.

Important:

- For detailed installation procedures, refer to the documentation that came with your EAC system.
- Cisco set-tops are designed to receive digital audio at sampling rates of either 8 or 16 kHz. Please ensure that you configure the sampling rate of the EAC correctly if you are transmitting digital EAS audio.

Note: You can find troubleshooting information on this EAC system in the following topics in this document:

- ***Troubleshooting the MegaHertz System*** (on page 123)
- ***Troubleshooting MegaHertz System Performance*** (on page 124)

MegaHertz EAC Configuration

Use the values in the following table to set the parameters of your MegaHertz EAC.

Parameter	Value
IP Address	IP address of the DNCS
TCP/IP Port	4098
FTP Port	21
FTP Username	easftp
FTP Password	easftp

Important: There may be additional parameters you need to set on your EAC to complete the configuration process. Refer to the EAC documentation for specific troubleshooting and configuration information.

Verifying MegaHertz EAC Performance

The EAC uses FTP to transfer WAV and TXT files to the DNCS. The system logs these transferred messages in the C:\MCMSA folder as **log.txt**.

Note: You can only check the log file if your system has previously sent EAMs.

Follow these steps to view the log.txt file.

1. On the EAC PC, use Microsoft Windows Explorer to locate the **C:\MCMSA\log.txt** directory and file.
2. Double-click the **log.txt** file to open it in Microsoft Notepad.

   Note: If you cannot locate the log.txt file, use the **Find** feature of your system to locate the file.
3. Does the list of messages recorded in the log.txt file reflect the results of any recent weekly and monthly tests?
   - If **yes**, close Microsoft Notepad and Microsoft Windows Explorer, you have completed this procedure.
   - If **no**, call MegaHertz Corporation for further assistance.

   Note: Go to ***Test the EAS from the DNCS*** (on page 63) if necessary.

Verify the Trilithic System

This section provides procedures for verifying proper configuration and performance of the EAC if you are using a Trilithic EAS.

Important:

- For detailed installation procedures, refer to the documentation that came with your EAC system.
- Cisco set-tops are designed to receive digital audio at sampling rates of either 8 or 16 kHz. Please ensure that you configure the sampling rate of the EAC correctly if you are transmitting digital EAS audio.

Note: You can find troubleshooting information on this EAC system in the following topics in this document:

- ***Troubleshooting the Trilithic System*** (on page 123)
- ***Troubleshooting Trilithic System Performance*** (on page 124)

Trilithic EAC Configuration

Use the values in the following table to set the parameters of your Trilithic EAC.

Parameter	Value
Devices	Contains the IP address of the DNCS
FTP Username	easftp
FTP Password	easftp
FTP Port	21
TCP/IP Port	4098
Enable Digital EAS Support	enabled
Use EAS Duration	selected
Time Zone	Correct value for your location
Originator	EAS Broadcast Station or Cable System selected
EASyNIC Ethernet Port	enabled
IP Address	IP address of the DNCS

Parameter	Value
Subnet Mask	Correct value for your installation
Default Gateway	Correct value for your installation
Digital Audio Sample Rate	8 kHz

Important: There may be additional parameters you need to set on your EAC to complete the configuration process. Refer to the EAC documentation for specific troubleshooting and configuration information.

Verifying Trilithic EAC Performance

The EAC uses FTP to transfer WAV and TXT files to the DNCS. You can view these log files from the EASyPLUS screen.

Note: You can only check the log file if your system has previously sent EAMs.

Follow these steps to view the log files.

Note: This procedure was performed using Trilithic EASyPLUS software version 6.07.

1. On the EAC PC, in the Trilithic screen, click the **Logs** tab.
2. Select **Download EASy+ Log**. Verify that the log file has a current time and date stamp, and that the information in the log file accurately reflects recent EAS activity.

   Note: For support for your Trilithic EAC, contact Trilithic, Inc.

Verify the Monroe System with Digital Envoy

This section provides procedures for verifying proper configuration and performance of the EAC if you are using the Monroe Digital Envoy EAC in your EAS.

Important:

- For detailed installation procedures, refer to the documentation that came with your EAC system.
- Cisco set-tops are designed to receive digital audio at sampling rates of either 8 or 16 kHz. Please ensure that you configure the sampling rate of the EAC correctly if you are transmitting digital EAS audio.

Note: You can find troubleshooting information on this EAC system in the following topics in this document:

- ***Troubleshooting the Monroe System with Digital Envoy*** (on page 123)
- ***Troubleshooting Monroe System with Digital Envoy Performance*** (on page 125)

Digital Envoy EAC Configuration

Use the values in the following table to set the parameters of your Digital Envoy EAC.

Parameter	Value
Server Port (TCP/IP Port)	4098
FTP Server IP	IP address of the DNCS
FTP Username	easftp
FTP Password	easftp
FTP Port	21
Com Port Number	Correct value for your installation
Debug ON/OFF	True

Important: There may be additional parameters you need to set on your EAC to complete the configuration process. Refer to the EAC documentation for specific troubleshooting and configuration information.

Verifying Digital Envoy EAC Performance

The EAC uses FTP to transfer WAV and TXT files to the DNCS. The system logs these transferred messages in the C:\java\altronix folder in the log.log file. You can click the JAVA bar to view the transfer in progress.

Note: You can only check the log file if your system has previously sent EAMs.

Follow these steps to view the log.log file.

1. On the EAC PC, use Microsoft Windows Explorer to locate the **C:\java\altronix** folder.
2. Click the **log.log** file to open it in Microsoft Notepad.

   Note: If you cannot locate the log.log file, use the **Find** feature of your system to locate the file.
3. Does the log.log file have a current time and date stamp, and does the information in the log.log file accurately reflect recent EAS activity?
   - If **yes**, close Microsoft Notepad, and then close Microsoft Windows Explorer; you are finished with this procedure.
   - If no, call Monroe Electronics for further assistance.

   Note: Go to *Test the EAS from the DNCS* (on page 63) if necessary.

Verify the Frontline System

This section provides procedures for verifying the proper configuration and performance of the EAC if you are using a Frontline EAS.

Important:

- For detailed installation procedures, refer to the documentation that came with your EAC system.
- Cisco set-tops are designed to receive digital audio at sampling rates of either 8 or 16 kHz. Please ensure that you configure the sampling rate of the EAC correctly if you are transmitting digital EAS audio.

Note: You can find troubleshooting information on this EAC system in the following topics in this document:

- ***Troubleshooting the Frontline System*** (on page 123)
- ***Troubleshooting Frontline System Performance*** (on page 126)

Verifying Frontline EAC Configuration

Use the values in the following table to set the parameters of your Frontline EAC.

Parameter	Value
Comm	Correct value for your installation
IP Address	IP address of the DNCS
FTP Port	21
TCP/IP Port	4098
FTP Username	easftp
FTP Password	easftp
Local	Correct value for your installation

Important: There may be additional parameters you need to set on your EAC to complete the configuration process. Refer to the EAC documentation for specific troubleshooting and configuration information.

Frontline EAC Performance

Note: You can only check the log file if your system has previously sent EAMs.

Follow these steps to verify the Frontline EAC configuration and performance using the Frontline Emergency Alert Controller (EAC) Application.

Note: This procedure was performed using the Frontline Emergency Alert Controller (EAC) Application version 1.2.

1. In the Frontline Emergency-Alert-Controller (EAC) Application window, click the **Log Status Viewing** icon. The Log window opens.
2. Verify that the date and time of the log is the current date and time.
3. Verify that the **The Application has been started** message appears.
4. Click **OK** to close the Log Status Viewing window.
5. Click the **Audio Playback Verification** icon. The Wave File Properties window opens.
6. Do the WAV files have a recent time and date stamp?
   - If **yes**, click **Exit** to close the Wave File Properties window.
   - If **no**, call Cisco Services for further assistance.
7. Click the **View Header/Text Message** icon. The Text and Header Message Viewing window opens.
8. Do the TXT files have a recent time and date stamp?
   - If **yes**, click **Exit** to close the Text and Header Message Viewing window.
   - If **no,** call Frontline Communications (Vela Broadcast) for further assistance.
9. Click **Cancel** to return to the Frontline Emergency-Alert-Controller (EAC) Application window.

   Note: Go to *Test the EAS from the DNCS* (on page 63) if necessary.

3

Configure the Digital EAS

Introduction

This chapter provides procedures to configure your DNCS to use the EAS, so that you can achieve optimum system performance when receiving and sending EAMs.

Note: The procedures in this chapter are relevant to all DNCS System Releases.

In This Chapter

Overview

To provide optimum system performance, you must configure your EAS correctly.

This document provides configuration instructions for a centralized EAS. If you have a distributed EAS system, refer to the *Distributed EAS on the Regional Control System, Configuration and Troubleshooting Guide* (part number 4002342).

This document also provides configuration instructions for EAS in a SARA environment. For instructions for configuration of EAS in an tru2way™ (formerly OCAP™) environment, refer to the *Configure the DNCS for tru2way EAS Installation and Operation Guide* (part number 4019780).

If your system does not function as expected, refer to ***Troubleshooting*** (on page 121) for troubleshooting procedures for the EAS.

Important: If your system is running DNCS System Release (SR) 2.2/3.2, SR 2.5/3.5, or SR 4.0 (or earlier), you should verify that you have installed the patch as described in ***Ensure Set-Tops Receive EAS Messages*** (on page 4) before you begin configuring your EAS.

Configure the Network Connection

This section provides information that lets you verify that your EAC is correctly connected to the network.

Connecting to the Ethernet Hub

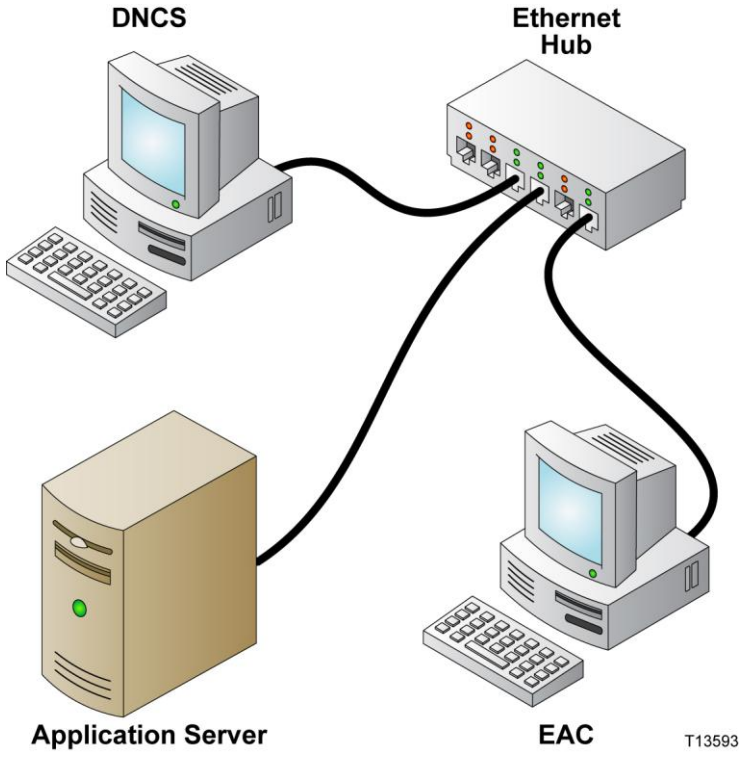
Connect an Ethernet cable from the EAC to the Ethernet hub of the DNCS.

Important: The Ethernet connection requires an 8-conductor category 5 cable (CAT-5) connected to the RJ-45 port of the EAC.

WARNING:

Be careful not to tangle or strain interconnecting cables or the cables might become unusable. Check all cable connections regularly to make sure that all connections are secure and that the cables are not frayed, tangled, or strained.

The following diagram shows a configuration that minimizes the number of potential failure points.



Configure the DNCS for EAS Messages

This section contains instructions for the following procedures that you must complete to configure the DNCS for receiving and forwarding EAS messages.

1. Verifying and configuring (if necessary) the LOCAL_EAS_IP variable in the .profile file.
2. Configuring the hosts file.
3. Configuring the hosts.equiv file.
4. Testing the hosts and hosts.equiv files.
5. Configuring the EARServer.
6. Verifying the presence of the /export/home/easftp directory.
7. Determining the IP address of the DNCS.

Verify and Configure the LOCAL_EAS_IP Environment Variable

Verifying the EAS Variable in the .profile File

You must set the LOCAL_EAS_IP variable in the .profile file to make the EAS work properly. This procedure describes how to set this variable.

1. Open an xterm window on the DNCS.
2. Type `env | grep -i local` and press **Enter**. The system displays the value of environmental variables that contain the word *local*.

   Note: The `grep` command ignores capitalization.
3. Do the results show that the LOCAL_EAS_IP variable has been set to the IP address of the DNCS management IP address?
   - If **yes**, you are finished with this procedure.
   - If **no**, or if the IP address is incorrect, go to **Adding an EAS Variable to the .profile File**, next in this document.

Adding an EAS Variable to the .profile File

1. Before you begin, you need the public IP address of the DNCS. Check your network map or with your system administrator for the public IP address of the DNCS.
2. Open an xterm window on the DNCS.
3. Type `cd /export/home/dncs` and press **Enter**. The /export/home/dncs directory becomes the working directory.
4. Edit the **.profile** file to append the following line to the file:

   ```
   export LOCAL_EAS_IP=[management IP address of the DNCS]
   ```

   Note: Do not include the brackets **[ ]** in the IP address.
5. Save the file and close the editor.

6 Type `. ./.profile` so the DNCS uses the updated .profile file.

Note: Be sure to type a space between the first two periods.

7 Stop and restart (bounce) the EARs process on the DNCS.

Configuring the hosts File

Follow these steps to configure the hosts file on the DNCS.

1 Open an xterm window on the DNCS.

2 Type `su` and press **Enter**. The system prompts you for a password.

Note: This login is for the system super user.

3 Type the password and then press **Enter**. The prompt changes to the pound sign (**#**).

Note: If necessary, see your system administrator to obtain the password.

4 Type `cd /etc` and press **Enter**. The /etc directory becomes the working directory.

5 Open the **hosts** file in a UNIX text editor. This file is a list of Internet hosts (servers) and IP addresses.

6 In the first section of the Internet host table, add the following line to the list:

```
[ip addr] eac
```

Note: In this procedure **[ip addr]** is the IP address of the EAC. Do not enter the brackets (**[ ]**) in the host table.

7 Save the file.

8 Close your su session by typing `exit` and pressing **Enter**.

9 Go to **Configuring the hosts.equiv File**, next in this document.

Configuring the hosts.equiv File

1 Open the **hosts.equiv** file in a UNIX text editor.

2 If not already present, add the line `eac easftp` to the end of the file and press **Enter**.

3 Save the file.

4 Go to **Testing the hosts and hosts.equiv Configuration**, next in this document.

Testing the hosts and hosts.equiv Configuration

After configuring the hosts file and the hosts.equiv file, you should test the configuration. Follow these steps to test the configuration.

1. On the EAC PC, open a DOS-prompt window.
2. To verify the configuration, type `ftp [DNCS IP Address]` and press **Enter**.

   Note: In this command, `[DNCS IP Address]` is the IP address of the DNCS Ethernet interface. Do not type the brackets (**[ ]**).

   Example: Type `ftp 172.16.11.1` and press **Enter**.

   - **If you can connect to the DNCS,** a message appears stating that the system is connected to the IP Address. Then an FTP prompt appears. Continue with step 3.
   - **If you cannot connect to the DNCS**, correct the configuration of the hosts file in ***Configuring the hosts File*** (on page 21). Then run this test again.
3. Type `easftp` and press **Enter**. The system prompts you for a password.
4. Type `easftp` again, and press **Enter**.
5. Did the message "User easftp logged in" appear?
   - If **yes**, type `bye` and press **Enter**, or type `^D` to return to the prompt. You are finished with this procedure.
   - If **no**, contact Cisco Services for assistance.

Verifying EARS Configuration and Performance

Follow these steps to verify the EARS log exists, and to verify the configuration and performance of the EARS process.

1. Open an xterm window on the DNCS.
2. Type `cd /dvs/dncs/tmp` and press **Enter**. The /dvs/dncs/tmp directory becomes the working directory.
3. Type `ls -l EARS.*` and press **Enter**.

   Note: The "l" in `ls` is a lowercase letter L.

   Important: If an EARS file does not exist, call Cisco Services.
4. Verify that the EARS file(s) displays with the current date and time stamp.
5. To view the details of an individual EARS file, type `view EARS.[xxx]` and press **Enter**.

   Note: In this command, `[xxx]` represents the extension of the file you want to view.

Verifying the /export/home/easftp Directory

Follow these steps to verify that the /export/home/easftp directory exists on the DNCS.

1. Open an xterm window on the DNCS.
2. Type `cd /export/home/easftp` and press **Enter.** The /export/home/easftp directory becomes the working directory.
3. Does an error message similar to **Directory not found** appear?
   - If **no**, the /export/home/easftp directory exists. You have completed this procedure.
   - If **yes**, go to step 4.
4. Type `mkdir /export/home/easftp` and press **Enter** to create the directory.
5. Type `chown easftp dncs /export/home/easftp` and press **Enter** to set the ownership of the directory.

Determining the Set-Top Facing IP Address of the DNCS

Follow these instructions to determine and record the IP address of the DNCS that communicates with the set-tops.

1. Log on to the DNCS as dncs user.
2. Open an xterm window on the DNCS.
3. Type `cd /etc` and press **Enter**. The /etc directory becomes the working directory.
4. Type `grep dncsatm hosts` and press **Enter**. A line with the DNCS ATM host and its IP addresses displays.

   Example: The line looks similar to the following example:

   ```
   10.253.0.1  dncsatm
   ```
5. Record the IP address associated with dncsatm in the space provided:

   _____
6. Type `exit` and press **Enter** to close the xterm window.

4

Enable FTP and Disable Password Expiration for EAS

Introduction

Security changes in recent versions of the DNCS software can disable FTP, and allow the easftp user account password to expire. Either of these situations can prevent the EAS system from functioning correctly.

This section contains the procedures for enabling FTP in your system and for disabling the password expiration for the easftp user account.

This chapter is for systems that use SR 5.0 and later. If your system uses a system release earlier than SR 5.0, skip this chapter.

In This Chapter

Enable FTP for the EAS

The EAS equipment uses the easftp user to deliver EAS files to the DNCS. We have enhanced the sftp process for the easftp user in the following ways:

- The easftp user is now confined to the directories under **/export/home/secure/easftp**.
- The easftp user is placed in the custom root directory when they login via sftp (/export/home/secure/<username>/).
- To ensure a smooth transition to sftp for the easftp user, the /export/home/easftp/ directory is linked to /export/home/secure/easftp/export/home/easftp.

  Important: EAS equipment vendors must understand that the path **/export/home/easftp** must be specified when putting or getting files using sftp or scp.

Follow these instructions to enable the FTP service only if required.

Enabling FTP for the EAS

Follow these instructions to enable FTP for EAS on the DNCS.

1. Open an xterm window on the DNCS.
2. Log into the DNCS as root user.
3. Type `inetadm -e svc:/network/ftp:default` and press **Enter**.
4. Type `usermod -s /bin/sh easftp` and press **Enter**. The default shell changes to /bin/sh (Bourne shell) for the easftp user.
5. Did the system display a message that indicated that the easftp user did not exist?
   - If **yes** (the easftp user does not exist), follow these instructions.
     a. Type `useradd -m -c "EAS FTP Account" -d /export/home/easftp -u 800 -g dncs -s /bin/sh easftp` and press **Enter**.
     b. Type `chmod 775 /export/home/easftp` and press **Enter**.
     c. Type `passwd easftp` and press **Enter** to set the password.
   - If **no** (the easftp user exists), continue with the next step.
6. Type `grep easftp /etc/passwd` and press **Enter**.
7. Confirm that the last item in the output string from the previous step is **/bin/sh**.

Check the Password Expiration Setting for easftp

Complete the following procedure to check the status of the easftp user password on the DNCS. It is imperative to ensure that the passwords of the critical users are **not** set to expire and are **not** locked.

Checking the Password Expiration Setting for easftp

1. Open an xterm window on the DNCS as the root user.
2. Type `passwd -s easftp` and press **Enter**. If the easftp account is not locked, the output will look similar to the following:

   ```
   easftp   PS
   ```

3. Is the second parameter in the output **LK**, as shown in the following example?

   ```
   easftp   LK   PS
   ```

   - If **yes**, the password is locked. Type `passwd -u easftp` and then press **Enter**. This unlocks the password.
   - If **no**, go to the next step.

4. Type `passwd -s easftp` and then press **Enter**. If the easftp user has password aging disabled, the output should be similar to the following:

   ```
   easftp   PS
   ```

5. Do you see a date and several numbers after "PS", similar to the following example?

   ```
   easftp   PS    01/01/09     0    91    14
   ```

   - If **yes**, go to ***Disable Password Expiration for easftp*** (on page 28) and follow the procedure.
   - If **no**, you are finished with this procedure.

Disable Password Expiration for easftp

Use this procedure to disable the password expiration period for the easftp user account.

Disabling Password Expiration for easftp

1. If necessary, open an xterm window and log into the DNCS as root user.
2. Type the following command and press **Enter**:

   ```
   passwd -x -1 easftp
   ```

3. Type `passwd -s easftp` and then press **Enter**. If password expiration has been disabled for the easftp user, the output should be similar to the following:

   ```
   easftp   PS
   ```

4. Is the output similar to the above example?
   - If **yes**, you are finished with this procedure.
   - If **no**, repeat this procedure. If the procedure continually fails, contact your network administrator.

5

Configure the DNCS for EAS and Conduct Tests for SR 5.0 and Later

Introduction

This chapter contains the procedures specific to configuring the DNCS for EAS. It also contains the procedures for conducting EAS tests.

Note: The procedures in this chapter are for System Release 5.0 and later. If you are using a System Release prior to SR 5.0, go to ***Configure the DNCS for EAS and Conduct Tests for System Releases Prior to SR 5.0*** (on page 73).

In This Chapter

Configure the DNCS for EAS Messages

This section contains information and procedures required to configure your DNCS for carrying EAS messages.

This section contains additional instructions that you must complete to configure the DNCS for receiving and forwarding EAS messages.

1 Enabling FTP for the EAS.

2 Configuring and Verifying the MMM Server configuration.

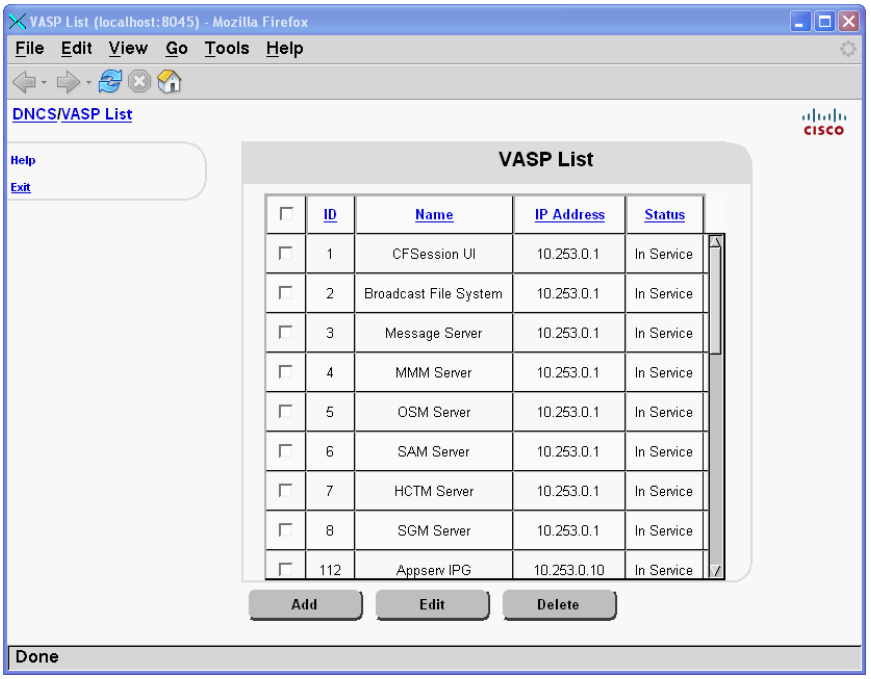
Configuring and Verifying the MMM Server Entry in the VASP List

The MMM Server relays the TXT file to the PassThru process and converts the WAV file to AIFF format. It then places the AIFF file on the bfsServer. The system logs the MMM Server activity in MMMServer.[*xxx*] files, which are located in the /dvs/dncs/tmp directory.

Viewing the VASP List

1 From the DNCS Administrative Console, click the **Network Element Provisioning** tab.

2 Click **VASP**. The VASP List window opens.



3 Is there an MMM Server entry in the VASP List?

- If **yes**, go to *Verifying the MMM Server Entry in the VASP List* (on page 76)
- If **no**, go to *Configuring the MMM Server Entry in the VASP List* (on page 75)

Configuring the MMM Server Entry in the VASP List

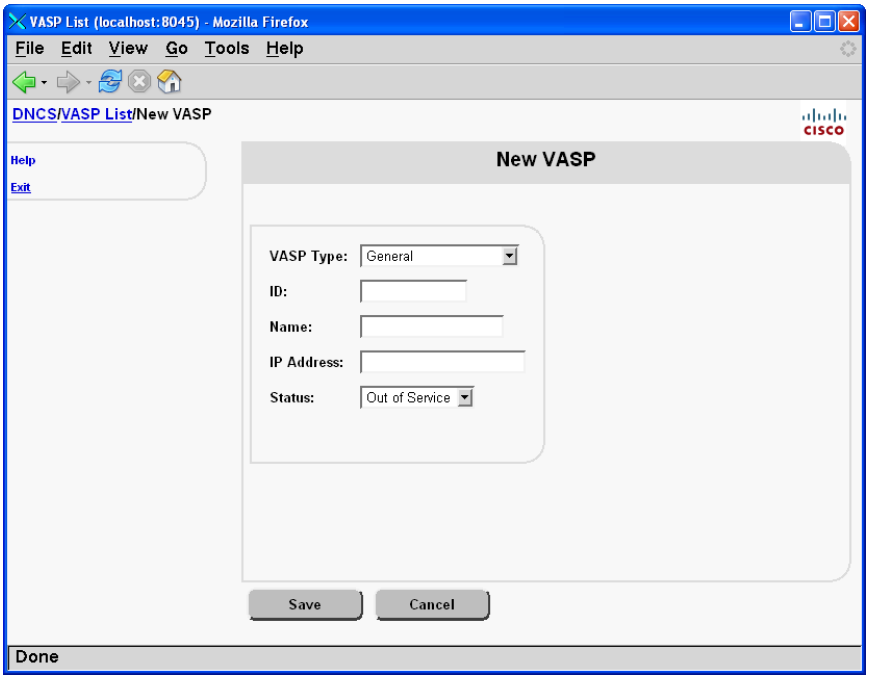
The MMM Server VASP setting must be configured correctly so that the EAS can function properly. This section provides a procedure to configure the MMM Server VASP settings if one does not already exist.

1 From the VASP List screen, record an unused ID number in the space provided.

Unused ID number: _____

Note: We suggest that you sort the list before you choose an unused ID number, in case your ID numbers are not in sequential order. To sort the list, click the **ID** heading twice to see all the IDs in sequential order.

2 Click **Add**. The New VASP window opens.



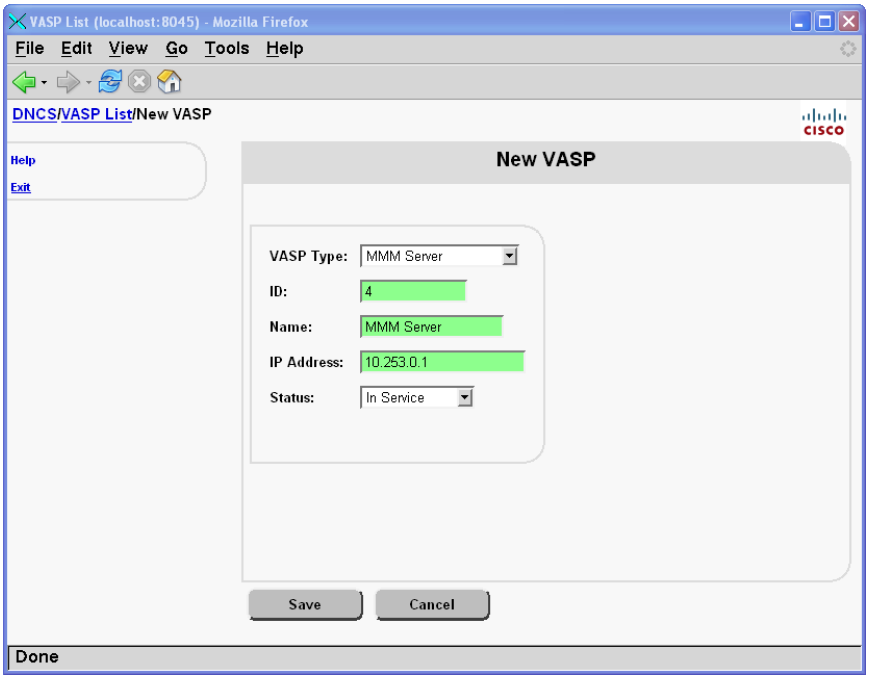
3 In the **VASP Type** field, select **MMM Server** from the list.

4 In the **ID** field, type the unused ID you recorded in step 1.

5 In the **Name** field, type **MMM Server**.

6 In the **IP Address** field, type the IP address of the DNCS that you recorded in *Determining the Set-Top Facing IP Address of the DNCS* (on page 23).

7 In the **Status** field, select **In Service**.



8 Click **Save**.

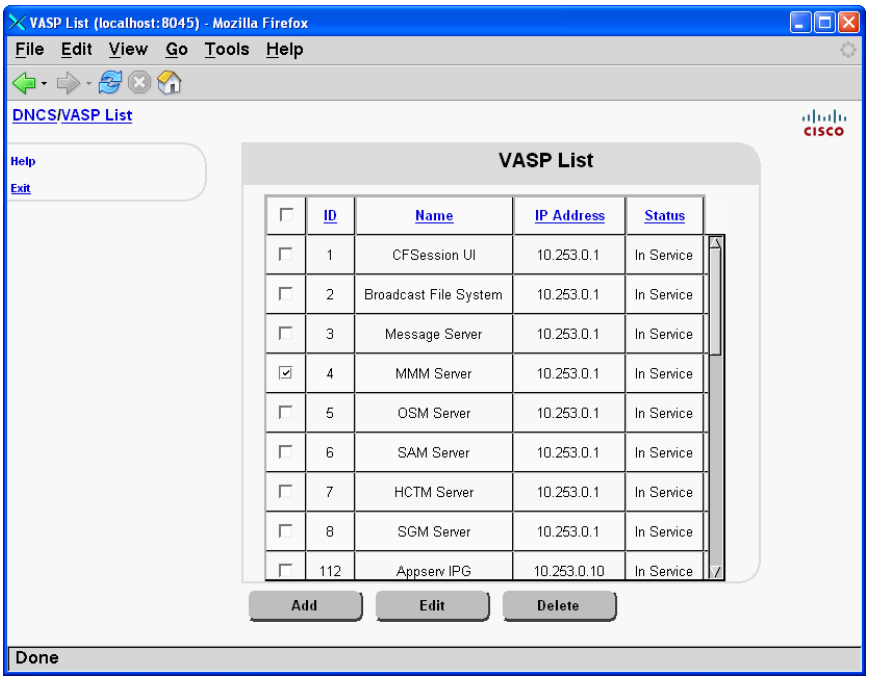
Results:

- The system saves the MMM Server configuration in the VASP list.
- The New VASP window closes.
- The VASP List window updates with the added MMM Server.

9 On the VASP List window, use the breadcrumb links to return to the DNCS Administrative Console.

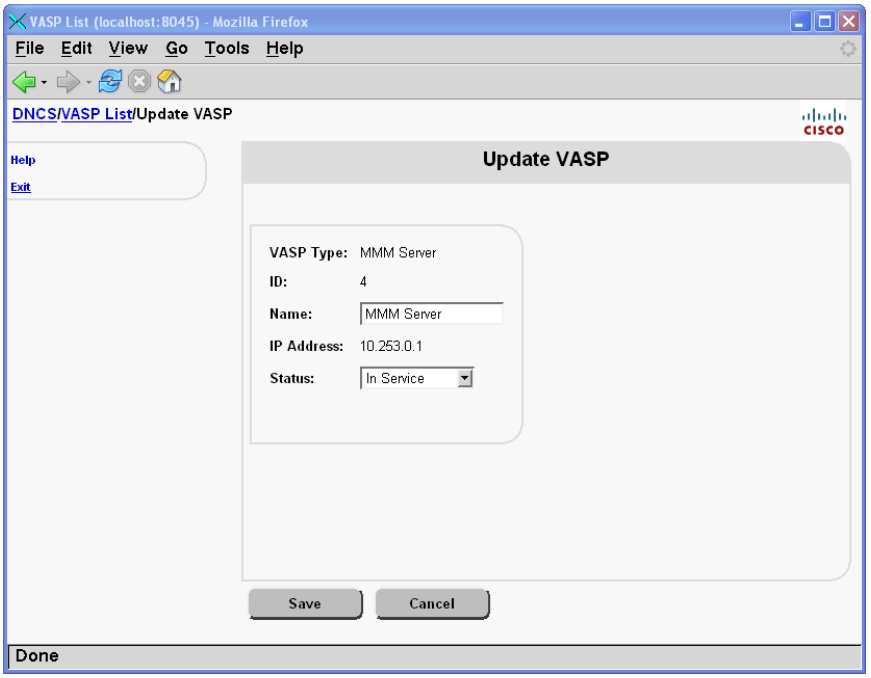
Verifying the MMM Server Entry in the VASP List

1 From the VASP List window, find the MMM Server entry.



2 Select the row containing **MMM Server**.

3 Click **Edit**. The Update VASP window opens.



4 Examine the Set Up VASP Window and answer the following questions:

- Is **VASP Type** set to **MMM Server**?
- Is **Name** recorded as **MMM Server**?
- Is **IP Address** the *same* as the IP address you recorded in ***Determining the Set-Top Facing IP Address of the DNCS*** (on page 23)?
- Is **Status** set to **In Service**?

5 Did you answer **yes** to every question in step 4?

- If **yes** (you answered yes to *every* question), your MMM Server is configured correctly in the VASP list. Click **Cancel** to close the Set Up VASP Window.
- If **no**, fix the incorrect entry and click **Save**.

Configuring and Verifying the MMMRemote Server Entry in the VASP List

The MMMRemote Server relays the EAS messages to the remote RNCS (LIONN) servers in your network.

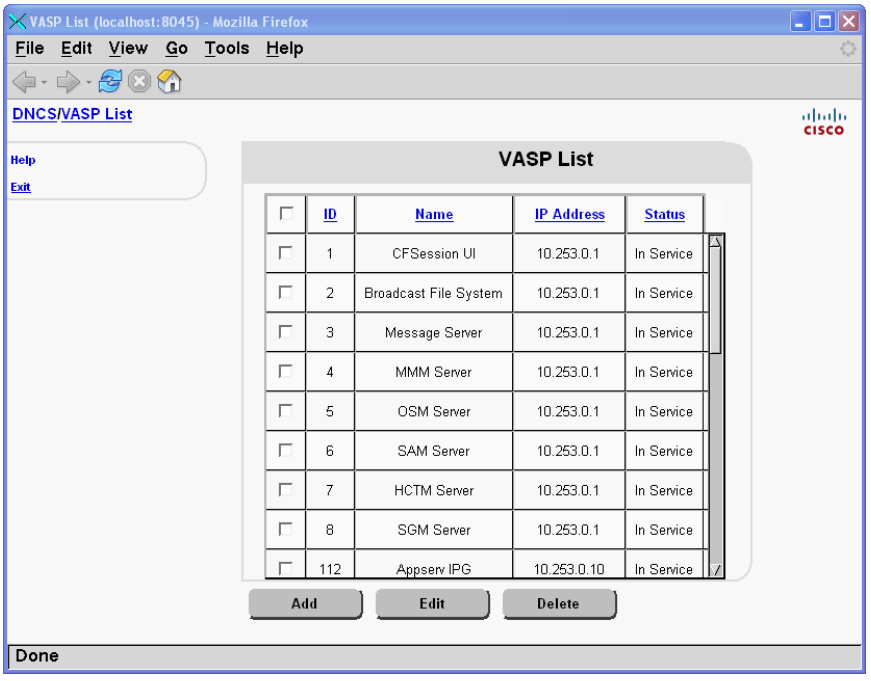
Note: Follow these procedures ONLY if your system uses our RCS solution. If your system does NOT use the RCS solution, continue to ***Configuring the EAS on the DNCS for System Releases Prior to SR 5.0*** (see "***Configuring the EAS on the DNCS for System Release 5.0***" on page 39).

For further instructions on setting up the RNCS for EAS, see *Distributed EAS on the Regional Control System, Configuration and Troubleshooting Guide* (part number 4002342).

Viewing the VASP List for the MMMRemote Server

1 From the DNCS Administrative Console, click the **Network Element Provisioning** tab.

2 Click **VASP**. The VASP List window opens.



3 Is there an MMMRemote Server entry in the VASP List for each remote RNCS (LIONN) server in your network?

- If **yes**, go to ***Verifying the MMM Server Entry in the VASP List*** (on page 37)
- If **no**, go to ***Configuring the MMM Server Entry in the VASP List*** (on page 36)

Configuring the MMM Server Entry in the VASP List

The MMMRemote Server VASP setting must be configured correctly so that the EAS can function properly. This section provides a procedure to configure the MMMRemote Server VASP settings if one does not already exist.

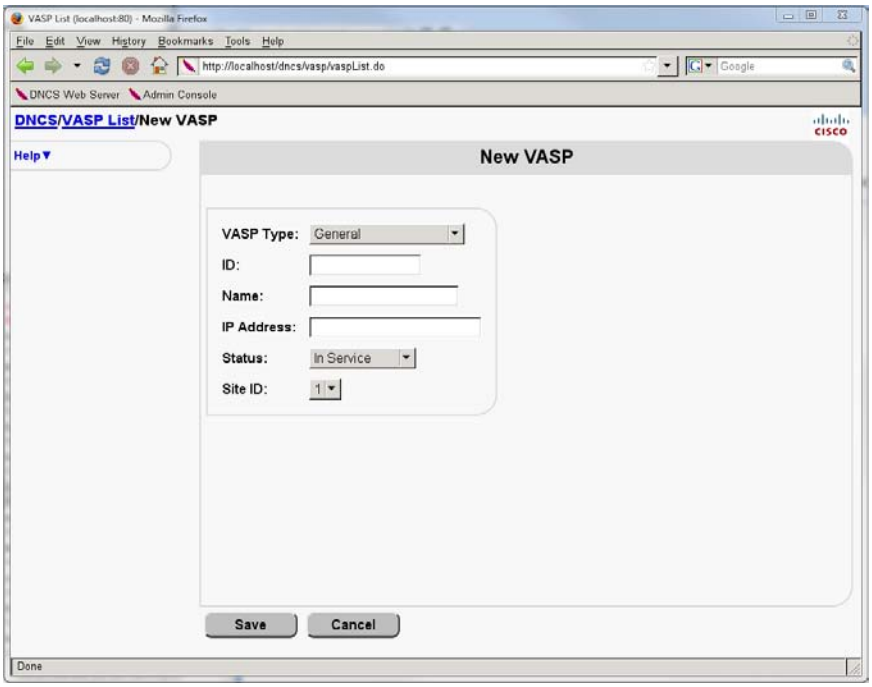
Important: An MMMRemote Server VASP entry must exist for each RNCS (LIONN) server in your network.

1 From the VASP List screen, record an unused ID number in the space provided.

Unused ID number: _____

Note: We suggest that you sort the list before you choose an unused ID number, in case your ID numbers are not in sequential order. To sort the list, click the **ID** heading twice to see all the IDs in sequential order.

2 Click **Add**. The New VASP window opens.



3 In the **VASP Type** field, select **MMM Server** from the list.

4 In the **ID** field, type the unused ID you recorded in step 1.

5 In the **Name** field, type **MMMRemote Server [name of RNCS server]**.

Example: If your RNCS server is named LIONN1, type **MMMRemote Server LIONN1**.

6 In the **IP Address** field, type the IP address of the RNCS server.

7 In the **Status** field, select **In Service**.

8 Select the **Site ID** associated with the RNCS server from the drop-down list.

9 Click **Save**.

Results:

- The system saves the MMMRemote Server configuration in the VASP list.
- The New VASP window closes.
- The VASP List window updates with the added MMMRemote Server.

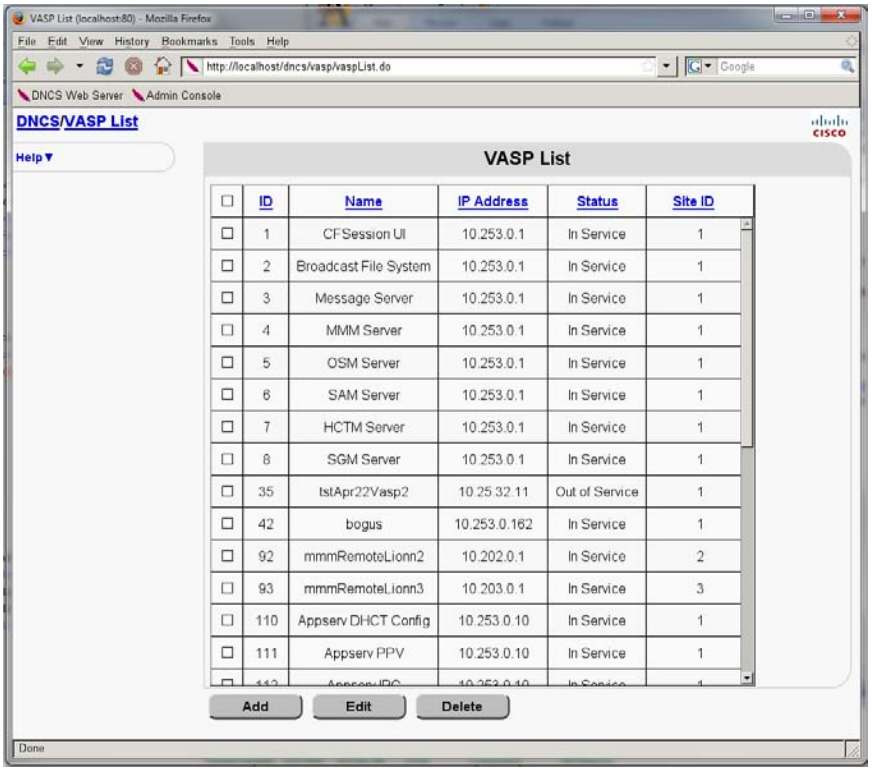
10 Repeat this procedure for each RNCS (LIONN) server in your network.

11 On the VASP List window, use the breadcrumb links to return to the DNCS Administrative Console.

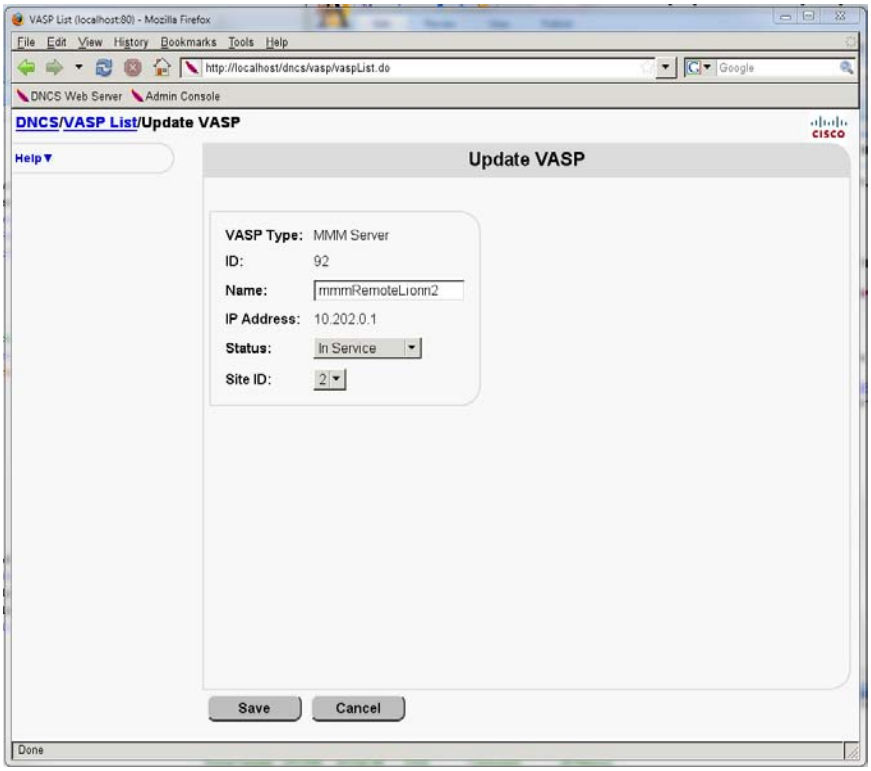
Verifying the MMM Server Entry in the VASP List

1 From the VASP List window, select the row containing the first **MMMRemote Server** in the list.

Note: To sort the list, click the **Name** heading twice to see all the server names in alphabetical order.



2 Click **Edit**. The Update VASP window opens.



3 Examine the Set Up VASP Window and answer the following questions:

- Is **VASP Type** set to **MMM Server**?
- Is **Name** recorded as **MMMRemote Server [name of RNCS server]**?
- Is **IP Address** the IP address of the RNCS server?
- Is **Status** set to **In Service**?
- Is the **Site ID** the same as the Site ID of the associated RNCS server?

4 Did you answer **yes** to every question in step 4?

- If **yes** (you answered yes to *every* question), your MMMRemote Server is configured correctly in the VASP list.
- If **no**, fix the incorrect entry and click **Save**.

5 Repeat this procedure for each RNCS (LIONN) server in your network.

6 Go to ***Configuring the EAS on the DNCS for System Releases Prior to SR 5.0*** (see "***Configuring the EAS on the DNCS for System Release 5.0***" on page 39).

Configuring the EAS on the DNCS for System Release 5.0

On the System Provisioning tab of the DNCS Administrative Console, there are four access keys in the EAS Message area that let you configure the EAS on the DNCS and send EAMs. These keys function as follows:

- **MMM Config —** Initiate changes to the individual configurations that determine how EAS messages are displayed and broadcast.
- **EAS Config —** Select the configuration for individual Emergency Events.
- **EAS Message —** Initiate an Emergency Event message.

  Note: See Conduct EAS Tests for additional information.
- **FIPS Code —** Assign FIPS codes and force tune services to each OOB bridge.

  Note: FIPS filtering is a separate software product. For more information on purchasing this software product, contact the person who handles your account.

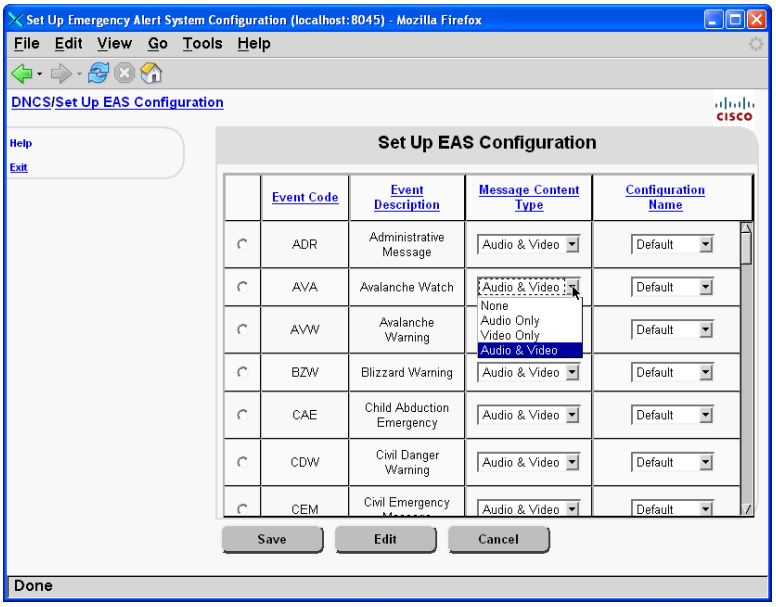
Configure EAS Events

Use EAS Config to configure EAS individual event codes by selecting message content type and the configuration name.

Configuring EAS Events

1. On the DNCS Administrative Console, click the **DNCS** tab.
2. Click the **System Provisioning** tab.

3 Click **EAS Config**. The Set Up Emergency Alert System Configuration window opens.



Note: The Event Code column lists the different types of emergencies.

4 Select from the list of options in the **Message Content Type** column. The options include:

- None
- Audio Only (sound only)
- Video Only (text only)
- Audio & Video (sound and text)

Important: CableCARD modules only receive text (video) EAS messages. If your system includes hosts with CableCARD modules, make sure that your EAS messages also include text (video).

5 Select Default in the **Configuration Name** column for all the Event Codes (except for RWT and RMT).

Important: We recommend that you select the Default configuration for all events except for the RWT and the RMT.

6 Click **Save**.

Configure FIPS Filtering (Optional)

FIPS filtering, through its integration with the DNCS, filters and sends EAS messages only to targeted states, counties, or subdivisions.

Note: FIPS filtering is a separate software product. For more information on purchasing this software product, contact the person who handles your account.

If your system uses FIPS Filtering, you should configure the FIPS codes now. See ***FIPS Filtering*** (on page 155) for those procedures.

When you are finished configuring the FIPS codes, proceed with *Configuring EAS Messages*, next in this document.

Configuring EAS Messages

The DNCS supports defining a unique response for each of the 54 EAM types identified by the FCC. The configuration for a particular EAM requires you to make two selections:

- Message Content Type - Options include None, Audio Only, Video Only, and Audio and Video.
- Associated configuration - Determines how often the message is displayed and how quickly the text scrolls (when text cannot be displayed on a single screen) along with other parameters, covered later in this section.

Within the Associated configuration, there are two very important parameters that you must understand to configure EAMs when you do **not** use force tuning:

- Delay Between Repeats - Controls how often the EAM displays, in seconds.
  - Longer duration messages - EAMs that are in effect for several hours (typically weather-related EAMs such as tornado and hurricane warnings) should receive a delay of 15 minutes or so.
  - Shorter duration messages - EAMs that last only an hour to a few hours (such as Amber alerts) should receive a shorter delay of 5 minutes or so.
- Motion Delay - Controls how long the text of the EAM stays on the screen. If the EAM text is longer than the space dedicated to the EAM, this parameter controls how long the first section of the EAM displays before the second section of the EAM displays.

Best practice is to set the default configuration to match the behaviors you want to use for all real EAMs. Thus, you would have a minimum of four separate configurations:

- RWT
- RMT
- Weather-related alerts (hurricane, severe storm, tornado, etc.)
- Shorter-duration alerts (Amber alerts, etc.)

A dedicated configuration for the RWT and RMT minimizes the number of times the alert displays on the screen. Separate configurations for the longer-duration weather alerts and for the shorter-duration other alerts also minimizes the impact on the subscriber experience, since subscribers must either acknowledge the alert or turn the set-top off to clear the alert.

On the System Provisioning tab of the DNCS Administrative Console, there are four access keys in the EAS Message area that let you configure the EAS on the DNCS and send EAMs:

- **MMM Config —** Initiate changes to the individual configurations that determine how EAS messages are displayed and broadcast.
- **EAS Config —** Select the configuration for individual emergency events.
- **EAS Message —** Initiate an emergency event message.

  Note: See Conduct EAS Tests for additional information.
- **FIPS Code —** Assign FIPS codes and force tune services. See ***Appendix C - FIPS Filtering*** (on page 155) for more information.

  Note: FIPS filtering is a separate software product. For more information on purchasing this software product, contact the person who handles your account.

Accessing the Set Up MMM Configuration Window

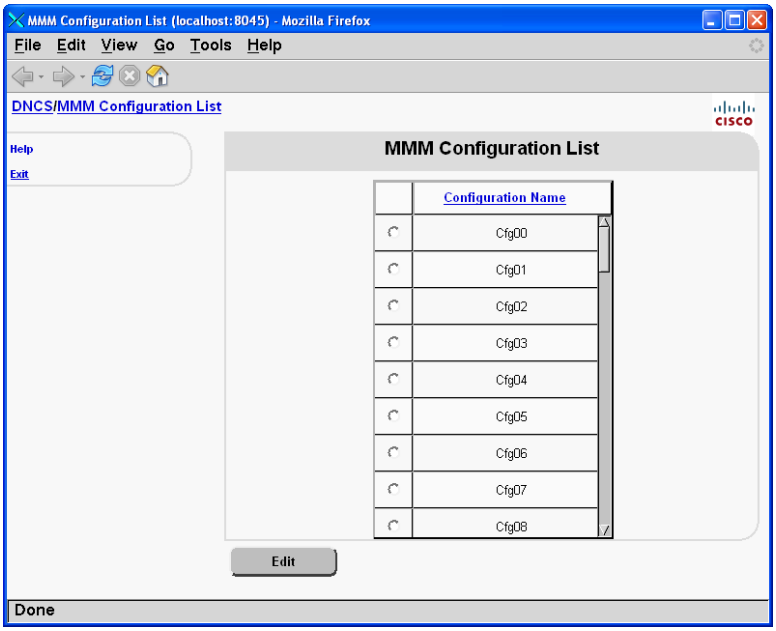
Follow these steps to access the Set Up MMM Configuration window.

The MMM Server VASP setting must be configured correctly so that the EAS can function properly. This section provides a procedure to configure the MMM Server VASP settings if one does not already exist.

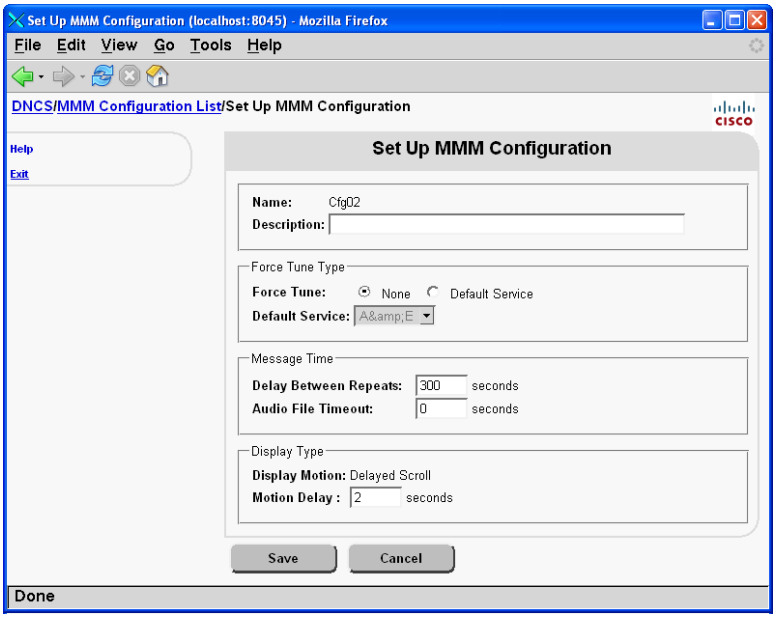
1 On the DNCS Admin console, click the **DNCS** tab.

2 Click the **System Provisioning** tab.

3 Click **MMM Config**. The MMM Configuration List window opens.



4 Select the configuration name that you want to configure, then click **Edit**. The Set Up MMM Configuration window opens.



Configuring the Force Tune Type

Follow these steps to set up the **Force Tune Type**.

Important: Most systems configure their force tune type to use an analog channel as the force-tune channel for EAS messages. If you have subscribers who use digital-only set-top boxes, or who use the IEEE 1394 interface on their set-tops, and you use forced tuning, the channel that you force tune to must be a digital channel that can display information about local and national emergencies. For example, if you use an analog community access channel as the force-tune channel, you will need to digitize this channel with an encoder.

1 On the Set Up MMM Configuration window, enter a **Description** for this configuration.

2 Does the configuration require force tuning?

- If **yes**, go to step 3.
- If **no**, click **None** in the **Force Tune** field. Go to *Configuring the Message Time*, next in this document.

3 **If the configuration requires force tuning**, complete the following steps in the **Force Tune Type** fields:

a Click **Default Service**.

b In the **Default Service** field, select the SAM Service short description of the force tune service from the menu.

Note: An EAM configured with a forced tuning redirects the subscriber's TV to the selected service that provides the emergency alert information.

Configuring the Message Time

Message Time establishes the delay between repeats of the EAS message in seconds. Follow these steps to set up the **Message Time**.

1 In the **Delay Between Repeats** field, type a delay time for the EAS message, depending on the type of message you are configuring:

- **For standard EAS messages**, type a delay that is *at least 6 seconds* for all configurations.
- **For required weekly test (RWT) and required monthly test (RMT) messages**, type a delay greater than the default duration for each message so that subscribers only see the alert once during the RWT and RMT. Refer to Configure Weekly Tests and Configure Monthly Tests for more information about configuring RWT and RMT messages.

2 The **Audio File Timeout** field limits the time an audio file is used in systems using OpenCable audio support.

Configuring the Display Type

Display Type controls the type of display motion and how long the emergency message appears on the screen in seconds. Follow these steps to set up the **Display Type**.

1 On the Set Up MMM Configuration window, type the number of seconds the message will appear on the screen into the **Motion Delay** field.

2 To complete the configuration of the EAS message, click **Save**.

Configure EAS to Properly Function with the CableCARD Module

When setting up the CableCARD Module on the DNCS, the following events *can* occur:

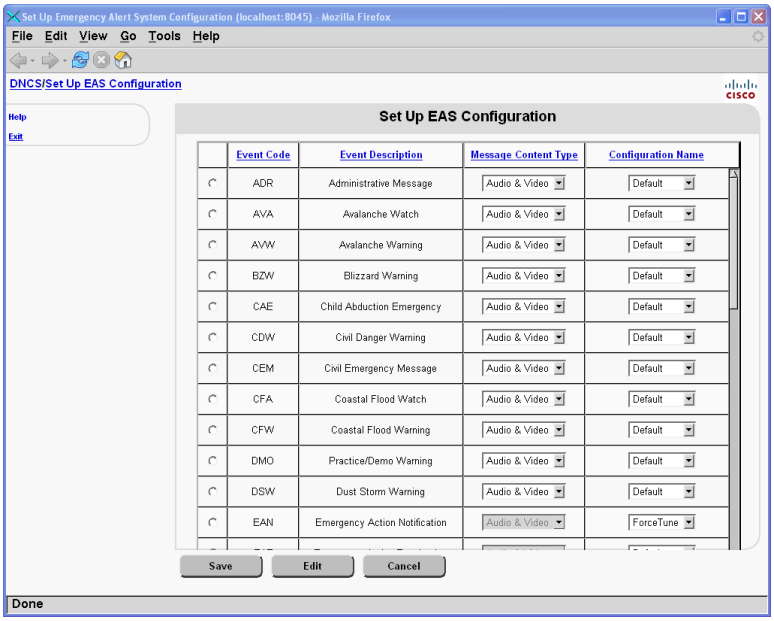
- **Priority value defaults to zero**—Because a zero priority value is an EAS test setting, some CableCARD hosts may not support the value, resulting in the inability to display EAS messages.
- **EAS Alert Remaining Time for unique EAS event codes automatically defaults to zero seconds**—If this occurs, EAS messages are displayed on CableCARD-compliant hosts, but the messages do not stop unless an End of Message (EOM) message is sent. We recommend that you set this field to **30** (seconds).

Important: CableCARD modules only receive text (video) EAS messages. If your system includes hosts with CableCARD modules, make sure that your EAS messages also include text (video).

Configuring EAS to Properly Function with the CableCARD Module

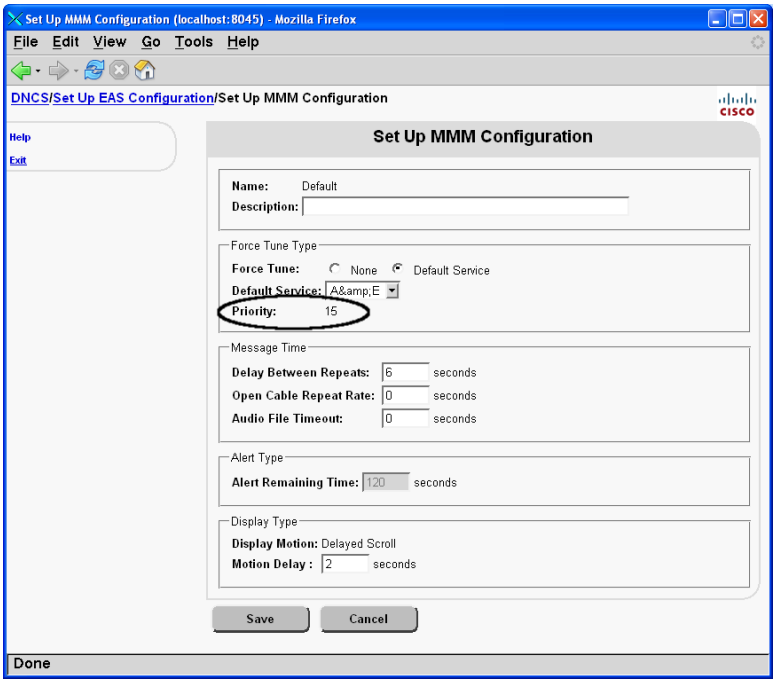
To check these values and modify them, if necessary, follow these steps.

1. On the DNCS Administrative Console, click the **DNCS** tab.
2. Click the **System Provisioning** tab.
3. Click **EAS Config** to view the Set Up EAS Configuration window.



4. Select the row containing the first unique configuration name that you are using, and click **Edit** to view the Set Up MMM Configuration window.

5 Verify that the **Priority** field contains a non-zero value.

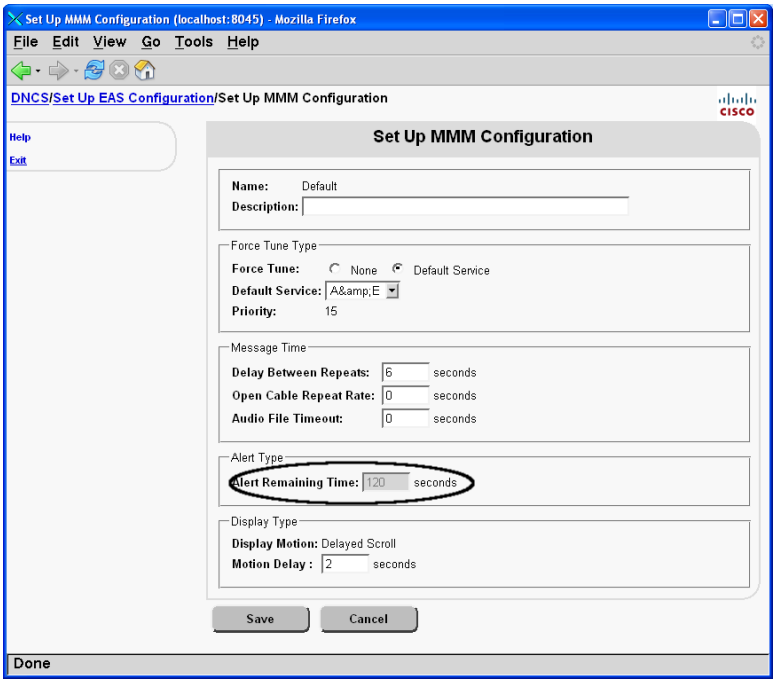


6 Is the Priority value zero?

- If **yes**, contact Cisco Services.
- If **no**, go to the next step.

7 Verify that the Alert Remaining Time field is a non-zero value.

Note: The value in the Alert Remaining Time field defines the duration of EAS messages on OpenCable hosts (with and without CableCARD modules).



8 Is the Alert Remaining Time set to zero?

- If **yes**, contact Cisco Services.
- If **no**, go to the next step.

9 Click **Save**.

10 Click **Exit** to close the Set Up MMM Configuration window.

11 Repeat this procedure from step 3 for each unique configuration you have in use.

12 From the Set Up EAS Configuration window, click **Exit**.

13 Test the EAS alert functionality to verify that it is working properly.

Note: We recommend that you test the EAS alert functionality each week. Refer to ***Test the EAS from the DNCS*** (on page 63) for more information.

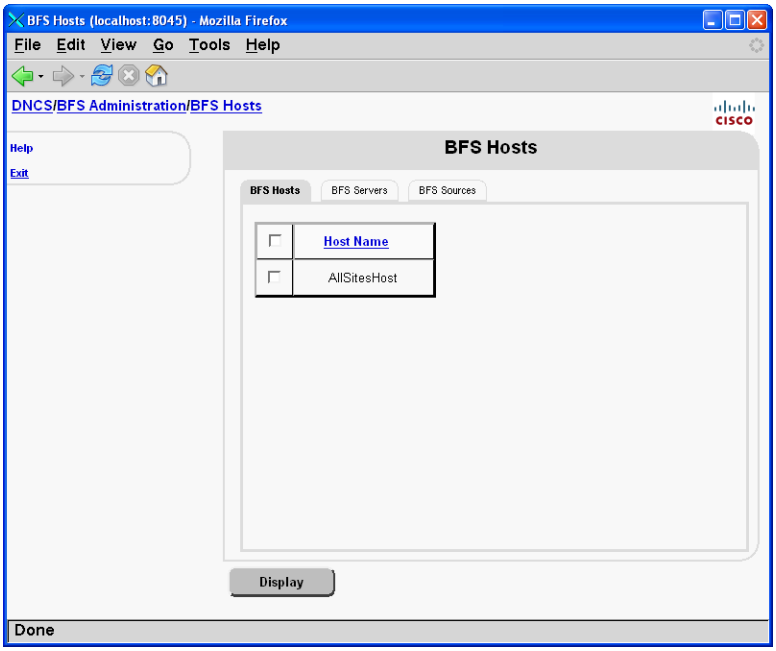
Verifying and Modifying the MMM Out-of-Band Data Rate

This section contains the steps you need to follow to verify and modify the MMM OOB carousel data rate (if necessary).

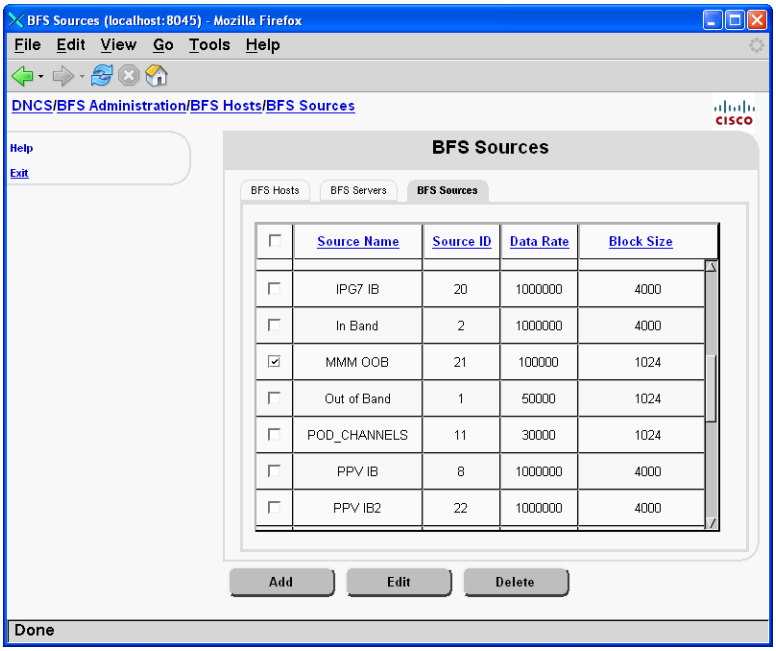
Verifying and Modifying the MMM OOB Data Rate

Follow these steps to verify and modify the MMM OOB carousel data rate (if necessary).

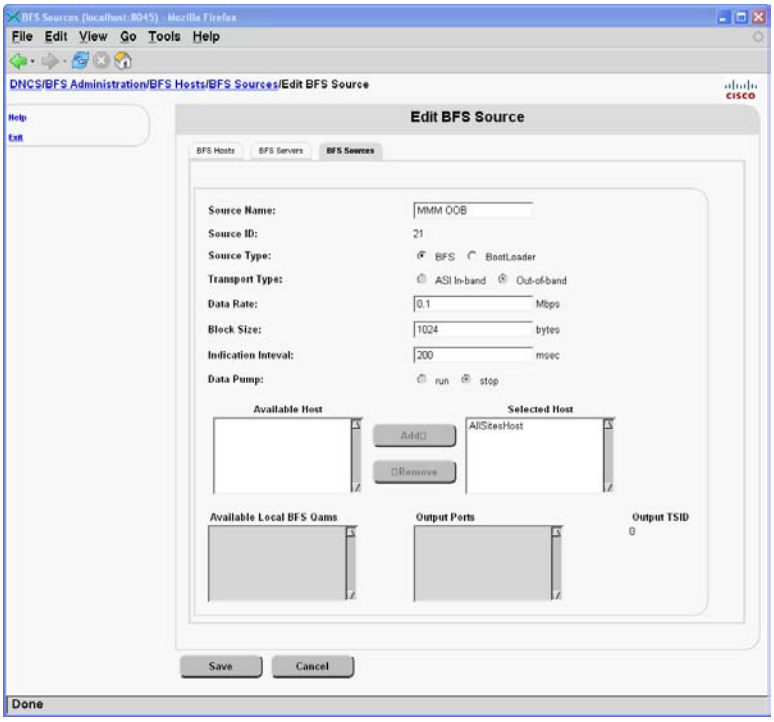
1. From the DNCS Administrative Console, click the **Application Interface Modules** tab.
2. Click **BFS Admin**. The BFS Hosts window opens.



3 Click the **BFS Sources** tab. A list of Sources and corresponding Source IDs displays in the BFS Administration window.



4 Select **MMM OOB** and click **Edit**. The Edit BFS Source window opens displaying MMM OOB data.



5 Is the Data Rate set to 0.1 Mbps?

- If **yes**, go to step 7.
- If **no**, click in the Data Rate field and change the data rate to 0.1 Mbps.

Important: This setting might not match the existing published recommendations for BFS carousel data rates.

6 Click **Save** to save and apply the new setting. The system restarts the data carousel and applies the new data rate.

7 Send a test EAS message with audio.

8 Was the test successful?

- If **yes**, go to step 14.
- If **no**, increase the data rate in 0.01 Mbps increments and continue sending test EAS messages with audio until the test is successful. Then, go to step 9.

9 Run a Doctor report to evaluate your overall OOB data rate. Your overall (aggregate) OOB Carousel Datarate should be less than 35.00 Mbps (including the MMM OOB, which is not included as part of the aggregate OOB Carousel Datarate).

10 Is your overall (aggregate) OOB Carousel Datarate less than 35.00 Mbps (including the MMM OOB)?

- If **yes**, go to step 14.
- If **no**, go to step 11.

11 Click in the **Data Rate** field and change the data rate back to 0.1 Mbps.

12 Click **Save** to save and apply the new setting. The system restarts the data carousel and applies the new data rate.

13 Contact Cisco Services and report your Doctor report findings. Cisco Services will help you troubleshoot your overall OOB data rate, including the MMM OOB data rate.

14 When you are finished, use the breadcrumb links to return to the DNCS Administrative Console.

EAS Suppression on Digital Channels

WARNING:

Use this feature at your own risk. It is imperative that service providers use this feature carefully so as not to suppress EAS messages on services that do not already provide EAS information. We do not take responsibility for the incorrect use of this feature.

The EAS suppression feature allows service providers to suppress EAS information on digital channels that already provide EAS coverage to their viewers.

For example, the digital channel might carry a local over-the-air TV station that is rebroadcast through the service provider's system. The TV station provides EAS coverage through its own process.

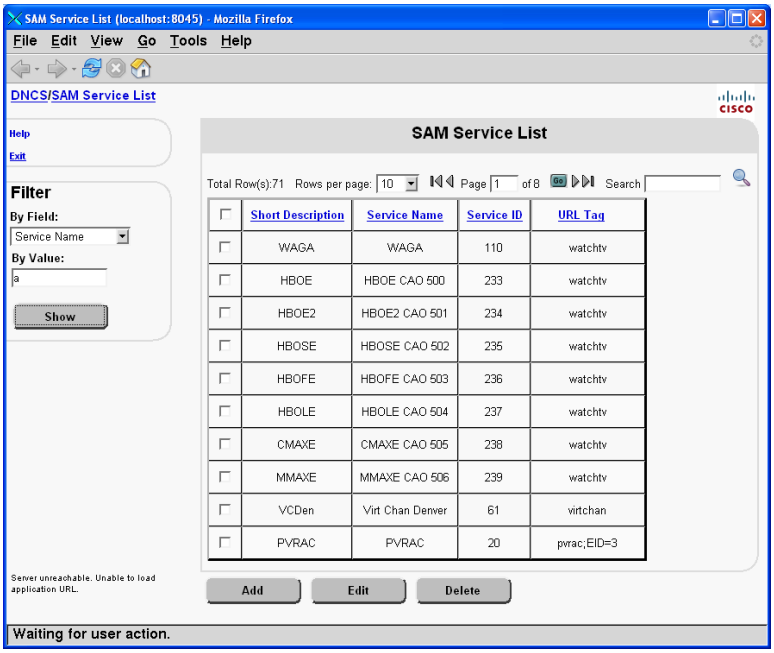
Beginning with SARA 1.60 and SARA 1.90 (DVR), a new URL modifier (**;NOEAS**) was added that allows service providers to suppress EAS on digital channels.

Notes:

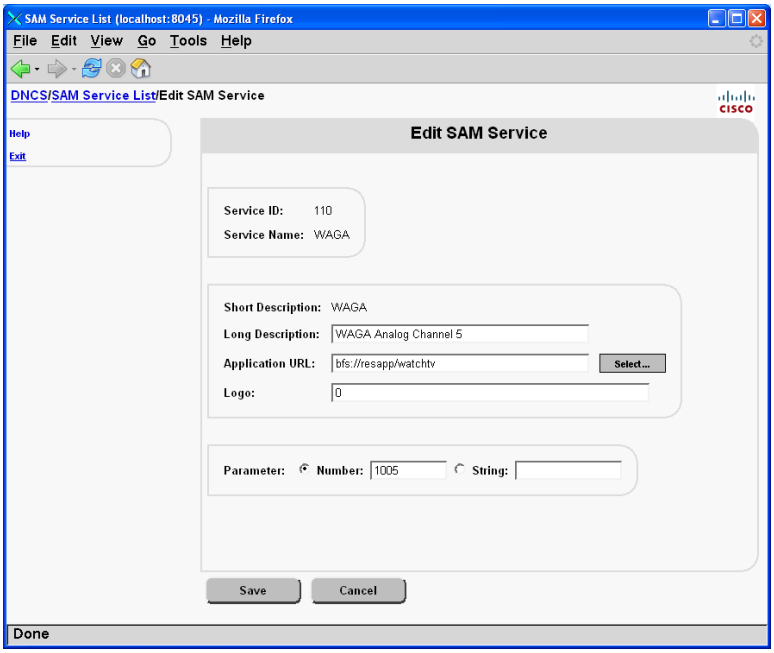
- EAS suppression is only available to systems that use SARA, our resident application.
- The URL modifier has no effect unless the set-top is tuned to a digital channel where the EAS message is received.

Configuring a Channel to Suppress EAS Messages

1. On the DNCS Administrative Console, click the **Application Interface Modules** tab.
2. Click **SAM Service**. The SAM Service List window opens.
3. Configure the SAM filter to view the service you want to edit and click **Show**. The SAM Service List updates to show the results of the SAM filter.

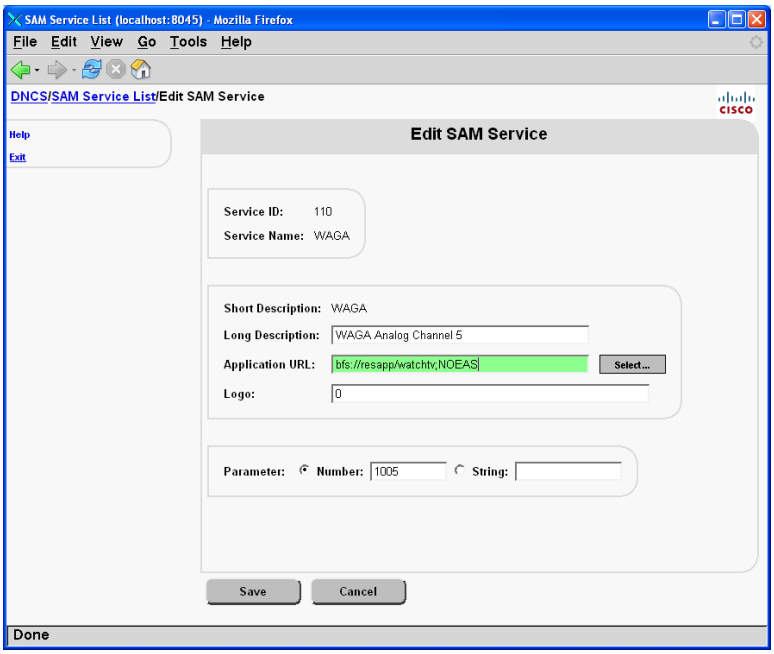


4. Select the digital service you want to edit and click **Edit**. The Edit SAM Service window for that service opens.

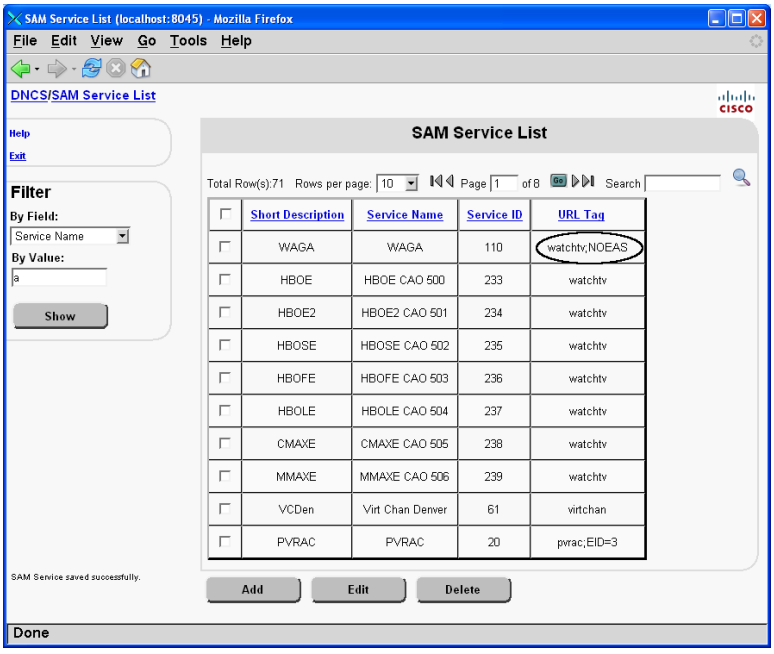


5 Click in the Application URL line to place your cursor at the end of the URL statement.

6 Append the line to include **;NOEAS**.



7 Click **Save**. The Edit SAM Service window closes. The SAM Service shows the appended URL on the same line as the service you edited.



8 When you are finished, use the breadcrumb links to return to the DNCS Administrative Console.

Setting Up and Configuring Weekly Tests

This section contains procedures for setting up and configuring required weekly tests for systems using System Release 5.0 and later.

Weekly tests consist of transmitting the EAS digital header codes and end of message (EOM) codes once per week. Weekly tests must be conducted by EAS participants on different days and at different times.

No weekly test is necessary during the week that a monthly test is conducted or when there is an EAS activation for a state or local emergency.

The FCC requires system operators to conduct weekly and monthly tests of their EAS. These tests ensure the reliability of the EAS equipment so that subscribers will receive national, state, and local warning messages about emergency situations.

The procedures in this section provide you with instructions for configuring your DNCS to perform regular tests of your EAS.

Note: The DNCS and FCC use the following acronyms to refer to the mandated tests of the EAS:

- **RWT:** Required Weekly Test
- **RMT:** Required Monthly Test

Weekly tests consist of transmitting the EAS digital header codes and end of message (EOM) codes once per week. Weekly tests must be conducted by EAS participants on different days and at different times.

No weekly test is necessary during the week that a monthly test is conducted or when there is an EAS activation for a state or local emergency.

What You Need

To configure the DNCS for the required test, you need the **Default Duration** value from the user interface of your EAS Encoder/Decoder. Refer to the documentation that accompanied your EAS Encoder/Decoder for instructions on locating this value on your EAS Encoder/Decoder.

Note: The Default Duration refers to the duration of the outgoing alert messages.

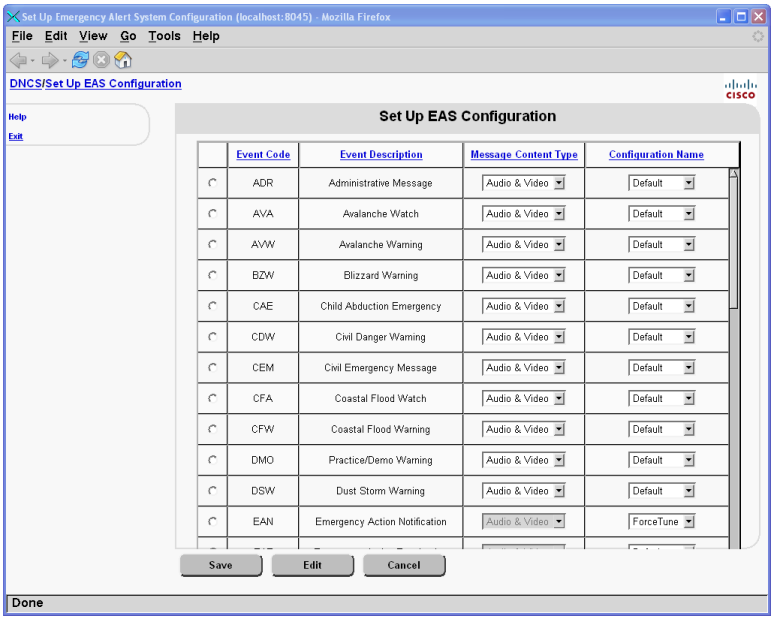
Setting Up Weekly Tests

This section provides procedures for setting up the RWT on the DNCS.

1 On the DNCS Administrative Console, click the **DNCS** tab.

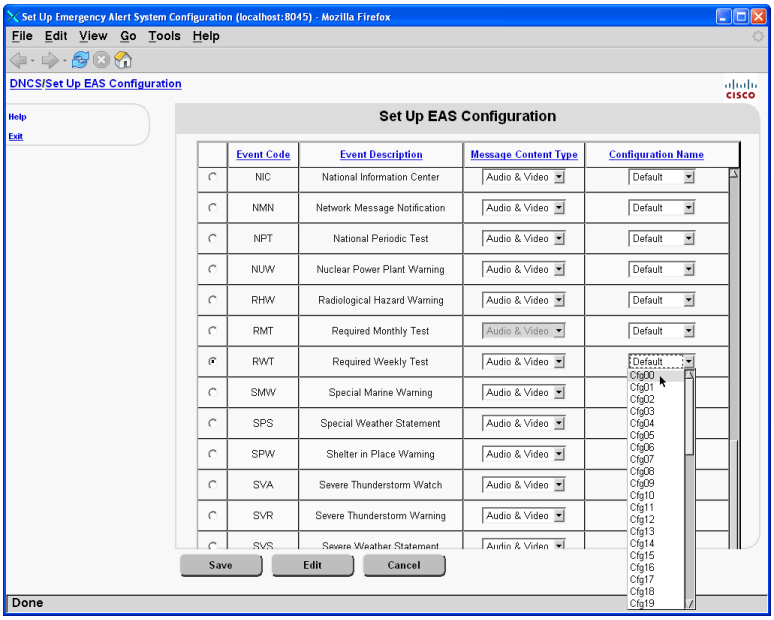
2 Click the **System Provisioning** tab.

3 Click **EAS Config**. The Set Up EAS Configuration window opens.



4 Highlight the row that contains the **RWT** (**Required Weekly Test)**.

5 Click the **Configuration Name** arrow for the RWT. A list of possible configuration names appears.



6 Select the **Cfg00** configuration. The configuration appears in the Configuration Name column.

7 Click **Save**. The system saves the new RWT configuration.

8 Now, use the breadcrumb links to return to the DNCS Administrative Console

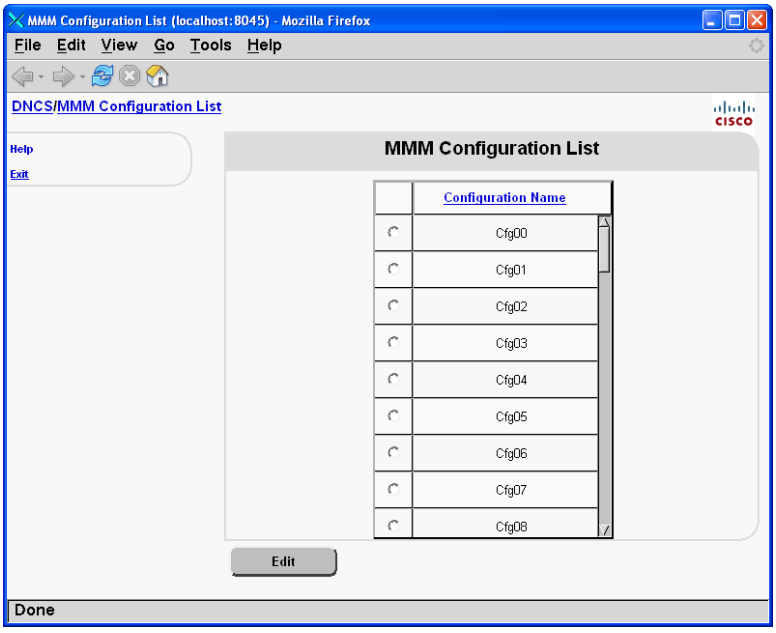
Configuring Weekly Tests

After you set up the RWT, you need to set up the MMM Server. The DNCS uses the MMM Server to conduct tests of the EAS. Follow these instructions to configure the MMM Server on the DNCS for the RWT of the EAS.

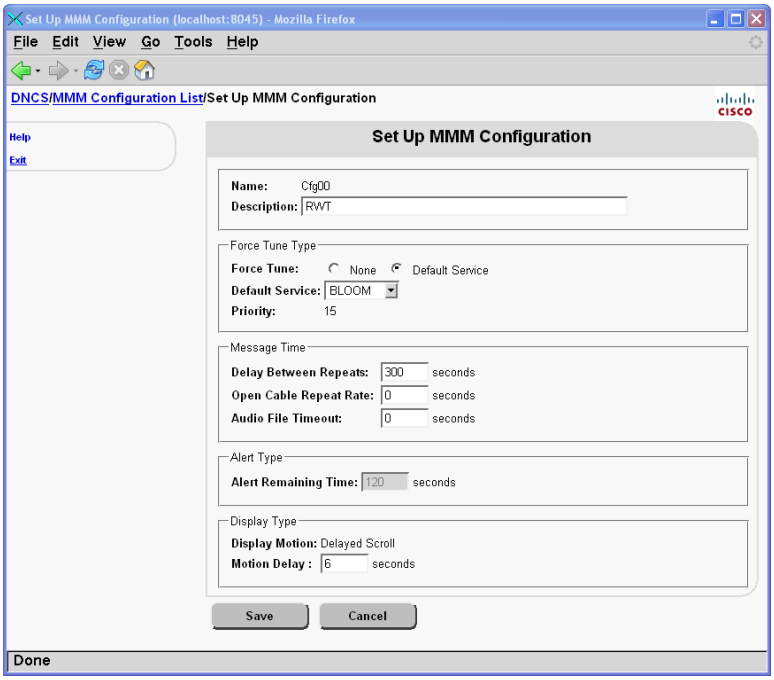
1 On the DNCS Administrative Console, click the **DNCS** tab.

2 Click the **System Provisioning** tab.

3 Click **MMM Config**. The MMM Configuration List window opens.



4 Select **Cfg00** and click **Edit**. The Set Up MMM Configuration window opens.



5 In the **Description** field, type **RWT configuration**.

6 At your EAS encoder/decoder, locate the **Default Duration** value.

Note: If necessary, refer to the user guide that accompanied your EAS encoder/decoder.

7 In the **Delay Between Repeats** field, type a value (in seconds) that equals [(Default Duration/2) + 1 minute x 60]. Use whole integer division only (drop the decimal point before adding the +1 minute).

Important: We recommend setting the Delay Between Repeats field to **480** seconds for the RWT if the default duration for the RWT is 15 minutes.

Example: If the Default Duration for the RWT of your EAS encoder/decoder is 15 minutes, your Delay Between Repeats value must be [(15/2 = 7) + 1 = 8 x 60 = **480** seconds].

Note: Make sure that the Delay Between Repeats is always *at least 6 seconds*.

8 Click **Save**. The system saves your changes and the Set Up MMM Configuration window closes.

9 In the MMM Configuration List window, use the breadcrumb links to return to the DNCS Administrative Console.

Setting Up and Configuring Monthly Tests

This section contains procedures for setting up and configuring required weekly tests for systems using System Release 5.0 and later.

The FCC requires system operators to conduct weekly and monthly tests of their Emergency Alert Systems (EAS). These tests ensure the reliability of the EAS equipment so that subscribers will receive national, state, and local warning messages about emergency situations.

The procedures in this section provide you with instructions for configuring your DNCS to conduct monthly tests of your EAS.

Note: The DNCS and FCC use the following acronyms to refer to the mandated tests of the EAS:

- **RWT:** Required Weekly Test
- **RMT:** Required Monthly Test

Monthly tests consist of the transmitting the following:

- EAS digital header codes
- The two-tone attention signal
- A brief test script and EOM code
- A visual display of header code data

Monthly tests must be retransmitted within 60 minutes of receipt:

- In odd months, monthly tests must be conducted between 8:30AM to local sunset
- In even months, monthly tests must be conducted between local sunset and 8:30AM

No monthly test is necessary during a month when there is an EAS activation that includes a two-tone alert signal and an audio message.

What You Need

To configure the DNCS for the required test, you need the **Default Duration** value from the user interface of your EAS Encoder/Decoder. Refer to the documentation that accompanied your EAS Encoder/Decoder for instructions on locating this value on your EAS Encoder/Decoder.

Note: The Default Duration refers to the duration of the outgoing alert messages.

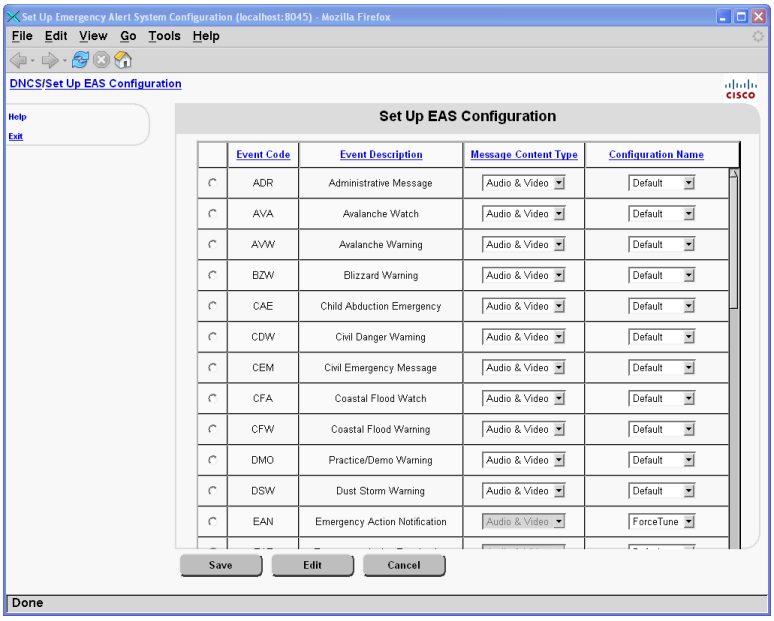
Setting Up Monthly Tests

This section provides procedures for setting up the RMT on the DNCS.

1 On the DNCS Administrative Console, click the **DNCS** tab.

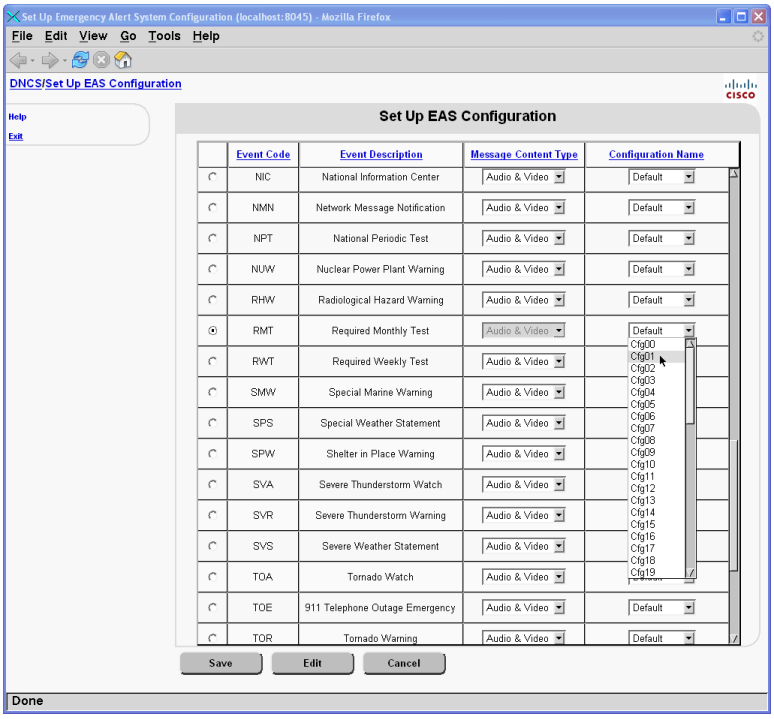
2 Click the **System Provisioning** tab.

3 Click **EAS Config**. The Set Up EAS Configuration window opens.



4 Highlight the row that contains the **RMT** (**Required Monthly Test**).

5 Click the **Configuration Name** arrow for the RMT. A list of possible configuration names appears.



6 Select the **Cfg01** configuration. The configuration appears in the Configuration Name column.

7 Click **Save**. The system saves the new RMT configuration.

8 Now, use the breadcrumb links to return to the DNCS Administrative Console.

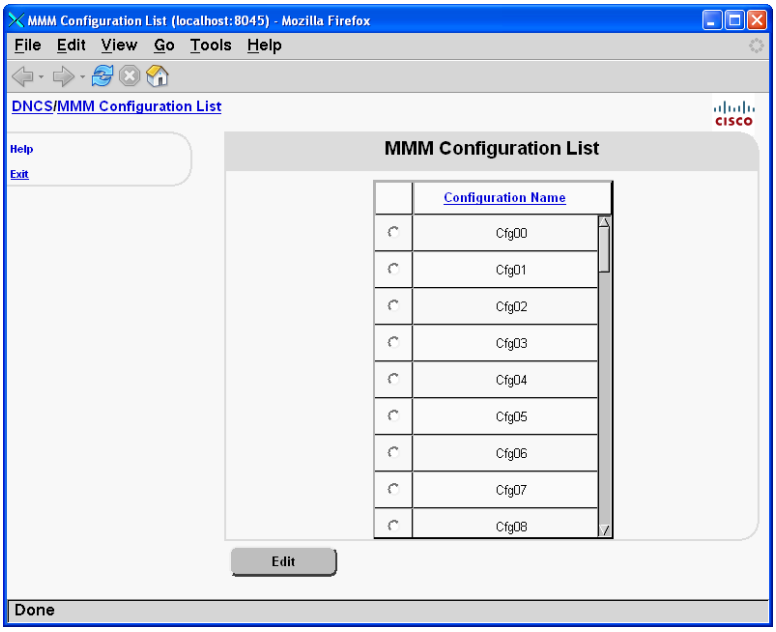
Configuring Monthly Tests

After you set up the RMT, you must set up the MMM Server. The DNCS uses the MMM Server to conduct tests of the EAS. Follow these instructions to configure the MMM Server on the DNCS for the RMT of the EAS.

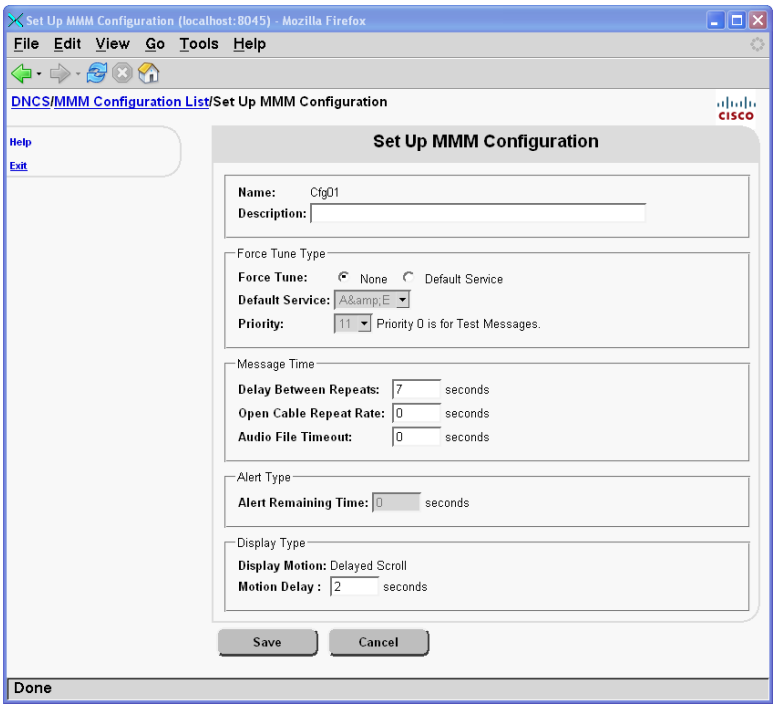
1 On the DNCS Administrative Console, click the **DNCS** tab.

2 Click the **System Provisioning** tab.

3 Click **MMM Config**. The MMM Configuration List window opens.



4 Select **Cfg01** and click **Edit.** The Set Up MMM Configuration window opens.



5 In the **Description** field, type **RMT configuration**.

6 At your EAS encoder/decoder, locate the **Default Duration** value.

Note: If necessary, refer to the user guide that accompanied your EAS encoder/decoder.

7 In the **Delay Between Repeats** field, type a value (in seconds) that equals [(Default Duration/2) + 1 minute x 60]. Use whole integer division only (drop the decimal point before adding the +1 minute).

Important: We recommend setting the Delay Between Repeats field to **1860** seconds for the RMT if the default duration for the RMT is 60 minutes.

Example: If the Default Duration for the RMT of your EAS encoder/decoder is 60 minutes, your Delay Between Repeats value must be [(60/2 = 30) + 1 = 31 x 60 = **1860** seconds].

Note: Make sure that the Delay Between Repeats is always *at least 6 seconds*.

8 Click **Save**. The system saves your changes and the Set Up MMM Configuration window closes.

9 In the MMM Configuration List window, use the breadcrumb links to return to the DNCS Administrative Console.

Conduct EAS Tests

Test the EAS from the DNCS

This section describes the procedure for using the DNCS EAS Message menu to test the EAS using the EAS Message menu. The Send Emergency Alert System Message screens allow you to create, modify, and send an emergency alert system message. This procedure is valuable in testing your EAS system.

Important: Sending EAS messages outside of the regularly scheduled EAS tests or by using the DNCS EAS Message menu does **not** meet the FCC requirements for conducting the RWT and the RMT. The RWT and RMT tests should be end-to-end tests, and as such should be initiated from the EAS receiver and monitored at the set-top.

Send EAS Test Messages

Follow the steps in these procedures to send EAS test messages on the DNCS.

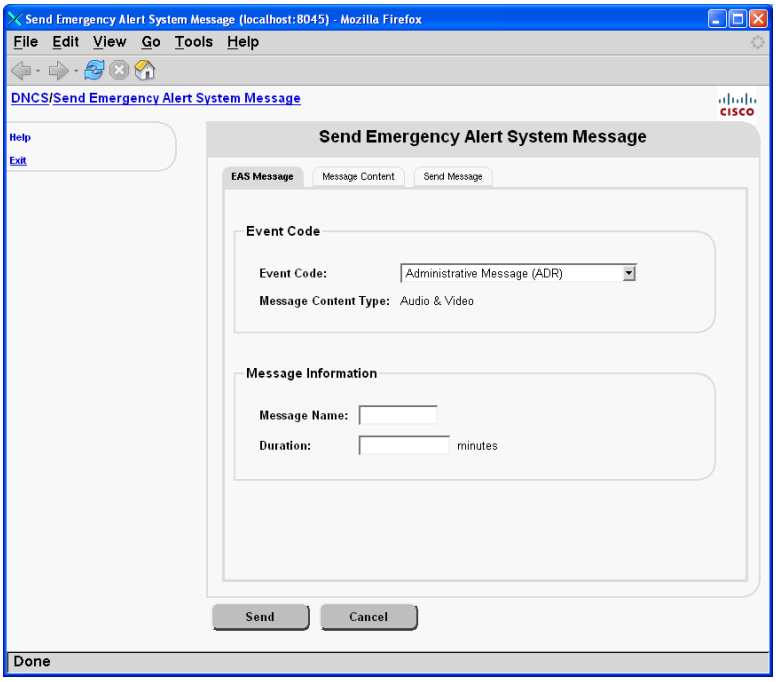
Note: Actual Emergency Alert Messages originate from the FCC. Use the DNCS EAS Message menu for local testing purposes only.

Sending EAS Test Messages

1 On the DNCS Administrative Console, click the **DNCS** tab.

2 Click the **System Provisioning** tab.

3 Click the **EAS Message** tab. The Send Emergency Alert System Message window opens with the **EAS Message** tab in the forefront.

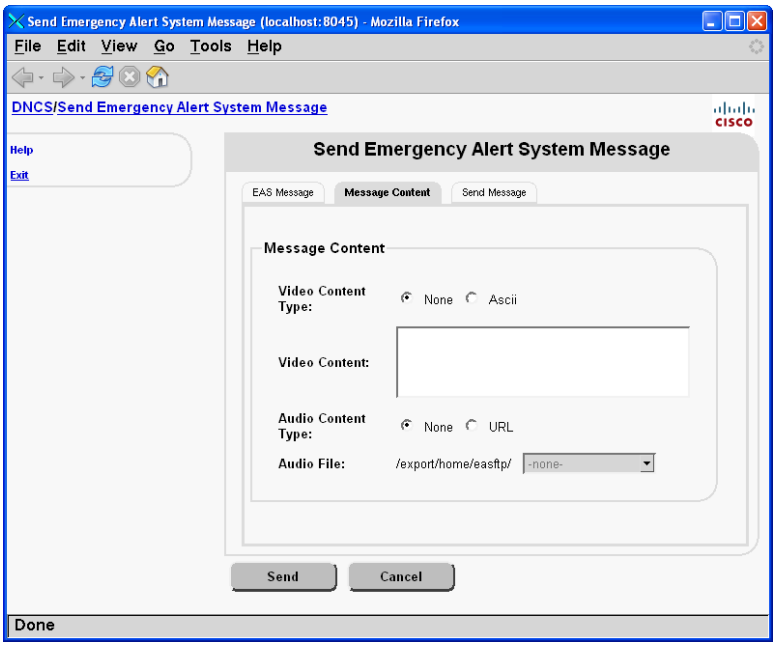


4 Select the **Event Code** from the list.

Note: We recommend that you set the Event Code to **Administrative Message (ADR)**.

5 In the **Message Information** area, type a unique Message Name and Duration in the appropriate fields.

6 Click the **Message Content** tab. The Send Emergency Alert System Message window opens with the **Message Content** tab in the forefront.



7 Choose one of the following options:

- If you have only **video** (text) content, select **ASCII** and type the text in the **Video Content**.
- If you have only **audio** (sound) content, select **URL** and click the **Audio File** arrow to select a file from the list.

  Important: Be sure to select a WAV file from the list (a file with a *.wav* extension).
- If you have **audio and video** (sound and text) content, follow these steps:
  a Choose **ASCII** and type the text in the **Video Content** text box.
  b Choose **URL** and click the **Audio File** arrow to select a file from the list.

8 Click the **Send Message** tab. The Send Emergency Alert System Message window updates with the **Send Message** tab to the forefront.

9 Did you purchase the EAS filtering product that provides FIPS filtering on your system?

- If **no**, go to step 10.
- If **yes**, go to step 11.

10 Your only option is to select **All States**. Select **All States**, then go to step 14.

11 Select the **State** to which you are sending the EAS message.

12 Select the **County** in the selected state to which you are sending the EAS message.

13 Select the **Subdivision** of the selected county to which you are sending the EAS message.

14 Click **Add.**

15 Is the content of the **Selected FIPS Code** window correct?

- If **yes**, click **Send**.
- If **no**, correct the information and then click **Send**.

  Warning: The emergency information broadcasts to all DHCTs in the selected destinations. The message displays across the upper portion of the TV screen in a red banner with white text.

  Notes:

  - To remove any destination from the **Selected FIPS Code** window, highlight this destination and click **Remove**.
  - Depending on the MMM configuration parameters, the emergency message repeats and lasts for the duration you specified in the Message Information area.

16 Go to **Terminate EAS Messages**, next in this document.

Terminate EAS Messages

Occasionally, you may want to suspend or terminate an EAM before it reaches its configured duration. When you terminate an EAM, you stop transmitting all EAMs that are currently active in your system. If you terminate an EAM on an OOB bridge, you stop transmitting all EAMs that are currently active on that OOB bridge.

This section provides instructions for terminating an EAM using the user interface of the DNCS.

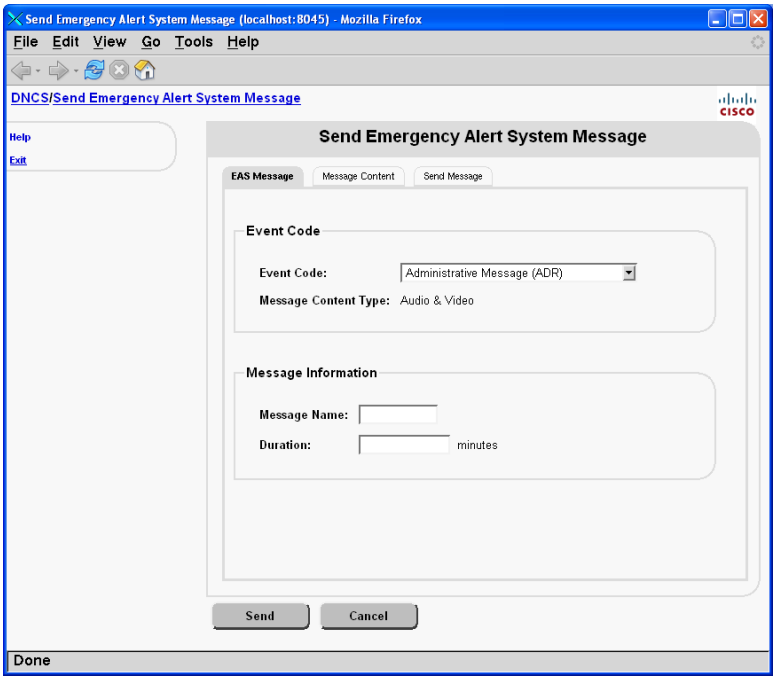
Terminating EAS Messages

Follow this procedure to terminate an EAS message from the DNCS.

1 From the DNCS Administrative Console, click the **DNCS** tab.

2 Click the **System Provisioning** tab.

3 Click **EAS Message**. The Send Emergency Alert System Message window opens with the EAS Message tab to the forefront.



4 In the Event Code area of the window, select one of the following options:

- If you are using PowerKEY® CableCARD™ modules on your system, go to step 5.

  Note: The value in the Alert Remaining Time field defines the duration of EAS messages on OpenCable™ hosts (with and without CableCARD modules).

- If you are *not* using CableCARD modules on your system, go to step 15.

5 Choose **End of Message (EOM)**. **End of Message (EOM)** appears in the Event Code field.

6 Type a unique message name in the **Message Name** field.

7 Click the **Send Message** tab.

8 Did you purchase the optional FIPS filtering software product for your system?

- If **no**, go to step 9.
- If **yes**, go to step 10.

9 Your only option is to select **All States**. Select **All States,** then go to step 14.

10 Select the **State** the EOM message is sent to.

Important: You can stop all active EAMs by sending an EOM to **All States**.

Note: There will be no interference with services if a DHCT that does not have any active EAMs receives an EOM.

11 Select the **County** the EOM message is sent to.

12 Select the **Subdivision** the EOM message is sent to.

13 Click **Add**. The system adds the appropriate FIPS code to the Selected FIPS Code list.

14 Is the content of the **Selected FIPS Code** window correct?

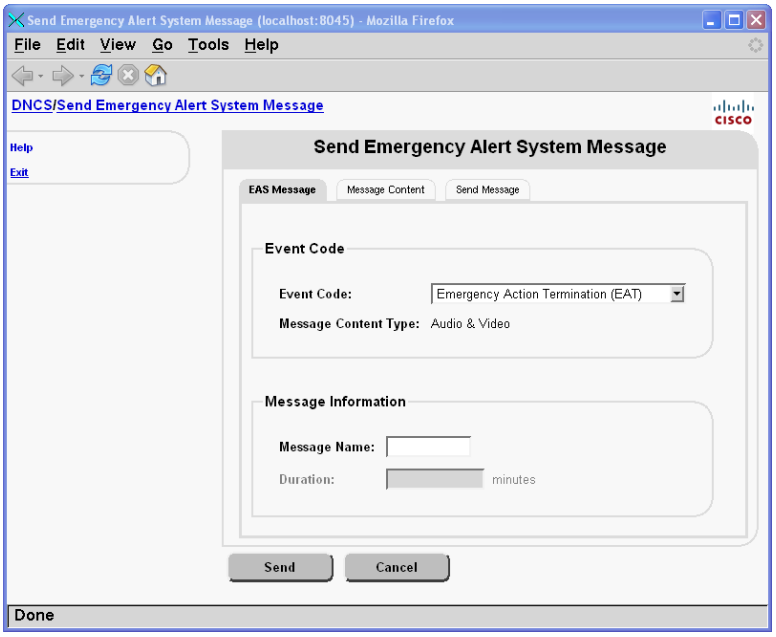
- If **yes**, click **Send**. Go to step 25.
- If **no**, correct the information and click **Send**. Go to step 25.

Important: If your system is currently broadcasting multiple EAMs, be sure you terminate the correct message.

Note: To remove any destination from the **Selected FIPS Code** window, highlight this destination and click **Remove**.

Result: The DNCS transmits instructions to CableCARD modules to stop displaying the EAM.

15 Choose **Emergency Action Termination (EAT)**. Emergency Action Termination appears in the Event Code field.



16 Type a unique message name in the **Message Name** field.

17 Click the **Send Message** tab.

18 Did you purchase the optional FIPS filtering software product for your system?

- If **no**, go to step 20.
- If **yes**, go to step 21.

19 Your only option is to select **All States**. Select **All States,** then go to step 25.

20 Select the **State** the EOM message is sent to.

Important: You can stop all active EAMs by sending an EOM to **All States**.

Note: There will be no interference with services if a DHCT that does not have any active EAMs receives an EOM.

21 Select the **County** the EOM message is sent to.

22 Select the **Subdivision** the EOM message is sent to.

23 Click **Add.**

24 Is the content of the **Selected FIPS Code** window correct?

- If **yes**, click **Send**.
- If **no**, correct the information and click **Send**.

Important: If your system is currently broadcasting multiple EAMs, be sure you terminate the correct message.

Note: To remove any destination from the **Selected FIPS Code** window, highlight this destination and click **Remove**.

Result: The DNCS transmits instructions to DHCTs to stop displaying the EAM.

25 On the Send Emergency Alert System Message window, use the breadcrumb links to return to the DNCS Administrative Console.

Improve EAS Performance

You must identify the MMM out-of-band (MMM OOB) carousel data rate that works best for your system. This section provides a procedure for verifying and modifying the MMM OOB carousel data rate on the DNCS (if necessary) to improve EAS performance.

Important: The total overall out-of-band carousel data rate on your system must *not* exceed 0.35 Mbps.

Note: Refer to the *Recommendations for Data Carousel Rate Management Technical Bulletin* (part number 716377) for additional information on configuring the DNCS carousel data rates.

Verifying MMM Server Performance

Follow these steps to verify the configuration and performance of the MMM Server.

1 Send a test EAS message with audio to a selected destination.

Note: See ***Send EAS Test Messages*** (on page 64) for information on sending test messages.

2 Open an xterm window on the DNCS.

3 Type `cd /dvs/dncs/tmp` and press **Enter.** The /dvs/dncs/tmp directory becomes the working directory.

4 To locate the most recent MMMServer files, type `ls -l MMMServer.*` and press **Enter.**

Note: The "l" in **ls** is a lowercase letter L.

Result: A list of **MMMServer** files appear.

5 To view the contents of one of these files, type `view MMMServer.[xxx]`.

Note: In this command, **[xxx]** represents the extension of the file you want to view.

6 Type `cd /dvs/dvsFiles/MMM` and press **Enter**. The /dvs/dvsFiles/MMM directory becomes the working directory.

7 Type `ls -l *.aiff` and press **Enter**.

Note: The "l" in **-l** is a lowercase letter L.

Result: A list of AIFF files in the /dvs/dvsFiles/MMM directory appears.

Important: Complete this procedure immediately after sending an EAS message with audio. The AIFF file will only exist in the directory when you send an EAS message with audio, and this message is still active. The system removes this file when the EAS message terminates.

8 Are there AIFF files in the /dvs/dvsFiles/MMM directory with a current time and date stamp?

- If **yes**, you have completed this procedure.
- If **no**, check the log for error messages. Contact Cisco Services for further assistance if necessary.

Note: For troubleshooting information on the MMM Server, go to ***Troubleshoot the MMM Server*** (on page 135).

Conduct Scheduled Weekly and Monthly Tests

This section provides a table of the requirements, methods, and procedures for conducting the RWT and the RMT on each EAS.

Important: You **must** configure your system so that the RMT *always* functions in automatic mode. The FCC conducts the RMTs.

Note: You can configure your system so that the RWT always functions in automatic mode or you can set up the RWT to run in manual mode. See ***Test the EAS from the DNCS*** (on page 63) for information on sending and terminating ad hoc EAS messages.

Conducting Weekly and Monthly Tests

Use the following table to find your EAS equipment manufacturer, and follow the instructions provided for your system. Refer to the documentation for your specific EAC for additional information on conducting the RWT and the RMT.

Important: If your system does not function as expected, refer to ***Troubleshooting*** (on page 121) for troubleshooting procedures for the EAS.

System	RWT	RMT
Megahertz	**Automatic Mode:** Automated process **Manual Mode:** ■ Press the **Week** soft key. ■ Enter your **password**. ■ Press the **Proceed** soft key.	**Automatic Mode:** Automated process **Manual Mode:** The FCC requires that the RMT function in automatic mode.
Trilithic	**Automatic Mode:** Automated process **Manual Mode:** Not available	**Automatic Mode:** Automated process **Manual Mode:** The FCC requires that the RMT function in automatic mode.
Monroe System with Digital Envoy	**Automatic Mode:** Automated process **Manual Mode:** ■ Press the **MODE** soft key. Various MIP-021 options appear on the LCD screen. ■ Press the **NO** soft key until the message **SEND WEEKLY TEST** appears. ■ Press the **YES** soft key.	**Automatic Mode:** Automated process **Manual Mode:** The FCC requires that the RMT function in automatic mode.
Frontline	**Automatic Mode:** Automated process **Manual Mode:** Press the key labeled **Weekly Test** on the EAS Encoder. The **Send Hdr** and the **On Air Relay** indicators illuminate to show that the test is in process.	**Automatic Mode:** Automated process **Manual Mode:** The FCC requires that the RMT function in automatic mode.

6

Configure the DNCS for EAS and Conduct Tests for System Releases Prior to SR 5.0

Introduction

This chapter contains the procedures specific to configuring the DNCS for EAS. It also contains the procedures for conducting EAS tests.

Note: The procedures in this chapter are for System Releases prior to SR 5.0. If you are using SR 5.0 or later, go to ***Configure the DNCS for EAS and Conduct Tests for SR 5.0 and Later*** (on page 29).

In This Chapter

Configure the DNCS for EAS Messages

This section contains information and procedures required to configure your DNCS for carrying EAS messages.

This section contains additional instructions that you must complete to configure the DNCS for receiving and forwarding EAS messages.

1 Configuring and Verifying the MMM Server configuration.

2 Verifying that the ORBIX daemon is disabled (for SRs 2.5/3.5/4.0 and previous only).

3 Verifying the naming service (for DNCS SRs 2.2 and 3.0 only).

Configuring and Verifying the MMM Server Entry in the VASP List

The MMM Server relays the TXT file to the PassThru process and converts the WAV file to AIFF format. It then places the AIFF file on the bfsServer. The system logs the MMM Server activity in MMMServer.[*xxx*] files, which are located in the /dvs/dncs/tmp directory.

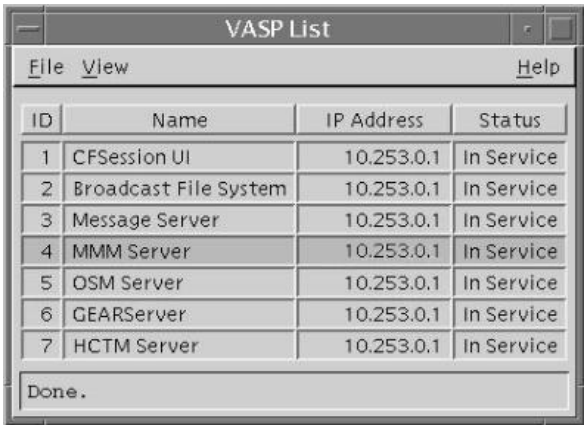
Viewing the VASP List

1 From the DNCS Administrative Console, select one of the following tabs:

- For DNCS SR 2.7/3.7/4.2 and later, click the **Network Element Provisioning** tab.
- For DNCS SR 2.5/3.5/4.0 and earlier, click the **Element Provisioning** tab.

2 Click **VASP**. The VASP List window opens.

Note: The following example is from an SR 4.3 system. If you are using another System Release, your window might not look the same.



3 Is there an MMM Server entry in the VASP List?

- If **yes**, go to ***Verifying the MMM Server Entry in the VASP List*** (on page 76)
- If **no**, go to ***Configuring the MMM Server Entry in the VASP List*** (on page 75)

Configuring the MMM Server Entry in the VASP List

The MMM Server VASP setting must be configured correctly so that the EAS can function properly. This section provides a procedure to configure the MMM Server VASP settings if one does not already exist.

Configuring the MMM Server Entry

1 From the VASP List screen, record an unused ID number in the space provided.

Unused ID number: _____

Note: We suggest that you sort the list before you choose an unused ID number, in case your ID numbers are not in sequential order. To sort the list, click the **ID** heading twice to see all the IDs in sequential order.

2 Click **File > New**. The Set Up VASP window opens.

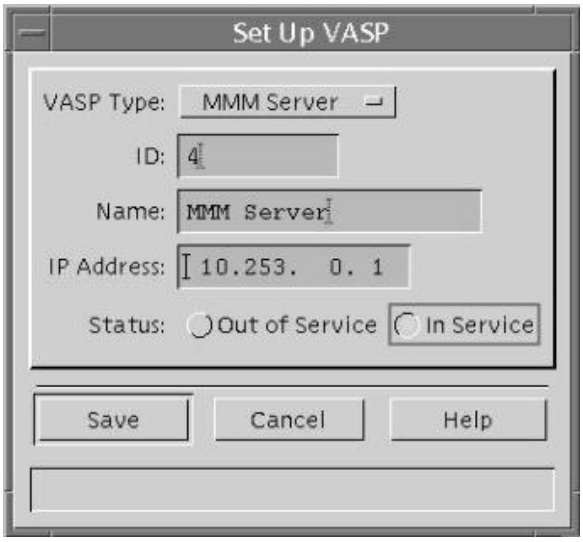
3 In the **VASP Type** field, select **MMM Server** from the list.

4 In the **ID** field, type the unused ID you recorded in step 1.

5 In the **Name** field, type **MMM Server**.

6 In the **IP Address** field, type the IP address of the DNCS that you recorded in ***Determining the Set-Top Facing IP Address of the DNCS*** (on page 23).

7 In the **Status** field, click **In Service**.



8 Click **Save**.

Results:

- The system saves the MMM Server configuration in the VASP list.
- The Set Up VASP window closes.
- The VASP List window updates with the added MMM Server.

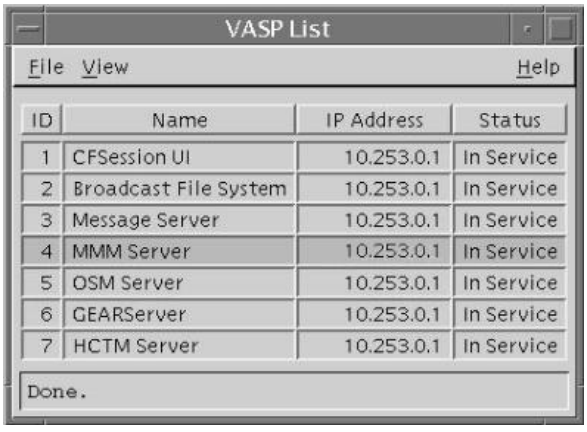
9 On the VASP List window, click **File > Close**.

Verifying the MMM Server Entry in the VASP List

If the MMM Server already exists in the VASP list, you need to verify the information contained within the server settings.

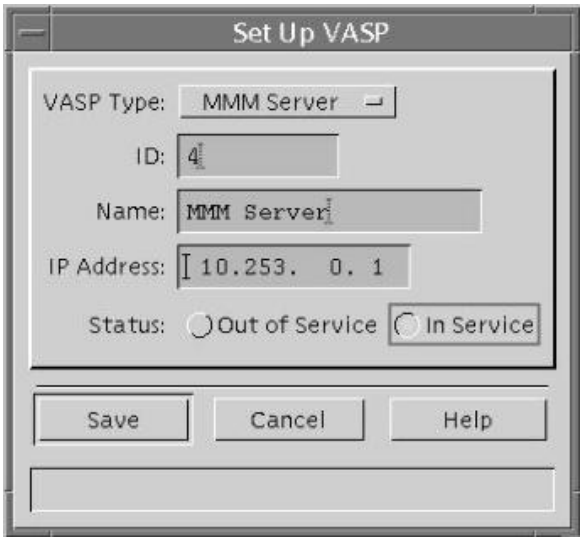
Verifying the MMM Server Entry

1 From the VASP List window, find the MMM Server entry.



2 Click the row containing **MMM Server**.

3 Click **File > Open**. The Set Up VASP window opens.



4 Examine the Set Up VASP Window and answer the following questions:

- Is **VASP Type** set to **MMM Server**?
- Is **Name** recorded as **MMM Server**?
- Is **IP Address** the *same* as the IP address you recorded in ***Determining the Set-Top Facing IP Address of the DNCS*** (on page 23)?
- Is **Status** set to **In Service**?

5 Did you answer **yes** to every question in step 4?

- If **yes** (you answered yes to *every* question), your MMM Server is configured correctly in the VASP list. Click **Cancel** to close the Set Up VASP Window.
- If **no**, go to ***Configuring the MMM Server Entry in the VASP List*** (on page 75) and fix the incorrect entry.

6 Go to Configuring the EAS on the DNCS.

Configuring and Verifying the MMM Server Entry in the VASP List

The MMM Server relays the TXT file to the PassThru process and converts the WAV file to AIFF format. It then places the AIFF file on the bfsServer. The system logs the MMM Server activity in MMMServer.[*xxx*] files, which are located in the /dvs/dncs/tmp directory.

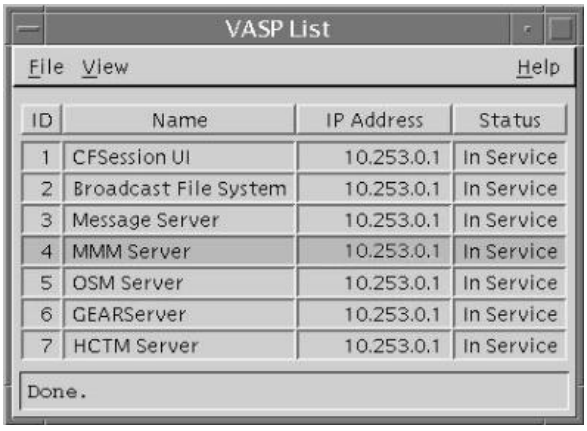
Viewing the VASP List

1 From the DNCS Administrative Console, select one of the following tabs:

- For DNCS SR 2.7/3.7/4.2 and later, click the **Network Element Provisioning** tab.
- For DNCS SR 2.5/3.5/4.0 and earlier, click the **Element Provisioning** tab.

2 Click **VASP**. The VASP List window opens.

Note: The following example is from an SR 4.3 system. If you are using another System Release, your window might not look the same.



3 Is there an MMM Server entry in the VASP List?

- If **yes**, go to ***Verifying the MMM Server Entry in the VASP List*** (on page 76)
- If **no**, go to ***Configuring the MMM Server Entry in the VASP List*** (on page 75)

Configuring the MMM Server Entry in the VASP List

The MMM Server VASP setting must be configured correctly so that the EAS can function properly. This section provides a procedure to configure the MMM Server VASP settings if one does not already exist.

Configuring the MMM Server Entry

1 From the VASP List screen, record an unused ID number in the space provided.

Unused ID number: _____

Note: We suggest that you sort the list before you choose an unused ID number, in case your ID numbers are not in sequential order. To sort the list, click the **ID** heading twice to see all the IDs in sequential order.

2 Click **File > New**. The Set Up VASP window opens.

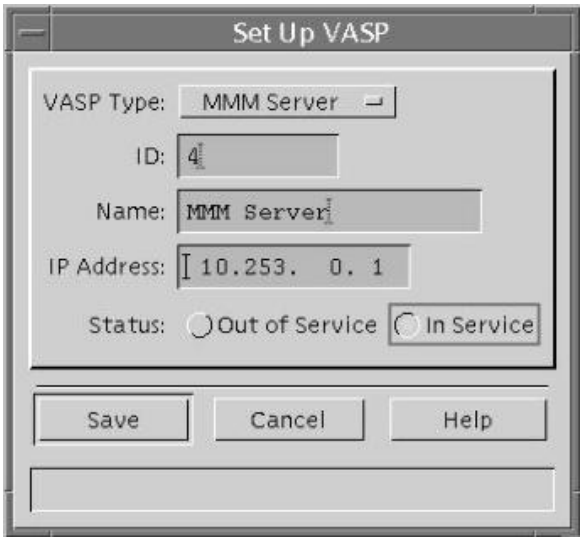
3 In the **VASP Type** field, select **MMM Server** from the list.

4 In the **ID** field, type the unused ID you recorded in step 1.

5 In the **Name** field, type **MMM Server**.

6 In the **IP Address** field, type the IP address of the DNCS that you recorded in ***Determining the Set-Top Facing IP Address of the DNCS*** (on page 23).

7 In the **Status** field, click **In Service**.



8 Click **Save**.

Results:

- The system saves the MMM Server configuration in the VASP list.
- The Set Up VASP window closes.
- The VASP List window updates with the added MMM Server.

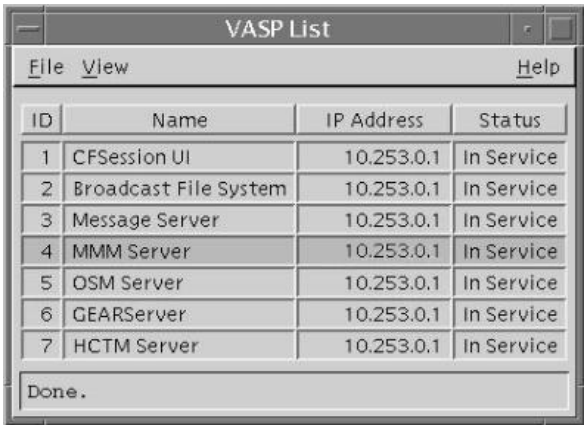
9 On the VASP List window, click **File > Close**.

Verifying the MMM Server Entry in the VASP List

If the MMM Server already exists in the VASP list, you need to verify the information contained within the server settings.

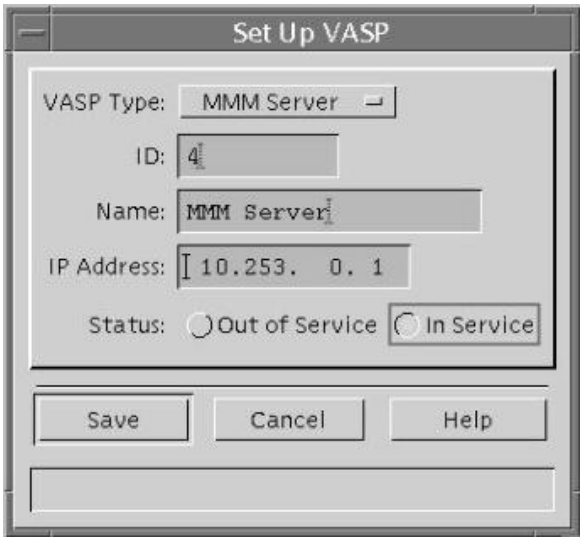
Verifying the MMM Server Entry

1 From the VASP List window, find the MMM Server entry.



2 Click the row containing **MMM Server**.

3 Click **File > Open**. The Set Up VASP window opens.



4 Examine the Set Up VASP Window and answer the following questions:

- Is **VASP Type** set to **MMM Server**?
- Is **Name** recorded as **MMM Server**?
- Is **IP Address** the *same* as the IP address you recorded in ***Determining the Set-Top Facing IP Address of the DNCS*** (on page 23)?
- Is **Status** set to **In Service**?

5 Did you answer **yes** to every question in step 4?

- If **yes** (you answered yes to *every* question), your MMM Server is configured correctly in the VASP list. Click **Cancel** to close the Set Up VASP Window.
- If **no**, go to ***Configuring the MMM Server Entry in the VASP List*** (on page 75) and fix the incorrect entry.

6 Go to Configuring the EAS on the DNCS.

Configuring and Verifying the MMMRemote Server Entry in the VASP List

The MMMRemote Server relays the EAS messages to the remote RNCS (LIONN) servers in your network.

Note: Follow these procedures ONLY if your system uses our RCS solution. If your system does NOT use the RCS solution, continue to ***Verifying the ORBIX Daemon is Disabled*** (on page 86).

For further instructions on setting up the RNCS for EAS, see *Distributed EAS on the Regional Control System, Configuration and Troubleshooting Guide* (part number 4002342).

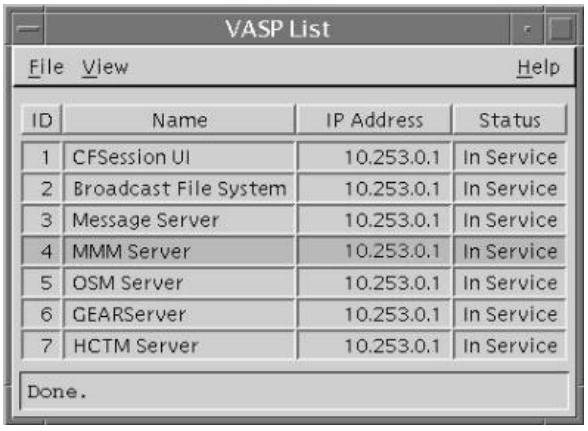
Viewing the VASP List

1 From the DNCS Administrative Console, select one of the following tabs:

- For DNCS SR 2.7/3.7/4.2 and later, click the **Network Element Provisioning** tab.
- For DNCS SR 2.5/3.5/4.0 and earlier, click the **Element Provisioning** tab.

2 Click **VASP**. The VASP List window opens.

Note: The following example is from an SR 4.3 system. If you are using another System Release, your window might not look the same.



3 Is there an **MMMRemote Server** entry in the VASP List for each remote RNCS (LIONN) server in your network?

- If **yes**, go to Verifying the MMMRemote Server Entry in the VASP List
- If **no**, go to Configuring the MMMRemote Server Entry in the VASP List

Configuring the MMMRemote Server Entry for System Releases Earlier than SR 5.0

1 From the VASP List screen, record an unused ID number in the space provided.

Unused ID number: _____

Note: We suggest that you sort the list before you choose an unused ID number, in case your ID numbers are not in sequential order. To sort the list, click the **ID** heading twice to see all the IDs in sequential order.

2 Click **File > New**. The Set Up VASP window opens.

3 In the **VASP Type** field, select **MMM Server** from the list.

4 In the **ID** field, type the unused ID you recorded in step 1.

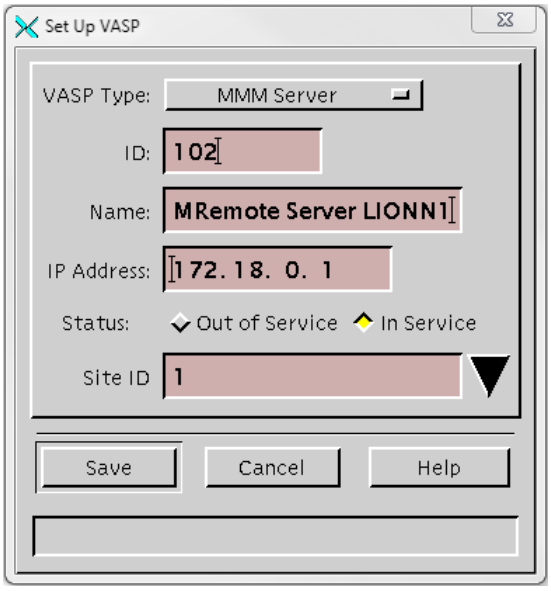
5 In the **Name** field, type **MMMRemote Server [name of RNCS server]**.

Example: If your RNCS server is named LIONN1, type **MMMRemote Server LIONN1**.

6 In the **IP Address** field, type the IP address of the RNCS server.

7 In the **Status** field, click **In Service**.

8 Select the **Site ID** associated with the RNCS server from the drop-down list.



9 Click **Save**.

Results:

- The system saves the MMM Server configuration in the VASP list.
- The Set Up VASP window closes.
- The VASP List window updates with the added MMM Server.

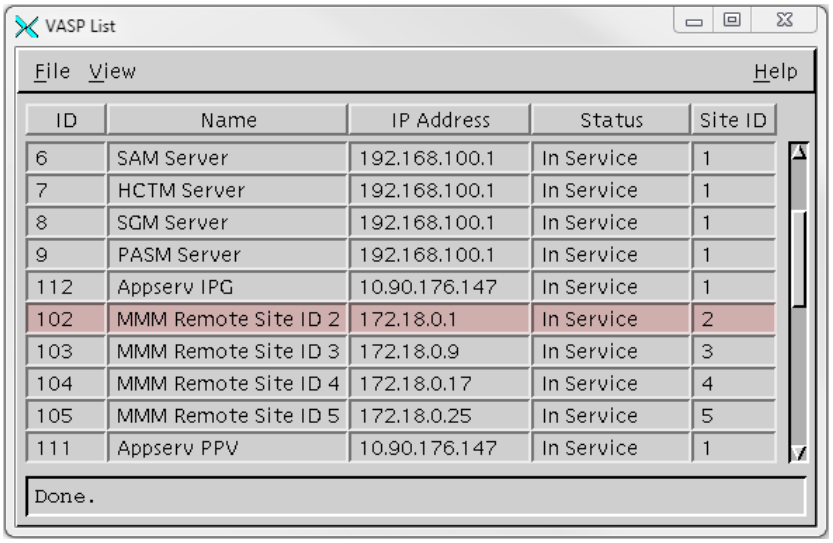
10 Repeat this procedure for each RNCS (LIONN) server in your network.

11 On the VASP List window, click **File > Close**.

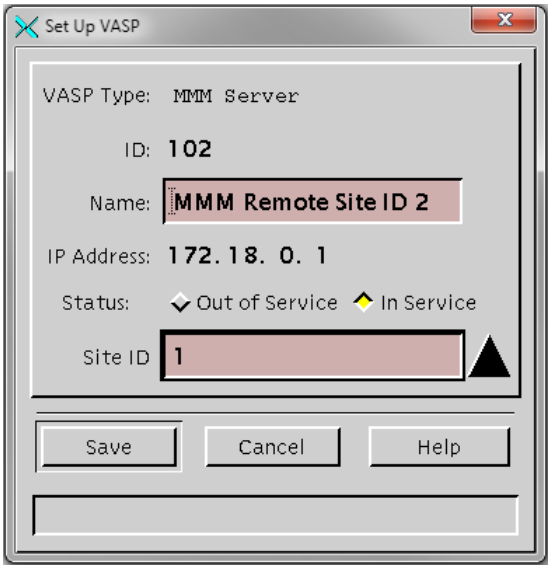
Verifying the MMMRemote Server Entry

1 From the VASP List window, click the row containing the first **MMMRemote Server** in the list.

Note: To sort the list, click the **Name** heading twice to see all the server names in alphabetical order.



2 Click **File > Open**. The Set Up VASP window opens.



3 Examine the Set Up VASP Window and answer the following questions:

- Is **VASP Type** set to **MMM Server**?
- Is **Name** recorded as **MMMRemote Server [name of RNCS server]**?
- Is **IP Address** the IP address of the RNCS server?
- Is **Status** set to **In Service**?
- Is the **Site ID** the same as the Site ID of the associated RNCS server?

4 Did you answer **yes** to every question in step 4?

- If **yes** (you answered yes to *every* question), your MMMRemote Server is configured correctly in the VASP list. Click **Cancel** to close the Set Up VASP Window.
- If **no**, fix the incorrect entry.

5 Repeat this procedure for each RNCS (LIONN) server in your network.

6 Go to Configuring the EAS on the DNCS.

Verifying the ORBIX Daemon is Disabled

Starting in DNCS SR 2.0, the functionality of the EAS moved from the Application Server to the DNCS. Because of this, you no longer need the ORBIX daemon on the Application Server.

Note: This procedure is only necessary if you are using an DNCS SR 2.2 or DNCS SR 3.2 system.

Follow these instructions to verify that the ORBIX daemon is disabled on the Application Server.

Note: You need to be logged in to the Application Server as **dncs user** to complete this procedure.

1 Open an xterm window on the Application Server.

2 Type `appControl` and press **Enter**. The Applications Control window opens.

3 Is the ORBIX daemon listed in the Applications Control window?

- If **yes**, go to ***Appendix B*** (on page 151)
- If **no**, close the Applications Control window, you are finished with this procedure

Verifying the Naming Service

Verifying the Naming Service for SR 2.2 or 3.2

Follow these steps to verify the naming service if you are using SR 2.2 or SR 3.2.

1 Open an xterm window on the DNCS.

2 Type `ps -ef | grep ns` and press **Enter**. A list of processes and directories appears. Look for **/dvs/tools/iona/OrbixNames1.1c/bin/ns**.

Important: There should only be one listing of **/dvs/tools/iona/OrbixNames1.1c/bin/ns**

3 Is **/dvs/tools/iona/OrbixNames1.1c/bin/ns** listed only once?

- If **yes**, then the naming service is running and you have completed this procedure.
- If **no**, follow these steps if the naming service is listed more than once.
  - **a** Use the **kill** command to stop all naming service processes.
  - **b** Type `rm /dvs/tools/iona/OrbixNames1.1c/NamesRep/ *` and press **Enter.**
  - **c** Stop and then restart the ORBIX Daemon.

    Note: For detailed instructions, go to ***Troubleshooting the ORBIX Daemon*** (on page 132).
  - **d** Stop and then restart the MMM Server, then go to step 4.

4 Repeat steps 1 through 3 to verify the naming service.

Note: If the naming service is still not running, call Cisco Services.

Configuring the EAS on the DNCS

On the System Provisioning tab of the DNCS Administrative Console, there are four access keys in the EAS Message area that let you configure the EAS on the DNCS and send EAMs. These keys function as follows:

- **MMM Config —** Initiate changes to the individual configurations that determine how EAS messages are displayed and broadcast.
- **EAS Config —** Select the configuration for individual Emergency Events.
- **EAS Message —** Initiate an Emergency Event message.

  Note: See Conduct EAS Tests for additional information.
- **FIPS Code —** Assign FIPS codes and force tune services to each OOB bridge.

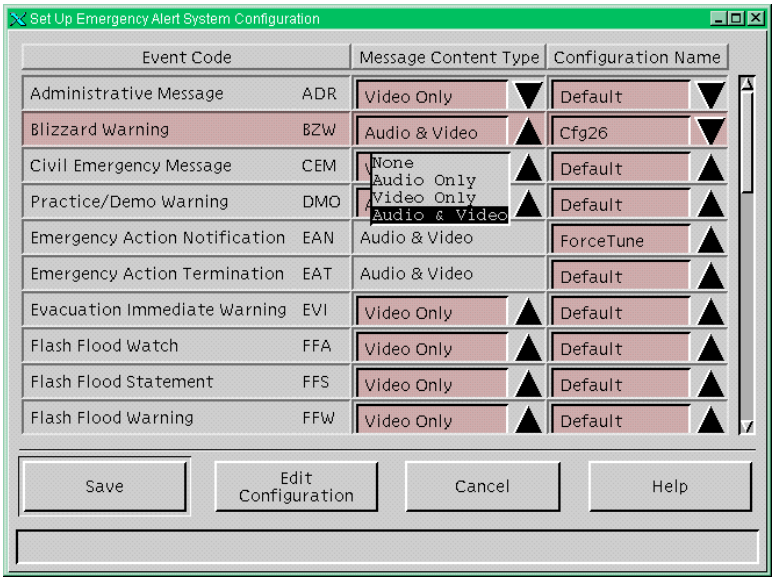
  Note: FIPS filtering is a separate software product. For more information on purchasing this software product, contact the person who handles your account.

Configure EAS Events

Use EAS Config to configure EAS individual event codes by selecting message content type and the configuration name.

Configuring EAS Events

1. On the DNCS Administrative Console, click the **DNCS** tab.
2. Click the **System Provisioning** tab.
3. Click **EAS Config**. The Set Up Emergency Alert System Configuration window opens.



4 Highlight the event in the **Event Code** column.

Note: The Event Code column lists the different types of emergencies.

5 Click the corresponding arrow from the **Message Content Type** column and select from the list of options. The options include:

- None
- Audio Only (sound only)
- Video Only (text only)
- Audio and Video (sound and text)

Important: CableCARD modules only receive text (video) EAS messages. If your system includes hosts with CableCARD modules, make sure that your EAS messages also include text (video).

6 Click the corresponding arrow from the **Configuration Name** column and set all the Event Codes to the **Default** setting (except for RWT and RMT).

Important: We recommend that you select the Default configuration for all events except for the RWT and the RMT.

7 Click **Save** to save your settings and close the Set Up Emergency Alert System Configuration window.

Configure FIPS Filtering (Optional)

FIPS filtering, through its integration with the DNCS, filters and sends EAS messages only to targeted states, counties, or subdivisions.

Note: FIPS filtering is a separate software product. For more information on purchasing this software product, contact the person who handles your account.

If your system uses FIPS Filtering, you should configure the FIPS codes now. See ***FIPS Filtering*** (on page 155) for those procedures.

When you are finished configuring the FIPS codes, proceed with *Configuring EAS Messages*, next in this document.

Configuring EAS Messages

The FCC has defined 54 EAM message types, which are listed on the FCC website.

The configuration of an EAM specifies how the set-top presents the alert. By default, all EAMs use the same configuration, which means that they are presented by the set-top in the same way. On a set-top (that uses an output other than the IEEE 1394 interface), the default configuration displays a red banner at the top of the screen and the text for the message is shown in white. If the message is sent with audio content, it is played instead of the normal program audio while the message is active. CableCARD hosts only display text.

Important: If the set-top is connected to the TV with only the IEEE 1394 interface, the TV will only receive the EAS audio. The set-top must be connected to the TV with an additional digital video connection (HDMI™, DVI, or PrPbY) to receive the EAS video (text).

The DNCS lets you configure an alternate behavior for each EAM by modifying one of the existing MMM configurations and by associating an EAM configuration with the new configuration. For example, if you want a Child Abduction Warning (e.g., an Amber Alert) to force tune the set-tops to a local news service, you would use the force-tune configuration for that EAM.

Although the DNCS provides the capability to have a unique configuration for each type of EAM, most operators only use a few configurations (one for messages that will use the banner, a second for force tuning, one for required weekly tests and finally one for required monthly tests). You should check current FCC and local requirements to determine what settings are most appropriate for your operating environment.

The following options can be configured as part of an EAS Configuration.

- **Force Tune Type**—Defines where the set-top is supposed to tune when an EAM that uses this configuration is received.
- **Message Time**—Defines the delay in seconds between repeats of the message. For example, if this is set to **6** then the message will repeat 6 seconds after the end of the last time the message was broadcast.
- **Alert Type**—Defines how long the message stays on the screen (in seconds).
- **Display Type**—Defines the type of display motion and how long the emergency message appears on the screen (in seconds).

Accessing the Set Up MMM Configuration Window

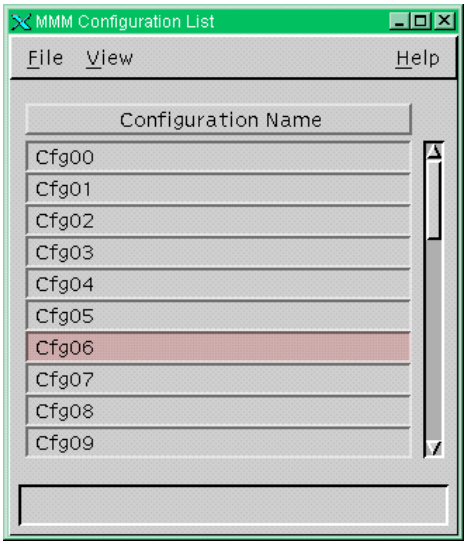
Follow these steps to access the Set Up MMM Configuration window.

The MMM Server VASP setting must be configured correctly so that the EAS can function properly. This section provides a procedure to configure the MMM Server VASP settings if one does not already exist.

1 On the DNCS Admin console, click the **DNCS** tab.

2 Click the **System Provisioning** tab.

3 Click **MMM Config**. The MMM Configuration List window opens.



4 Click to highlight the configuration name that you want to configure, then select **File > Open**. The Set Up MMM Configuration window opens.

Configuring the Force Tune Type

Follow these steps to set up the **Force Tune Type**.

Important: Most systems configure their force tune type to use an analog channel as the force-tune channel for EAS messages. If you have subscribers who use digital-only set-top boxes, or who use the IEEE 1394 interface on their set-tops, and you use forced tuning, the channel that you force tune to must be a digital channel that can display information about local and national emergencies. For example, if you use an analog community access channel as the force-tune channel, you will need to digitize this channel with an encoder.

1 On the Set Up MMM Configuration window, select the **Force Tune Type** tab.

2 Enter a **Description** for this configuration.

3 Does the configuration require force tuning?

- If **yes**, go to step 4.
- If **no**, click **None** in the **Force Tune** field. Go to step 5.

4 **If the configuration requires force tuning**, complete the following steps in the **Force Tune Type** fields:

   a Click **Default Service**.

   b In the **Default Service** field, select the SAM Service short description of the force tune service from the menu.

   Note: An EAM with configured with a forced tuning redirects the subscriber's TV to the selected service that provides the emergency alert information.

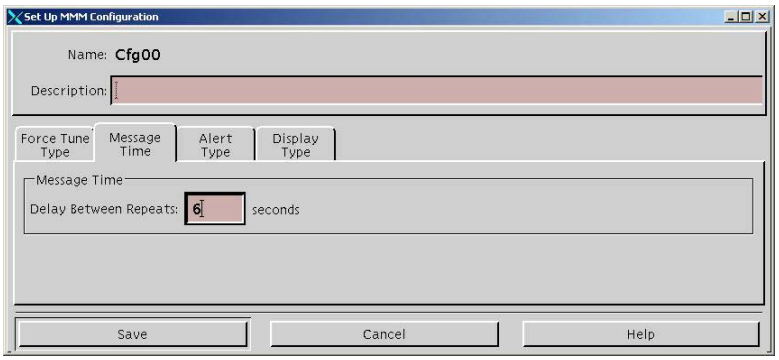
5 In the **Priority** field, type a priority for the message. The lower the number, the higher the priority.

   Note: Priority 0 (zero) is reserved for test messages.

Configuring the Message Time

Message Time establishes the delay between repeats of the EAS message in seconds. Follow these steps to set up the **Message Time**.

1 On the Set Up MMM Configuration window, select the **Message Time** tab.



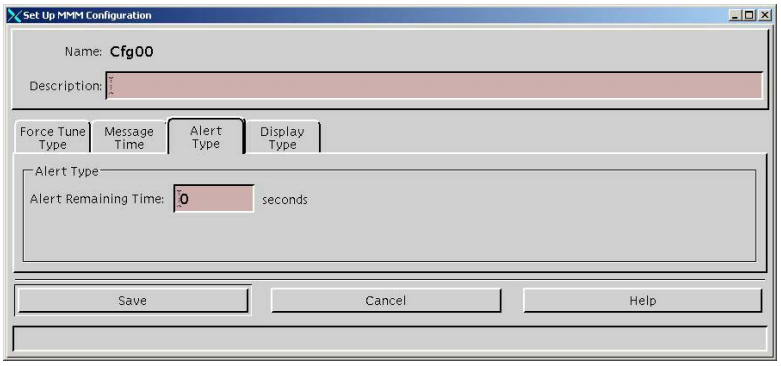
2 In the **Delay Between Repeats** field, type a delay time for the EAS message, depending on the type of message you are configuring:

- **For standard EAS messages**, type a delay that is *at least 6 seconds* for all configurations.
- **For required weekly test (RWT) and required monthly test (RMT) messages**, type a delay greater than the default duration for each message so that subscribers only see the alert once during the RWT and RMT. Refer to Configure Weekly Tests and Configure Monthly Tests for more information about configuring RWT and RMT messages.

Configuring the Alert Type

Follow these steps to set up the **Alert Type**.

1 On the Set Up MMM Configuration window, select the **Alert Type** tab.



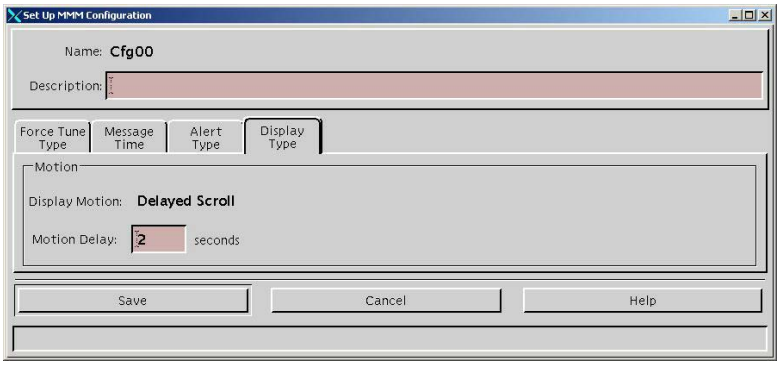
2 In the **Alert Remaining Time** field, type the number of seconds the messages will display on the screen. The Alert Remaining Time field has a maximum time limit of 120 seconds, which is also the default value.

Note: The value in the Alert Remaining Time field defines the duration of EAS messages on OpenCable hosts (with and without CableCARD modules). We recommend you set this field to 30 (seconds).

Configuring the Display Type

Display Type controls the type of display motion and how long the emergency message appears on the screen in seconds. Follow these steps to set up the **Display Type**.

1 On the Set Up MMM Configuration window, select the **Display Type** tab.



2 Type the number of seconds the message will appear on the screen into the **Motion Delay** field.

3 To complete the configuration of the EAS message, click **Save**.

Configure EAS to Properly Function with the CableCARD Module

When setting up the CableCARD Module on the DNCS, the following events *can* occur:

- **Priority value defaults to zero**—Because a zero priority value is an EAS test setting, some CableCARD hosts may not support the value, resulting in the inability to display EAS messages.
- **EAS Alert Remaining Time for unique EAS event codes automatically defaults to zero seconds**—If this occurs, EAS messages are displayed on CableCARD-compliant hosts, but the messages do not stop unless an End of Message (EOM) message is sent. We recommend that you set this field to **30** (seconds).

Important: CableCARD modules only receive text (video) EAS messages. If your system includes hosts with CableCARD modules, make sure that your EAS messages also include text (video).

Configuring EAS to Properly Function with the CableCARD Module for System Releases Prior to SR 5.0

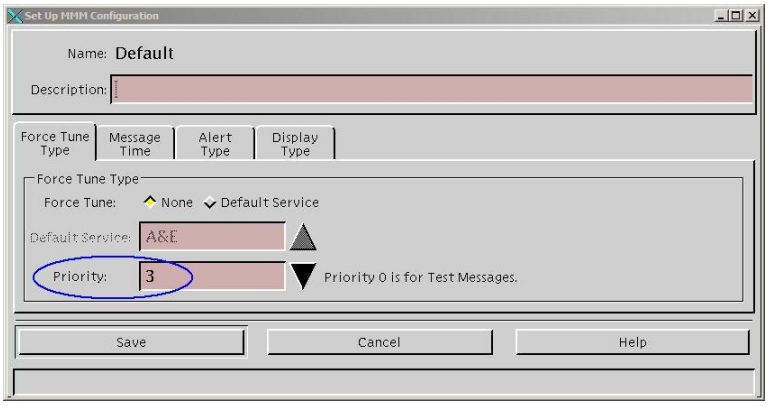
To check these values and modify them, if necessary, follow these steps.

1. On the DNCS Administrative Console, click the **DNCS** tab.
2. Click the **System Provisioning** tab.
3. Click **EAS Config** to view the Set Up Emergency Alert System Configuration window.

4. Select the row containing the first unique configuration name that you are using, and click **Edit Configuration** to view the Set Up MMM Configuration window.

   Note: You can also double-click the event code to access this screen.

5 Verify that the **Priority** field contains a non-zero value.

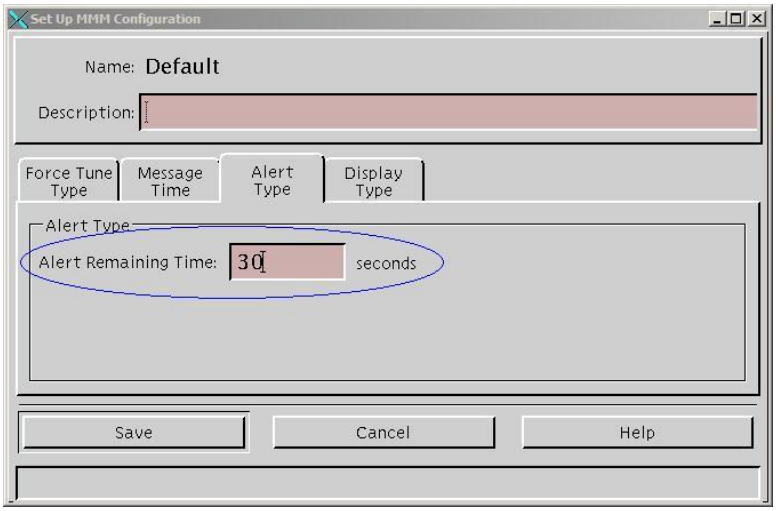


6 Is the Priority value zero?

- If **yes**, click the Priority arrow and select a non-zero value (for example, 3). Then go to step 7.
- If **no**, go to step 7.

7 Click the **Alert Type** tab to verify that the Alert Remaining Time field is a non-zero value.

Note: The value in the Alert Remaining Time field defines the duration of EAS messages on OpenCable hosts (with and without CableCARD modules).



8 Is the Alert Remaining Time set to zero?

- If **yes**, enter a value (in seconds) greater than zero. Then go to step 9.

  Note: We recommend that you type **30** for this field.
- If **no**, go to step 9.

9 Click **Save** and click **Close**.

10 Repeat steps 3 through 9 for each unique configuration you have in use.

11 From the Set Up Emergency Alert System Configuration window, click **Close**.

12 Test the EAS alert functionality to verify that it is working properly.

Note: We recommend that you test the EAS alert functionality each week.

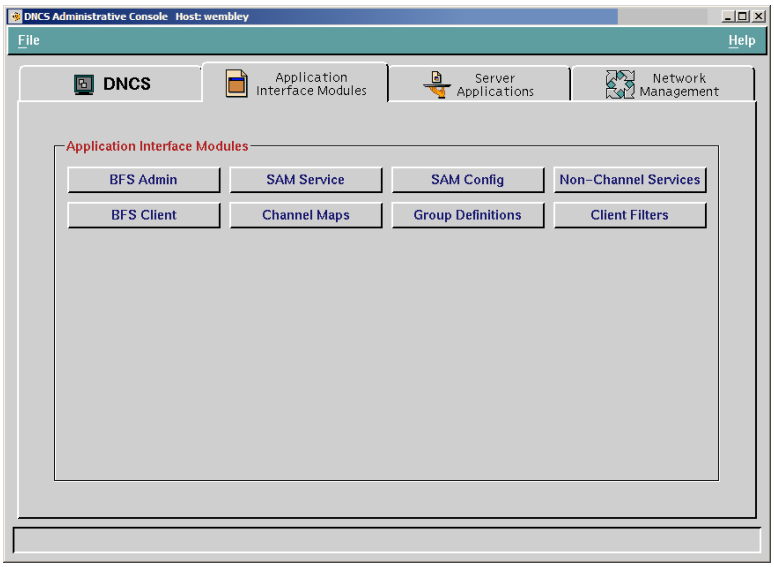
Refer to ***Test the EAS from the DNCS*** (on page 63) for more information.

Verifying and Modifying the MMM Out-of-Band Data Rate

This section contains the steps you need to follow to verify and modify the MMM OOB carousel data rate (if necessary).

Verifying and Modifying the MMM Out-of-Band Data Rate for System Releases Prior to SR 5.0

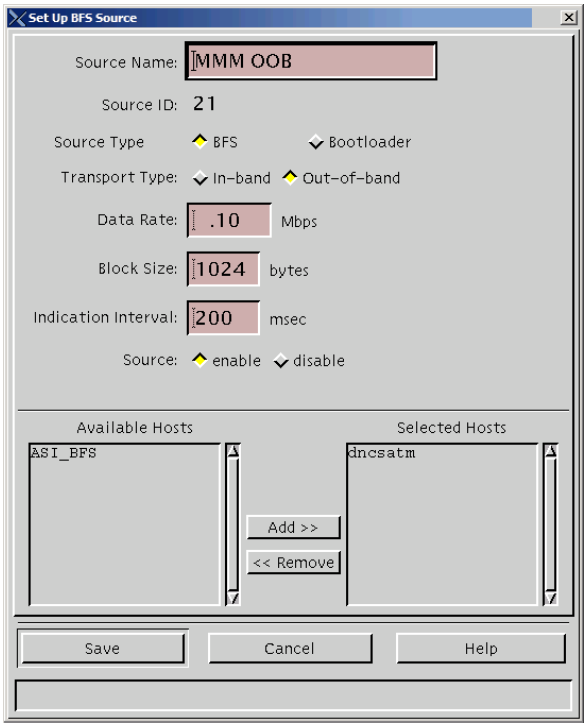
1 From the DNCS Administrative Console, click the **Application Interface Modules** tab.



2 Click **BFS Admin**. The BFS Administration window opens.

3 Click the **Sources** tab. A list of Sources and corresponding Source IDs displays in the BFS Administration window.

4 Double-click **MMM OOB**. The Set Up BFS Source window opens displaying MMM OOB data.



5 Is the Data Rate set to 0.10 Mbps?

- If **yes**, go to step 7.
- If **no**, click in the Data Rate field and change the data rate to 0.10 Mbps.

Important: This setting might not match the existing published recommendations for BFS carousel data rates.

6 Click **Save** to save and apply the new setting. The system restarts the data carousel and applies the new data rate.

7 Send a test EAS message with audio.

8 Was the test successful?

- If **yes**, go to step 14.
- If **no**, increase the data rate in 0.01 Mbps increments and continue sending test EAS messages with audio until the test is successful. Then, go to step 9.

9 Run a Doctor report to evaluate your overall OOB data rate. Your overall (aggregate) OOB Carousel Datarate should be less than 35.00 Mbps (including the MMM OOB, which is not included as part of the aggregate OOB Carousel Datarate).

10 Is your overall (aggregate) OOB Carousel Datarate less than 35.00 Mbps (including the MMM OOB)?

- If **yes**, go to step 14.
- If **no**, go to step 11.

11 Click in the **Data Rate** field and change the data rate back to 0.10 Mbps.

12 Click **Save** to save and apply the new setting. The system restarts the data carousel and applies the new data rate.

13 Contact Cisco Services and report your Doctor report findings. Cisco Services will help you troubleshoot your overall OOB data rate, including the MMM OOB data rate.

14 Close the Set Up BFS Source window.

EAS Suppression on Digital Channels

WARNING:

Use this feature at your own risk. It is imperative that service providers use this feature carefully so as not to suppress EAS messages on services that do not already provide EAS information. We do not take responsibility for the incorrect use of this feature.

The EAS suppression feature allows service providers to suppress EAS information on digital channels that already provide EAS coverage to their viewers.

For example, the digital channel might carry a local over-the-air TV station that is rebroadcast through the service provider's system. The TV station provides EAS coverage through its own process.

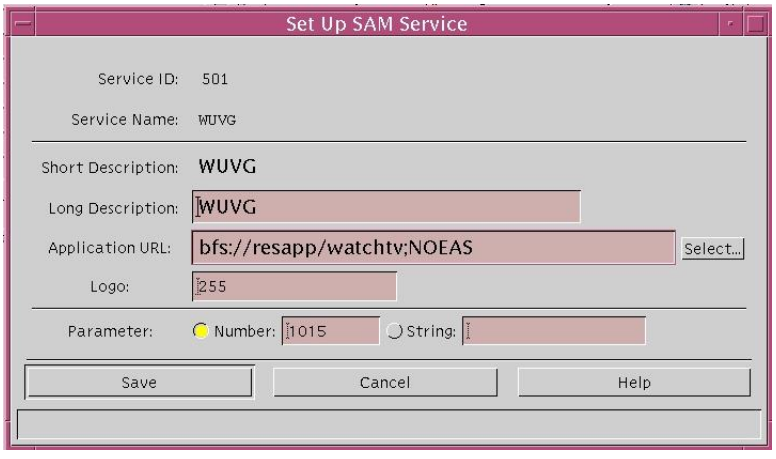
Beginning with SARA 1.60 and SARA 1.90 (DVR), a new URL modifier (**;NOEAS**) was added that allows service providers to suppress EAS on digital channels.

Notes:

- EAS suppression is only available to systems that use SARA, our resident application.
- The URL modifier has no effect unless the set-top is tuned to a digital channel where the EAS message is received.

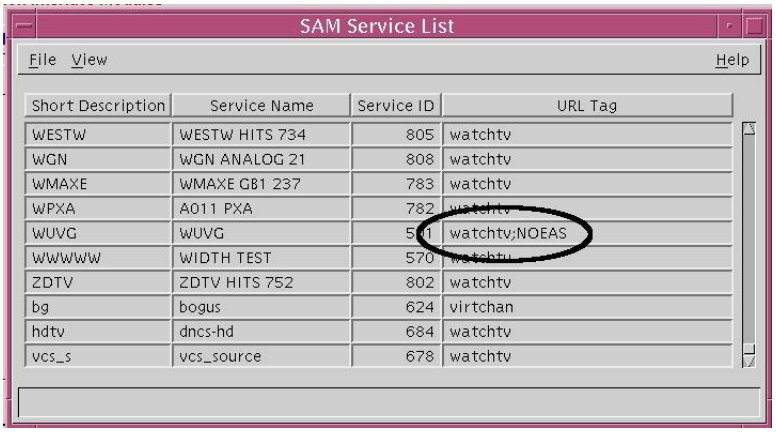
Configuring a Channel to Suppress EAS Messages

1. On the DNCS Administrative Console, click the **Application Interface Modules** tab.
2. Click **SAM Service**. The SAM Service List window opens.
3. Double-click the digital service you want to edit. The Set Up SAM Service window for that service opens.

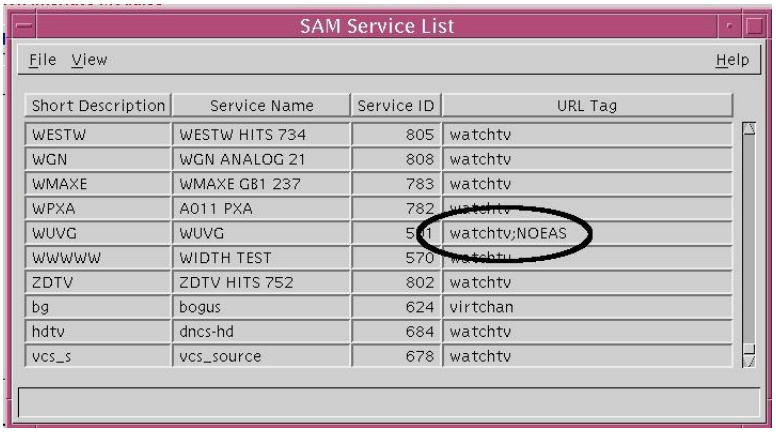


4. Click in the Application URL line to place your cursor at the end of the URL statement.

5 Append the line to include **;NOEAS**.



6 Click **Save**. The Set Up SAM Service window closes. The SAM Service List shows the appended URL on the same line as the service you edited.



7 Click **File > Close** to close the SAM Service List.

Setting Up and Configuring Weekly Tests

This section contains procedures for setting up and configuring required weekly tests for systems using system releases prior to SR 5.0.

Weekly tests consist of transmitting the EAS digital header codes and end of message (EOM) codes once per week. Weekly tests must be conducted by EAS participants on different days and at different times.

No weekly test is necessary during the week that a monthly test is conducted or when there is an EAS activation for a state or local emergency.

The FCC requires system operators to conduct weekly and monthly tests of their EAS. These tests ensure the reliability of the EAS equipment so that subscribers will receive national, state, and local warning messages about emergency situations.

The procedures in this section provide you with instructions for configuring your DNCS to perform regular tests of your EAS.

Note: The DNCS and FCC use the following acronyms to refer to the mandated tests of the EAS:

- **RWT:** Required Weekly Test
- **RMT:** Required Monthly Test

Weekly tests consist of transmitting the EAS digital header codes and end of message (EOM) codes once per week. Weekly tests must be conducted by EAS participants on different days and at different times.

No weekly test is necessary during the week that a monthly test is conducted or when there is an EAS activation for a state or local emergency.

What You Need

To configure the DNCS for the required test, you need the **Default Duration** value from the user interface of your EAS Encoder/Decoder. Refer to the documentation that accompanied your EAS Encoder/Decoder for instructions on locating this value on your EAS Encoder/Decoder.

Note: The Default Duration refers to the duration of the outgoing alert messages.

Setting Up Weekly Tests

This section provides procedures for setting up the RWT on the DNCS.

1 On the DNCS Administrative Console, click the **DNCS** tab.

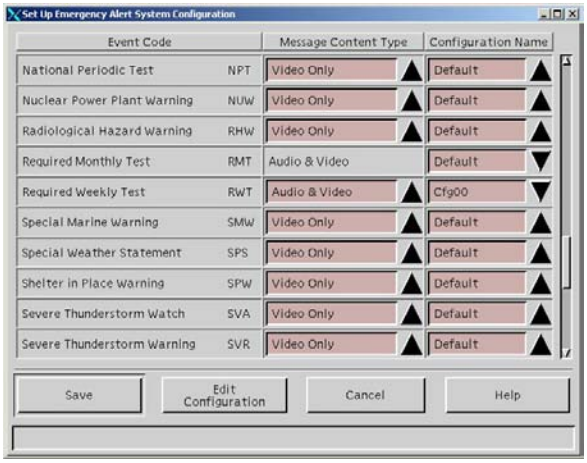
2 Click the **System Provisioning** tab.

3 Click **EAS Config**. The Set Up Emergency Alert System Configuration window opens.

4 Highlight the row that contains the **Required Weekly Test**.

5 Click the **Configuration Name** arrow. A list of possible configuration names appears.

6 Select the **Cfg00** configuration. The configuration appears in the Configuration Name column.



7 Click **Save**. The system saves the new RWT configuration.

8 Click **Cancel**. The Set Up Emergency Alert System Configuration window closes.

Configuring Weekly Tests

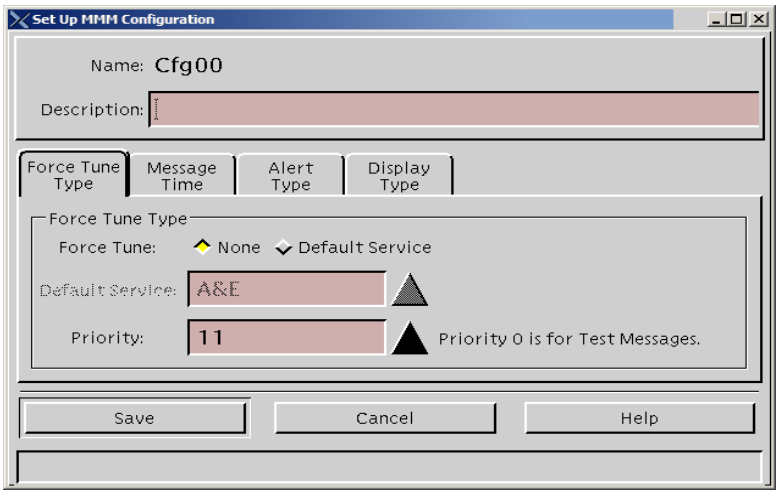
After you set up the RWT, you need to set up the MMM Server. The DNCS uses the MMM Server to conduct tests of the EAS. Follow these instructions to configure the MMM Server on the DNCS for the RWT of the EAS.

1 On the DNCS Administrative Console, click the **DNCS** tab.

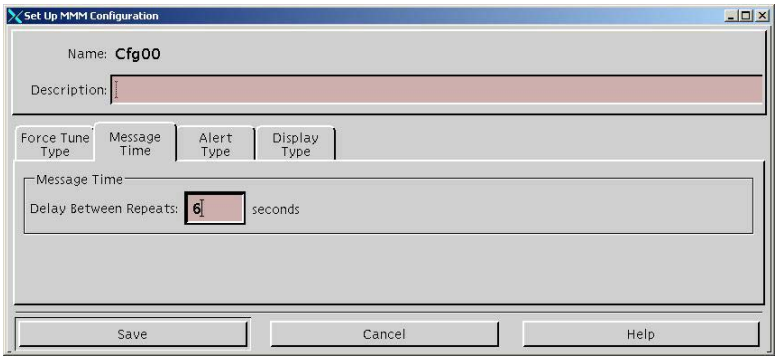
2 Click the **System Provisioning** tab.

3 Click **MMM Config**. The MMM Configuration List window opens.

4 Double-click configuration **Cfg00** to use for the RWT. The Set Up MMM Configuration window opens with the Force Tune Type tab in the forefront.



5 Click the **Message Time** tab.



6 In the Description field, type **RWT configuration**.

7 At your EAS encoder/decoder, locate the **Default Duration** value.

Note: If necessary, refer to the user guide that accompanied your EAS encoder/decoder.

8 In the **Delay Between Repeats** field, type a value (in seconds) that equals [(Default Duration/2) + 1 minute x 60]. Use whole integer division only (drop the decimal point before adding the +1 minute).

Important: We recommend setting the Delay Between Repeats field to **480** seconds for the RWT if the default duration for the RWT is 15 minutes.

Example: If the Default Duration for the RWT of your EAS encoder/decoder is 15 minutes, your Delay Between Repeats value must be [(15/2 = 7) + 1 = 8 x 60 = **480** seconds].

Note: Make sure that the Delay Between Repeats is always *at least 6 seconds*.

9 Click **Save**. The system saves your changes and the Set Up MMM Configuration window closes.

10 In the MMM Configuration List window, select **File > Close**. The MMM Configuration List window closes.

Setting Up and Configuring Monthly Tests

This section contains procedures for setting up and configuring required monthly tests for systems using system releases prior to SR 5.0.

The FCC requires system operators to conduct weekly and monthly tests of their Emergency Alert Systems (EAS). These tests ensure the reliability of the EAS equipment so that subscribers will receive national, state, and local warning messages about emergency situations.

The procedures in this section provide you with instructions for configuring your DNCS to conduct monthly tests of your EAS.

Note: The DNCS and FCC use the following acronyms to refer to the mandated tests of the EAS:

- **RWT:** Required Weekly Test
- **RMT:** Required Monthly Test

Monthly tests consist of the transmitting the following:

- EAS digital header codes
- The two-tone attention signal
- A brief test script and EOM code
- A visual display of header code data

Monthly tests must be retransmitted within 60 minutes of receipt:

- In odd months, monthly tests must be conducted between 8:30AM to local sunset
- In even months, monthly tests must be conducted between local sunset and 8:30AM

No monthly test is necessary during a month when there is an EAS activation that includes a two-tone alert signal and an audio message.

What You Need

To configure the DNCS for the required test, you need the **Default Duration** value from the user interface of your EAS Encoder/Decoder. Refer to the documentation that accompanied your EAS Encoder/Decoder for instructions on locating this value on your EAS Encoder/Decoder.

Note: The Default Duration refers to the duration of the outgoing alert messages.

Setting Up Monthly Tests

This section provides procedures for setting up the RMT on the DNCS.

1 On the DNCS Administrative Console, click the **DNCS** tab.

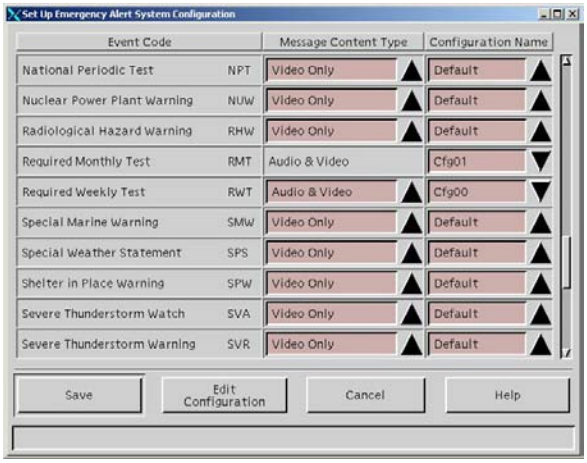
2 Click the **System Provisioning** tab.

3 Click **EAS Config**. The Set Up Emergency Alert System Configuration window opens.

4 Highlight the **Required Monthly Test** row.

5 Click the **Configuration Name** arrow. A list of possible configuration names appears.

6 Select the Cfg01 configuration. The configuration appears in the Configuration Name column.



7 Click **Save**. The system saves the new RMT configuration.

8 Click **Cancel**. The Set Up Emergency Alert System Configuration window closes.

Configuring Monthly Tests

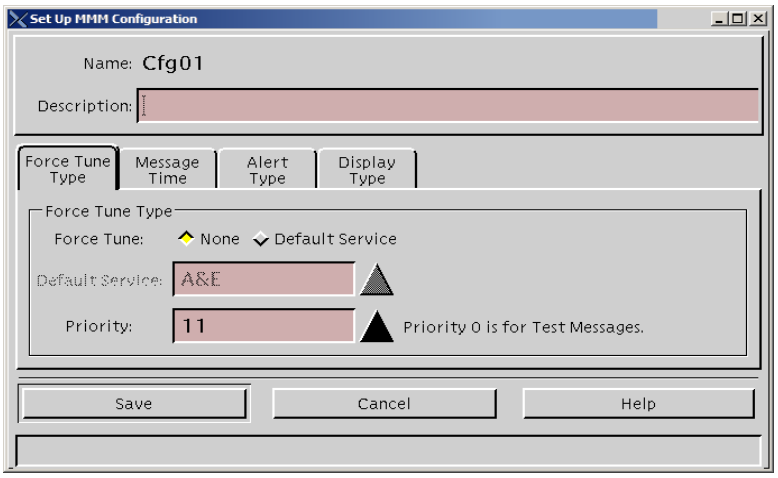
After you set up the RMT, you must set up the MMM Server. The DNCS uses the MMM Server to conduct tests of the EAS. Follow these instructions to configure the MMM Server on the DNCS for the RMT of the EAS.

1 On the DNCS Administrative Console, click the **DNCS** tab.

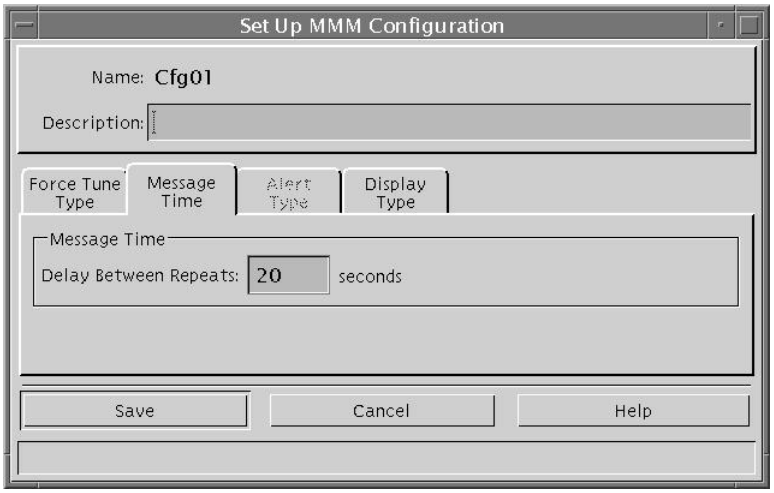
2 Click the **System Provisioning** tab.

3 Click **MMM Config**. The MMM Configuration List window opens.

4 Double-click configuration **Cfg01** to use for the RMT. The Set Up MMM Configuration window opens with the Force Tune Type tab in the forefront.



5 Click the **Message Time** tab.



6 In the Description field, type **RMT configuration**.

7 At your EAS encoder/decoder, locate the **Default Duration** value.

Note: If necessary, refer to the user guide that accompanied your EAS encoder/decoder.

8 In the **Delay Between Repeats** field, type a value (in seconds) that equals [(Default Duration/2) + 1 minute x 60]. Use whole integer division only (drop the decimal point before adding the +1 minute).

Important: We recommend setting the Delay Between Repeats field to **1860** seconds for the RMT if the default duration for the RMT is 60 minutes.

Example: If the Default Duration for the RMT of your EAS encoder/decoder is 60 minutes, your Delay Between Repeats value must be [(60/2 = 30) + 1 = 31 x 60 = **1860** seconds].

Note: Make sure that the Delay Between Repeats is always *at least 6 seconds*.

9 Click **Save**. The system saves your changes and the Set Up MMM Configuration window closes.

10 In the MMM Configuration List window, select **File > Close**. The MMM Configuration List window closes.

Conduct EAS Tests

Test the EAS from the DNCS

This section describes the procedure for using the DNCS EAS Message menu to test the EAS using the EAS Message menu. The Send Emergency Alert System Message screens allow you to create, modify, and send an emergency alert system message. This procedure is valuable in testing your EAS system.

Important: Sending EAS messages outside of the regularly scheduled EAS tests or by using the DNCS EAS Message menu does **not** meet the FCC requirements for conducting the RWT and the RMT. The RWT and RMT tests should be end-to-end tests, and as such should be initiated from the EAS receiver and monitored at the set-top.

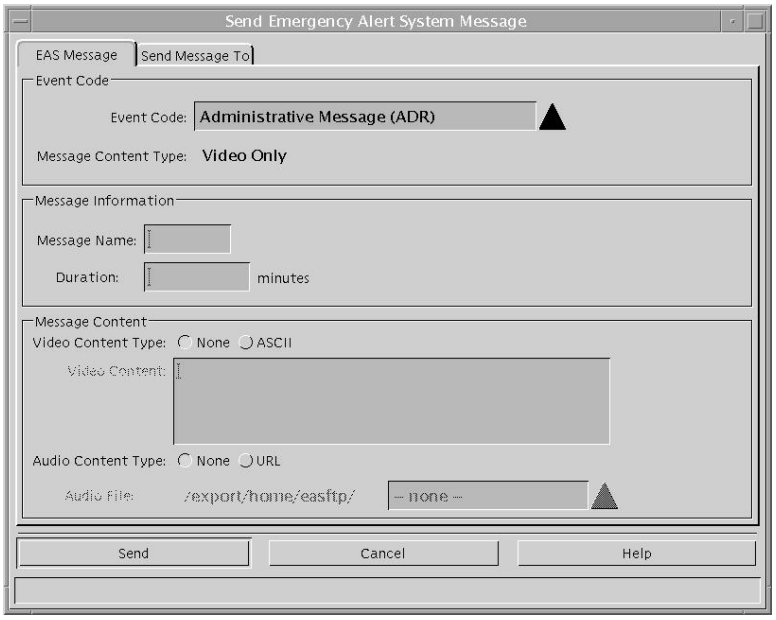
Send EAS Test Messages

Follow the steps in these procedures to send EAS test messages on the DNCS.

Note: Actual Emergency Alert Messages originate from the FCC. Use the DNCS EAS Message menu for local testing purposes only.

Sending EAS Test Messages

1. On the DNCS Administrative Console, click the **DNCS** tab.
2. Click the **System Provisioning** tab.
3. Click **EAS Message**. The Send Emergency Alert System Message window opens with the **EAS Message** tab in the forefront.



4 In the **Event Code** area, click the Event Code arrow and select an event from the list.

Note: We recommend that you set the Event Code to **Administrative Message (ADR)**.

5 In the **Message Information** area, type a unique Message Name and Duration in the appropriate fields.

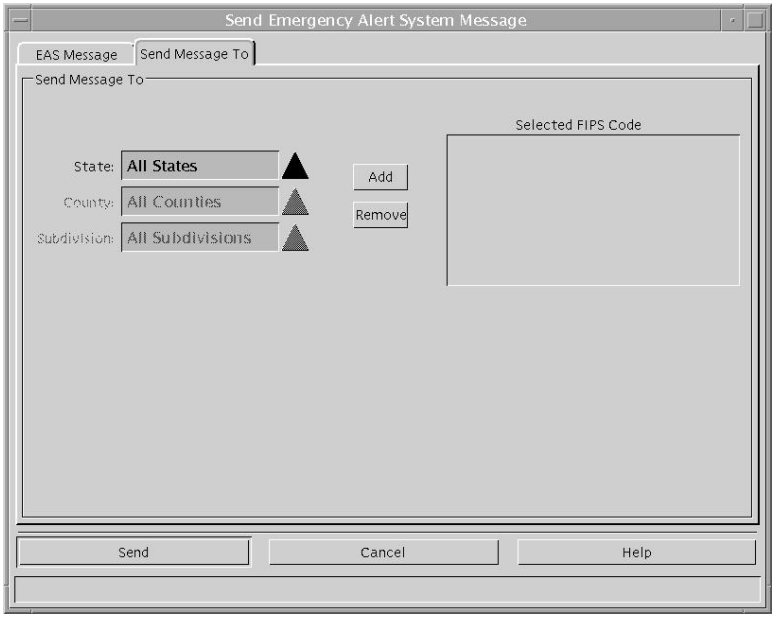
Note: If you need to send additional messages, you must change the name of the message or the message will not be processed by the DNCS or by the set-tops.

6 In the **Message Content** area, choose one of the following options:

- If you have only **video** (text) content, select **ASCII** and type the text in the **Video Content**.
- If you have only **audio** (sound) content, select **URL** and click the **Audio File** arrow to select a file from the list.

  Important: Be sure to select a WAV file from the list (a file with a *.wav* extension).
- If you have **audio and video** (sound and text) content, follow these steps:
  - **a** Choose **ASCII** and type the text in the **Video Content** text box.
  - **b** Choose **URL** and click the **Audio File** arrow to select a file from the list.

7 Click the **Send Message To** tab. The Send Emergency Alert System Message window updates with the **Send Message To** tab to the forefront.



8 Did you purchase the EAS FIPS filtering product that provides FIPS filtering on your system?

- If **yes**, go to step 10.
- If **no**, go to step 9.

9 Your only option is to select **All States**. Select **All States**, then go to step 13.

10 From the **State** list, select the state to which you are sending the EAS message.

11 From the **County** list, select the county in the selected state to which you are sending the EAS message.

12 From the **Subdivision** list, select the subdivision of the selected county to which you are sending the EAS message.

13 Click **Add.**

14 Is the content of the **Selected FIPS Code** window correct?

- If **yes**, click **Send**.
- If **no**, correct the information and then click **Send**.

  Warning: The emergency information broadcasts to all DHCTs in the selected destinations.

  Notes:

  - To remove any destination from the **Selected FIPS Code** window, highlight this destination and click **Remove**.
  - Depending on the MMM configuration parameters, the emergency message repeats and lasts for the duration you specified in the Message Information area.

15 Go to *Terminate EAS Messages* (on page 67).

Terminate EAS Messages

Occasionally, you may want to suspend or terminate an EAM before it reaches its configured duration. When you terminate an EAM, you stop transmitting all EAMs that are currently active in your system. If you terminate an EAM on an OOB bridge, you stop transmitting all EAMs that are currently active on that OOB bridge.

This section provides instructions for terminating an EAM using the user interface of the DNCS.

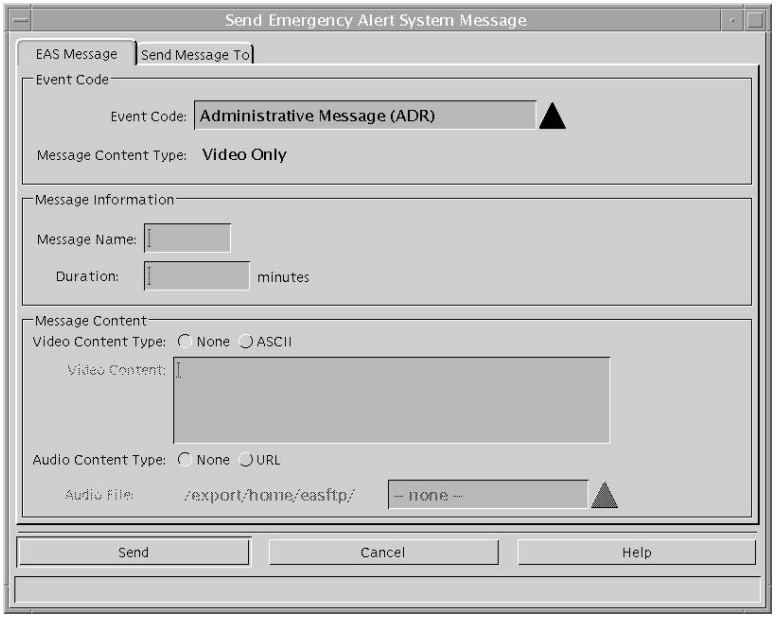
Terminating EAS Messages

Follow this procedure to terminate an EAS message from the DNCS.

1 From the DNCS Administrative Console, click the **DNCS** tab.

2 Click the **System Provisioning** tab.

3 Click **EAS Message**. The Send Emergency Alert System Message window opens with the EAS Message tab to the forefront.



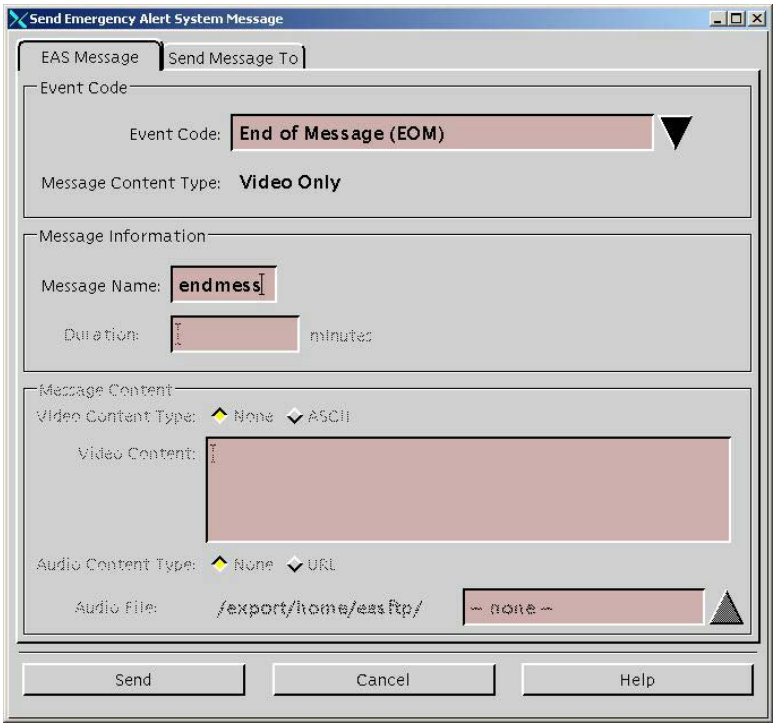
4 In the Event Code area of the window, click the Event Code arrow and choose one of the following options:

- If you are using PowerKEY® CableCARD™ modules on your system, go to step 5.

  Note: The value in the Alert Remaining Time field defines the duration of EAS messages on OpenCable™ hosts (with and without CableCARD modules).

- If you are *not* using CableCARD modules on your system, go to step 16.

5 Choose **End of Message (EOM)**. **End of Message (EOM)** appears in the Event Code field.



6 Type a unique message name in the **Message Name** field.

7 Click the **Send Message To** tab. The Send Emergency Alert System Message window updates with the **Send Message To** tab to the forefront.

8 Did you purchase the optional FIPS filtering software product for your system?

- If **no**, go to step 9.
- If **yes**, go to step 10.

9 Your only option is to select **All States**. Select **All States,** then go to step 14.

10 Click the **State** arrow and select the state the EOM message is sent to.

Important: You can stop all active EAMs by sending an EOM to **All States**.

Note: There will be no interference with services if a DHCT that does not have any active EAMs receives an EOM.

11 Click the **County** arrow and select the county in the selected State the EOM message is sent to.

12 Click the **Subdivision** arrow and select the subdivision of the selected county the EOM message is sent to.

13 Click **Add.**

14 Is the content of the **Selected FIPS Code** window correct?

- If **yes**, click **Send**. Go to step 26.
- If **no**, correct the information and click **Send**. Go to step 26.

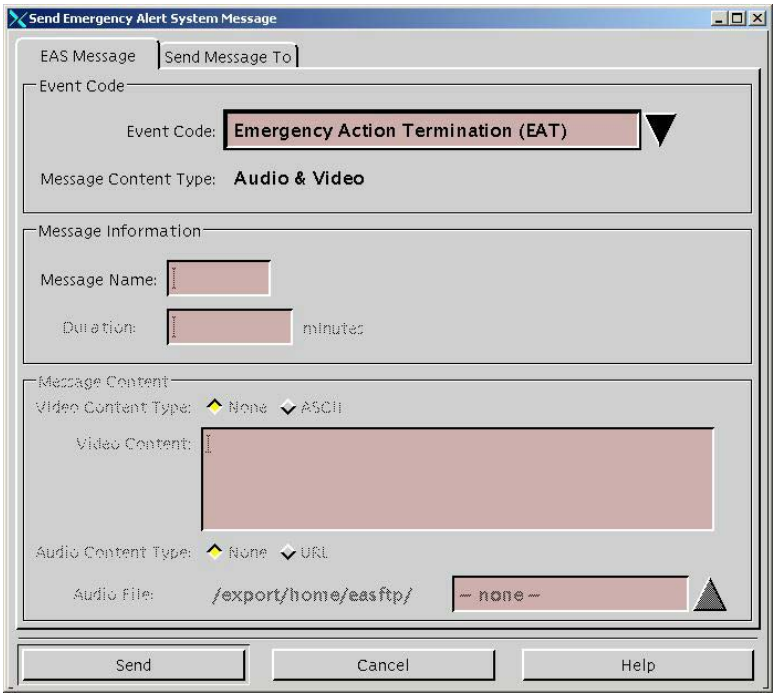
Important: If your system is currently broadcasting multiple EAMs, be sure you terminate the correct message.

Note: To remove any destination from the **Selected FIPS Code** window, highlight this destination and click **Remove**.

Result: The DNCS transmits instructions to CableCARD modules to stop displaying the EAM.

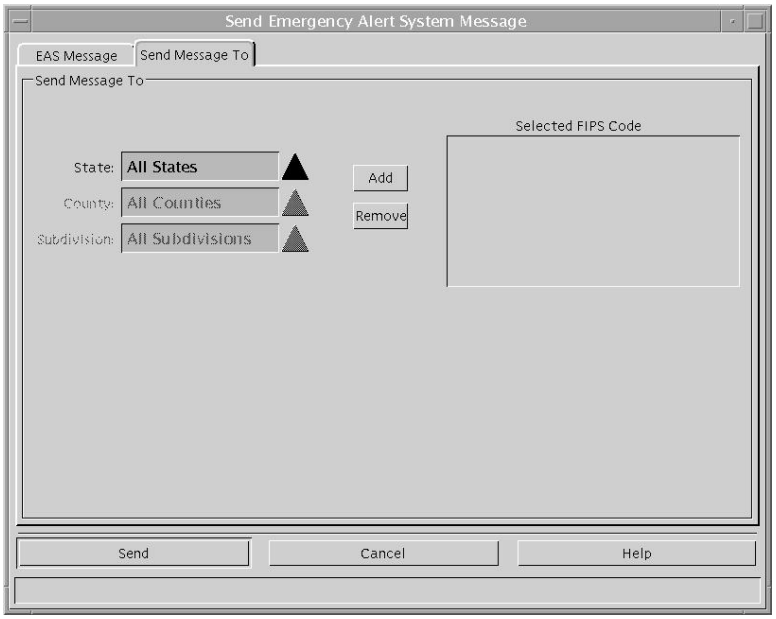
15 Click **EAS Message**. The Send Emergency Alert System Message window opens with the EAS Message tab to the forefront.

16 Choose **Emergency Action Termination (EAT)**. Emergency Action Termination appears in the Event Code field.



17 Type a unique message name in the **Message Name** field.

18 Click the **Send Message To** tab. The Send Emergency Alert System Message window updates with the **Send Message To** tab to the forefront.



19 Did you purchase the optional FIPS filtering software product for your system?

- If **no**, go to step 20.
- If **yes**, go to step 21.

20 Your only option is to select **All States**. Select **All States,** then go to step 25.

21 Click the **State** arrow and select the state the EOM message is sent to.

Important: You can stop all active EAMs by sending an EOM to **All States**.

Note: There will be no interference with services if a DHCT that does not have any active EAMs receives an EOM.

22 Click the **County** arrow and select the county in the selected State the EOM message is sent to.

23 Click the **Subdivision** arrow and select the subdivision of the selected county the EOM message is sent to.

24 Click **Add.**

25 Is the content of the **Selected FIPS Code** window correct?

- If **yes**, click **Send**.
- If **no**, correct the information and click **Send**.

Important: If your system is currently broadcasting multiple EAMs, be sure you terminate the correct message.

Note: To remove any destination from the **Selected FIPS Code** window, highlight this destination and click **Remove**.

Result: The DNCS transmits instructions to DHCTs to stop displaying the EAM.

26 Click **Cancel** on the Send Emergency Alert System Message window. The window closes.

Improve EAS Performance

You must identify the MMM out-of-band (MMM OOB) carousel data rate that works best for your system. This section provides a procedure for verifying and modifying the MMM OOB carousel data rate on the DNCS (if necessary) to improve EAS performance.

Important: The total overall out-of-band carousel data rate on your system must *not* exceed 0.35 Mbps.

Note: Refer to the *Recommendations for Data Carousel Rate Management Technical Bulletin* (part number 716377) for additional information on configuring the DNCS carousel data rates.

Verifying MMM Server Performance

Follow these steps to verify the configuration and performance of the MMM Server.

1. Send a test EAS message with audio to a selected destination.

   Note: See ***Send EAS Test Messages*** (on page 64) for information on sending test messages.

2. Open an xterm window on the DNCS.
3. Type `cd /dvs/dncs/tmp` and press **Enter.** The /dvs/dncs/tmp directory becomes the working directory.
4. To locate the most recent MMMServer files, type `ls -l MMMServer.*` and press **Enter.**

   Note: The "l" in **ls** is a lowercase letter L.

   Result: A list of **MMMServer** files appear.

5. To view the contents of one of these files, type `view MMMServer.[xxx].`

   Note: In this command, **[xxx]** represents the extension of the file you want to view.

6. Type `cd /dvs/dvsFiles/MMM` and press **Enter**. The /dvs/dvsFiles/MMM directory becomes the working directory.
7. Type `ls -l *.aiff` and press **Enter**.

   Note: The "l" in **-l** is a lowercase letter L.

   Result: A list of AIFF files in the /dvs/dvsFiles/MMM directory appears.

   Important: Complete this procedure immediately after sending an EAS message with audio. The AIFF file will only exist in the directory when you send an EAS message with audio, and this message is still active. The system removes this file when the EAS message terminates.

8 Are there AIFF files in the /dvs/dvsFiles/MMM directory with a current time and date stamp?

- If **yes**, you have completed this procedure.
- If **no**, check the log for error messages. Contact Cisco Services for further assistance if necessary.

Note: For troubleshooting information on the MMM Server, go to ***Troubleshoot the MMM Server*** (on page 135).

Conduct Scheduled Weekly and Monthly Tests

This section provides a table of the requirements, methods, and procedures for conducting the RWT and the RMT on each EAS.

Important: You **must** configure your system so that the RMT *always* functions in automatic mode. The FCC conducts the RMTs.

Note: You can configure your system so that the RWT always functions in automatic mode or you can set up the RWT to run in manual mode. See ***Test the EAS from the DNCS*** (on page 63) for information on sending and terminating ad hoc EAS messages.

Conducting Weekly and Monthly Tests

Use the following table to find your EAS equipment manufacturer, and follow the instructions provided for your system. Refer to the documentation for your specific EAC for additional information on conducting the RWT and the RMT.

Important: If your system does not function as expected, refer to ***Troubleshooting*** (on page 121) for troubleshooting procedures for the EAS.

System	RWT	RMT
Megahertz	**Automatic Mode:** Automated process **Manual Mode:** ■ Press the **Week** soft key. ■ Enter your **password**. ■ Press the **Proceed** soft key.	**Automatic Mode:** Automated process **Manual Mode:** The FCC requires that the RMT function in automatic mode.
Trilithic	**Automatic Mode:** Automated process **Manual Mode:** Not available	**Automatic Mode:** Automated process **Manual Mode:** The FCC requires that the RMT function in automatic mode.

System	RWT	RMT
Monroe System with Digital Envoy	**Automatic Mode:** Automated process **Manual Mode:** ■ Press the **MODE** soft key. Various MIP-021 options appear on the LCD screen. ■ Press the **NO** soft key until the message **SEND WEEKLY TEST** appears. ■ Press the **YES** soft key.	**Automatic Mode:** Automated process **Manual Mode:** The FCC requires that the RMT function in automatic mode.
Frontline	**Automatic Mode:** Automated process **Manual Mode:** Press the key labeled **Weekly Test** on the EAS Encoder. The **Send Hdr** and the **On Air Relay** indicators illuminate to show that the test is in process.	**Automatic Mode:** Automated process **Manual Mode:** The FCC requires that the RMT function in automatic mode.

7

Troubleshooting

Introduction

This chapter provides troubleshooting information that will help you to verify the proper configuration and performance of the EAS, so that you can achieve optimum system performance in the receiving and sending of EAS messages.

In This Chapter

Troubleshoot Digital EAS Equipment

If you have problems with your digital EAS equipment, please refer to the appropriate documentation provided with your equipment, or contact the manufacturer.

This document refers to the manufacturers and distributors of digital EAS equipment used by our customers. The Emergency Alert Controller (EAC) resides at your site and serves as an interface between your EAS receiver and the DNCS. The following companies manufacture EAC solutions that are known to work with the DNCS:

- Sage Alerting Systems, Inc. (**MegaHertz**)
- Trilithic, Inc. (**Trilithic**)
- Frontline Communications (**Frontline**)
- Monroe Electronics (**Digital Envoy**)

  Note: The Monroe Electronics EAS uses an encoder/decoder manufactured by the HollyAnne Corporation.

Troubleshoot the Emergency Alert Controller

This section provides information to help you troubleshoot your Emergency Alert Controller (EAC) configuration.

Important: Some configuration and troubleshooting information is provided for third-party equipment (such as MegaHertz, Trilithic, Monroe, and Frontline). However, you should always refer to the documentation that comes with that equipment when you configure or troubleshoot that equipment. The scope of this information is to make sure that equipment can communicate with our equipment, not to be a comprehensive configuration and troubleshooting guide for third-party equipment.

Troubleshoot the EAC PC

Important: When troubleshooting your EAC, if any of the settings are incorrect, go to the section pertaining to your system in ***Verify Your EAS Equipment Configuration*** (on page 7), and follow the verification procedures listed there. If you need additional assistance, call Cisco Services.

Use the following information to troubleshoot your EAC configuration.

Troubleshooting the MegaHertz System

- Verify that all configuration settings are correct. See ***Verify the MegaHertz System*** (on page 9) and your EAC system documentation for more information.
- Analyze the log file located in **C:\MCMSA\log.txt**.

For more troubleshooting information, refer to the documentation that came with your EAC system.

Troubleshooting the Trilithic System

- Verify that all configuration settings are correct. See ***Verify the Trilithic System*** (on page 11) and your EAC system documentation for more information.
- Verify that all events are enabled.
- You can test FTP, socket, and digital messages using the Messages–Destinations menu.

For more troubleshooting information, refer to the documentation that came with your EAC system.

Troubleshooting the Monroe System with Digital Envoy

- Verify that all configuration settings are correct. See ***Verify the Monroe System with Digital Envoy*** (on page 13) and your EAC system documentation for more information.

  Note: The Monroe Electronics EAS uses an encoder/decoder manufactured by HollyAnne Corporation.

For more troubleshooting information, refer to the documentation that came with your EAC system.

Troubleshooting the Frontline System

- Verify that all configuration settings are correct. See ***Verify the Frontline System*** (on page 15) and refer to your EAC system documentation for more information.

Troubleshooting EAC Performance

Important: When troubleshooting your EAC, if any of the settings are incorrect, go to the section pertaining to your system in ***Verify Your EAS Equipment Configuration*** (on page 7), and follow the verification procedures listed there. If you need additional assistance, call Cisco Services.

Use the following information to troubleshoot your EAC performance. For more troubleshooting information, refer to the documentation that came with your EAC system.

Troubleshooting MegaHertz System Performance

Follow these steps to troubleshoot your MegaHertz EAC performance.

1. From a DOS prompt on the MegaHertz EAC, ping the Ethernet address of the DNCS to verify communication from the EAC to the DNCS.
2. Check the **C:\MCMSA\log.txt** file for TXT and WAV files.
3. If you receive the error message **VideoData System License Expired**, you must close all programs and properly shut down the EAC; then, power off and power on the EAC.

For more troubleshooting information, refer to the documentation that came with your EAC system.

Troubleshooting Trilithic System Performance

The EAC uses FTP to transfer WAV and TXT files to the DNCS. You can view these log files from the EASyPLUS screen.

Note: You can only check the log file if your system has previously sent EAMs.

Follow these steps to view the log files.

Note: This procedure was performed using Trilithic EASyPLUS software version 6.07.

1. On the EAC PC, in the Trilithic screen, click the **Logs** tab.
2. Select **Download EASy+ Log**. Verify that the log file has a current time and date stamp, and that the information in the log file accurately reflects recent EAS activity.
3. **Note:** For support for your Trilithic EAC, contact Trilithic, Inc.

For more troubleshooting information, refer to the documentation that came with your EAC system.

Troubleshooting Monroe System with Digital Envoy Performance

Follow these steps to troubleshoot EAC performance in the Monroe system when using the Digital Envoy EAC.

1. From a DOS prompt on the Digital Envoy EAC, ping the Ethernet address of the DNCS to verify communication from the EAC to the DNCS.
2. Monitor the dynamic logging of message processing and transmission using a DOS window by clicking **JAVA** on the lower toolbar.
3. Check the content of this window for the type of message transferred, the date and time stamp, and the response time of the DNCS.
4. Follow these steps to view the **log.log** file to verify that the messages recorded there have a current time and date stamp.
   a. Click **Stop** on the Digital Envoy GUI**.**
   b. Minimize the Digital Envoy GUI.
   c. Minimize the DOS window.
   d. Click the **Windows Explorer** icon.
   e. Find and select the **C:\java\altronix** directory.
   f. Find and double-click the **log.log** file located in the C:\java\altronix directory. The log.log file opens in Windows WordPad.
   g. View the list of messages that are recorded in the log.log file and verify that they have a current time and date stamp.

      Important: If the messages do not have a current time and date stamp, call Cisco Services for further assistance.
5. Follow these steps to return to the Digital Envoy GUI.
   a. Close Windows WordPad**.**
   b. Close Windows Explorer**.**
   c. Click **Envoy**, and then click **Java** on the Windows taskbar. The Digital Envoy GUI maximizes.
   d. Click **Start** on the Digital Envoy GUI.

For more troubleshooting information, refer to the documentation that came with your EAC system.

Troubleshooting Frontline System Performance

Follow these steps to troubleshoot your Frontline EAC performance.

1. From a DOS prompt on the Frontline EAC, ping the Ethernet address of the DNCS to verify communication from the EAC to the DNCS.
2. From the Log Status Viewing GUI on the EAC, verify that the time and date stamp of the log are a current time and date. **The Application has been started** message appears on the same line as the current time and date.
3. FTP to the DNCS and login to verify EAC communications with the DNCS.

For more troubleshooting information, refer to the documentation that came with your EAC system.

Troubleshoot the DNCS Network

Troubleshoot the DNCS Ethernet Hub

The DNCS Ethernet hub is a network hub that enables communication between the EAC and the DNCS. A Network Analyzer is a diagnostic tool that you can use to troubleshoot communication between the EAC and the DNCS.

Troubleshooting the DNCS Ethernet Hub

Connect the Network Analyzer to the same Ethernet hub as the EAC and the DNCS to capture messages from the IP address of the EAC to the Ethernet IP address of the DNCS.

Use this data to analyze and troubleshoot the communication between the EAC and the DNCS, based on the parameters listed in your EAC documentation.

Troubleshoot the BFS

During normal operations, the BFS displays green status lights on the DNCS Control window. If you have red or yellow status lights or you see messages that indicate a problem, contact Cisco Services.

Troubleshoot Pass-Through

Pass-Through is the element group that contains the single element item PassThru.

PassThru is a single element item that passes messages through the DNCS to the set-tops.

During normal operations, PassThru displays green status lights on the DNCS Control window. If you have red or yellow status lights or you see messages that indicate a problem, contact Cisco Services.

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Troubleshoot the QPSK Hub

The QPSK hub is a point in the network where you can capture and analyze messages from the PassThru process to the set-tops. The Network Analyzer is a diagnostic tool that you can use to troubleshoot communication between the DNCS and the set-tops.

Troubleshooting QPSK

Connect the Network Analyzer at this point in the network and capture messages from the PassThru process to the subnet masks of the set-tops receiving the EAS message.

Important: The PassThru process will report "11 05 00 02" at offset 0 x 2a (42) of the packet. If other values are reported, contact Cisco Services for further assistance.

Refer to the documentation for your version of QPSK for troubleshooting information.

Troubleshoot DNCS Configuration and Performance

This section provides procedures for troubleshooting DNCS configuration and performance.

Troubleshooting the DNCS MMM/EAS, Resident App Servers

Follow these steps to verify the DNCS MMM/EAS, Resident App Servers.

1. Open an xterm window on the DNCS.
2. Type **dncsControl** and press **Enter.** The Dncs Control window opens.
3. Type **2** (for **Startup/Shutdown Single Element Group**), and press **Enter**. The Dncs Control Startup/Shutdown Element Group window opens listing DNCS element groups.

   Note: You might need to expand the window to view the entire list of DNCS elements.
4. Find **DNCS MMM/EAS, Resident App Servers** on the list, type the corresponding number, and press **Enter**. The system prompts you to enter a target status for the element group.
5. Type the letter **e** (for **Display Element Entries**), and press **Enter**. The Element Group DNCS MMM/EAS, Resident App Servers list appears, and the ResAppServer, MMMServer, and EARS processes display a status of running.

   Note: If the ResAppServer, MMMServer, and EARS processes do *not* display a status of running, contact Cisco Services.
6. To return to the xterm window, type **x** and press **Enter.**
7. Type **x** and press **Enter**, again.
8. Type **x** and press **Enter**, a third time. The Dncs Control window closes and the xterm window reopens.

Troubleshooting the EARServer

Follow these steps to troubleshoot the EARServer.

1. Open an xterm window on the DNCS.
2. Type **cd /dvs/dncs/tmp** and press **Enter**. The /dvs/dncs/tmp directory becomes the working directory.
3. To verify that **EARS** files exist in the directory, type **ls –l EARS.*** and press **Enter**.

   Note: The "l" in **ls** is a lowercase letter L.

   Result: A list of **EARS** files appears. Check the time and date stamp for the most current time and date.
4. Type **view EARS.[xxx]** and press **Enter** to analyze an individual **EARS** file. Look for any current EAC messages or error messages**.**

   Note: In this command, **[xxx]** represents the extension of the file you want to view.

Troubleshooting Error Messages

The following table provides procedures for troubleshooting EAS error messages.

Error Message	Check and Correct
The following message appears at the bottom of the Send EAS Message screen on the DNCS: **MMMServer failure**	**1** Open an xterm window on the DNCS. **2** Type **cd /dvs/dncs/tmp** and press **Enter**. The /dvs/dncs/tmp directory becomes the working directory. **3** Save the latest **EARS** and **MMMServer** files, or copy these files to another directory, and then stop and restart the MMM Server. **Important:** If you choose to rename the files, do not use **.000** in the file name extension. **Note:** For more information, go to ***Stop and Restart the MMM Server*** (on page 136).
The following message appears at the bottom of the Send EAS Message screen on the DNCS: **Send Message failed. Error occurred in accessing the database; Server will restart in a few minutes.**	Call Cisco Services for assistance.

Troubleshooting EAS with CableCARDs

When setting up the CableCARD Module on the DNCS, the following events *can* occur:

- **Priority value defaults to zero**—Because a zero priority value is an EAS test setting, some CableCARD hosts may not support the value, resulting in the inability to display EAS messages.
- **EAS Alert Remaining Time for unique EAS event codes automatically defaults to zero seconds**—If this occurs, EAS messages are displayed on CableCARD-compliant hosts, but the messages do not stop unless an End of Message (EOM) message is sent.

To check these values and modify them, if necessary, refer to ***Configure EAS to Properly Function with the CableCARD Module*** (on page 46).

Troubleshooting EAS after SR Upgrades

After performing an SR (System Release) upgrade, verify that your EAS equipment is still properly configured in the DNCS. Complete all the procedures in ***Test the EAS from the DNCS*** (on page 63).

After completing the procedures, verify that you can generate an EAS message for the EAC. Refer to ***Verify Your EAS Equipment Configuration*** (on page 7) and the manufacturer's documentation for more information.

Troubleshooting the Orbix.hosts File Configuration

Follow these steps to verify that the **NS:dncsatm:** line exists in the Orbix.hosts file.

1. Open an xterm window on the DNCS.
2. Type **cd /dvs/tools/iona/OrbixMT_2.3c/cfg** and press **Enter**. The /dvs/tools/iona/OrbixMT_2.3c/cfg directory becomes the working directory.
3. Type **more Orbix.hosts** and press **Enter**.
4. Does the line **NS:dncsatm:** appear?
   - If **yes**, you have completed this procedure.
   - If **no**, follow these steps if the **NS:dncsatm:** line is *not* listed in the Orbix.hosts file.
     a. In a Unix text editor, open the **Orbix.hosts** file.
     b. Scroll to the bottom of the file and type the following line:
     NS:dncsatm:
     c. **Save** the file.
     d. Repeat steps 1 and 2 to verify that **NS:dncsatm:** line now exists in the Orbix.hosts file.

     Important: If **NS:dncsatm:** still does not appear, contact Cisco Services.

Troubleshooting the ORBIX Daemon

The ORBIX Daemon is a process on the DNCS that monitors requests between programs and between servers. If the DNCS stops receiving EAS messages from the EAC, the ORBIX Daemon might not be working correctly. To remedy this situation, you can stop and restart the daemon process. This section provides instructions for stopping and restarting ORBIX Daemon process.

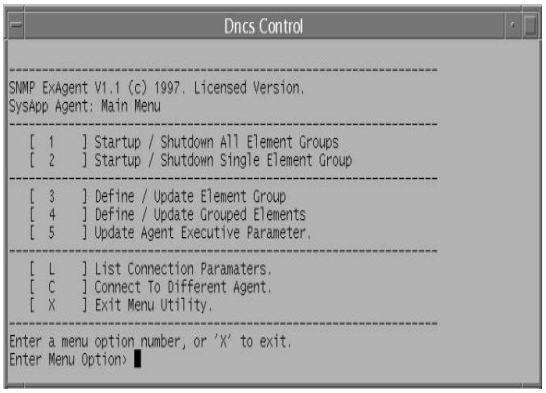
Notes:

- Starting in SR 2.0, the Orbix daemon functionality of the EAS moved from the Application Server to the DNCS.
- The ORBIX Daemon is **not** used on the DNCS in system releases beginning with SR 2.7, 3.7, or 4.2.

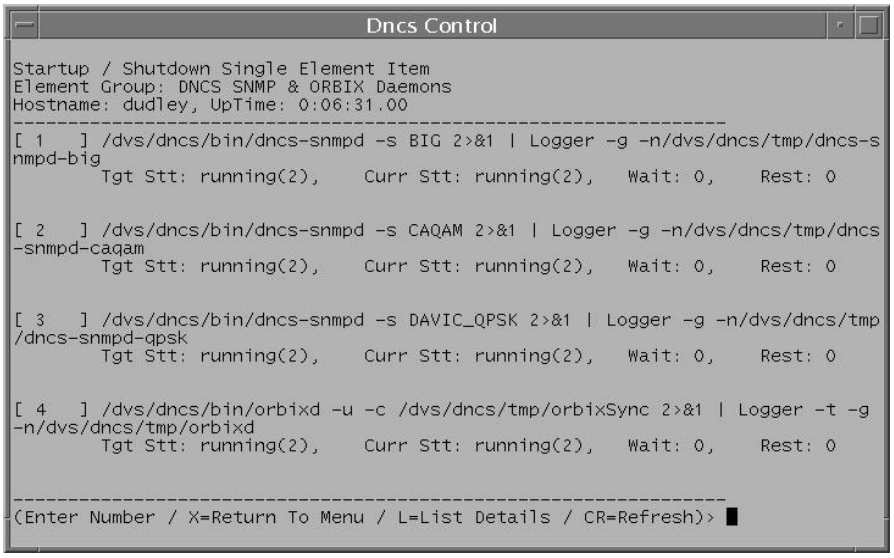
Stopping the ORBIX Daemon Process

Follow these instructions to stop the ORBIX Daemon process.

1. Open an xterm window on the DNCS as **dncs** user.
2. Type **dncsControl** and press **Enter**. The Dncs Control window opens.



3. Type **2** (Startup/Shutdown Single Element Group) and press **Enter**. The system displays a list of all servers and processes running on the DNCS.
4. Type the number associated with the **ORBIX Daemon** process, and press **Enter**. The system prompts you to enter a target status for the element group, or to type the letter **e** to display the individual element entries.
5. Type the letter **e** to Display Element Entries, and press **Enter**. The Element Group: DNCS SNMP & ORBIX Daemons list appears.



6. Find the selection for orbixd in the list, type the corresponding number, and press **Enter**. The system prompts you to enter a target status for the element.
7. Type **1** (for stopped) and press **Enter**. The system displays a confirmation message.

8 Type **y** (for yes) and press **Enter**. The Dncs Control window refreshes.

Note: The Dncs Control window refreshes periodically, or you can press **Enter** at any time to force a refresh.

9 Wait until **Curr Stt** (for current state) indicates **stopped**.

10 Continue with **Restarting the ORBIX Daemon Process**, next in this document.

Restarting the ORBIX Daemon Process

Follow these instructions to restart the ORBIX Daemon process.

Note: If you have followed the instructions in this chapter in order, the Startup/Shutdown Single Element Item window should still be open.

1 Find the selection for orbixd in the Startup/Shutdown Single Element Item window list, type the corresponding number, and press **Enter**. The system prompts you to enter a target status for the element.

2 Type the letter **e** to Display Element Entries, and press **Enter**. The Element Group: DNCS SNMP & ORBIX Daemons list appears.

3 Find the selection for orbixd in the list, type the corresponding number, and press **Enter**. The system prompts you to enter a target status for the element.

4 Type **2** (for running) and press **Enter**. The system displays a confirmation message.

5 Type **y** (for yes) and press **Enter**. The Dncs Control window refreshes.

Note: The Dncs Control window refreshes periodically, or you can press **Enter** to force a refresh.

6 Wait until **Curr Stt** (for current state) indicates **running**.

7 Type **x** and press **Enter**. The main menu of the Dncs Control window reappears.

8 Type **x** and press **Enter** to close the Dncs Control window.

9 Type **x** and press **Enter** again to return to the xterm window. The Dncs Control window closes and the xterm window reappears.

10 You must now stop and restart the MMM Server. Go to ***Stop and Restart the MMM Server*** (on page 136) for detailed instructions.

Troubleshoot the MMM Server

The MMM Server relays the TXT file to the PassThru process and converts the WAV file to AIFF format. It then places the AIFF file on the bfsServer. The system logs the MMM Server activity in MMMServer.[*xxx*] files, which are located in the /dvs/dncs/tmp directory.

Increase Debugging on the MMM Server

You can troubleshoot the MMM Server by increasing the debugging process.

CAUTION:

Do not let this increased debugging process run for more than a few hours. This process uses a large amount of disk space, so use this procedure only during troubleshooting.

Follow these steps to increase the debugging process on the MMM Server.

1. Open an xterm window on the DNCS.
2. Type **cd /export/home/dncs** and press **Enter**. The /export/home/dncs directory becomes the working directory.
3. Type **vi .profile** and press **Enter**. The system opens the .profile file in the vi editor.
4. Find the line containing **export EMCDEBUG=** in the file**.**

   Example: export EMCDEBUG=SBbKKQ0-9
5. Does the line contain an L?

   Example: export EMCDEBUG=SBbKkQ0-9L

   - If **yes**, close the file, you have completed this procedure.
   - If **no**, append an uppercase letter **"L"** to the line and press **Enter**. The line should now read similar to the following:

     export EMCDEBUG=SBbKkQ0-9L
6. **Save** the configuration.
7. Stop and restart the MMM Server group to activate the new debugging settings. For more information, go to ***Stop and Restart the MMM Server*** (on page 136).

Troubleshooting the MMM Server Configuration

Follow these steps to troubleshoot the MMM Server.

Important: Complete this procedure immediately after sending an EAS message with audio. The AIFF file will only exist in the directory when you send an EAS message with audio, and this message is still active. The system removes this file when the EAS message terminates.

1. Open an xterm window on the DNCS.
2. Type **cd /dvs/dncs/tmp** and press **Enter**. The /dvs/dncs/tmp directory becomes the working directory.
3. To verify that **MMMServer** files exist in the directory, type **ls –l MMMServer.*** and press **Enter**.

   Note: The "l" in **ls** is a lowercase letter L.

   Result: A list of **MMMServer** files appears. Check the time and date stamps to verify that they are current.
4. Type **view MMMServer.[xxx]** and press **Enter** to analyze an individual **MMMServer** file. Look for EAC or error messages with the current time and date.

   Note: In this command, **[xxx]** represents the extension of the file you want to view.
5. In the xterm window, type **cd /dvs/dvsFiles/MMM** and press **Enter.** The /dvs/dvsFiles/MMM directory becomes the working directory.
6. To verify that there are AIFF files in this directory, type **ls -l *.aiff** and press **Enter.** A list of AIFF files in the /dvs/dvsFiles/MMM directory appears.

   Note: The "l" in **ls** is a lowercase letter L.
7. Check time and date of the AIFF file to verify that it has a current time and date.

Stop and Restart the MMM Server

If you have changed debugging settings, stopped and restarted ("bounced") the ORBIX daemon, or received an MMMServer failure error message, you need to stop and restart the MMM server.

Stopping the MMM Server

Follow these instructions to stop the MMM Server.

1. On the DNCS Administrative Console Status window, click **Control** in the **DNCS** section. The DNCS Control window displays.
2. Highlight the **MMM Server** process.
3. Click the **Process menu** and select **Stop Process**. A confirmation window appears.
4. Click **Yes**. When the DNCS stops the MMM Server process, it turns the green status indicator to red.
5. Go to **Restarting the MMM Server**, next in this document.

Restarting the MMM Server

Follow these instructions to restart the MMM Server.

Note: If you have followed the instructions in this section in order, the DNCS Control window should still be open.

1. On the DNCS Administrative Console Status window, click **Control** in the **DNCS** section. The DNCS Control window displays.
2. Highlight the **MMM Server** process.
3. Click the **Process menu** and select **Start Process**. A confirmation window appears.
4. Click **Yes**. The DNCS starts the MMM Server process and turns its red status indicator to green.

Stranded Audio Links

Audio files used with the EAS system are defined with an expiration time and date. Sometimes, when the MMM Server process of the DNCS is bounced before an audio file expires, a link to that audio file remains on the DNCS.

This audio link is referred to as being "stranded".

After an upgrade, you need to examine the dncsLog for the presence of stranded audio links, then delete those links if they exist.

Checking for Stranded Audio Links

1. Open an xterm window on the DNCS.
2. Type **cd /var/log** and press **Enter**. The /var/log directory becomes the working directory.
3. Type **grep -i aiff dncsLog** and press **Enter**. The system checks the dncsLog for the presence of aiff.

   Note: The file extension of audio files the MMM Server uses is **.aiff**.
4. Did the grep operation from step 3 return a line similar to the following?

   [Date Time] dncs bfsServer VGSDir::_checkLinkedFiles() Error, can't find file/MMMAud/a1847750.aiff, marking as inaccessible

   - If **yes**, go to **Deleting Stranded Audio Links**, next in this document.
   - If **no**, close the xterm window. You are finished with this procedure.

Deleting Stranded Audio Links

1 From the DNCS Administrative Console, select the **Application Interface Modules** tab.

2 Click **BFS Client**. The Broadcast File Server List window opens.

3 Scroll down the window and double-click the **MMMAud** icon.

Note: The icon looks like a filing cabinet.

Result: The filing cabinet "opens" to display its files.

4 Highlight the file that corresponds to the stranded audio link you identified in ***Checking for Stranded Audio Links*** (on page 137).

5 Click **File > Delete**. A confirmation window displays.

6 Click **Yes**. The system deletes the file.

Notes:

- In some cases, you might have to repeat this procedure until the system finally deletes the file.
- If, after several attempts, the system does not delete the file, delete the entire MMMAud filing cabinet.

7 Close the Broadcast File Server List window.

Server Error when Registering with BFS

Beginning with DNCS SR 2.5/3.5, there can be times when the MMMServer fails to recover if, for some reason, the MMMAud BFS cabinet is removed, but the MMMCfg cabinet remains. When this happens, the DNCS writes an error message similar to the following in the dncsLog file:

...MMMBfs::_registerServer(): BFS Error registering with BFS

The initial symptom of this error shows up when you try to send an EAS message with both audio and video, and the DNCS GUI disappears from the screen.

If you see this behavior, follow the procedure in this section to remedy the error.

Note: This behavior was fixed by CR 52603 in DNCS SR 2.5/3.5 SP1.

Fixing the Server Error when Registering with BFS

To fix the server error when registering with BFS, you need to delete the MMMCfg cabinet from the BFS client. The MMMServer will re-register both the MMMAud and MMMCfg files after you refresh the BFS client.

1. From the DNCS Administrative Console, select the **Application Interface Modules** tab.
2. Click **BFS Client**. The Broadcast File Server List window opens.
3. Highlight the **MMMCfg** cabinet (the file looks like a filing cabinet).
4. Click **File > Delete**. A confirmation window opens.
5. Click **Yes**.
6. Click **View > Refresh**. The MMMServer re-registers both the MMMAud and MMMCfg files.

Troubleshoot Weekly and Monthly Tests

This section provides procedures for troubleshooting the receiving and transmission of weekly and monthly required tests.

Note: This information is culled from the FCC publication *Cable Emergency Alert System Procedures - 2007*, available at the FCC website (www.fcc.gov).

Failure to Receive an EAS Test

If you do not receive an RWT from your assigned monitoring sources, take the following actions:

- Determine why you did not receive a test:
  - Check your EAS equipment
  - Call your monitoring source(s)
- Take appropriate corrective action
- Document your findings in your EAS logs

Failure to Send an EAS Test

Failure to Send an RWT

If you are unable to send an RWT, take the following actions:

- Determine why no test was sent by checking your EAS equipment
- Take the appropriate corrective action
- Document your findings in your EAS record logs

Failure to Send an RMT

If you cannot sent an RMT received from your assigned monitoring sources, take the following actions:

- Determine why you did not receive a test:
  - Check your EAS equipment
  - Call your monitoring source(s)
- Take appropriate corrective action
- Document your findings in your EAS logs

Troubleshoot Set-Top Configuration and Performance

This section provides set-top configuration guidelines along with procedures for you to use to verify and troubleshoot set-top configuration and performance when verifying the correct operation of your EAS.

Important: Digital EAS activation occurs only if the set-top is powered on and is tuned to a digital channel. Digital EAS messages do not display on analog channels. You must provide separate EAS support for analog channels.

Verifying Set-Top Configuration

Use the following criteria when verifying set-top configuration:

- The configuration data is included in the MMM pass-through message.
- The text display and audio files are configurable and dependent on the EAS event type. An EAS event may contain text and/or audio contents. There could be no text or audio content at all, but only the configuration data; for example, in a Force Tune message.

  Note: A Force Tune message is a message that forces all set-tops to automatically switch to another channel to receive an EAS message.
- Text data in HTML format, if any, is included in the EAS message.
- Audio data in AIFF format, if any, is found in the BFS file referenced by a URL in the EAS message.

Verifying Set-Top Performance

Use the following criteria when you verify set-top performance:

- The service for the digital channel does **not** contain the ;NOEAS URL modifier.
- The one-line EAS display starts in the upper left corner of the Society of Motion Picture and Television Engineering (SMPTE) safe title area of the screen.
- The EAS line of text, or ticker, scrolls from right to left at a rapid rate. The text appears for the amount of time that is set in the configuration data of the motion delay setting.
- If the Interactive Program Guide (IPG) is active, the captured video in the upper right corner of the screen freezes while the ticker displays.
- If the EAS is not Force Tuned, the ticker display remains while the resident application (ResApp) operates normally. The ticker appears over the General

Settings menu, music channels, PIN entry screens, and other IPG screens.

- The EAS audio file always overrides analog and digital audio and internally generated sounds.
- The text display, or ticker, and audio playback repeat as long as necessary to fill the duration. If the delay time is greater than 5 seconds, the program audio is heard during the delay time between repeats.
- The EAS suspends operation when one of the following occurs:
  - The time reaches the origination time plus the duration received in the EAS request pass-through message.

    Note: Origination time plus duration does not apply to Force Tuned messages.
  - The set-top receives an EAS Termination (EAT) pass-through message.
  - If the EAS message is active when a new EAS message is received, the entire new message including the audio file, if applicable, downloads and the old message suspends operation.
  - If the EAS message causes Force Turning, other message types are ignored, except for the EAT message.

Troubleshooting Set-Top Configuration and Performance

A dedicated debug set-top is very useful for troubleshooting purposes, especially when EAS messages generate detailed debug logs.

Note: The switched power supply on the set-top is not powered on or off by the EAS.

Follow these procedures to troubleshoot the set-top configuration and performance.

1. Verify that the set-top is powered on and tuned to a digital channel when sending an EAS message.
2. Verify that the volume levels on both the set-top and the television set are accurate.
3. Verify the EAS status information on the SARA Information diagnostic screen.

   Important:

   - The SARA Information diagnostic screen displays information on the duration and origination time of the most recent EAS message. Use this information to verify correct reception and download of the latest EAS message.
   - For additional information on set-top diagnostic screens, refer to *Understanding Diagnostic Screens for the Explorer DHCTs Application Guide* (part number 749244).
4. Verify that the MMM Server is working by sending an EAS test message from the DBDS GUI with text content only.

   Important: All subscribers will receive the EAS test message unless you set up a test environment. We recommend that you set up test hubs (for example, using FIPS filtering) that are not on your production system. That way, subscribers will not receive the test messages.
5. Verify that the out-of-band Broadcast File System (OOB BFS) is operational by sending an EAS test message with audio content only.
6. Verify that the EAS Client on the set-top is operational by sending an EAS test message with both text and audio.

Troubleshoot CableCARD Module Configuration

To troubleshoot the EAS for CableCARD modules, verify the configuration as detailed in ***Configure EAS to Properly Function with the CableCARD Module*** (on page 46).

8

Customer Information

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.

Access your company's extranet site to view or order additional technical publications. For accessing instructions, contact the representative who handles your account. Check your extranet site often as the information is updated frequently.

A

FCC Test Requirements

Introduction

This appendix contains the text of the FCC requirements that requires service providers to conduct regular tests of their EAS equipment. This text is codified in the United States Code of Federal Regulations, Title 47: Telecommunication, Part 11—Emergency Alert System (EAS), Section 11.61, Tests of EAS procedures.

Important:

- This text was current as of the date of publication of this document. For the most current requirements, contact the FCC.
- This section was culled from the FCC publication *Cable Emergency Alert System Procedures - 2007*.
- You are required by the FCC to have a copy of FCC Parts 11 and 76 on your site. Refer to the FCC website (www.fcc.gov) for more information.

In This Appendix

11.61 Tests of EAS Procedures

Cable System Size	EAS Requirements	Small Cable System Requirements Under Option B	
Cable systems with fewer than 5,000 subscribers per headend must comply with either option A or option B	**Option A** Provide National Level EAS Message on all programmed channels, including the required testing.		
	Option B Install EAS equipment that is capable of providing: 1 The Audio Alert Messages on all programmed channels. 2 Video Interrupt on all channels. 3 Audio and Video EAS Messages on one programmed channel.	Video Interruptions	Must include a statement telling listeners on which channel the EAS video and audio message is displayed. Must flash a blank or black television screen simultaneously with, and of the same duration, as the EAS message.
Cable systems with 5,000 to 10,000 subscribers per headend	Install EAS equipment that is capable of providing Audio and Video EAS Messages on all programmed channels.		
Cable systems with 10,000 or more subscribers per headend	Install EAS equipment that is capable of providing Audio and Video EAS Messages on all programmed channels.		

EAS Designation

EAS instructions vary for each particular designation. Cable systems are designated as either participating or non-participating sources. Most cable systems have elected to participate in EAS and are designated as Participating National (PN) sources. However, cable systems that elect not to participate in the national level EAS must hold an FCC authorization letter. Nonparticipating systems are designated as Non-Participating National (NN) sources.

The EAS transmissions of national, state, and local emergencies by PN sources are intended for direct public reception. (47 C.F.R. Section 11.18(e)). All systems, including NN sources, are required to install and test EAS equipment. Upon activation of the national level EAS, NN sources are required to broadcast the EAS codes, Attention Signal, and the sign-off announcement in this handbook (*Cable Emergency Alert System Procedures - 2007*, an FCC publication), and then stop operating until the end of message code is received. (47 C.F.R. Section 11.18(f))

Monitoring Requirements

All EAS Participants must monitor two EAS sources. The monitoring assignments are specified in the EAS State Plans and are determined according to FCC monitoring priorities. If the required EAS sources cannot be received, alternate arrangements or a waiver may be obtained by written request to the FCC. In an emergency, a waiver may be issued over the telephone with a followup letter to confirm temporary or permanent reassignment. (47 C.F.R. Section 11.52)

EAS Equipment Readiness

EAS participants are required to test their ability to receive and distribute EAS messages and to keep records of all tests. EAS participants are responsible for ensuring that encoders, decoders, and signal generating equipment used as part of the EAS are installed so that the monitoring and transmitting functions are available during the times that the station is in operation. In addition, EAS participants must determine the cause of any failure to receive the required tests or activations specified in Section 11.61(a)(1) and (a)(2) and indicate in the station's EAS log why the tests were not received. These logs must be retained for three years at the EAS participant's headquarters.

In the event the EAS equipment becomes defective, a cable system may operate without the equipment pending its repair or replacement for a period not to exceed 60 days. If repair or replacement of defective equipment is not completed within 60 days, participants must submit an informal request for additional time to their assigned FCC field office. The request must include an explanation of what steps have been taken to repair the equipment. (47 C.F.R. Section 11.35(b) & (c)). Entries must be made in the participant's logs showing the date and time the equipment was removed and restored to service.

B

Disable the ORBIX Daemon on the Application Server

Introduction

Starting in DNCS SR 2.0, the functionality of the EAS moved from the Application Server to the DNCS. Because of this, you no longer need the ORBIX daemon on the Application Server.

Note: This procedure is only necessary if you are using an DNCS SR 2.2 or DNCS SR 3.2 system.

This appendix contains instructions to disable the ORBIX daemon on the Application Server.

In This Appendix

Disabling the ORBIX Daemon on the Application Server

Follow these instructions to disable the Orbix daemon on the Application Server.

Note: You need to be logged in to the Application Server as **dncs user** to complete this procedure.

1. Open an xterm window on the Application Server.
2. Type `appControl` and press **Enter**. The Applications Control window opens.
3. Type `2` (for Startup/Shutdown Single Element Group) and press **Enter**. The window updates to show all the server and process groups on the Application Server.
4. Type `1` (for Orbix Daemon) and press **Enter**. A message appears that asks you to enter the target status for the selected group.
5. Type `1` (for stopped) and press **Enter**. A confirmation window appears.
6. Type `y` (for yes) and press **Enter**. The window updates to display the status of the Application Server server and process groups.
7. Wait until the current status (Curr Stt) of ORBIX Daemon displays **stopped**.
8. Type `x` and press **Enter** to return to the main menu of the Applications Control window.

   Note: You might have to press **x** more than once to return to the main menu.
9. From the main menu of the Applications Control window, type `4` (for Define/Update Grouped Elements) and press **Enter**. The window updates to display all element groups.
10. Type `1` (for ORBIX Daemon) and press **Enter**. The window displays a message that prompts you to select the number associated with an installed element.
11. Type `1` (for /dvs/appserv/bin/orbixd) and press **Enter**. A message appears that asks you to enter the full pathname to the Orbix element.
12. Press **Enter** to accept the default pathname value. A message appears that asks you to enter the command line parameters used by the Orbix element.
13. Press **Enter** to accept the default command line parameters. A message appears that asks you to set the wait delay for the Orbix element.
14. Press **Enter** to accept the default wait delay value. A message appears that asks you to set the wait action for the Orbix element.
15. Press **Enter** to accept the default wait action value. A message appears that asks you to set the maximum restarts value for the Orbix element.
16. Press **Enter** to accept the default maximum restarts value. A message appears that asks you to set the value for the stop signal for the Orbix element.

17 Press **Enter** to accept the default stop signal value. A message appears that asks you to set the control status for the Orbix element.

18 Type `2` (for disabled) and press **Enter**. A confirmation message appears.

19 Type `y` (for yes) and press **Enter**. The message Element definition was modified appears.

20 Follow the on-screen instructions to exit from the appControl utility.

C

Configure FIPS Filtering

Introduction

FIPS filtering, through its integration with the DNCS, filters and sends EAS messages only to targeted states, counties, or subdivisions.

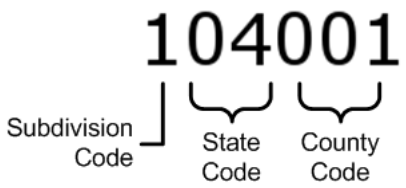
Note: FIPS filtering is a separate software product. For more information on purchasing this software product, contact the person who handles your account.

In This Appendix

About FIPS Codes

Federal Information Processing Standards (FIPS) are developed by the United States government to identify states, counties, and subdivisions.

A FIPS code for a location is formatted as follows:



First digit

Determines the subdivision.

- 0 = all subdivisions
- A number indicates the area of the county (subdivision) impacted (1 through 9)

Second and third digits

Determines the state.

Examples:

- 04 = AZ
- 10 = DE
- 27 = MN
- 38 = ND

Fourth, fifth, and sixth digits

Determines the county within the state.

Examples: DE has three county designations:

- 001 = Kent
- 003 = New Castle
- 005 = Sussex
- 000 = All counties (state-wide alert)

An EAS message header can contain as many as 31 FIPS codes.

Recommendations for FIPS Filtering

We recommend that you follow these guidelines when using FIPS codes to filter EAS messages.

1. Make sure all FIPS codes that apply to your network are mapped to a cluster (hub).
2. Make sure all FIPS codes that you might receive alerts for which are NOT applicable to your network are either:
   a. Filtered out by your EAC equipment
   b. Mapped to a "dummy" cluster on the ISDS
3. If possible, avoid having clusters that cover multiple states. If multiple states must be associated with the cluster, alerts for any state covered by the cluster will be seen.

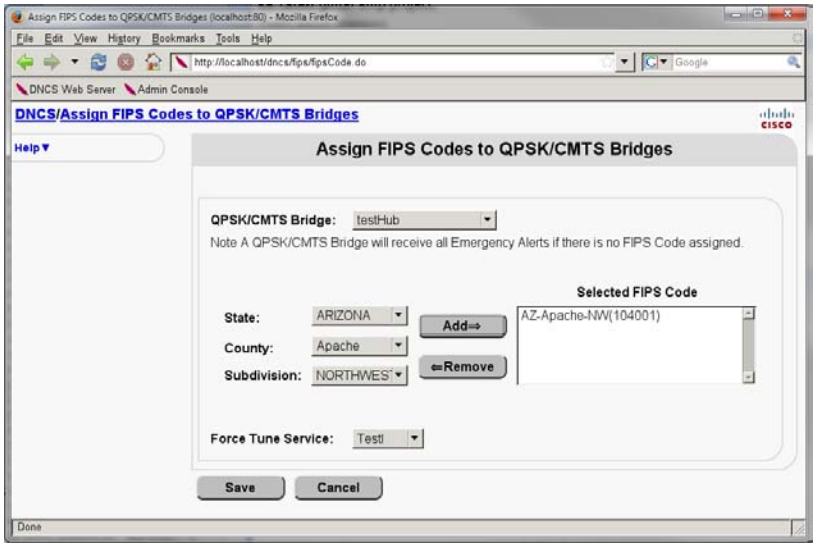
   Example: Two states border each other - state A and state B. You have one cluster that covers a part of both states. If state A issues a statewide alert, the viewers in state B who are included in the cluster will receive the alert. Likewise, if state B issues a statewide alert, those viewers in state A who are included in the cluster will also receive the alert.
4. Try to avoid using the special configuration of NO-subdivisions, which only allows statewide and countywide messages to be seen. Messages that include a subdivision are ignored.

Caution: Messages received for unmapped regions will be seen by all regions.

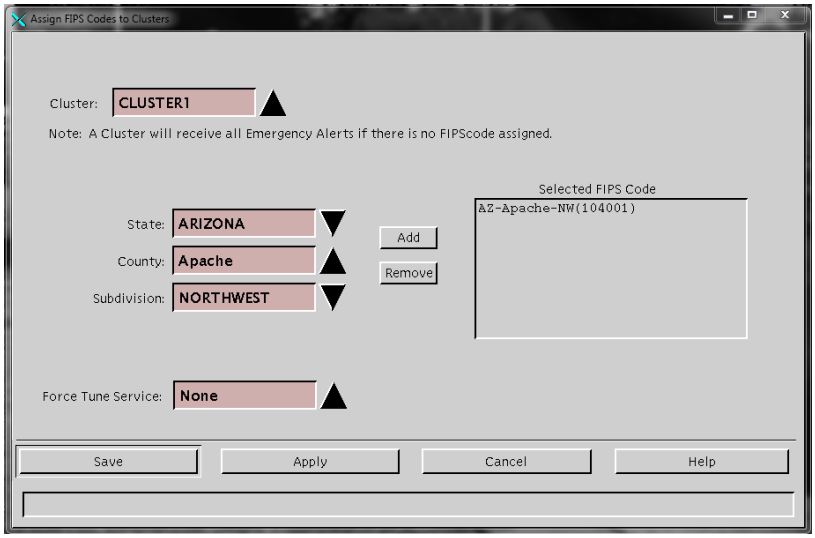
FIPS Code Example

The following configuration example should clarify how the system works regarding FIPS codes and how they are passed to specific areas.

Configuration example for SR 5.0 and later:



Configuration example for SR 4.3 and earlier:



The following table describes possible FIPS codes in the EAS message header and how they will be processed by the DNCS.

From the ***About FIPS Codes*** (on page 156) section, we know that the state code is 04 (Arizona), the county code is 001 (Apache), and the subdivision code is 1 (Northwest).

Code	Description	Passed To
004000	Statewide alert	All set-tops in bridge/cluster
004001	County-wide alert	All set-tops in bridge/cluster
104001	Subdivision alert	All set-tops in bridge/cluster
Any other alert (010000, 004002, 104002, etc.)	Other states, counties, or subdivisions	**No** set-tops in bridge/cluster (even if the subdivision is in the same county)

Configure FIPS Filtering for SR 5.0 and Later

FIPS filtering, through its integration with the DNCS, filters and sends EAS messages only to targeted states, counties, or subdivisions.

Note: FIPS filtering is a separate software product. For more information on purchasing this software product, contact the person who handles your account.

Configuration 1: All Subdivisions are Mapped to Hubs

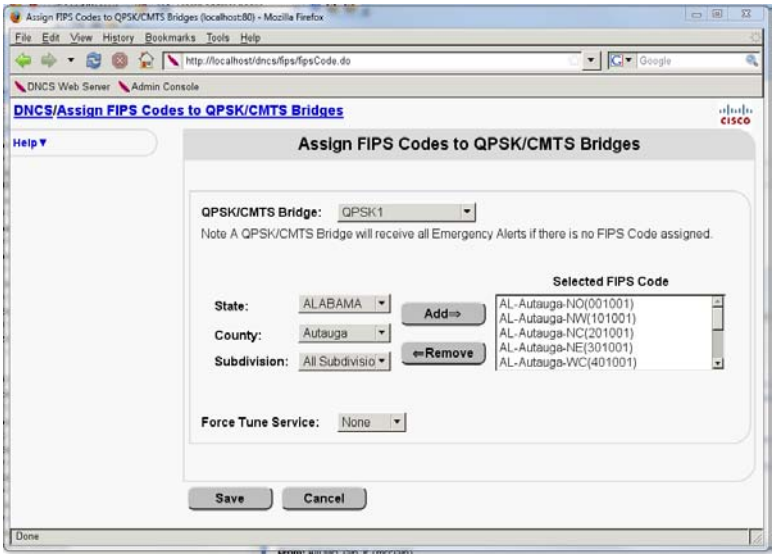
In this configuration, each of the nine possible subdivisions are mapped to their own specific hub. Here, each subdivision receives the following EAMs:

- Subdivision-specific EAMs
- County EAMs
- State EAMs
- National EAMs

Configuring FIPS Filtering for Configuration 1

Follow these steps to configure FIPS filtering for configuration 1 as described above.

1. On the DNCS Administrative Console, click the **DNCS** tab.
2. Click the **System Provisioning** tab.
3. In the EAS Message section, click **FIPS Code**. The Assign FIPS Codes to QPSK/CMTS Bridges window opens.



4. Select a **QPSK/CMTS Bridge** from the drop-down menu.
5. Select a **State** from the drop-down menu.

6 Select a **County** from the drop-down menu.

7 Select one of the following options:

- Select a **Subdivision** from the drop-down list.
- Select **All Subdivisions** from the drop-down list.

8 Click **Add**. The FIPS code moves to the Selected FIPS Code list.

9 Repeat this procedure from step 4 until you have assigned all the required FIPS codes to this bridge.

10 Are you using Force Tune for the EAM?

- If **yes**, go to the next step.
- If **no**, go to step 12.

11 Click the **Force Tune** arrow and select a Force Tune Service from the list. Go to step 13.

Note: The Force Tune Service you enter here overrides the default Force Tune Service defined in MMM Config on the DNCS for the messages you send through this bridge.

12 Click the **Force Tune** arrow and select **None** from the list. In this case, the system only uses a Force Tune Service if it is defined in the MMM Config on the DNCS.

13 Click **Apply**.

Note: The window remains open after you click **Apply**. You can modify the current bridge, or select another bridge to assign FIPS codes and/or a Force Tune Service before you click **Save**.

14 Click **Save**. The system saves your settings and the Assign FIPS Codes to QPSK/CMTS Bridges window closes.

Configuration 2: Some Subdivisions are Mapped to Hubs

In this configuration, only some of the nine subdivisions are assigned (mapped) to hubs. For example, some of the subdivisions might not be in your service area.

Here, since not all subdivisions are assigned to hubs, each subdivision receives the following EAMs:

- Subdivision-specific EAMs (for the mapped subdivisions)
- All EAMs targeted to the unmapped hubs
- County EAMs
- State EAMs
- National EAMs

For example, consider that your FIPS subdivision mapping is set to the following:

Subdivision	Assigned To...	Receives These Messages...
1	Hub #1	Only EAMs targeted to subdivision 1, AND any EAM targeted to an unmapped subdivision
2	Not Assigned	Any EAM targeted to any subdivision
3	Hub #2	Only EAMs targeted to subdivision 2, AND any EAM targeted to an unmapped subdivision
4	Not Assigned	Any EAM targeted to any subdivision
5	Hub #3	Only EAMs targeted to subdivision 3, AND any EAM targeted to an unmapped subdivision
6	Not Assigned	Any EAM targeted to any subdivision
7	Not Assigned	Any EAM targeted to any subdivision
8	Not Assigned	Any EAM targeted to any subdivision
9	Not Assigned	Any EAM targeted to any subdivision

Only subdivisions 1, 3, and 5 receive subdivision-specific EAMs; however, they also receive the EAMs targeted to any of the unmapped subdivisions.

To prevent subdivisions from receiving EAMs targeted to unmapped subdivisions, assign the unmapped subdivisions to a 'dummy' hub. This traps the EAMs and prevents them from being passed to the subdivisions that do not need to receive the EAM.

Configuring FIPS Filtering for Configuration 2

Follow these steps to configure FIPS filtering for configuration 1 as described above. Your first step is to create the dummy hubs required for the unmapped subdivisions. Then you will configure the FIPS filtering for both mapped and unmapped subdivisions.

Creating a Dummy Hub

Follow these instructions to create the dummy hub for your unmapped subdivisions.

1. On the DNCS Administrative Console, click the **DNCS** tab.
2. Click the **Network Element Provisioning** tab.
3. Click **Hub**. The Hub Summary window opens.
4. Click **Add**. A new line appears at the top of the .

5 Use the following list to set up the initial parameters for your dummy hub.

- **Hub Name** - The name you will use to identify this hub. You can use up to 15 alphanumeric characters.

  Important: Be sure to use a name that will immediately identify the hub as a dummy hub for unmapped FIPS subdivisions.

- **Hub ID** - The number you will use to identify this hub.

  Important:

  – Be sure to use an ID number that will immediately identify the hub as a dummy hub for unmapped FIPS subdivisions.

  – You will not be able to modify this field later.

- **Headend** - Select the headend associated with this hub.
- **Time Zone** - Select the time zone where this hub is located.
- **DST Zone** - Select the zone ID for this hub.

6 Click **Save**. The system saves the hub information in the DNCS database and the Hub Summary window updates to include the new hub.

7 Add the new hub to your network map.

Configuring FIPS Filtering with a Dummy Hub for Unmapped Subdivisions

Follow these steps to configure FIPS filtering using a dummy hub for your unmapped subdivisions.

1 On the DNCS Administrative Console, click the **DNCS** tab.

2 Click the **System Provisioning** tab.

3 In the EAS Message section, click **FIPS Code**. The Assign FIPS Codes to QPSK/CMTS Bridges window opens.

4 Configure your mapped subdivisions by following these instructions.

a Select the **QPSK/CMTS Bridge** from the list.

b Select the **State** from the list.

c Select the **County** from the list.

d Select all of the **Subdivisions** that you want to map to this hub.

e Click **Add**.

f Click the **Force Tune** arrow and select a Force Tune Service from the list.

Notes:

– The Force Tune Service you enter here overrides the default Force Tune Service defined in MMM Config on the DNCS for the messages you send through this hub.

– If you select **None** in the Force Tune Service field, the system uses the default Force Tune Service (if defined in MMM Config on the DNCS).

g Click **Apply**.

h Repeat these steps until you have assigned all the mapped subdivisions to a hub.

5 Configure your unmapped subdivisions by following these instructions.

a Select the dummy hub **QPSK/CMTS Bridge** that you created in the previous procedure.

b Select the **State** from the list.

c Select the **County** from the list.

d Select all of the unmapped **Subdivisions** that you want to map to this hub.

e Click **Add**.

f Click the **Force Tune** arrow and select **None**.

g Click **Apply**.

6 Click **Save**. The system saves your settings and the Assign FIPS Codes to QPSK/CMTS Bridges window closes.

Configuration 3: No Subdivisions are Mapped to Hubs

In this configuration, the system is not required to pass alerts for subdivisions. Here, since no subdivisions are mapped to hubs, each subdivision receives the following EAMs:

- County EAMs
- State EAMs
- National EAMs

Configuring FIPS Filtering for Configuration 3

Follow these steps to configure FIPS filtering for systems that do not need to use subdivisions.

1 On the DNCS Administrative Console, click the **DNCS** tab.

2 Click the **System Provisioning** tab.

3 In the EAS Message section, click **FIPS Code**. The Assign FIPS Codes to QPSK/CMTS Bridges window opens.

4 Select the **QPSK/CMTS Bridge** from the list.

5 Select the **State** from the list.

6 Select the **County** from the list.

7 Select either the **Subdivisions** or **No Subdivision**.

8 Click **Add**.

9 Click the **Force Tune** arrow and select a Force Tune Service from the list.

Notes:

- The Force Tune Service you enter here overrides the default Force Tune Service defined in MMM Config on the DNCS for the messages you send through this bridge.
- If you select **None** in the Force Tune Service field, the system uses the default Force Tune Service (if defined in MMM Config on the DNCS).

10 Click **Apply**.

Note: The window remains open after you click **Apply**. You can modify the current bridge, or select another bridge to assign FIPS codes and/or a Force Tune Service before you click **Save**.

11 Click **Save**. The system saves your settings and the Assign FIPS Codes to QPSK/CMTS Bridges window closes.

Configure FIPS Filtering for System Releases Prior to SR 5.0

FIPS filtering, through its integration with the DNCS, filters and sends EAS messages only to targeted states, counties, or subdivisions.

Note: FIPS filtering is a separate software product. For more information on purchasing this software product, contact the person who handles your account.

Configuration 1: All Subdivisions are Mapped to Hubs

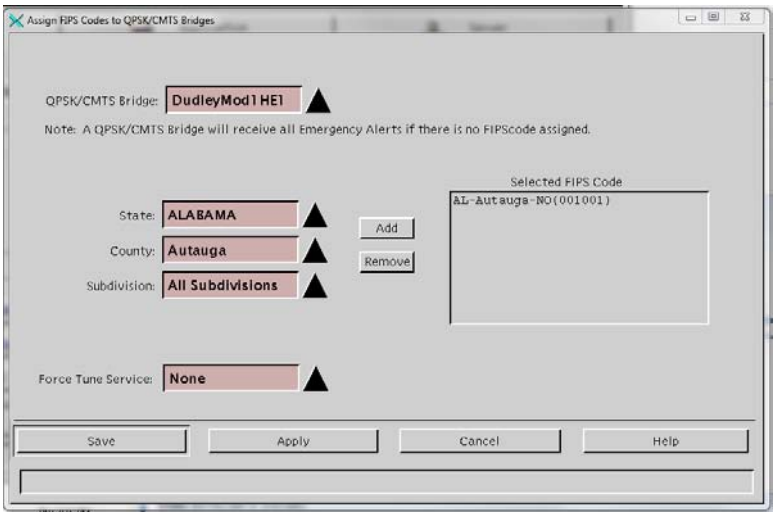
In this configuration, each of the nine possible subdivisions are mapped to their own specific hub. Here, each subdivision receives the following EAMs:

- Subdivision-specific EAMs
- County EAMs
- State EAMs
- National EAMs

Configuring FIPS Filtering for Configuration 1

Follow these steps to configure FIPS filtering for configuration 1 as described above.

1. On the DNCS Administrative Console, click the **DNCS** tab.
2. Click the **System Provisioning** tab.
3. In the EAS Message section, click **FIPS Code**. The Assign FIPS Codes to QPSK/CMTS Bridges window opens.



4. Select the **QPSK/CMTS Bridge** from the list.
5. Select the **State** arrow from the list.

6 Select the **County** from the list.

7 Select either the **Subdivisions** or select **All Subdivisions**.

8 Click **Add**.

9 Repeat this procedure from step 4 until you have assigned all the required FIPS codes to this bridge.

10 Are you using Force Tune for the EAM?

- If **yes**, go to the next step.
- If **no**, go to step 12.

11 Click the **Force Tune** arrow and select a Force Tune Service from the list. Go to step 13.

Note: The Force Tune Service you enter here overrides the default Force Tune Service defined in MMM Config on the DNCS for the messages you send through this bridge.

12 Click the **Force Tune** arrow and select **None** from the list. In this case, the system only uses a Force Tune Service if it is defined in the MMM Config on the DNCS.

13 Click **Apply**.

Note: The window remains open after you click **Apply**. You can modify the current bridge, or select another bridge to assign FIPS codes and/or a Force Tune Service before you click **Save**.

14 Click **Save**. The system saves your settings and the Assign FIPS Codes to QPSK/CMTS Bridges window closes.

Configuration 2: Some Subdivisions are Mapped to Hubs

In this configuration, only some of the nine subdivisions are assigned (mapped) to hubs. For example, some of the subdivisions might not be in your service area.

Here, since not all subdivisions are assigned to hubs, each subdivision receives the following EAMs:

- Subdivision-specific EAMs (for the mapped subdivisions)
- All EAMs targeted to the unmapped hubs
- County EAMs
- State EAMs
- National EAMs

For example, consider that your FIPS subdivision mapping is set to the following:

Subdivision	Assigned To...	Receives These Messages...
1	Hub #1	Only EAMs targeted to subdivision 1, AND any EAM targeted to an unmapped subdivision
2	Not Assigned	Any EAM targeted to any subdivision
3	Hub #2	Only EAMs targeted to subdivision 2, AND any EAM targeted to an unmapped subdivision
4	Not Assigned	Any EAM targeted to any subdivision
5	Hub #3	Only EAMs targeted to subdivision 3, AND any EAM targeted to an unmapped subdivision
6	Not Assigned	Any EAM targeted to any subdivision
7	Not Assigned	Any EAM targeted to any subdivision
8	Not Assigned	Any EAM targeted to any subdivision
9	Not Assigned	Any EAM targeted to any subdivision

Only subdivisions 1, 3, and 5 receive subdivision-specific EAMs; however, they also receive the EAMs targeted to any of the unmapped subdivisions.

To prevent subdivisions from receiving EAMs targeted to unmapped subdivisions, assign the unmapped subdivisions to a 'dummy' hub. This traps the EAMs and prevents them from being passed to the subdivisions that do not need to receive the EAM.

Configuring FIPS Filtering for Configuration 2

Follow these steps to configure FIPS filtering for configuration 1 as described above. Your first step is to create the dummy hubs required for the unmapped subdivisions. Then you will configure the FIPS filtering for both mapped and unmapped subdivisions.

Creating a Dummy Hub

Follow these instructions to create the dummy hub for your unmapped subdivisions.

1. On the DNCS Administrative Console, click the **DNCS** tab.
2. Click the **Network Element Provisioning** tab.
3. Click **Hub**. The Hub List window opens.
4. Click **File > New**. The Set Up Hub window opens.

5 Use the following list to set up the initial parameters for your dummy hub.

- **Headend Name** - Select the headend associated with this hub.
- **Hub Name** - The name you will use to identify this hub. You can use up to 15 alphanumeric characters.

  Important: Be sure to use a name that will immediately identify the hub as a dummy hub for unmapped FIPS subdivisions.
- **Hub ID** - The number you will use to identify this hub.

  Important:
  - Be sure to use an ID number that will immediately identify the hub as a dummy hub for unmapped FIPS subdivisions.
  - You will not be able to modify this field later.
- **Timezone** - The time zone where this hub is located.
- **DST Zone ID** - The zone ID for this hub.

6 Click **Save**. The system saves the hub information in the DNCS database and the Hub List window updates to include the new hub.

7 Add the new hub to your network map.

Configuring FIPS Filtering with a Dummy Hub for Unmapped Subdivisions

Follow these steps to configure FIPS filtering using a dummy hub for your unmapped subdivisions.

1 On the DNCS Administrative Console, click the **DNCS** tab.

2 Click the **System Provisioning** tab.

3 In the EAS Message section, click **FIPS Code**. The Assign FIPS Codes to QPSK/CMTS Bridges window opens.

4 Configure your mapped subdivisions by following these instructions.

a Select the **QPSK/CMTS Bridge** from the list.

b Select the **State** from the list.

c Select the **County** from the list.

d Select all of the **Subdivisions** that you want to map to this hub.

e Click **Add**.

f Click the **Force Tune** arrow and select a Force Tune Service from the list.

Notes:
- The Force Tune Service you enter here overrides the default Force Tune Service defined in MMM Config on the DNCS for the messages you send through this hub.
- If you select **None** in the Force Tune Service field, the system uses the default Force Tune Service (if defined in MMM Config on the DNCS).

g Click **Apply**.

h Repeat these steps until you have assigned all the mapped subdivisions to a hub.

5 Configure your unmapped subdivisions by following these instructions.

a Select the dummy hub **QPSK/CMTS Bridge** that you created in the previous procedure.

b Select the **State** from the list.

c Select the **County** from the list.

d Select all of the unmapped **Subdivisions** that you want to map to this hub.

e Click **Add**.

f Click the **Force Tune** arrow and select **None**.

g Click **Apply**.

6 Click **Save**. The system saves your settings and the Assign FIPS Codes to QPSK/CMTS Bridges window closes.

Configuration 3: No Subdivisions are Mapped to Hubs

In this configuration, the system is not required to pass alerts for subdivisions. Here, since no subdivisions are mapped to hubs, each subdivision receives the following EAMs:

- County EAMs
- State EAMs
- National EAMs

Configuring FIPS Filtering for Configuration 3

Follow these steps to configure FIPS filtering for systems that do not need to use subdivisions.

1 On the DNCS Administrative Console, click the **DNCS** tab.

2 Click the **System Provisioning** tab.

3 In the EAS Message section, click **FIPS Code**. The Assign FIPS Codes to QPSK/CMTS Bridges window opens.

4 Select the **QPSK/CMTS Bridge** from the list.

5 Select the **State** from the list.

6 Select the **County** from the list.

7 Select **No Subdivision**.

8 Click **Add**.

9 Click the **Force Tune** arrow and select a Force Tune Service from the list.

Notes:

- The Force Tune Service you enter here overrides the default Force Tune Service defined in MMM Config on the DNCS for the messages you send through this bridge.
- If you select **None** in the Force Tune Service field, the system uses the default Force Tune Service (if defined in MMM Config on the DNCS).

10 Click **Apply**.

Note: The window remains open after you click **Apply**. You can modify the current bridge, or select another bridge to assign FIPS codes and/or a Force Tune Service before you click **Save**.

11 Click **Save**. The system saves your settings and the Assign FIPS Codes to QPSK/CMTS Bridges window closes.

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