



# Cisco DSAN System Release 3.0.24 Release Note

## Overview

### Introduction

This system release supports Cisco Digital Service Access Node (DSAN) Model 8210. This document provides information about the release and describes resolved and known caveats with System Release 3.0.24.

### Purpose

This system release note is being provided for user support related to the installation and operation of System Release 3.0.24.

### Audience

This document is intended for qualified and skilled personnel who configure the system. These personnel should understand basic network configuration, RF, and network monitoring operations.

### Qualified Personnel

Only appropriately qualified and skilled service personnel should attempt to install, operate, maintain, and service this product.



**WARNING:**

**Allow only qualified and skilled personnel to install, operate, maintain, and service this product. Otherwise, personal injury or equipment damage may occur.**

### Related Publication

You may find the following publication useful as you implement the procedures in this document:

- *Cisco DSAN 8210 Installation and Configuration Guide*, part number OL-30954-01

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## Release Purpose

This system release includes updates primarily to support and address the following issues:

- Update NAND flash driver in bootloader (v1.04) to support Rev E NAND flash.
- Update NAND flash driver in Linux kernel to support Rev E NAND flash.
- Add support for field upgrade of units containing Rev E NAND flash to utilize 4-bit hardware ECC.
- Disable pre-processing of Closed Caption data and SCTE127 data in FPGA.
- Resolve the Loss of Video on certain SI Table changes during runtime.
- Resolve the intermittent false DAXI Loss of Sources alarm trigger and clear.
- Make DSAN SNMP agent reject the set request on a saDsanEventLogLevel MIB object with an invalid value.
- Resolve spurious Lid Opened alarm on system boot-up when the lid is closed.
- Make DSAN SNMP agent respond to the SNMP get request on an individual saDsanSession table entry.
- Resolve occasional missing characters in Closed Captions.
- Resolve the mismatch of DHCP option 43 and SNMP MIB sysDescr information.
- Suppress the upconverter self-test failure log when the system is performing upconverter calibration.
- Resolve the missing alarm indication when SI data is missing.
- Add the CRC-32 Checksum verification mechanism in SI and the EAS parser.
- Log the DSAN HW serial number, HW version, and SW version in the event log at system startup.
- Make the Audio Level Control (ALC) provisionable via a host configuration file.
- Disable the special EAS force-tune implementation.
- Support the EAT/EOM type EAS message when the details channel is in the configured channel map.
- Remove SCTE-127 support.
- Fix the issue of boot time advancing over long runs in the diag page.
- A new diag field is added on diag page 12 to show whether the NAND flash is new (version E) or old. This is useful in debugging field issues related to NAND flash.

## Release Purpose

### **Hardware**

This system release is supported on hardware that has Revision 5 and later digital boards and Revision 8 and later RF boards. These units are most easily identified by their housings, which are white enamel painted.

### **Software**

The system release is numbered as 3.0.24. A system release is a bundling of software components into a single monolithic image that is downloaded into the device via DOCSIS. Each component has an independent revision number, but the software bundle is managed as a single system release.

## System Release Detailed Hierarchy

The following table details the software images that roll up into System Release 3.0.24.

<b>Module Application</b>	<b>Version Number</b>
Calliope Boot Image	1.04
Calliope Application Image	3.0.24
Embedded Cable Modem	10.10.85x

# System Release History

The following table summarizes the DSAN system release history.

Release	Ref #	Date	Details
r3.00.19	3.0.19	09/25/2011	■ Initial customer production release.

Release	Ref #	Date	Details
r3.00.24	3.0.24	08/20/2013	<ul style="list-style-type: none"> <li>■ Update NAND flash driver in bootloader (v1.04) to support Rev E NAND flash.</li> <li>■ Update NAND flash driver in Linux kernel to support Rev E NAND flash.</li> <li>■ Add support for field upgrade of units containing Rev E NAND flash to utilize 4-bit hardware ECC.</li> <li>■ Disable pre-processing of Closed Caption data and SCTE127 data in FPGA.</li> <li>■ Resolve the Loss of Video on certain SI Table changes during runtime.</li> <li>■ Resolve the intermittent false DAXI Loss of Sources alarm trigger and clear.</li> <li>■ Make DSAN SNMP agent reject the set request on a saDsanEventLogLevel MIB object with an invalid value.</li> <li>■ Resolve spurious Lid Opened alarm on system boot-up when the lid is closed.</li> <li>■ Make DSAN SNMP agent respond to the SNMP get request on an individual saDsanSession table entry.</li> <li>■ Resolve occasional missing characters in Closed Captions.</li> <li>■ Resolve the mismatch of DHCP option 43 and SNMP MIB sysDescr information.</li> <li>■ Suppress the upconverter self-test failure log when the system is performing upconverter calibration.</li> <li>■ Resolve the missing alarm indication when SI data is missing.</li> <li>■ Add the CRC-32 Checksum verification mechanism in SI and the EAS parser.</li> <li>■ Log the DSAN HW serial number, HW version, and SW version in the event log at system startup.</li> <li>■ Make the Audio Level Control (ALC) provisionable via a host configuration file.</li> <li>■ Disable the special EAS force-tune implementation.</li> <li>■ Support the EAT/EOM type EAS message when the details channel is in the configured channel map.</li> <li>■ Remove SCTE-127 support.</li> </ul>

**System Release History**

<b>Release</b>	<b>Ref #</b>	<b>Date</b>	<b>Details</b>
r3.00.24 (cont'd)			<ul style="list-style-type: none"><li>■ Fix the issue of boot time advancing over long runs in the diag page.</li><li>■ A new field is added to diagnostic page 12 to show whether the NAND flash is new (version E) or old. This is useful in debugging field issues related to NAND flash.</li></ul>

## Supporting Software and Files

The following table details software and support files associated with this release.

<b>Software/Files</b>	<b>Release #</b>	<b>Filename(s)</b>	<b>Build Date</b>
Proprietary Agent Capability MIB	201301070000Z	SA-DSAN-CAPABILITY.mib	07 Jan 13
Proprietary MIBs	201111170000Z	SA-DSAN-MIB.mib	17 Nov 11
DOCSIS MIB	9908190000Z	DOCS-CABLE-DEVICE-MIB.mib	19 Aug 99

## Resolved Caveats

The following table details software issues that have been resolved in DSAN System Release 3.0.24.

<b>Add support for new NAND flash revision with 4-bit ECC</b>	
Incident #	CSCuc36954
Severity	2
Description	<p>Units were found in the field with corrupted NAND flash that were unable to boot the application image. The problem was found to be due to uncorrectable bit errors encountered in the programmed image and ECC data. The failures were all found on units with an updated revision of the NAND flash. Software does not support the 4-bit error correction required by the new device.</p> <p>Update bootloader and Linux drivers to support new revision of Micron NAND flash MT29F2G08ABAEAWP. Drivers currently only support 1-bit error correction per 256 bytes of data. The new part requires 4-bit error correction per 512 bytes of data. The new part provides on-die 4-bit ECC algorithm in hardware. Bootloader must be modified to detect support for HW ECC and enable accordingly. Linux drivers must be modified to use on-die HW ECC if enabled or revert back to 1-bit ECC for older NAND flash revision.</p>
<b>Resolve the Loss of Video on certain SI Table change during runtime</b>	
Incident #	CSCto77589, CSCto86412
Severity	4 (Minor)
Description	<p>A change was made to the Calliope ASIC SI parser routine to resolve the loss of video when the virtual channel is moved from the upper channel number to the lower channel number in the SI table, and when the associated SI entry is removed from the SI table.</p>
<b>Resolve the intermittent false DAXI Loss of Sources alarm trigger and clear</b>	
Incident #	1034 (CSCto78120, CSCtq27194)
Severity	4 (Minor)
Description	<p>When the DAXI box was attached to the DSAN unit, the DSAN unit intermittently reported a false "DAXI Loss of Source" alarm even though there was no significant indication of actual input loss from the DAXI box. The false alarm was self-cleared shortly after the false alarming.</p> <p>A change was made to in the Calliope ASIC application code to prevent this false alarm.</p>

<b>Make DSAN SNMP agent reject the SET request on a saDsanEventLogLevel MIB object with an invalid value</b>	
Incident #	1096 (CSCto78157, CSCtw61733)
Severity	4 (Minor)
Description	<p>The saDsanEventLogLevel MIB object in the SA-DSAN-MIB defines three enumerations in its SYNTAX clause: terse(1), verbose(2) and debug(3). However, the DSAN SNMP agent accepts a SET request on a saDsanEventLogLevel object with an invalid enumeration value, such as 4, instead of rejecting the request. Setting the saDsanEventLogLevel object to 4 or above brings the DSAN event logging level to the debug log level.</p> <p>A change was made to the Calliope ASIC application code to reject SNMP SET requests with invalid (out of range) enumeration values. This fix was applicable to both saDsanEventLogLevel and saDsanSnmprMgrEnable tables.</p>
<b>Resolve spurious "Lid Opened" alarm on a system boot-up when a lid is closed</b>	
Incident #	CSCtr79243
Severity	4 (Minor)
Description	A change was made to the Calliope and DaVinci ASIC application code to read and report the state of the tamper switch properly.
<b>Make DSAN SNMP agent respond to both MIB walk and GET request on saDsanSession table entry</b>	
Incident #	CSCts44762
Severity	4 (Minor)
Description	A change was made to the Calliope ASIC application code to respond reliably to the MIB walk and single GET request on saDsanSession table entries.
<b>Occasional missing characters in Closed Captions</b>	
Incident #	CSCtr86192
Severity	4 (Minor)
Description	<p>Some content causes occasional missed characters in the Closed Captioning data. This issue has been confirmed by BroadLogic as a known issue with the BL81K ASIC. SCTE-20 and SCTE-21 closed captions are carried in the MPEG2 User Data within the video PID stream. Testing with content shows a typical dropped character pair about once every 10 seconds when the problem occurs.</p> <p>Changes were made to the FPGA Closed Caption preprocessor module to improve closed captioning performance.</p>

## Resolved Caveats

<b>Resolve the mismatch of DHCP option 43 and SNMP MIB sysDescr information</b>	
Incident #	CSCtr33330
Severity	5 (Cosmetic)
Description	<p>A change was made to the Calliope ASIC application code to:</p> <ul style="list-style-type: none"> <li>■ Synchronize the software version number to display without the minor build number from DHCP Option 43.</li> <li>■ Add "Cisco Systems, Inc." to the eHost and eCM sysDescr SNMP MIB objects.</li> <li>■ Remove the _eHost suffix from the model number reported in the eHost sysDescr to match DHCP option 43 and eCM sysDescr.</li> </ul>
<b>Suppress the upconverter self-test failure log when the system is in the middle of upconverter calibration process</b>	
Incident #	CSCtq89361
Severity	5 (Cosmetic)
Description	<p>A code enhancement was made to the Calliope ASIC application code to suppress the upconverter self-test failure log when the system was in the middle of the upconverter calibration process.</p> <p>As a result, self-test failure is reported only when a self-correction mechanism completely fails on the upconverter calibration.</p>
<b>Resolve the missing alarm indication when there is missing SI data</b>	
Incident #	CSCto77526
Severity	6 (New Feature)
Description	<p>When SI data was missing but cached data was available, no SNMP trap/alarm was indicated. In this case, the unit properly output video from cached data, but did not present an alarm.</p> <p>A change was made to the Calliope ASIC application code to send the SNMP trap and to set the alarm when SI data was missing but cached data was available at system start-up.</p>
<b>Add CRC-32 Checksum verification mechanism in SI and EAS parser</b>	
Incident #	CSCto77563
Severity	6 (New Feature)
Description	<p>A code enhancement was made to the Calliope ASIC application code to add the CRC-32 checksum verification mechanism in the SI and EAS parsers for improving error handling when the incoming packet was corrupted.</p>

<b>Log DSAN HW serial number, HW version and SW version into the event log at system startup</b>	
Incident #	CSCtq89335
Severity	6 (New Feature)
Description	A code enhancement was made to the Calliope ASIC application code to log the DSAN HW serial number, HW version, and SW version to the DSAN event log file.
<b>Make Audio Level Control (ALC) provisionable via a host configuration file</b>	
Incident #	CSCtr83724
Severity	6 (New Feature)
Description	A change was made to the Calliope ASIC application code to read the ALC/DRC setting from the host configuration file to enable/disable ALC at system start-up. A new TLV entry was added to the host configuration file.
<b>Disable the special EAS force-tune implementation</b>	
Incident #	CSCts42659
Severity	6 (New Feature)
Description	A change was made to the Calliope and DaVinci ASIC application code to disable the EAS force-tune when the details channel was not in the currently configured channel map.
<b>Support EAT/EOM type EAS message when the details channel is in the configured channel map</b>	
Incident #	CSCtt37611
Severity	6 (New Feature)
Description	A change was made to the Calliope ASIC application code to support EAT/EOM type EAS messages when the carried details channel is in one of the configured channel maps.
<b>Remove SCTE-127 support</b>	
Incident #	CSCua23871
Severity	6 (New Feature)
Description	A change was made to the Calliope ASIC application code to remove support for SCTE-127 channel configuration and reporting in the diagnostic pages and via SNMP.
<b>Added diagnostic page to report EAS status and history</b>	
Incident #	CSCud93899
Severity	6 (New Feature)

## Resolved Caveats

Description	A change was made to the Calliope ASIC application code to add a diagnostic page to report EAS event status as well as a history of recent EAS events.
<b>Update Embedded Cable Modem Software version</b>	
Incident #	CSCuf93787
Severity	6 (New Feature)
Description	Embedded Cable Modem Software version was updated to v10.10.85x. A code enhancement was made to the Embedded Cable Modem state machine and state timers to establish two-way communication more reliably.
<b>DSAN Boot time in diag page is advancing slightly over long runs</b>	
Incident #	CSCug54301
Severity	5 (Cosmetic)
Description	The boot time is advancing about 15 seconds every day if left without rebooting. The DSAN system clock is lagging the real time slightly. When the DSAN gets the real time from STT, it updates the offset to its system time and also to the boot time. The boot time must not be changed due to clock offsets with real time. The boot time is made fixed from the first available system time in this release, and no longer changes due to system time offsets.
<b>Diagnostic field to indicate the NAND flash type</b>	
Incident #	CSCui56257
Severity	5 (Cosmetic)
Description	A new field is added in diagnostic page 12 to indicate the type of the NAND flash part. The old NAND flash part supports 1-bit ECC, while the new part support 4-bit ECC.

## Known Caveats

There are no known unresolved software items in DSAN System Release 3.0.24.

## Bug Toolkit

If you need information about a specific caveat that does not appear in this release note, you can use the Cisco Bug Toolkit to find caveats of any severity. Use the following URL to access the Bug Toolkit:

**<http://tools.cisco.com/Support/BugToolKit/>**

If you request a defect that cannot be displayed, the defect number might not exist, the defect might not yet have a customer-visible description, or the defect might be marked Cisco Confidential.

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at:

**<http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html>**

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