



Cisco Digital Service Access Node (DSAN) System Release 1.01.54 Release Note

Overview

Introduction

This system release supports the Cisco Digital Service Access Node (DSAN). This document describes features and lists the resolved and outstanding items with System Release 1.01.54.

Purpose

This system release note is being provided for user support related to the installation and operation of System Release 1.01.54.

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 Publications

You may find the following publications useful as you implement the procedures in this document.

- *Cisco DSAN System Installation and Operation Guide*, part number 78-4032302-01

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Release Purpose

This system release includes targeted updates to:

- Change the SCTE-65 Parser to prevent dropped channels during SI microburst conditions.
- Add CRC-32 checksum verification for the SI packet.
- Add a detection and recovery mechanism that responds when the BL81K video processor goes into a continuous PSI error state.

Hardware

This system release is supported on hardware that has Revision 5 and later digital boards and Revision 3 and later RF boards. These units are most easily identified by their housings, which are white enamel painted.

This system release is **not** supported on the following units, which previously shipped with Revision 4 digital boards.

Assembly Serial Number	eCM MAC Address	eMDTA MAC Address
DSBBBBBCX	0023BEBBAE45	0023BEBBAE44
DSBBBBBDH	0023BEBBAAB1	0023BEBBAAB0
DSBBBBBFK	0023BE9E1611	0023BE9E1610
DSBBBBBDC	0023BEBBB241	0023BEBBB240
DSBBBBBFS	0023BEA1C60F	0023BEA1C60E
DSBBBBBFT	0023BEA1C4B1	0023BEA1C4B0
DSBBBBBDJ	0023BEBBAAB7	0023BEBBAAB6
DSBBBBBCS	0023BEBBBEE3	0023BEBBBEE2
DSBBBBBCZ	0023BEBBAE4F	0023BEBBAE4E
DSBBBBBBZ	0023BE9954BF	0023BE9954BE
DSBBBBBDF	0023BEBBBEB3	0023BEBBBEB2
DSBBBBBDD	0023BEBBB245	0023BEBBB244
DSBBBBBDB	0023BEBBB237	0023BEBBB236
DSBBBBBCT	0023BEBBAA95	0023BEBBAA94
DSBBBBBFC	0023BE9E1411	0023BE9E1410

Software

The system release is numbered as 1.01.54. 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 1.01.54.

Module Application	Version Number
Calliope Boot Image	0.8
Calliope Application Image	1.01.54

System Release History

The following table summarizes the DSAN system release history.

Release	Ref #	Date	Details
R1.01.12	1.1.C	03/30/2010	<ul style="list-style-type: none"> ■ Improved behavior in response to SI data changes. ■ Fixed software download bug. ■ Fixed RF input loss recovery issue. ■ Modified DDR memory refresh rate. ■ Added stale EMM alarm.
R1.01.17	1.1.D	04/19/2010	<ul style="list-style-type: none"> ■ Improved resistance to microphonics through BL12K loop bandwidth adjustment. ■ Added SCTE-127 guide pass-through support. ■ Reformatted flash partition to eliminate catastrophic memory corruption during AC power interrupts at -40°C.
R1.01.19	1.1.D+	05/18/2010	<ul style="list-style-type: none"> ■ Implemented Channel 32/64 video fix (Decoder/VSB remapped to eliminate spur).
R1.01.20	1.1.D++	05/27/2010	<ul style="list-style-type: none"> ■ Implemented 12C fix (open switch to tuner to remove traffic).
R1.01.21	1.1.D3	06/04/2010	<ul style="list-style-type: none"> ■ Adjusted BL12K loop bandwidth to balance microphonics and demodulation performance.
R1.01.23	1.1.D4	06/13/2010	<ul style="list-style-type: none"> ■ Release to support head end field trial. ■ Implemented workaround for low power demod issue.
R1.01.24	1.1.D5	06/22/2010	<ul style="list-style-type: none"> ■ Release to support MDU field trial. ■ Removal of Eng login.
R1.01.27	1.1.D6	07/21/2010	<ul style="list-style-type: none"> ■ Implemented fix to ignore extended DOCSIS headers (V3) to present DSG data filtering. ■ Implemented fix to restore DSG data flows properly following DCD update.
R1.01.31	1.1.D8	10/15/2010	<ul style="list-style-type: none"> ■ Improved eCM renaming performance. ■ Fixed DOCSIS connectivity loss issue. ■ Fixed EDCM table corruption.

Release	Ref #	Date	Details
R1.01.45	1.1.E	01/18/2011	<ul style="list-style-type: none"> ■ Added support for internal content re-encryption. ■ Resolved unexpected frozen video on a PowerKEY encrypted channel. ■ Added support for PAT/PMT table carried in multiple MPEG2-TS packet. ■ Resolved highly intermittent silent unit reboot. ■ Added support for TV guide pass-through on a PowerKEY encrypted channel. ■ Adjusted the runtime PSI packet monitoring interval. ■ Increased accuracy in reporting CA and SecureMicro status. ■ Improved the overall analog channel power flatness. ■ Added CLI/Telnet screen display VCT_ID in decimal. ■ Improved video quality on channels 96-99. ■ Resolved incorrect display of FEC start (RS Tot Blocks count) on a counter rollover. ■ Added support for new RF board Revision 5 hardware. ■ Initialized the system clock with the eCM time.
R1.01.49	1.1.E1	06/11/2011	<ul style="list-style-type: none"> ■ Disabled support for internal content re-encryption.
R1.01.50	1.1.E2	09/16/2011	<ul style="list-style-type: none"> ■ Changed the BL81K DDR2 memory clock timing to 192 MHz.
R1.01.54	1.1.E3	07/23/2012	<ul style="list-style-type: none"> ■ Changed the SCTE-65 Parser to prevent dropped channels during SI microburst. ■ Added SI packet CRC-32 checksum verification. ■ Added detection and recovery mechanism triggered when the BL81K video processor goes into continuous PSI error state.

Supporting Software and Files

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

Software/Files	Release #	Filename(s)	Build Date
Proprietary MIBs	201008240000Z	SA-DSAN-MIB.mib	24 Aug 10
DOCSIS MIB	9908190000Z	DOCS-CABLE-DEVICE-MIB.mib	17 Aug 09

Resolved Software Items

The following table details software items that are resolved in DSAN system release 1.01.54.

Video channel lost due to SI microburst issue	
Incident #	CSCub11597
Severity	Enhancement
Description	<p>The input buffer overruns in CMTS due to a large amount of incoming SI data bursts from DNCS, causing excessive loss of SI data packets on the network/system. In extreme cases, it may take 15 minutes or more to obtain a complete SI table, where normally this takes only 20 seconds.</p> <p>Under SI Microburst conditions, the "dropped channel" detection logic can incorrectly detect channels as dropped and cause the channels to go black until the next Defined Channel Map is received that corrects the DSAN's internal SI lookup table.</p> <p>A code modification was made to the SCTE-65 parser to disable the Dropped Channel detection logic for preventing the channel drop and provide an alarm to indicate the SI Microburst condition is present and alert the customer that network issues exist. The alarm text reads "SI Data Packet Loss detected." This condition is also reflected in the DSAN log file. Additionally, if the DSAN is configured to send traps, an SNMP trap with severity 5 - Warning and category "Communication" is sent.</p> <p>A CRC32 checksum verification for the SI packet was also added.</p>
DSAN is in continuous PSI error state due to BL81K DMA engine corruption	
Incident #	CSCub09069
Severity	Moderate
Description	<p>Multiple DSANs (v1.1.50 SW image) installed in the field have experienced continuous PSI errors and have required a reboot to recover. It is theorized that the "hostile environment" of MPEG corruption in the input may be triggering the video processor (BL18K) DMA memory corruption. This, in turn, is causing repeated intermittent PSI parsing errors. When this occurs, the associated output services to that demodulator appear frozen. This is observed to clear on the next polling cycle of the parser, but to appear again later on a different demodulator.</p> <p>This issue has only been observed in the Minneapolis region.</p> <p>A code modification was made to detect the BL81K DMA engine corruption and to recover the unit without a system reboot.</p>

Outstanding Software Items

The following table details software items that remain unresolved in DSAN system release 1.01.54.

Occasional missing characters in Closed Captions	
Incident #	655
Severity	Minor
Description	Some content causes occasional missed characters in the Closed Captioning data. This issue has been confirmed by BroadLogic to be a known issue with the BL81K ASIC. SCTE-20 and SCTE-21 closed captions carried in MPEG2 User Data within the video PID stream. The BL81K ASIC requires the User Data to be an even number of bytes after the preceding picture header or sequence header start code. When odd byte alignment occurs, a character pair may be dropped from the Closed Captioning data. Testing with content shows a typical dropped character pair about once every 2-3 minutes.
Missing SI data does not indicate an alarm	
Incident #	1101
Severity	Minor
Description	When there is missing SI data but the cached data is available, no SNMP trap/alarm is indicated. In this case, the unit properly outputs video from cached data but does not present an alarm.
SNMP triggered SW upgrade does not continue on loss of RF input or power cycle interruption	
Incident #	1102
Severity	Minor
Description	The SNMP triggered SW upgrade does not continue, and may select the wrong file when there is a loss of RF input or a power cycle interruption during the SW upgrade. This issue only occurs if the interrupt occurs during the download. The eCM configuration driven SW upgrade has no issue. Workaround solution: Use the eCM configuration based SW upgrade instead of the SNMP triggered SW upgrade.
Intermittently false DAXI Loss of Sources alarm is triggered and cleared	
Incident #	1034
Severity	Minor

Description	When the DAXI box is attached to the DSAN unit, the DSAN unit intermittently reports a false "DAXI Loss of Source" alarm even though there is no significant indication of actual input loss from the DAXI box. The false alarm clears itself shortly thereafter.
DSAN SNMP agent does not reject the "set" request on an saDsanEventLogLevel MIB object with an invalid value	
Incident #	1096
Severity	Cosmetic
Description	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 the "set" request on a saDsanEventLogLevel object with an invalid enumeration value, such as 4, instead of rejecting the "set" request. Setting the saDsanEventLogLevel object to a value 4 or above brings the DSAN event logging level to the "debug" log level.

For 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.



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