Release Notes for Linksys WCM300 Cable Modem Software

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These release notes describe information about support for the Linksys WCM300 cable modem software, up to and including Version 1.5.

Contents

This release notes contains the following sections:

Introduction

The Linksys WCM300-NA (for DOCSIS) and WCM300-JP (for J-DOCSIS) wideband cable modems support the acquisition of up to three wideband (bonded) channels:

- One primary bonded channel
- Two secondary bonded channels

For each wideband channel, the Linksys WCM300 wideband cable modem supports the reception of one or more bonded Radio Frequency (RF) channels. The Linksys WCM300 software supports the receiving of a 50-MHz capture window of up to eight downstream channels at 6 MHz per channel or six downstream channels at 8 MHz per channel. The total of the RF channels in the primary and secondary bonded channels must comply with the 50-MHz capture window limitation.

Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

For wideband, the Linksys WCM300 also supports reception of one primary downstream channel (traditional DOCSIS channel from the Cisco uBR10-MC5X20 line card) for MAC management and signaling messages, and uses the associated traditional DOCSIS upstream channel for return data traffic and signaling. The upstream channel works as it does in DOCSIS 2.0 cable modems.

System Requirements

Table 1 lists the Linksys WCM300 software to which these release notes apply.

Table 1 Linksys WCM300 Software

Software Image	Description
wcm300jp-mzs.1.5.img	Signed code file for Japan
wcm300na-mzs.1.5.img	Signed code file for North American DOCSIS

For the reception of wideband (bonded) channels, the Linksys WCM300 modem requires that the cable modem termination system (CMTS) is the Cisco uBR10012 router. The Cisco uBR10012 CMTS must have certain components installed, such as the Cisco 1-Gbps Wideband shared port adapter (SPA), Cisco Wideband SPA Interface Processor (SIP), and other associated modular CMTS components. For the complete CMTS component set that is required for the reception of bonded channels on the Linksys WCM300 modem, see the *Cisco Cable Wideband Solution Design and Implementation Guide, Release 1.0*.

The Linksys WCM300 modem is also compatible with DOCSIS 2.0 and will operate in that mode if the modem is connected to a non-wideband Cisco CMTS or to a non-Cisco CMTS. The modem is also backward-compatible with existing DOCSIS 1.x networks. The Cisco uBR10012 router is *not required* as the CMTS for DOCSIS 1.x/2.0 operation.

Limitations and Restrictions

Note The Linksys WCM300 wideband cable modem should be kept at least 12 inches away from the IEEE 802.11 b, g, and n routers.

Caveats

Caveats describe unexpected behavior in Cisco IOS software releases. Severity 1 caveats are the most serious caveats; severity 2 caveats are less serious. Severity 3 caveats are moderate caveats.

Open Caveats in Version 1.5

- TLV 11 issue

  Symptom: Setting 0x40 and disabling the HTTP access from CPE side to the modemCmHTTPAccessEnable MIB with configuration file (TLV11) disables both RF and CPE side access.

  Condition: The issue was caused by the TI 3-party library.

Resolved Caveats in Version 1.5

- CSCsv33971

  Symptom: Modification of the Japanese frequency scanning plan for the Linksys WCM300.

  Condition: Japanese customers wanted to have an extended Incremental Related Carrier (IRC) scanning frequency plan right after original Japanese scanning frequency plan.

  Workaround: The new frequency scanning plan is as follows:

  1. 93 MHz to 767 MHz (original Japanese plan)
  2. 93 MHz to 857 MHz (extended Japanese plan)
  3. 93 MHz to 855 MHz (US plan)
  4. go back to (1).

Open Caveats in Version 1.4

There are no open caveats in version 1.4 for Linksys WCM300 software.

Resolved Caveats in Version 1.4

- CSCsq58192

  Symptom: The Linksys WCM300 suspends normal operation when the RF signal is terminated.

  Conditions: This occurs when the RF signal recovers after several seconds.

  Workaround: Reboot the Linksys WCM300.

Open Caveats in Version 1.3

- CSCsk03623

  Symptom: The Linksys WCM300 software is not able to initialize after a switchover and disappears.

Resolved Caveats in Version 1.3

- CSCsk50678

  The Annex-A cable modem failed to acquire the RF sync signal from the bonding group.

- CSCsk77562

  The HTTP (WebUI) access is not enabled in the Linksys WCM300 original design after cable modem registration.

- CSCsk77593

  The original Linksyssoftware had Power, Downstream, Upstream,Online, and Link/Activity LEDs function in accordance with section 10.1 of DOCSIS 2.0 OSSI specifications. In version 1.3, Linksys software has been changed as per requirements from the customer. The new software uses the LED scheme listed in Table 2.

- CSCsk78953

  The modem failed to come to w-online state. Plant condition variations might cause locking problems on the WB Downstream.

- CSCsl22467

  For a physical configuration that has different fiber nodes containing separate RF channels that use the same frequency, Cooper CM randomly selects a downstream service group (DS-SG), sometimes making the wrong DS-SG selection.

Table 2 LED Schemes

Power	Downstream	Upstream	Online	Ethernet	Description
ON	FLASH	OFF	OFF	X	Downstream scan, begin sync
ON	ON	ON	ON	ON	Power on 0 sec to 0.25 sec
ON	FLASH	FLASH	FLASH	ON	System initialization, testing hardware
ON	ON	FLASH	OFF	X	Sync acquired, begin upstream scan
ON	ON	ON	FLASH	X	Start DHCP, config file download, registration, BPI initialization
ON	ON	ON	ON	X	Operational (NACO = ON)
ON	FLASH	FLASH	OFF	X	Operational (NACO = OFF)
ON	FLASH	FLASH	ON	X	Software download / Flash memory update

Open Caveats in Version 1.2

- CSCsl10739

  Symptom: The flash memory is erased when the Annex A Cooper cable modem (CM) attempts to download an Annex B image and a Code Verification Certificate (CVC) failure is seen while programming the flash. Consequently, the Cooper CM ends up with no image in that sector of flash.

  Condition: This problem occurs with the Annex B Cooper CM (downloading the Annex A image) and the Annex A Cooper CM (downloading the Annex B image).

Resolved Caveats in Version 1.2

- CSCsk20318

  Symptom: The Linksys WCM300 modem channel synchronization is too robust.

  Workaround: A positive lock is required to avoid “false positive lock” indication.

Open Caveats in Version 1.1

- CSCse36644

  Symptom: The Linksys WCM300 fails to complete a sweeping ping of the CPE device when the CPE uses a Gigabit Ethernet interface that does not support Pause flow control.

  This is a known design limitation. The upstream buffering for the Customer Premies Equipment (CPE) interface is only 8 KB. The TCP slow start mechanism ensures that data is sent at a low rate when sending from a higher speed network into a slower speed mechanism. Due to the slow upstream rates, a single TCP client can be expected to send only a single Maximum Transmission Unit (MTU) at a time. Therefore, the 8-KB buffer limit should only be exposed if six or more clients happen to be sending MTU-sized packets simultaneously. Statistically, many more than six clients would have to be sending in order to have their MTU-sized packets line up. When the 8-KB buffer limit is hit, packets will be dropped resulting in retransmission.

  Workaround: Use a CPE Gigabit Ethernet interface that supports Pause flow control, or if bandwidth requirements permit, use a Fast Ethernet CPE interface instead of a Gigabit Ethernet interface.

- CSCsh29521

  Symptom: When the Linksys WCM300 sees two identical secondary bonding group configurations from two different CMTS routers, it is possible that the Linksys WCM300 modem will lock on to a primary bonded channel from one CMTS and secondary bonding channels from the other CMTS.

  Currently, there is no mechanism defined for the Linksys WCM300 modem to detect when a bonding group is coming from a different CMTS.

  Workaround: There is no known workaround.

- CSCsi00494

  Symptom: The Linksys WCM300-JP modem running the J-DOCSIS software image does not operate in the extended downstream region 70 to 88 MHz.

  Workaround: There is no known workaround.

- CSCsi35238

  Symptom: The ccmwbRFChannelDownPower (CISCO-CABLE-MODEM-WIDEBAND-MIB object), which reports power on wideband channels, shows power that is 10 times greater than the actual power.

  Workaround: Divide the power reported by 10.

- CSCsi85360

  Symptom: The SysDescr (SNMPv2-MIB object) does not report the appropriate model number/SKU for the Linksys WCM300 modem.

  Workaround: There is no known workaround.

- CSCsj87189

Symptom: In the Linksys Web User Interface, the StatusLog.htm page does not reload in the Netscape browser when the Reload button is clicked.

Workaround: There is no known workaround.

- CSCsj97839

  Symptom: The CMTS does not allow the Linksys WCM300 to come to the w-online state if the total number of channels provisioned for the modem in the primary and secondary bonding groups exceeds eight because channels overlap between the groups.

  Workaround: Overlapping channels can be used, but the total number of channels provisioned for a WCM300 must not exceed eight.

Resolved Caveats in Version 1.1

- CSCsi54213

  When ifAdminStatus (IF-MIB object) is set to the down state for one index, all indexes are shown as down.

- CSCsi55708

  The ifSpeed (IF-MIB object) for the CPE interface shows 100 Mbps when actual speed is 1000 Mbps.

- CSCsj77153

  The ccmwbBundleBSID (CISCO-CABLE-MODEM-WIDEBAND-MIB object) does not correctly display wideband channel IDs.

- CSCsj97022

  The Linksys Web User Interface needs to be implemented on Linksys WCM300 modem.

Related Documentation

Refer to the following documents for additional information about the Linksys WCM300 modem and the Cisco Cable Wideband Solution:

- *Cisco Cable Wideband Solution Design and Implementation Guide, Release 1.0*

  http://www.cisco.com/en/US/docs/cable/cmts/wideband/solution/guide/release_1.0/wb_solu.html

- *Cisco uBR10012 Universal Broadband Router SIP and SPA Software Configuration Guide*

  http://www.cisco.com/en/US/partner/docs/interfaces_modules/shared_port_adapters/configuration/ubr10012/12.3_23_bc/sipsp_d3.html

- *Cisco uBR10012 Universal Broadband Router SIP and SPA Software Configuration Guide - For Cisco IOS Releases 12.3(21)BC, 12.3(21a)BC3 and later 12.3(21a)BCx releases*

  http://www.cisco.com/en/US/docs/interfaces_modules/shared_port_adapters/configuration/ubr10012/12.3_21_bc/swsipspa_book.html

- *Cisco uBR10012 Universal Broadband Router Documentation Roadmap*

  http://www.cisco.com/en/US/docs/cable/cmts/ubr10012/roadmap/u10krdmp.html

- *Cisco uBR7200 Series Universal Broadband Router Documentation Roadmap*

  http://www.cisco.com/en/US/docs/cable/cmts/ubr7200/roadmap/7200rdmp.html

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