

Configuring Concatenation on the Cisco uBR7200 Series Cable Router

Feature Overview

Concatenation is now configurable. You can turn it on or off.

Benefits

Some modems experience problems when concatenation is enabled. This feature allows you to prevent concatenation-related problems by allowing you to turn it off.

Restrictions

This feature is not supported on the MC11 modem card as the MC11 does not support concatenation.

Related Features and Technologies

Table 1 lists the IOS cable router features released in the IOS 12.0 timeframe.

Table 1 uBR7200 Series Cable Router Features Available Since 12.0 T

Available With:	Category	Feature
11.3(5)NA & 12.0(3)T	Cable Features	Feature Enhancements
11.3(6)NA		MC16 Modem Card
11.3(8)NA		Access List Support Enhancements
12.0(4)T		Downstream Channel ID Configuration
12.0(4)T		Multiple Service ID Support
12.0(4)T		Cable Modem and Host Subnet Addressing
12.0(5)T		Telephone Return
12.0(5)T		Time Server Functionality
12.0(7)T		Amplitude Averaging Compensation
12.0(7)XR		Cable Interface Bundling
12.0(7)XR		Enhanced Modem Status Display
12.0(7)XR		Show Interface Cable Command Verbose Enhancements
12.0(7)XR		IP Address Verification

Available With:	Category	Feature
12.0(7)XR		Registration Timeout Configuration
12.0(7)XR		Show Cable Modem Command Enhancements
12.0(7)XR		Modem Status Summary Enhancements
12.0(7)XR		Show Controller Command Enhancements
12.0(7)XR		Configuring Concatenation
12.0(7)XR		Virtual Private Network Support
12.0(7)XR		Blind Hopping Support on the MC16S Modem Card
12.0(7)XR		Signal-to-Noise Ratio Data Support
11.3(9)NA and 12.0(4)T	Cable QoS	QoS Profile Enforcement
12.0(4)T		Quality of Service for Voice
11.3(9)NA	Network Management	Upstream Traffic Shaping Feature
12.0(5)T		Enhanced-Spectrum Management
12.0(5)T		Downstream Rate Shaping with TOS bits
12.0(7)XR		Spectrum Management Using the MC16S Modem Card
12.0(7)XR		Downstream Test Signals Configuration
12.0(7)XR	Wireless Features	Point-to-Point Wireless Support

Related Documents

The uBR7200 series cable router is described in *Voice, Video, and Home Applications Configuration Guide* for Cisco IOS Release 12.0 and in the following online feature modules:

- *Cisco uBR7246 Universal Broadband Router Feature Enhancements*
- *MC16 Modem Card for uBR7200*
- *uBR7200 Series Access List Support Enhancements*
- *QoS Profile Enforcement for the Cisco uBR7200 Series Router*
- *Upstream Traffic Shaping Feature*
- *Configuring Downstream Channel IDs*
- *Telephone Return for the Cisco uBR7200 Series Cable Router*
- *Enhanced-Spectrum Management for the Cisco uBR7200 Series Cable Router*
- *Time Server Functionality*
- *Cable Interface Bundling for the Cisco uBR7200 Series Cable Router*
- *Quality of Service for Voice on the Cisco uBR7200 Series Cable Router*
- *Modem Status Enhancements for the Cisco uBR7200 Series Cable Router*
- *Load Sharing Support*
- *Cable Modem and Host Subnet Addressing*
- *MGX Resource Pool Management Hardware Diagnostics*
- *IP Address Verification for the Cisco uBR7200 Series Cable Router*

- *Configuring the Registration Timeout Value for the Cisco uBR7200 Series Cable Router*
- *Spectrum Management Using the MC16S Modem Card on the Cisco uBR7200 Series Cable Router*
- *Configuring Downstream Test Signals for the Cisco uBR7200 Series Cable Router*
- *Configuring Concatenation on the Cisco uBR7200 Series Cable Router (this feature)*
- *Point-to-Point Wireless Support for the Cisco uBR7200 Series Universal Broadband Router*
- *Blind Hopping Support on the MC16S Modem Card for the Cisco uBR7200 Series Cable Router*
- *Downstream Rate Shaping with TOS bits on the uBR7200 Series Cable Router*
- *Amplitude Averaging Compensation on the Cisco uBR7200 Series Cable Router*

Supported Platforms

uBR7200 series cable router

Supported Standards, MIBs, and RFCs

Standards

No new or modified standards are supported by this feature.

MIBs

No new or modified MIBs are supported by this feature.

RFCs

No new or modified RFCs are supported by this feature.

Configuration Task

Step	Command	Purpose
1	Router(config-if)# cable upstream n concatenation	Turns on concatenation on the specified channel.
2	Router(config-if)# no cable upstream n concatenation	Turns off concatenation on the specified channel.

Monitoring and Maintaining Concatenation

Command	Purpose
Router# <code>show controller cable slot/port</code>	Displays the current status of concatenation for the specified slot and port.

Configuration Examples

The following example indicates (in bold) that concatenation is turned off.

```

Lab-CMTS#show controller cab 3/0
Interface Cable3/0
Hardware is BCM3210 FPGA
 idb 0x6182BE18 MAC regs 0x3D900000 PLX regs 0x3D800000
 rx ring entries 1024 tx ring entries 128 MAP tx ring entries 128
 Rx ring 0x4B09A400 shadow 0x61849408 head 359
 Tx ring 0x4B09C440 shadow 0x6184A478 head 85 tail 85 count 0
 MAP Tx ring 0x4B09C880 shadow 0x6184A8E8 head 7 tail 7 count 0

MAP timer sourced from slot 4

throttled 0 enabled 0 disabled 0
Rx: spurious 341 framing_err 0 hcs_err 2 no_buffer 0 short_pkt 2
    no_enqueue 0 no_enp 1 miss_count 0 latency 16
    invalid_sid 0 invalid_mac 0 bad_ext_hdr_pdu 0 concat 0 bad-concat 0
Tx: full 0 drop 0 stuck 0 latency 1
MTx: full 0 drop 0 stuck 0 latency 9
Slots 68056 NoUWCollNoEngy 15 FECorHCS 2 HCS 0
Req 1803579865 ReqColl 1 ReqNoise 276120 ReqNoEnergy 0
ReqData 0 ReqDataColl 0 ReqDataNoise 0 ReqDataNoEnergy 0
Rng 143099 RngColl 0 RngNoise 3891
FECBlks 0 UnCorFECBlks 0 CorFECBlks 0
MAP FIFO overflow 0, Rx FIFO overflow 0, No rx buf 0
DS FIFO overflow 0, US FIFO overflow 0, US stuck 0
Bandwidth Requests= 0xFFC9
Piggyback Requests= 0xA1D
Ranging Requests= 0x22039
Timing Offset = 0x0
Bad bandwidth Requests= 0x31BC
No MAP buffer= 0x0
Cable3/0 Downstream is up
Frequency not set, Channel Width 6 MHz, 64-QAM, Symbol Rate 5.056941 Msps
FEC ITU-T J.83 Annex B, R/S Interleave I=32, J=4
Downstream channel ID: 0
Cable3/0 Upstream 0 is up
Frequency 20.208 MHz, Channel Width 1.600 MHz, QPSK Symbol Rate 1.280 Msps
Spectrum Group is overridden
SNR - Unknown
Nominal Input Power Level 0 dBmV, Tx Timing Offset 4667
Ranging Backoff automatic (Start 0, End 3)
Ranging Insertion Interval automatic (60 ms)
Tx Backoff Start 0, Tx Backoff End 4
Modulation Profile Group 1
Concatenation is disabled
part_id=0x3136, rev_id=0x05, rev2_id=0x64
nb_agc_thr=0x3000, nb_agc_nom=0x0000
Range Load Reg Size=0x58
Request Load Reg Size=0x0E
Minislot Size in number of Timebase Ticks is = 8
Minislot Size in Symbols = 64
Bandwidth Requests = 0xFFD0
Piggyback Requests = 0xA1D
Invalid BW Requests= 0x31BC
Minislots Requested= 0x1A21F3
Minislots Granted = 0x1A21F3
Minislot Size in Bytes = 16
Map Advance = 4000 usecs
UCD Count = 46643

```

Command Reference

This section documents the new **cable upstream concatenation** command. All other commands used with this feature are documented in the Cisco IOS Release 12.0T command reference publications.

cable upstream concatenation

To turn concatenation on or off, use the **cable upstream concatenating** interface configuration command. To turn off concatenation, use the **no** form of this command.

cable upstream *n* concatenation

no cable upstream *n* concatenation

Syntax Description

n Specifies the upstream channel.

Default

Enabled

Command Mode

Interface configuration

Command History

Release	Modification
12.0(7)XR	This command was introduced.

Usage Guidelines

Since the MC11 modem card does not support concatenation, this command is not supported on this card. Concatenation is always disabled for the MC11 modem card.

