

**CABLE MODEM TERMINATION SYSTEM**



**New Features**

- 32D Annex A Operation for the eXtended Downstream Cable Access Module (XD CAM)
- IS-IS Point-to-Point Adjacency
- Hitless Upstream Dynamic Channel Change for Cable Modems that are Bonded in the Downstream Only
- CM-STATUS Sequence Out of Range Handling
- Show Tech-Support Brief
- Store Only Valid BPI Certificates
- CAM Downstream Channel Power Monitoring
- Provisionable Number of Equalizer Taps
- 24 Downstream Channel Bonding – Lab and Field Trial
- Support for 5-85 MHz Upstream Channels on the 24U CAM – Lab Trial Only

The ARRIS C4 CMTS Release 8.1.5 is providing another set of major feature additions intended to increase profitability and operational efficiency for customers of the industry-leading DOCSIS® 3.0 C4 CMTS. The C4 CMTS allows an operator to cost-effectively deploy DOCSIS, PacketCable™, DSG/ADSG, and PacketCable Multimedia (PCMM™) services. The C4 CMTS increases subscriber satisfaction and retention via a self-healing design that maintains system services without interruption, providing industry-leading 99.999% system availability.

With Rel. 8.1.5, ARRIS delivers another increase of density in the downstream with the eXtended Downstream Cable Access Module (XD CAM) for those operators who use Annex A (8 MHz) downstream channels. Beginning with Rel. 8.1.5, an operator can increase the number of Annex A downstream channels from 16 or 24 to 32.

Release 8.1.5 provides a number of significant operations enhancements in addition to 32D Annex A support for the XD CAM. Operators can configure IS-IS to use point-to-point adjacencies. Operators can also use Dynamic Channel Change (DCC) to hitlessly move a cable modem to a different upstream channel when it is only bonding in the downstream direction. The C4 CMTS will take action to quickly resolve a Sequence Out of Range error condition reported by a cable modem in the CM-STATUS message. Operators can use “show tech support brief” to collect vital data in a minimal amount of time for faster restoration of services. Storing only valid BPI certificates can ensure that cable modems with valid BPI certificates will be able to register. Operators can provision the number of upstream equalizer taps on the C4 CMTS in Rel. 8.1.5 based on the specific configuration/scenario to get a more accurate signal-to-noise ratio (SNR) measurements. All of these features are supported with high availability, at maximum subscriber density, and with independent configuration of upstream and downstream channels using dedicated upstream (12U and 24U) and downstream (16D and XD) CAMs. In addition, operators can trial 24 downstream channel bonding in the lab or the field, and operators can lab trial 5 to 85 MHz support for upstream channels on the 24U Cable Access Module (CAM).

## C4 CMTS System Release 8.1.5

The ARRIS C4 CMTS features a 21 slot chassis with a mid-plane-based architecture designed for continuous system operation. This unique architecture allows the C4 CMTS to provide carrier-grade integrated Layer 3 edge routing, hitless RF sparing, and advanced CMTS functionality in a single chassis. The following modules are supported:

- System Control Module (SCM), including support for the SCM II, SCM II EM, SCM II EM(U), and SCM 3
- Router Control Module (RCM)
- Downstream and Upstream Cable Access Modules (CAMs) — 16D CAM, XD CAM, 12U CAM, 24U CAM

### **32D Annex A Operation for the eXtended Downstream Cable Access Module (XD CAM)**

In Rel. 8.1.5, the XD CAM has been enhanced to support up to 32 Annex A downstream channels with the purchase of additional downstream software licenses.

### **IS-IS Point-to-Point Adjacency**

IS-IS point-to-point adjacency is supported to simplify shortest path calculations and reduce convergence times and the size of the topology database.

### **Hitless Upstream Dynamic Channel Change for Cable Modems that are Bonding in the Downstream Only**

Operators can use DCC to hitlessly move modems with downstream channel bonding to a new upstream channel.

### **CM-STATUS Sequence Out of Range Handling**

Rel. 8.1.5 enables the C4 CMTS to more quickly recover a reported Sequence Out of Range event.

### **Store Only Valid BPI Certificates**

Rel. 8.1.5 provides the ability to store only valid BPI certificates, which helps to prevent potential inadvertent blocking of valid modem registration due to having too many invalid or untrusted BPI certificates stored.

### **CAM Downstream Channel Power Monitoring**

CAM Downstream Power Monitoring adds the capability to monitor and log potential errors with the per-QAM output power of 16D and XD CAMs. Operators can optionally enable for CAM sparing/recovery for specific conditions.

### **24 Downstream Channel Bonding – Lab and Field Trial**

Operators can trial 24 downstream channel bonding in the lab or field on the C4 CMTS with Rel. 8.1.5.

### **Provisionable Number of Equalizer Taps**

Rel. 8.1.5 enables operators to provision the number of equalizer taps on upstream ports to provide a more accurate SNR measurement for the specific configuration and scenario.

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