



C4c™ CMTS

System Release 7.3



Features

- Based on field-proven DOCSIS® 3.0 C4® CMTS technology
- Extended DOCSIS 3.0 Downstream Channel Bonding, bonding up to eight downstream channels
- DOCSIS 3.0 Upstream Channel Bonding, bonding up to four upstream channels with BPI+ encryption
- Layer 2 VPN per CableLabs® BSoD specifications
- Intermediate Station to Intermediate Station (IS-IS) and Border Gateway Protocol (BGPv4) support for IPv4
- IPv6 Support Phase 2 – Dual Stack CPE, IS-IS Routing, Downstream Subscriber Management Filters, and others
- Security and Operational enhancements

The ARRIS C4c™ CMTS Release 7.3 is a compact DOCSIS® 3.0 CMTS based on the proven hardware and software of the larger C4® CMTS solution. It allows an operator to cost-effectively deploy DOCSIS, PacketCable™, DSG/ADSG, and PacketCable Multimedia (PCMM) services in small-to-medium size headends where space and power are often limited. The ARRIS C4c CMTS supports DOCSIS 1.1/2.0/3.0 and PacketCable features, providing operators with a large array of Quality of Service capabilities to deploy revenue-generating services.

C4c Release 7.3 brings a host of value-added features such as eight downstream channel bonding (increased from four channels in Rel. 7.1), four upstream channel bonding with BPI+ encryption, Business Services over DOCSIS (BSoD) L2 VPN, IS-IS and BGP routing protocols, IPv6 Support Phase 2, and other security and operational enhancements.

The ARRIS C4c CMTS is a 7 rack unit, 8-slot chassis with a mid-plane based architecture designed for continuous system operation. This unique architecture allows the ARRIS C4c CMTS to provide integrated Layer 3 edge routing and advanced CMTS functionality combined in a single chassis. Five types of modules are available:

- System Control Module (SCM)
- Router Control Module (RCM)
- 16D Cable Access Module (16D CAM)
- 12U Cable Access Module (12U CAM)
- 2Dx12U Cable Access Module (2Dx12U CAM)

Up to 320 Mbps Subscriber Downstream Speed

The C4c CMTS supports DOCSIS 3.0 downstream channel bonding with variable size bonding groups. This allows for the aggregation of up to eight non-contiguous DOCSIS channels to support ultra high bandwidths. For example, eight 6MHz (Annex B) bonded channels provide a 320 Mbps data stream to a subscriber's DOCSIS 3.0 cable modem.

Up to 120 Mbps Subscriber Upstream Speed with Encryption

Up to four upstream channels can be bonded in compliance with DOCSIS 3.0. These channels can use any valid DOCSIS configuration including BPI+ encryption and are not required to be contiguous in spectrum. This release supports upstream channel bonding across all subscribers on the chassis using currently deployed hardware. Four bonded 6.4 MHz channels using 64QAM modulation provide a 120 Mbps data stream from a subscriber's DOCSIS 3.0 cable modem.

Advanced Services for Business Subscribers

Layer 2 VPN capability is provided in accordance with CableLabs-specified Business Services over DOCSIS (BSoD). This functionality operates with a point-to-point architecture, creating a Layer 2 tunnel through the C4c CMTS. Any DOCSIS 1.1 or later compliant CM can support PPPoE Layer 2 services with this feature, and CMs compatible with the BSoD specifications are required for generic Layer 2 VPN operation.

Routing Feature Additions

Intermediate Station to Intermediate Station (IS-IS) and Border Gateway Protocol (BGPv4) for IPv4 are supported. A number of IPv6 features are provided including dual stack CPE (devices behind cable modems), IS-IS routing, high-scale forwarding of IPv6 traffic, downstream subscriber management filters, standard data-plane ACLs, and DHCPv6 Relay Agent. In general, the IPv6 features are intended for customer lab evaluation and limited scale field trial.

Security and Operational Enhancements

Advanced CM Configuration File Verification — Assures that the cable modem gets its configuration from the correct file on the correct server, and that there are no modifications to the configuration before completing modem registration.

Device Classes — CPE are classified (MTA, STB, PS) to facilitate greater flexibility in provisioning and traffic filtering.

Selectable Modem Blocking — Network access based on device class, DOCSIS level, and successful BPI+ initialization.

Modem Steering — DOCSIS 3.0 and 2.0 modems after they register are steered to an ATDMA channel if one is available. It is not necessary to modify the modem configuration file for steering modems.

Partial Service — Provided for DOCSIS 3.0 modems if a downstream or upstream channel in a bonded group is impaired.

Integrated Upstream Agility — Each eligible upstream channel can be configured for automatic adjustment of center frequency, channel width, and modulation profile based on user configurable thresholds.

Load Balancing — Performed both statically and dynamically based on modem count and channel utilization.

PCMM for Bonded Flows — Enables "Turbo Button" for temporary increased bandwidth or "Fair Share" applications.

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Find more information about C4c CMTS Software and other C4c products.

- Product Specifications — C4c Cable Modem Termination Software Technical Specifications (Publication Code: C4c_CMTS_v73_TS.pdf)

Customer Care

Contact Customer Care for product information and sales

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