



Motorola BSR 64000 CMTS/Edge Router Software Release 4.4

Supporting DOCSIS 3.0-Based Downstream Channel Bonding Today For Both New and In-Service BSR 64000 Platforms

Release 4.4 Highlighted Features

- DOCSIS 3.0 downstream channel bonding
- Software upgradeability
- Dynamic load balancing
- Data Path Acceleration that increases throughput performance
- Fully protected bandwidth
- Internet Protocol Detail Records (IPDR) support

Motorola's Broadband Services Router 64000 (BSR 64000) is a fully redundant, carrier-class intelligent edge router with an integrated DOCSIS® 3.0 and EuroDOCSIS 3.0 compatible high-density Cable Modem Termination System (CMTS) designed to support next-generation Ultra-Broadband cable services. With the BSR 64000 Software Release 4.4, cable operators can cost-effectively and efficiently deploy Ultra-Broadband services greater than 50 Mbps with per-flow Quality of Service by implementing downstream channel bonding onto existing BSR 64000 platforms.

The BSR 64000 CMTS/edge router maintains a solid history of investment protection due to a software-focused approach to system upgrades. This software-based approach allows customers to economically migrate their existing BSR 64000 environment to the latest DOCSIS standard, which today includes DOCSIS 3.0 channel bonding.

DOCSIS 3.0 channel bonding offers cable operators a competitive weapon against telcos and satellite service providers keen on launching their own high-throughput broadband services. Using Software Release 4.4, cable operators can now leverage their BSR 64000 to offer Ultra-Broadband services with data rates in excess of 145 Mbps to a DOCSIS 3.0 cable modem and over 200 Mbps to a EuroDOCSIS cable modem.

Cable operators using the BSR 64000 can leverage Motorola's proven DOCSIS 3.0 channel bonding solution to immediately deploy Ultra-Broadband services over their existing infrastructure, ensuring the highest levels of customer retention and competitive differentiation. Support for DOCSIS 3.0 channel bonding, Data Path Acceleration, and many other features are included in the BSR 64000 Software Release 4.4, providing existing BSR 64000 customers a major advantage and new customers an extremely compelling reason to consider Motorola CMTS solutions.

The BSR 64000 2:8 DOCSIS and EuroDOCSIS Modules support downstream DOCSIS 3.0 channel bonding today. All existing BSR 64000 customers with 2:8 Modules can leverage standards-based DOCSIS 3.0 downstream channel bonding by simply upgrading to Release 4.4 software and deploying DOCSIS 3.0 compatible cable modems. With Software Release 4.4 and the BSR 64000 Supervisory Resource Module (SRM) and Network Interface Module (NIM), DOCSIS 3.0 channel bonding can be configured and deployed without requiring additional BSR 64000 hardware.

Motorola's BSR 64000 provides cable operators with the highest level of investment protection by supporting a migration to DOCSIS 3.0 or EuroDOCSIS 3.0 in support of new high-throughput residential and commercial services that leverage installed BSR 64000 hardware and support existing populations of DOCSIS/EuroDOCSIS 1.x and 2.0 modems.

Downstream Channel Bonding

Software Release 4.4 provides support for up to four bonded downstream channels across two 2:8 Modules in the same chassis. The BSR 64000 DOCSIS 3.0 downstream channel bonding solution provides superior performance while guaranteeing that delay-sensitive traffic, such as voice or video, proceed with the highest Quality of Service level. Enabling the DOCSIS 3.0 channel bonding feature is simple and requires only two commands through the BSR 64000 Command Line Interface.

Software Upgradeability

Software Release 4.4 is supported on existing BSR 64000 SRM, NIM, and 2:8 Modules and no additional hardware, such as external edge QAMs or new routing modules, is required. As the demand for Ultra-Broadband services increases over time and cable operators require additional downstream capacity, they can soon evolve to Motorola's Integrated-CMTS (I-CMTS) architecture. They can add the TX32 Decoupled Downstream Module to the BSR 64000 to support a dramatic increase in downstream capacity relative to existing Motorola 2:8 modules and competitive decoupled downstream solutions.

Dynamic Load Balancing

Software Release 4.4 allows DOCSIS 1.x, 2.0, and 3.0 cable modems to co-exist within the same bonded downstream group. DynamicLoadBalancing distributes voice, data, and video traffic across upstream and downstream channels within an operator-defined Load Balance group to maximize bandwidth utilization. Select cable modems are moved from a channel with highest utilization to a channel with lowest utilization, based on the real-time bandwidth utilization sampling and preconfigured bandwidth utilization thresholds. Motorola's Advanced Spectrum Management feature allows operators to optimize throughput and cancel out or avoid impairments. It is enabled with Motorola's exclusive RFSentry™, an integrated ninth receiver on each 2:8 Module that non-obtrusively monitors RF performance to optimize upstream throughput.

Data Path Acceleration

Data Path Acceleration is a feature of Software Release 4.4 that optimizes the performance of two Intel IXP1200 Network Processors on the 2:8 DOCSIS/EuroDOCSIS Modules. The benefit of activating this onboard processing power is a software-only upgrade that nearly doubles the performance of the BSR 64000 platform, which increases the number of modems supported on a 2:8 Module to 7,000 to support the introduction of digital video set-tops with integrated cable modems.

Full Redundancy Support

Early adopters of Ultra-Broadband services are typically associated with the highest tier of revenue-generating customers. It is critical when launching new service tiers to the most service-critical customer segments that service availability is protected. At this point, redundancy becomes critical as more high-throughput devices and higher-revenue services become dependent on the CMTS platform. The Motorola BSR 64000 features an internal RF switch that can be easily configured for full redundancy, ensuring service readiness in the most demanding of Ultra-Broadband environments.

Internet Protocol Detail Records

Software Release 4.4 supports IP Detail Records (IPDR), allowing cable operators to centrally capture per-subscriber usage statistics to streamline billing, track and monitor service utilization, and simplify accounting for IP service delivery. With IPDR, cable operators can centralize billing for all IP services, especially VoIP, which can rely on different protocols and back-end OSS infrastructure sources. IPDR subscriber usage data accounting support on the BSR 64000 provides cable operators with an accurate, reliable, and scalable method to collect and analyze user traffic data across DOCSIS access networks with the ability to implement capacity planning in support of future broadband services development. The Software Release 4.4 IPDR implementation is compliant with the DOCSIS 2.0 Subscriber Accounting Management Interface Specification (SAMIS).

Specifications are subject to change without notice.



www.motorola.com/ultrabroadbandsolutions

Motorola, Inc.
Home and Networks Mobility
101 Tournament Drive
Horsham, PA 19044
1-215-323-1000 or 1.800.523.6678 (toll-free in the U.S.)

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