



Media Services Platform (MSP)

MSP2800 Chassis



- High density, multi-application media processing platform protects investment for video services from network core to edge
- High-availability platform, fully redundant, carrier grade reliability
- 8 RF ports, each support up to 40 QAM channels; up to 320 QAMs per module
- Full spectrum agility for each of the QAM channels
- Flexible video format supporting MPEG-2 and MPEG-4/H.264, SD /HD/PIP streams, and multi-screen video format
- Advanced digital program insertion enables linear and zoned advertising for geographic targeting
- Splicing into encrypted streams
- Addressable advertising based on demographic and/or behavioral information
- Reporting and monitoring capabilities for feedback and statistics
- Comprehensive video management system enables rapid and large scale deployments

Combining advanced media processing power and superior networking capabilities, the ARRIS Media Services Platform MSP2800 is part of the MSP family of innovative, network-based video platforms designed to enable new service revenues from a wide range of video applications. The MSP2800 offers service providers the opportunity to differentiate by cost effectively enhancing the subscriber viewing experience with improved performance and increased video service reliability.

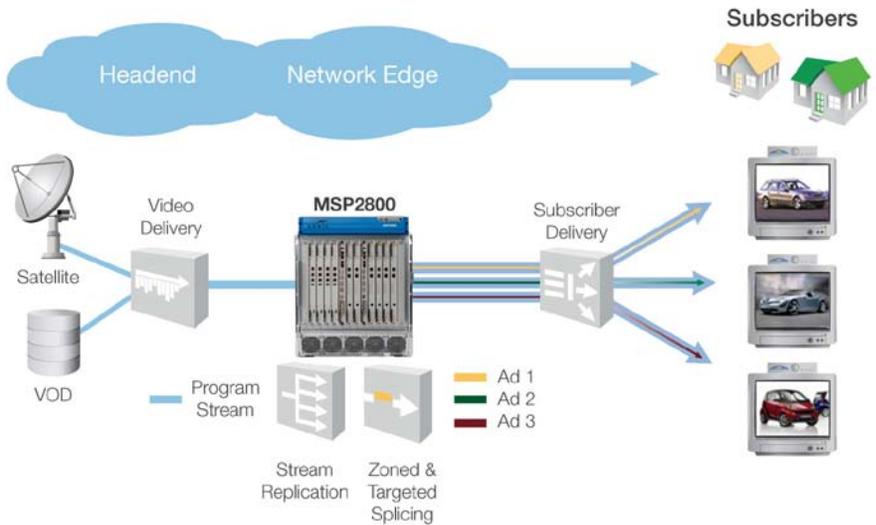
The ARRIS MSP2800 provides comprehensive advanced media processing capabilities for Broadcast, Switched Digital Video (SDV), Video on Demand (VOD), IP video, and Modular Cable Modem Termination System (M-CMTS). Extending ARRIS leadership in the Digital Program Insertion (DPI) market, the MSP2800 platform also enables linear, zoned, and a range of personalized video applications such as addressable advertising, time-shifted TV, and content caching. In addition, users' viewing experiences and network performance are optimized based on real-time network conditions.

The NEBS 3 compliant, chassis-based carrier-grade platform features full redundancy across management, switching, and video processing functions. With ARRIS video quality monitoring capabilities, the platform also delivers robust and scalable television services. Leveraging standards-based, open interfaces, and established network protocols, the ARRIS MSP2800 is easily integrated into operator networks. Advertisements in SD, PIP, and HD formats can be seamlessly inserted into compressed MPEG-2 or MPEG-4/H.264 digital streams without major architectural changes to an operator network. The ability to splice into encrypted streams also allows for distributed insertion models without requiring any change to deployed encryption systems.

These services can also be delivered in combination with an ultra dense QAM in a cable service provider's network leveraging this multi-service platform. This ensures high quality and efficient operation all packed in a cost effective solution.

The ARRIS MSP2800 is a new services delivery platform, combining robust networking and dense access capability combined with rich media processing capabilities to help the service provider offer subscribers differentiated and personalized applications to generate new revenue streams.

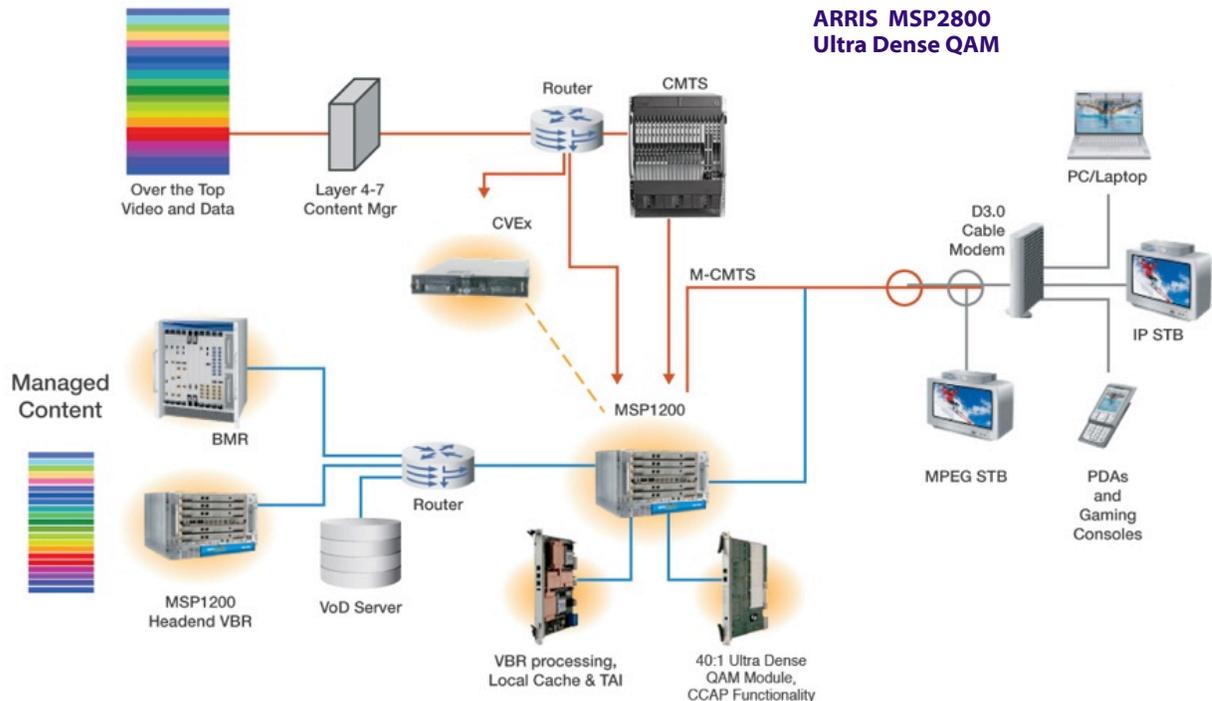
The MSP2800 processes and optimizes media streams before sending to subscribers across a variety of last mile access networks



ARRIS MSP2800 Applications

Ultra Dense QAM

The ARRIS MSP platform delivers the highest density Universal Edge QAM (UEQ) and also incorporates advanced media processing to enable multiple application delivery and agile bandwidth allocation. The MSP QAM platform is capable of supporting densities of from 1 to 40 QAMs per port, delivering up to 320 per module, or 3840 QAMs per chassis. The solution further optimizes edge architecture with dynamic bandwidth agility on the entire 50MHz-1GHz RF spectrum for every single QAM. The ARRIS solution supports a variety of applications such as broadcast, SDV, VOD, IP video, M-CMTS, and DOCSIS® 3.0 applications, including video services.



Traditional and Emerging Ad Selection

Supporting both traditional SCTE30/35 Ad Server architectures, and new standards such as SCTE130, the ARRIS MSP2800 offers a smooth migration path for operators. This allows operators to capture the linear and zoned Ad revenue near term, and to obtain higher Ad premiums using targeted models in the future. Leveraging the same platform, operators can continue their current Ad insertion operations and offer dynamic ad selection and distribution with the benefits of local storage and streaming.

Linear and Zoned Advertising

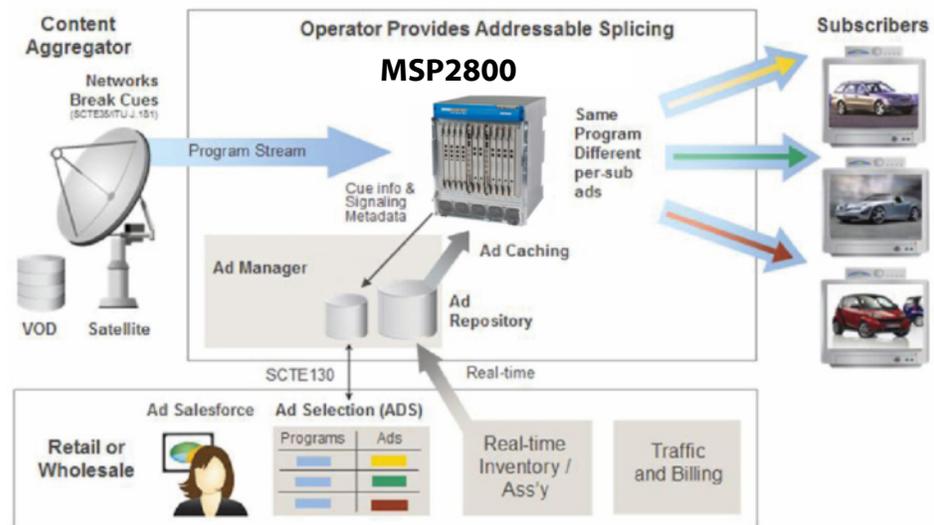
As a comprehensive ad insertion platform, the ARRIS MSP2800 provides operators the flexibility to deliver ads to large geographic metro zones or to smaller ZIP+4 areas. Ads can be dynamically inserted into SD, HD, or PIP MPEG-2 or H.264 streams (in MPEG-4.10 AVC). By splicing directly into encrypted streams, the MSP2800 enables granular ad insertions without requiring changes to the current encryption scheme or adding the costs and complexity of encryption at the edge of a network.

The ARRIS MSP2800 supports dynamic matching of multi-language audio; and allows private ad PIDs for enhanced advertising applications. In addition, seamless splicing with optional fast-return-to-primary techniques yields improved video quality. The MSP2800 allows flexible configurability to accommodate for common problems such as late ad arrival, mismatch of ad or avail duration.

Addressable Advertising

Based on the geographic or demographic information of a subscriber, video service operators can deliver targeted ads into linear TV by zone or on per-STB basis without requiring complex client operations in the STBs. As a result, advertisers benefit from more effective ad campaigns with individualized messaging and greater relevance. The network operators benefit from the monitoring, tracking and reporting fulfillment information for feedback. This ability will contribute to operator revenues and transform TV advertising distribution from traditional broadcast models towards more personalized delivery.

ARRIS MSP2800 Addressable Advertising



Improved Quality of Experience

Based on the available network bandwidth, the subscriber viewing experience is optimized by receiving the network streams at the best encoded bit rate with high performance with enhanced channel change times.

Full Redundancy Options

Improved video network reliability is realized through comprehensive network and system redundancy options. The MSP2800 offers high availability, dual star switching fabric features 1+1 switch redundancy; N+1 video processing module and network processing module redundancy, in addition to a variety of network-based redundancy configurations including program level redundancy and retransmission applications.

ARRIS Media Services Platform MSP2800

System Description

The MSP2800 combines powerful media processing with carrier grade networking capabilities. The NEBS 3 compliant rack-mountable chassis accommodates a variety of media processing modules, from switching and management control, video processing to ultra dense QAM modules.

These hot swappable modules can be installed in any of the five universal slots. Each system offers fully redundant non-blocking capacity today.

Switch Control Modules

- Non-blocking 200Gbps switching
- All modules hot-swappable, with automatic non-revertive redundant switchover
- 10G from each switch to every slot
- Integrated 3x1GE and 4x10GE WAN I/O
- Integrated management I/O

Video Processing Modules

- Up to 12 VPM modules per chassis
- High performance and high density splicing
- N+1 Redundancy
- Program level redundancy and quality monitoring
- Ad Cache option

Media Processing Carrier QAM Modules

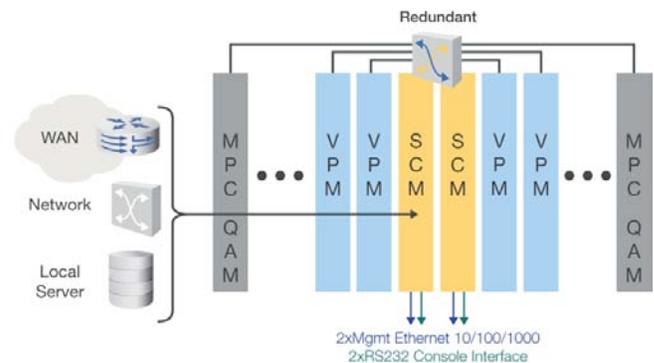
- Up to 12 QAM modules per chassis
- 320 QAM per module, up to 3,840 QAMs/Chassis
- 40:1 QAM
- Adjustable power level per QAM
- RF switching upon failure of module
- N+1 RF redundancy

Chassis

- 13 RU 14 slots, rack mountable
- Dual-star 40Gbps backplane
- Fully redundant chassis power, fans, management
- 12 universal hot swappable slots for payload modules
- DC power
- NEBS 3 compliant



ARRIS MSP2800 Platform Architecture



Legend

- Media Processing Carrier QAM Module (MPC)
- Video Processing Module (VPM)
- Switch Control Module (SCM)

The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice. ARRIS, the ARRIS logo, Auspice®, BigBand Networks®, BigBand Networks and Design®, BME 50®, BMR®, BMR100®, BMR1200®, C3™, C4®, C4c™, C-COR®, CHP Max5000®, ConvergeMedia™, Cornerstone®, CORWave™, CXM™, D5®, Digicon®, E6000™, ENCORE®, EventAssure™, Flex Max®, FTTMax™, HEMI®, MONARCH®, MOXI®, n5®, nABLE®, nVision®, OpsLogic®, OpsLogic® Service Visibility Portal™, Opti Max™, PLEXIS®, PowerSense™, QUARTET®, Rateshaping®, Regal®, ServAssure™, Service Visibility Portal™, TeleWire Supply®, TLX®, Touchstone®, Trans Max™, VIPr™, VSM™, and WorkAssure™ are all trademarks of ARRIS Group, Inc. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and the names of their products. ARRIS disclaims proprietary interest in the marks and names of others. © Copyright 2012 ARRIS Group, Inc. All rights reserved. Reproduction in any manner whatsoever without the express written permission of ARRIS Group, Inc. is strictly forbidden. For more information, contact ARRIS.

