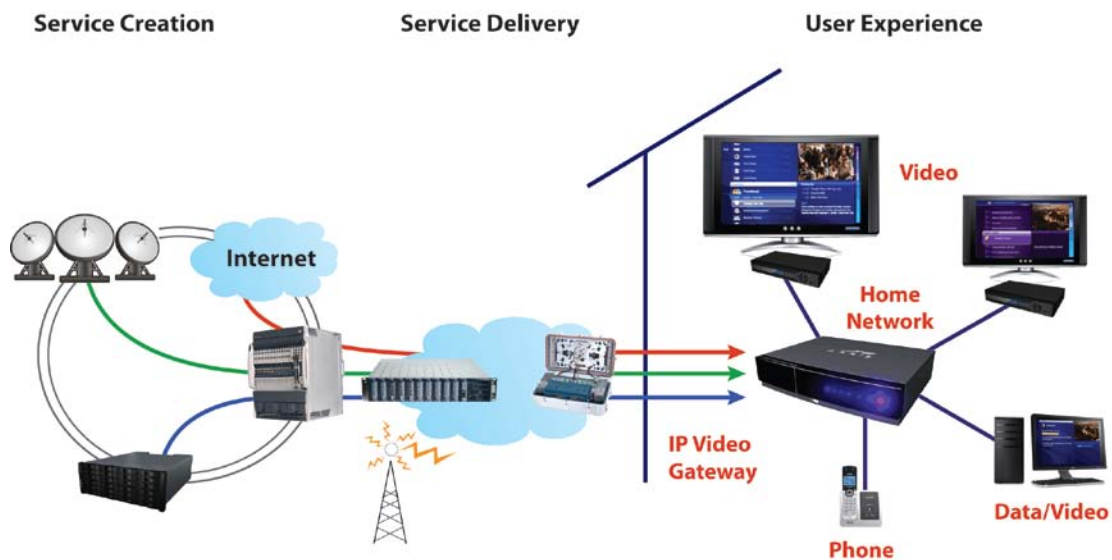


**ARRIS Demonstrates IP Video Architecture
at Cable Connection 2010**

*Enabling Operators to Meet Consumer Demand for
Converged Home Network and IP Content and Services*

Cable Operators have evolved over the last ten years from delivering only analog video to providing a triple play of interactive digital video, voice and data services. Along the way their capital investments have been directed at each service in turn, usually success-based. This investment has resulted in wide scale deployments of high-order digital modulation techniques that deliver vastly increased amounts of content and information. This is achieved within the same 6 and 8 MHz channels that previously only carried one analog video channel. However, this paradigm is starting to show its age, and may become unsustainable if recent trends in HSD growth and increasing competition from Telco and satellite sources continue. The ever-increasing pressure to provide more HD program content, interactivity and whole home personal video recording is forcing cable operators to find new ways to increase the quantity and quality of video programming options for their subscribers. Operators are also being challenged to enhance the overall user experience by offering more options for accessing the subscribers' personal media stored on their in-home devices as well as the operators' streaming and stored content.



IP is emerging as the ideal infrastructure for the operator to meet these demands. Utilizing all IP transport brings an operator's network a new level of simplicity by managing one protocol across the network and eliminating a variety of high-cost and inflexible edge elements previously required for MPEG/DVB distribution. This simplicity, coupled with algorithms for bit rate management, significantly enhances network throughput. Additionally, deployment of an all IP network will drive down OPEX in two fundamental ways. First, the IP network will simplify the device infrastructure between the headend and the home. Increased commonality between devices will translate into higher capacity utilization and



lower configuration management and maintenance costs. Second, MSOs can deploy and monitor services holistically across the entire IP network. Network capacity planning, monitoring and trouble resolution is simplified and accelerated when data, voice and video services all share a common set of interfaces. In addition, the open interfaces of an IP environment foster competition, simultaneously reducing capital cost and increasing innovation.

IP Convergence at the Edge, Distribution Network and Home

The ARRIS IP Video Architecture is designed to accelerate the introduction and deployment of an open, scalable, converged, IP Video service offering over cable that is both capital and operational expense efficient. The ARRIS IP Video Architecture relies upon the inherently flexible IP domain to preserve the operators' existing MPEG infrastructure investment while ensuring maximum utilization of bandwidth. The ARRIS IP Video Architecture supports operators who prefer to start with a hybrid IP and MPEG/DVB approach as well as those that want to migrate to a full IP architecture in one step. This is achieved through convergence in the network elements creating, acquiring and delivering services to the subscriber and in the subscriber client devices creating the user's personal media consumption experience.

Some of the ARRIS network elements that will support both hybrid and full IP architectures include:

- ARRIS EGT VIPr™ video encoding platform
- ARRIS C4® DOCSIS® 3.0 CMTS
- ARRIS ServAssure™ network monitoring system
- ARRIS ConvergeMedia™ Management back office software and streaming servers
- ARRIS ConvergeMedia™ SkyVision ad Insertion system
- ARRIS Whole Home Solution of Gateways and IP Media Players

ARRIS End to End IP Video Architecture

The ARRIS IP Video Architecture vision is an end-to-end, flexible, open architecture that can be easily modified to accommodate future demands on a cable operators' service delivery network. It is intended to scale cost effectively from initial small trials to network-wide regional or national deployments. This is accomplished by re-using a substantial portion of existing Video management and processing and headend equipment including existing CMTS infrastructure, which will eventually transition to much higher density architectures such as Converged Multiservice Access Platform (CMAP).

Overview and Sub-Systems

The ARRIS IP Video Architecture is comprised of several simple sub-systems that work together to provide a unified, easily-managed, well-tested IP video solution. System functions are integrated into single sub-systems to reduce the total number of required system components that must be managed. In addition, re-using legacy video, data, voice and routed infrastructure of the sub-systems is recommended whenever possible. This architectural approach leads to a simpler, more cost-effective solution.

- Video Ingest and Origination:

The ARRIS video ingest and origination sub-system includes linear and on-demand encoders, content storage and streaming servers and application (portal) servers. ARRIS EGT VIPr and ConvergeMedia XMS Distribution platforms serve as these components.

- **Video CDN Management:**

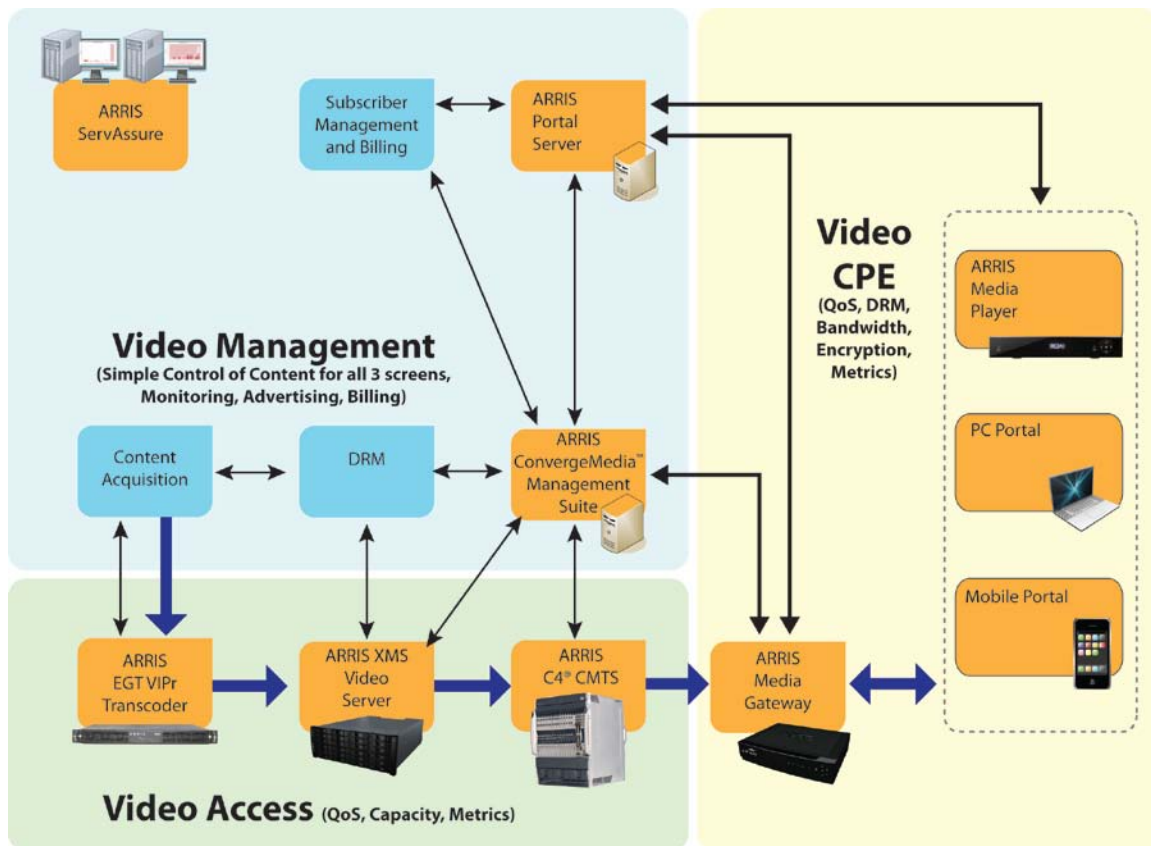
The ARRIS Video CDN Management sub-system encompasses seven key areas of back office functionality: content asset propagation, video CPE management, subscriber guide, service entitlement and purchase, video session handling, advanced advertising and service assurance. The ARRIS Portal, ConvergeMedia Management and ServAssure product suites combine to deliver this functionality.

- **Video Edge:**

ARRIS C4 DOCSIS 3.0 CMTS and ARRIS CORWave Full Spectrum Deep Fiber optical systems are uniquely positioned to meet the stringent bandwidth and quality requirements of IP Video distribution.

- **Video CPE:**

The subscriber client component of the ARRIS IP Video Architecture is the ARRIS Whole Home Solution. The ARRIS Whole Home Solution includes a family of Gateway and Media Player products to support hybrid and full IP architectures. These Gateways and Players combine simultaneous use of feature-rich video and telephony services, multi-room DVR, Wi-Fi, DOCSIS 3.0 data rates, and other services. This solution answers the demand for a single service provider offering that provides multi-room subscriber access to unicast and multicast content—whether via cable, over the top, or the subscriber’s personal media on their home network.





“As consumers seek services that unify and enrich their digital entertainment experience at home and away, the market for IP video client devices and network infrastructure products is set to grow substantially,” said Jayant Dasari, Research Analyst for Parks Associates. “Cable operators that embrace an advanced IP delivery system as part of their product portfolio will be positioned to lead with competitive offerings that will enhance subscriber loyalty as services and content are integrated seamlessly into the subscriber’s media consumption preferences.”

“With the ARRIS IP Video Architecture, cable operators can now offer a comprehensive system that competes with the best and most advanced Telco and Over the Top (OTT) communications and video services technologies on the market today,” said Bruce McClelland, President, ARRIS Broadband Communications Systems. “We recognize that our customers have multiple options available to expand their services offerings, and we have a plan to deliver IP based video services and a common user experience while leveraging their existing investments in encoding, video distribution and storage, conditional access and high speed data transport.”

About ARRIS

ARRIS is a global communications technology company specializing in the design, engineering and supply of technology that supports broadband services for residential and business customers around the world. The company supplies broadband operators with the tools and platforms they need to deliver carrier-grade telephony, network video processing, whole home video, demand driven video, next-generation advertising, network and workforce management solutions, access and transport architectures and ultra high-speed data services. Headquartered in Suwanee, Georgia, USA, ARRIS has R&D centers in Suwanee; Beaverton, OR; Chicago, IL; Kirkland, WA; State College, PA; Wallingford, CT; Waltham, MA; Cork, Ireland; and Shenzhen, China, and operates support and sales offices throughout the world. Information about ARRIS products and services can be found at www.arrisi.com.

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