

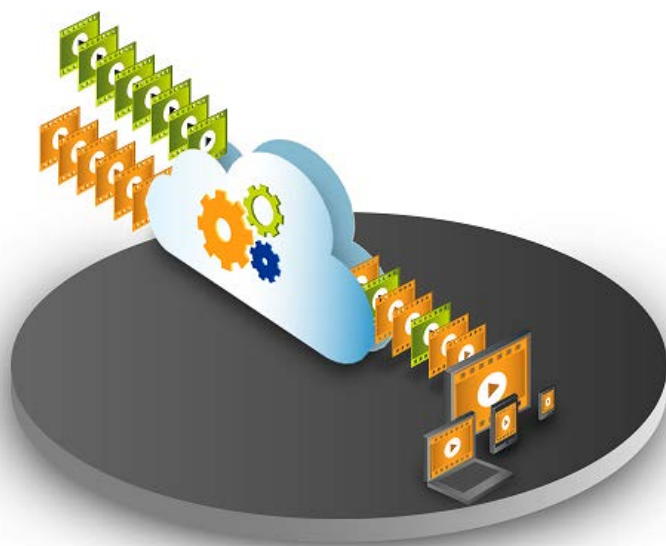
Manifest Delivery Controller (MDC)

Maximize IP Video Revenue with Server-Side Dynamic Ad Insertion, Personalization and Analytics

BENEFITS

For service providers and media companies who want to grow their video business and more effectively monetize their IP video content, ARRIS MDC provides the following benefits:

- Maximize revenue from your IP Video Services through targeted advertising, personalized user experiences and advanced analytics to better understand user behavior
- Serve millions of users with a field-proven, massively scalable solution
- Enjoy the lowest total cost of ownership using server-side technology that eliminates client dependencies and is pre-integrated to reduce implementation and maintenance costs
- Accelerate time to market for new IP Video Services
- Invest in a path towards unifying IP and linear broadcast advertising platforms

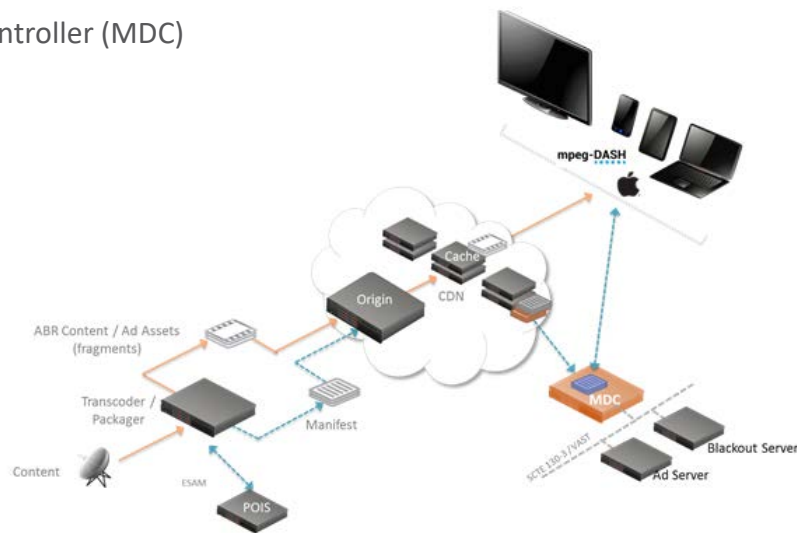


PRODUCT OVERVIEW

ARRIS MDC is the market-leading Video Manifest Manipulator, a software solution enabling server-side dynamic ad insertion, personalization and analytics for IP video.

ARRIS MDC enables customers to efficiently deploy and maximize the revenue from their IP Video services through:

- Targeted ad insertion down to the individual viewer
- Personalized channel delivery, including blackout and alternate content management, personalized nDVR and Time-Shifted TV playback and real-time bandwidth policy enforcement
- Advanced analytics and reporting



ARRIS MDC performs server-side video manifest manipulation to seamlessly stitch ads with content or switch between streams in the network so that every consumer gets a highly personalized experience. Manifest manipulation also allows providers to offer personalized viewing experiences and enforce per-device policies such as bandwidth controls. As shown above, ARRIS MDC is pre-integrated with other advertising ecosystem components to rapidly and cost-effectively roll out IP Video Services with targeted advertising, personalization and advanced analytics.

PRODUCT FEATURES

- **Client-agnostic server-side solution**—accelerates time to market and makes it more difficult for ad blockers to impact campaigns
- **Proven scalability to more than 10 million concurrent sessions through a clustered architecture**—reach all of your customers, now and in the future
- **Field hardened solution with multiple levels of resiliency**—increase uptime and maximize revenue
- **The most advanced Manifest Manipulation features on the market**—such as policy-based routing to different Ad Decision Servers
- **Standards compliance and broad interoperability**—combined with a server-side architecture, reduces the need for multiple integrations, reduces costs and speeds time to market
- **Converged platform supporting multiple applications in one interoperable solution**—reduces implementation and maintenance costs
- **Analytics and reporting**—delivers rich session data to gain insight into audience patterns
- **Open APIs**—to collect and share analytics data with other applications in the ecosystem

SUPPORTED APPLICATIONS

Targeted Dynamic Ad Insertion (DAI)

- Live and on Demand
- Pre-roll, post-roll and interstitial
- Replace and Insert
- Full targeting and personalization

Blackouts and alternative Content

- Switching to alternate Live stream or VoD Slate
- Tailored to user definable footprints - e.g. DMA, ad zone, ZIP+4, network or device
- Default Slate definition for unrecoverable errors
- DAI supported in alternate stream

nDVR, Pause Live TV and TSTV

- Enables individual session control from common copy recordings
- Flexible individual recording start and end times from customized pre-recording manifest
- Targeted/zone advertising into nDVR/PLTV/TSTV manifest

Policy-Based Quality of Experience

- Custom manifest enforces real-time policy based on devices and/or content (URL)

Analytics and Reporting

- Session and ad telemetry
- Data visualization tools

SPECIFICATIONS

Supported Manifest Formats

HLS, DASH

Supported Services

Live, VOD, nDVR, Pause Live TV, TSTV

Interfaces and Standards

Detects SCTE 35 and ESAM Markers

SCTE 130 and VAST Ad Server Communication

Compliant with any CDN and Origin

Flexible framework to pass extra parameters in ad requests and inject tags in output manifest

Built-in routing with flexible policies (per content; per ad break, per session)

Supports routing to third party ad servers through wrappers

Reporting & Measurement

Standard client-side beaconing of VAST responses

Server-side beaconing through insertion of impression URLs in manifest or based on segment requests by client

Real-time "Content" Reporting

Session Statistics: Session Detail Records (SDR)

Ad and Alternate Content Logs

REST/XML Management API

Deployment Models

Server - Intel-based Servers w/CentOS 7.3

Cloud - Support for VMWare and Openstack virtualization stacks

Redundancy and Scalability

Automatic Fail-Over

Clustered architecture - No single point of failure

INTEROPERABILITY

Ad Decision Servers / Routers

BlackArrow

FreeWheel

Cadent Technology

Canoe

Imagine

DoubleClick**

ThisTechnology (Comcast)

Alternative Content Decision Servers

BlackArrow

ThisTechnology (Comcast)

Clients

Adobe

VisualOn

ExpressPlay

InsideSecure

Packagers

Elemental

Envivio

Imagine

Cisco

DRM

ARRIS SecureMedia

Pantos

PlayReady

BuyDRM

Verimatrix

Conax

**Partial Integration

CUSTOMER CARE

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656