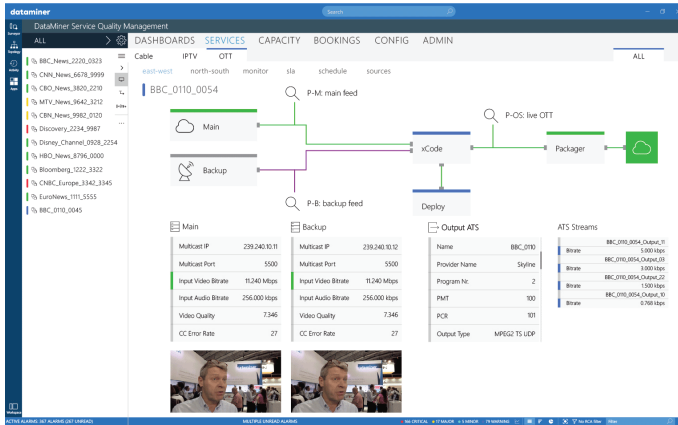## ORION®-OTT with DataMiner® Network Management & Orchestration Platform

ORION-OTT's integration with DataMiner offers an automated end-to-end solution ensuring Quality of Service (QoS) and Quality of Experience (QoE). The integration provides service assurance for linear and non-linear channels.

The astronomical growth in video streaming is both a blessing and a challenge for OTT service providers. Considering the complexity of video streaming, audio and video errors can occur at any point of the workflow, from transcoding to packaging, origin server, and delivery. When the quality of video streaming decreases, viewers are quick to give up and consider other options.

The service providers need next-generation monitoring solutions that are specifically designed to address the unique challenges of the ABR world. OTT service providers need a solution that can assess the quality of thousands of streams in real time. The solution must be flexible, supporting all the latest audio-video standards.

ORION-OTT

Interra Systems offers end-to-end QC, monitoring, and analysis solutions for the content streaming industry. The ORION-OTT offering provides proactive content monitoring for both VOD and LIVE OTT content.

ORION-OTT is a software-based over-the-top (OTT) monitoring solution for checking content integrity and related network performance of ABR content for multiscreen service delivery.

Solution Overview

- **Automated Probe Assignment**: Automatically associates probes to new services and provides efficient resource utilization

- **Effective Monitoring**: Performs in-depth monitoring of the active services and avoids false positive alarms.

- **Dynamic ORION-OTT Probe Orchestration**: Runs new instances of ORION-OTT probes for new services across any deployment - on premises / in cloud / hybrid

- **Effective Monitoring of Infrastructure**: Performs monitoring of the basic ORION-OTT infrastructure, such as hardware, virtual machines, operating systems, and containers

- **Unified Service Dashboard**: Provides a unified and automated end-to-end service quality management including SLA management

ORION-OTT monitors ABR content, both VOD and Live, using user-defined automated / manual schedules. It checks for inconsistencies pertaining to ABR package compliance, manifest / playlist syntax, download errors, content quality and more.

ORION-OTT enables OTT service / equipment providers, content delivery networks (CDN) providers to seamlessly monitor online video delivery for quality and compliance.

Skyline Communications' DataMiner

Skyline Communications' DataMiner is an AI-powered multi-vendor network management and orchestration platform available for the IPTV, satellite, HFC broadband and broadcast industry. DataMiner is a solution that enables end-to-end integration of the most complex technical ecosystems and has been deployed by leading operators around the world. DataMiner enables broadcast centres to evolve to next-generation technologies, simplifying and automating workflows with end-to-end monitoring and control. It effectively reduces the operational workload while maximizing resource utilization.

ORION-OTT Integration with DataMiner

ORION-OTT's integration with DataMiner provides an automated end-to-end solution to ensure Quality of Service (QoS) and Quality of Experience (QoE). The platform provides a single user interface to monitor and manage all your linear and non-linear channels, from ingest to delivery. Content monitoring keeps you over the top on the services and dynamically orchestrates your probes, on-premises or in the cloud.
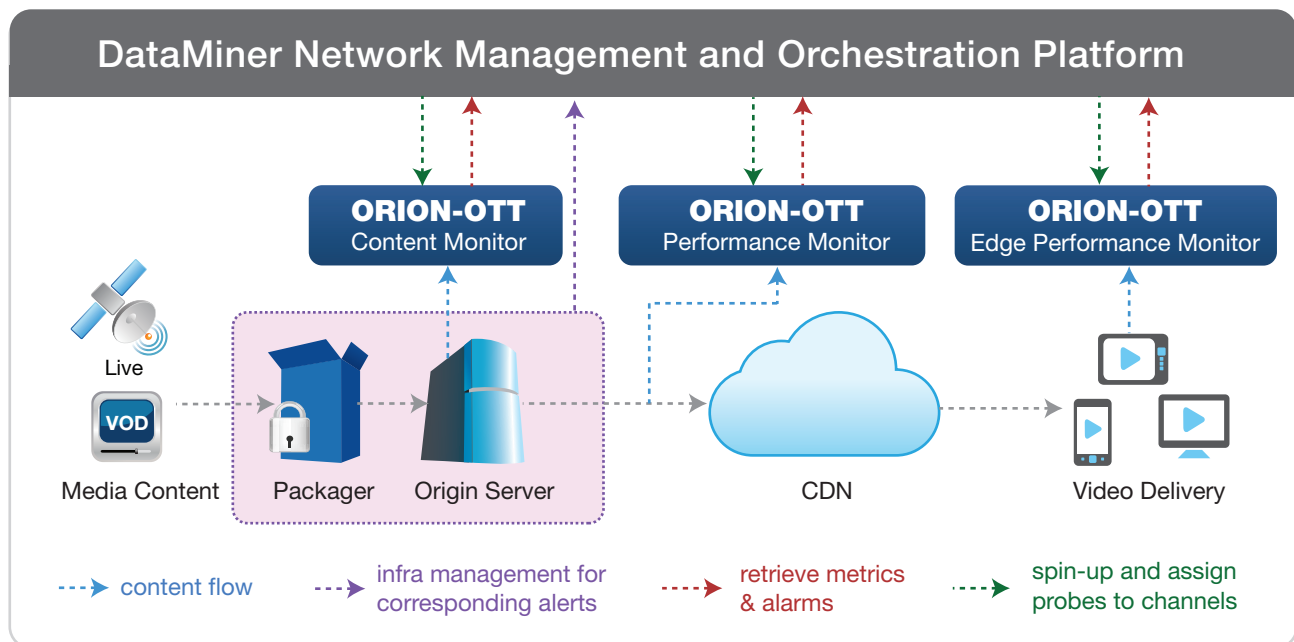
The integration of both the industry leading solutions provide an edge over the service quality management solutions. Leveraging industry-proven audio/video quality analysis technologies, ORION-OTT enables OTT service / equipment providers, content delivery networks (CDN) providers to seamlessly monitor online video delivery for quality and compliance.

ORION-OTT – Key Features

- In-depth real time monitoring of Live and Video-on-Demand OTT services for content integrity and network performance

- **Support for Client Device Monitoring**
  Monitor end-device user experience based on
  - Startup or Join times
  - Buffering Ratio
  - Number of stalls or interruptions
  - Play failures

- **Monitoring Origin Server Performance**
  Monitor Origin Server Performance based on
  - Average Response times and Bandwidth served
  - Number of Requests served
  - Total bytes served
  - Server availability - Requests served per Requests received
  - HTTP Response codes

- **Monitoring of network performance for OTT delivery**

- **Monitoring of ABR package integrity**
  Extensive set of tests including:
  - URL validation: Check for presence of referred content
  - Playlist validation: Presence of required tags and metadata
  - Playlist Integrity: Consistency of transport / video / audio properties across all chunks and across bitrate variants
  - Manual Recording of VOD and LIVE ABR content

- **Monitoring of audio / video quality**
  - Conformance checking
  - Video Quality (blockiness, black frames, freeze frames)
  - Audio Quality (Loudness: CALM, ITU, EBU), level, silence, stereo pair detection, audio peak level, Mono vs Stereo, true peak
  - HEVC Decoding
  - Detecting absence/presence of specific video codecs
  - Detecting Audio Language Codes in manifest files
  - Detecting caption language
  - Checking picture scanning type
  - Checking IDR-Frame interval duration

- **Alarms & triggers to debug and take actions**
  - Error categorization according to severity levels - major, minor, critical
  - Diverse alerting mechanisms - Email, SNMP
  - Configurable alerts based on counts and persistence
  - Triggered and manual recordings for profiles and LIVE content

- **Comprehensive reporting mechanism & analytics**
  - Audio alerts
  - Detailed representation of content delivery quality
  - Different drill-down monitoring views from high level to specific details for assets and services
  - Alerts/data analytics, rich reports for all tests run over last 60 days
  - Scheduled tasks for auto-mailing of reports
  - Global Live Alerts page for LIVE Services
  - Post-monitoring actions - executing scripts and notifying callbacks
  - Scheduled reports for individual LIVE channels

- **REST APIs support** for managing and monitoring content, groups, profiles, system configuration, and for managing XML and PDF reports for VOD or LIVE content

- **Provide Secured access with HTTPS support**

- **Monitor DRM protected content encrypted using:**
  - AES-128, CENC (MPD, HLS, HSS),
  - SAMPLE-AES, Apple FairPlay (HLS)
  - Key Server Integrations by fetching keys using
  - Widevine License Server APIs
  - PlayReady Key-Seed
  - Verimatrix Client
  - Irdeto
  - Option to provide Key ID - Content Key mapping for other DRMs

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DataMiner - Key Features

- Automatically detects and provisions new probes in the network

- Dynamically assigns probes to your permanent, pop-up or event-channels

- Automates confidence monitoring across hybrid deployments, such as on premises, off-premises, private data centers, cloud services (IaaS, PaaS, SaaS)

- Seamlessly associates the right probe, at the right time with the right settings and limits the number of false positives to minimum

- Effectively integrates with the traffic platform, EPG generator, live event work order system and playlist automation to retrieve the schedule for every service in real-time

- Monitors performance for every single probe metric over time and provides a full audit trail for every action

- Focus on overall management – from a device, service and business perspective

- Comprehensive dashboards on SLA conformance of assets and content providers

- Customized reports for all stakeholders in the value chain (operations, engineering, procurement, marketing, etc.)

- AI based technology to proactively warn operators before things go wrong

DataMiner Network Management and Orchestration Platform

ORION-OTT Content Monitor

ORION-OTT Performance Monitor

ORION-OTT Edge Performance Monitor

Live

VOD

Media Content

Packager

Origin Server

CDN

Video Delivery

- - -> content flow
- - -> infra management for corresponding alerts
- - -> retrieve metrics & alarms
- - -> spin-up and assign probes to channels

ORION-OTT Monitoring Solution Integration with DataMiner Network Monitoring Platform

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