With the explosive growth and increasing demand of video services over Internet, monitoring the quality of OTT content for a large consumer base over a variety of end user devices, has become a significant challenge.

Interra Systems’ 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. 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 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. It can also be used for origin server load testing.

The intuitive user interface of ORION-OTT presents the monitoring results of assets in an effective manner.

**Benefits**

- Seamlessly deploys in cloud-based environment
- Ensures superior QoS and QoE for live and VOD OTT services
- Checks ABR package integrity and audio/video quality
- Checks for HTTP responses
- Helps debug issues related to origin server and network performance
- Provides real-time alarms for quick on-the-go decision-making
- Provides access on any web-enabled device
- Provides historical alert search for VOD assets and live services
- Discovers assets using customizable plug-ins
- Provides watch mode for automated monitoring of new assets
- Provides priority-based scheduling
- Supports client device monitoring to monitor user experience based on join time, buffering ratio, number of stalls, play failures, and more
- Provides active and passive monitoring of origin server performance
- Supports DRM protected content and key server integrations
- Centralized probe management

**Key Features**

- In-depth monitoring of live and video-on-demand OTT services
  - Real-time monitoring of OTT Services for content integrity and network performance
  - Creating groups for automated, manual or time-bound monitoring schedules for live and VOD assets
  - Performance scaling on multi-CPU systems
  - Live thumbnails and wallboard mosaic view for live services
  - QoE scoring
  - Integrated player application - for playback and debugging
  - HTTP response header logging and view
- Custom HTTP header injection for CDN debugging
- SCTE 214 - 1/2/3 and Apple media stream validator compliance checks
- Ad-insertion monitoring
- Service availability monitoring

**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
- **Origin server performance monitoring**
  *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

- **Network performance monitoring for OTT delivery**
  - Monitoring of download delays and buffering/stalling issues
  - Monitoring of low latency streams

- **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

- **Audio / video checks**
  - **Video checks**: check for first video frame sync across variants, detecting absence/presence of specific video codecs, Ignore freeze for color bars and credits
  - **Video quality**: blockiness, black frames, freeze frames, blocky distortion, video MOS scores
  - **Audio checks**: audio language codes in manifest files, stereo pair detection
  - **Audio quality**: (Loudness – CALM, ITU, EBU), silence, audio level, true peak, audio clipping, audio loudness-dialnorm mismatch, audio MOS scores

- **Conformance checks**
  - HLS conformance, DASH conformance, CMAF conformance, smooth streaming conformance, Adobe HDS conformance, FLV container conformance, RTMP conformance, HDR video conformance

- **Alarms & triggers to debug and take actions**
  - Error categorization according to severity levels - major, minor, outage, critical
  - Diverse alerting mechanisms - email, SNMP
  - Custom alerting actions, such as slack, HTTP
  - Configurable alerts based on counts and persistence
  - Triggered and manual recordings for profiles and live content

- **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
  - Intuitive visual trending for QoS/QoE metrics
  - 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
  - Export measurement statistics, such as loudness, blockiness, download bitrate, and more
  - Comprehensive Ad-insertion monitoring reports with summarized as well as detailed cue information

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

- **Setup**
  - Secured access with HTTPS support
  - Multiple built-in profiles to detect most severe to moderate issues
  - Creating and managing groups:
    - Create groups for VOD assets or live services
    - Automatically monitor groups using watch mode
    - Schedule groups for monitoring based on priority
    - Tag assets or asset groups
    - Reserve bandwidth for VOD and live assets
  - Authentication/authorization using LDAP and SAML

- **DRM protected content**
  - Monitoring content encrypted using AES-128, CENC, CETS, PIFF, SAMPLE-AES, Apple FairPlay (HLS)
  - Key server integrations by fetching keys using Widevine license server APIs, PlayReady Key-Seed, Verimatrix Client, Irdeto, BuyDRM, Atlas, DRMToday Multi-DRM, Nagra, Comcast
  - Option to provide Key ID - content key mapping for other DRMs

- **Supports linux operating system**

- **Intuitive user interface**
  - Supports localization
  - Dark and light theme based UI for better user experience
Created For

- OTT service providers
- CDN providers
- OTT equipment providers

Formats & Protocols Support

Packages
Apple HLS, MPEG-DASH, HSS, Adobe HDS, CMAF(LL)

Wrappers
MP4, MPEG-2 TS, FLV

Audio formats
MPEG, AAC, Dolby AC-3, EAC-3 and Dolby Atmos Audio

Video formats
H.264 / AVC, H.265 / HEVC, Dolby vision, HDR

Embedded data
Closed Captioning (EIA-608, EIA-708, SCTE-20, DIVICOM, NADBS), DVB Subtitle, WebVTT, TTML, SCTE35, ID3 Metadata, External XML Subtitles, SMPTE Image Subtitle

Network transmission protocol
HTTP / HTTPS, RTMP

DRM / encryption - All encryption schemes (CENC, AES-128, SAMPLE-AES, PIFF) supported by Google Widevine, Microsoft PlayReady, Apple FairPlay, Verimatrix, Irdeto, BuyDRM, Atlas, DRMToday Multi-DRM, Nagra, Comcast