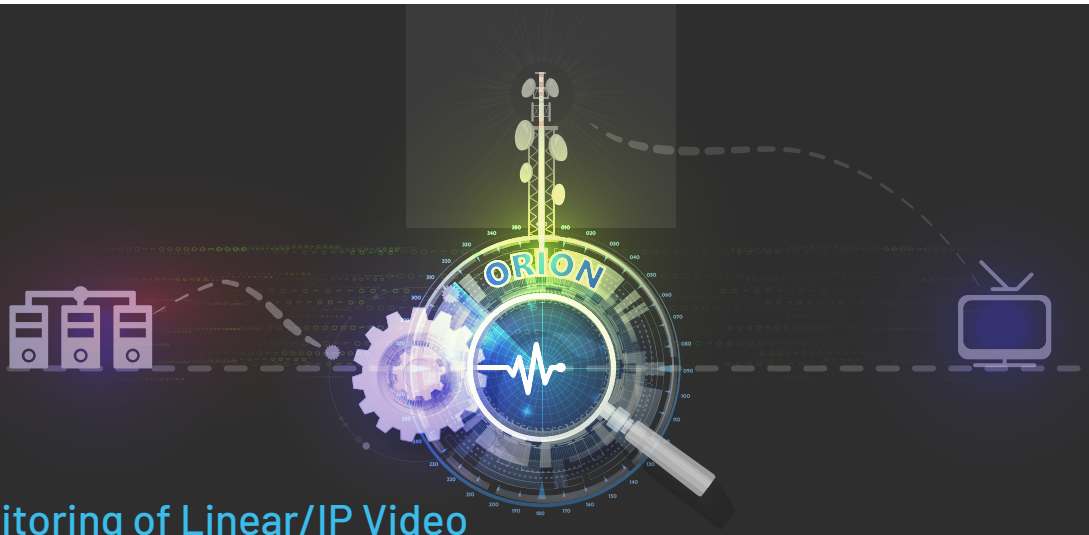


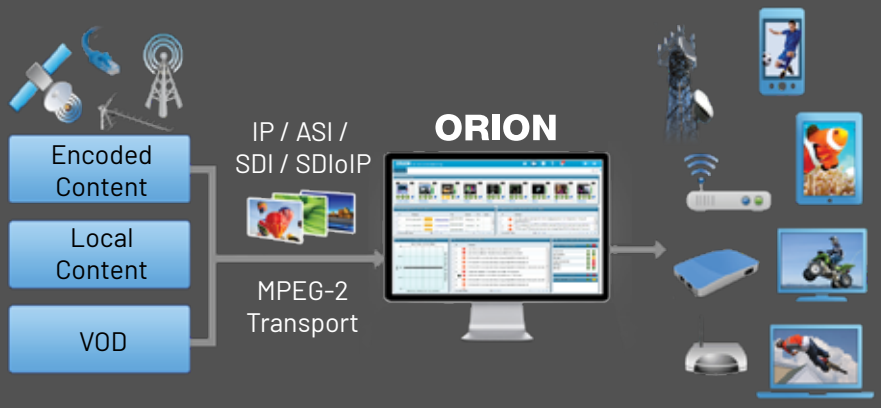
ORION®

24x7 Confidence Monitoring of Linear/IP Video

Headends and video service providers today deal with a large amount of complex content. Programs may be re-encoded, transcoded, and multiplexed. These transformations can adversely affect the content integrity and user experience.

Keeping these diverse complexities and challenges in mind, Interra's ORION® provides an edge as the only enterprise-class software solution that offers a simple, yet powerful approach to content monitoring. ORION performs critical monitoring functions in a single, integrated platform that is comprehensive, efficient, and easily scalable for hundreds of programs.

Enabling Superior QoS and QoE



ORION effortlessly monitors streaming content scaling single to multiple monitoring units / sites across different geographical locations. ORION Central Manager provides real-time consolidated views and long term reports for enterprise-wide centralized monitoring.

ORION has a rich and customizable web-based interface enabling remote monitoring, thereby providing extreme flexibility and on-the-go decision-making. ORION offers other significant features like error detection, video quality analysis, alerts, reporting, thumbnails, and trend analysis.

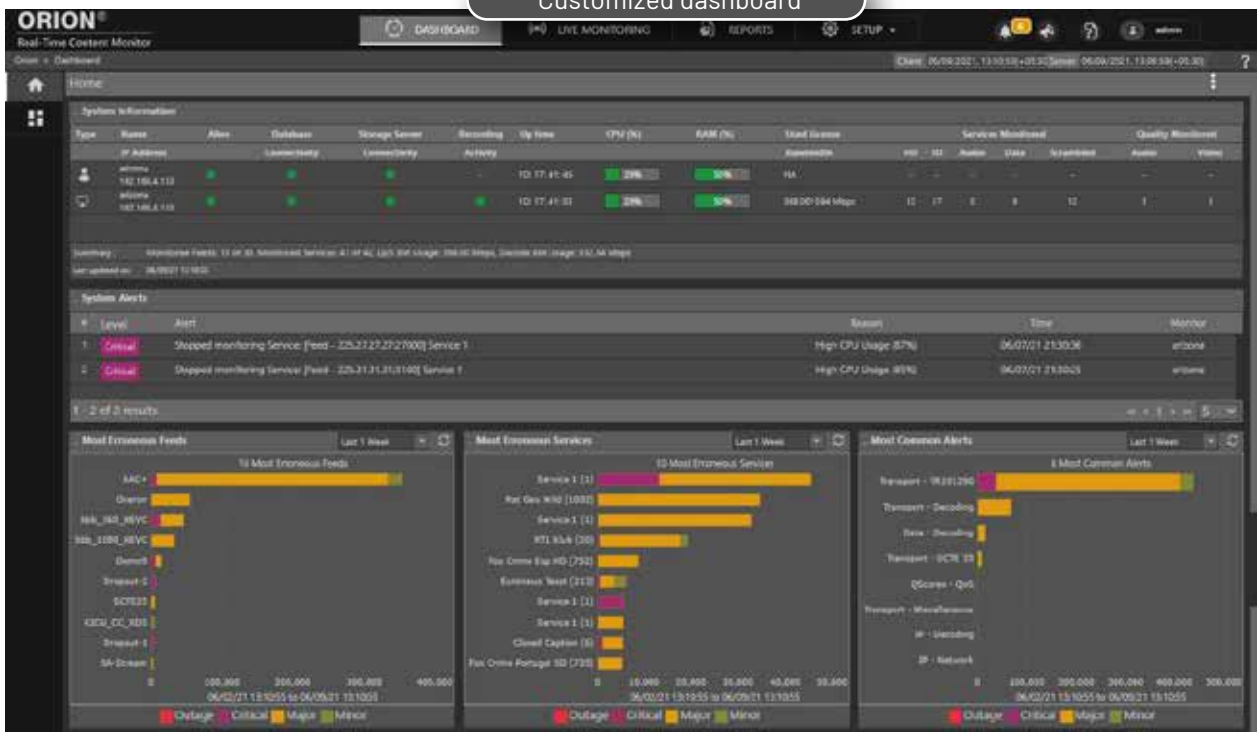
Key Features

- **In-depth monitoring and compliance checks**
  - CableLabs checks
  - MPEG-2 transport streams over IP / ASI
  - ATSC, DVB and ISDB compliance
  - TR 101 290 and ATSC A/78 compliance
  - PCR overall jitter check for PCR analysis
  - Analyze SI/PSI/PSIP tables on private PIDs
  - Video and audio conformance checks
  - Monitor SRT and RIST contribution feeds
  - Video metadata checks for frame rate and picture scanning type
  - Logo detection, dropout and position change checks
  - DVB subtitles, closed captions, teletext, XDS, and text services
  - SMPTE 2022-2 standard for IP conformance
  - Service availability monitoring and reporting
  - Wallboard mosaic niew
  - Round-robin monitoring mode
- **Monitoring QoS/QoE/MOS**
- **Video quality checks**
  - Freeze frames, black frames, blockiness, blocky distortion
- **Audio quality checks**
  - Loudness compliance (ITU, EBU and CALM), silence and audio levels
  - True peak
  - Stereo pair absence
  - Jitter noise
  - Audio clipping
- **Ad insertion monitoring**
  - SCTE35 compliance checks
  - Logging and inspection of SCTE35 cue markers and avails
  - SCTE-104 Ad markers monitoring
- **Encoder Boundary Point Monitoring**
  - Advanced EBP monitoring for aligned EBPs across ABR feeds
  - Multi bitrate transport stream (MBTS) monitoring using IDR-PTS
- **SDI signal monitoring**
  - SDI over BNC
  - SDIoIP (ST-2110)
- **Well-managed recordings**
  - Manual and automatic recording of signals (TS or PCAP) based on customizable triggers
  - Continuous / chunked recording of a specified time or file size
  - Reason-specified manual recording
- **Alarms, alerts and reporting**
  - Audio alarms
  - Highly configurable and easy to set up alarms/alerts (including SNMP/email)
  - Custom alerting actions, such as slack, HTTP push, Microsoft Teams
  - Rich, highly configurable reports for real-time and logged data
  - Real-time graph and timeline for analyzing alerts and trends
  - Historical reports for PCR measurements
  - XML export of closed captions, EBP and IGMP information
  - Exportable Ad-insertion monitoring reports with cue details and video thumbnails
  - Exportable Ad marker reports in XLS and PDF formats
  - Customizable notification scheme for system level alerts
  - Integrated with VEGA analyzer for offline debugging
- **REST APIs support**
  - APIs for setup and configuration
  - APIs for controlling monitoring operations
  - APIs for alert reports in XML, PDF and CSV format
  - APIs for fetching bitrate, loudness, PIAT, RTP loss, jitter, FEC packet recovery stats in XML and CSV formats
  - APIs for fetching closed captions, SCTE-35, EBP and IGMP data in XML format
- **Role-based access**
- **Intuitive User Interface**
  - Supports localization
  - Dark and light theme based UI for better user experience

Benefits

- **Enterprise level solution**
  - Support for 10 Gbps monitoring with fiber and copper connectivity
  - Easy deployment and expansion using standard IT hardware
  - Supports linux operating system
  - Seamlessly deploys in virtual/cloud-based environment
  - Authentication/authorization using LDAP
  - Centralized probe management
- **Comprehensive monitoring**
  - MPEG-2 TS monitoring, closed captions, audio/video quality, and Ad insertion with SCTE-35 triggers
  - ST2110 monitoring including support for ST-2110-10/20/30/31/40, PTP, redundancy and NMOS integration
- **Established quality checks**
  - Leverages QC and standards compliance of our leading BATON and VEGA products
- **HEVC 4K support**
  - Monitors HEVC streams in different resolutions including 4K
  - Assesses QoE
- **Digital program insertion and compliance checks**
  - Monitor and log every SCTE-35 message
  - Record Ad insertions for visual inspection
  - Check inserted ads for audio/video quality
  - View syntax details and time-accurate thumbnails of SCTE-35 cue messages
  - Trigger service recording around SCTE 35 SPLICE OUT and SPLICE IN events

Customized dashboard



Created For

- Broadcasters, cable networks
- Telco operators
- Encoder/decoder manufacturers
- System developers
- Streaming media providers
- End-to-end DTV solution providers
- Cable and satellite headends

Formats & Protocols Support

Interface
IP (v4), ASI, SDI, SDIoIP (ST-2110), VLAN 802.1Q

Protocols
MPEG-2 Transport, DVB, ISDB, and ATSC compliance

Audio Formats
MPEG-1/MPEG-2 Audio, AAC/AAC+ (HE-AAC) Audio, Dolby AC-3, EAC-3, Dolby Atmos Audio, AES3 Audio, SMPTE 302M

Video Formats
SD/HD/UHD/4K Video, HEVC, H.264/MPEG-4 Part 10 (AVC), MPEG-2 Video, HDR

Embedded Data
Closed Captioning (EIA-608, EIA-708, SCTE-20, DIVICOM, NADBS, VANC (SMPTE 2038), Text Services), DVB Subtitle, Teletext, SCTE-27, SCTE-35, XDS, SCTE 104

Network Transmission Protocol
UDP/RTP, Multicast (IGMP v1/2/3), HRTP, SRT/RIST

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