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.

Benefits

- **Enterprise Level Solution**
  - Easy deployment and expansion using standard IT hardware
  - Support on Windows
  - Enterprise-wide centralized monitoring

- **Comprehensive Monitoring**
  - Monitoring of IP packets, Transport streams, closed captions, audio/video quality, and Ad insertion with SCTE-35 triggers

- **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

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
Key Features

- **In-depth monitoring and compliance checks**
  - MPEG-2 transport streams over IP / ASI / SDI
  - ATSC, DVB and ISDB compliance
  - TR 101 290 and ATSC A/78 compliance
  - DVB subtitles, Closed Captions, Teletext, XDS, and Text Services
  - Video and audio conformance checks
  - SMPTE 2022-2 standard
  - Advanced EBP monitoring for aligned EBPs across ABR Feeds
  - PCR Overall Jitter check for PCR analysis
  - Detectable changes in Audio / Video metadata during Splice events
  - Video Metadata checks for Frame rate and Picture Scanning Type
  - Logo Detection, Dropout and position change checks

- **Monitoring QoS/QoE/MOS**
- **Video quality checks**
  - Freeze frames, black frames and blockiness

- **Audio loudness compliance**
  - ITU, EBU and CALM Act

- **Audio quality checks**
  - Loudness, silence and audio levels

- **Content integrity checks**
  - Digital Program Insertion and compliance checks
  - Encoder Boundary Point monitoring for ABR content
  - Multi Bitrate Transport Stream (MBTS) monitoring using IDR-PTS

- **Network monitoring**
  - IP packet integrity checks - Network Jitter, Packet Inter Arrival Time, RTP errors
  - IGMP Monitoring
  - SDI signal monitoring

- **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**
  - Audible Alarms
  - Highly configurable and easy to set up alarms/alerts (including SNMP)
  - Rich, highly configurable reports for real-time and logged data
  - Integrated with VEGA analyzer for offline debugging
  - Real-time graph and timeline for analyzing alerts and trends
  - Historical reports for PCR Measurements
  - XML export of Closed Captions, EB and IGMP information
  - APIs for XML-based reports
  - Additional system alerts
  - PDF export of real-time feed / service level graphs
  - Ignore and restore alerts

- **Real-time playback**

- **REST APIs support**
  - Managing profiles, system control and configuration
  - Managing and monitoring feeds and services such as Service Decoding, Video/Audio Quality Analysis, Buffer Analysis, Audio Loudness Monitoring, PID details
  - Managing and exporting reports
  - for Alerts in XML, PDF and CSV format
  - for Trends in Bitrate, Loudness, PIAT, RTP Packet Loss, Jitter, FEC Packet Recovery in XML and CSV formats
  - for Closed Captions, SCTE-35, EB and IGMP data in XML format

- **Role-based access**

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.

### Formats & Protocols Supported

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<thead>
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<th>Interface</th>
<th>IP (v4), ASI, SDI</th>
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<table>
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<tr>
<th>Protocols</th>
<th>MPEG-2 Transport, DVB, ISDB, ATSC compliance</th>
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<tr>
<th>Audio Formats</th>
<th>MPEG-1/MPEG-2 Audio, AAC/AAC+ (HE-AAC) Audio, Dolby AC-3, EAC-3 Audio, AES3 Audio, SMPTE 302M</th>
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<tr>
<th>Video Formats</th>
<th>SD/HD/4K Video, HEVC, H.264/MPEG-4 Part 10 (AVC), MPEG-2 Video</th>
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<th>Embedded Data</th>
<th>Closed Captioning (EIA-608, EIA-708, SCTE-20, DIVICOM, NADBS, VANC (SMPTE 2038), Text Services), DVB Subtitle, Teletext, SCTE-27, SCTE-35, XDS</th>
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<th>Network Transmission Protocol</th>
<th>UDP/RTP, Multicast (IGMP v1/2/3), HRTP</th>
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<tr>
<th>Checks</th>
<th>TR 101 290, CableLabs, Audio loudness, Audio quality, Video quality, IP Level, QoS/QoE/MOS</th>
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