



INSIGHT

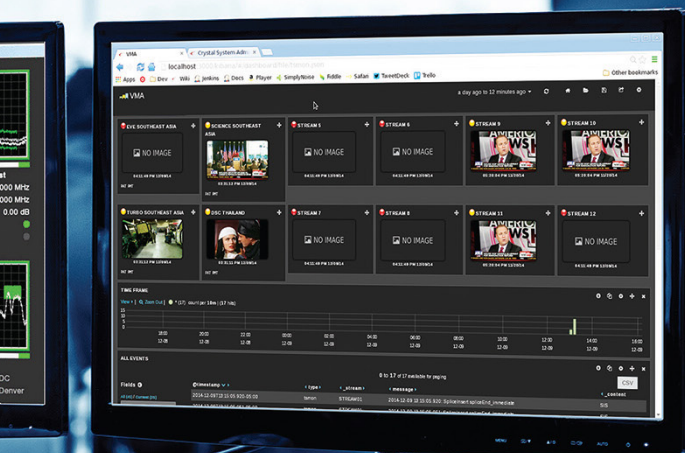


> **ANALYZE. EVALUATE. MAXIMIZE.**

Crystal Insight suite of products allows your organization to convert network information into actionable knowledge.

This resulting insight is a crucial component for systems that need to maximize revenues through efficient flow and monetization of content.

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## > VIDEO METADATA ANALYZER

Crystal Insight's Video Metadata Analyzer (VMA) is used to view, describe and correlate the presentation of program content based on included metadata. Metadata is precisely timed (relative to program content) so that any implied actions can take place at the exact intended video frame, and Crystal's VMA can alarm on anomalies due to errors, latency or jitter in the transmission path.

Crystal ensures metadata accuracy by capturing and logging video metadata, including SCTE-104 and SCTE-35 messages, along each streams' transmission path. Crystal's VMA checks for the presence of metadata, assures it is properly formatted, ensures it complies with business rules, and presents the analysis, errors and details in an actionable format.



Crystal Makes  
Your Content  
Flow... Let Us  
Show You How!

REQUEST A DEMO:  
[WWW.CRYSTALCC.COM/DEMO](http://WWW.CRYSTALCC.COM/DEMO)

## > TRANSPORT STREAM ANALYZER

Crystal Insight's Transport Stream Analyzer enables operators to examine the transport stream characteristics of any transport multiplex, on any RF Carrier or MPEG stream, at the transmission or downlink site.

The transport stream analyzer virtualizes the experience by using dynamic RF, ASI, or IP switching and agile carrier tuning. This capability allows an operator sitting at any workstation in the network operation center, or off-site, to examine the details of any stream without physically moving equipment or patching cables. In fact, multiple operators on different workstations can simultaneously examine different multiplex streams without additional hardware costs.

## > CONNECT PROGRAM PACKAGER

Broadcasters must provide multiple, highly tailored content streams for a variety of video distribution paths. These different streams contain commercial insertions messages at the broadcast and/or the affiliate level and varied additional metadata – content identifiers, graphics, crawls, closed captioning. What begins as a single linear program is quickly transformed into a set of higher value program streams.

Delivering these multiple streams requires the close coordination of multiple systems, play out automation, satellite compression, RF transmitters and IRDs, mezzanine fiber/IP encoders and decoders, VOD servers, web streaming encoders, CDNs, commercial insertion and digital rights management systems. A single event can require the execution of commands in two or more of these systems, performed within a fraction of a second.

Connect Metadata Packager uses the SCTE-104 and SCTE-35 protocols to deliver the time-critical metadata commands and provides the ‘glue’ between the stimuli of these events and the commands to the downstream systems or equipment. Actions are ‘stream addressable’ – a specific, complex action may be directed to just one of the multiple programming streams that are actively being produced or are upcoming.

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## > ADCHECK AD VERIFICATION

Broadcasters, advertisers and cable operators know that the best way to maximize advertising effectiveness and ROI is to present highly targeted ads to viewers. Disruption of ad insertion ‘triggers’ is a threat to the effectiveness and ability to deploy this approach.

AdCheck from Crystal reduces lost revenue and increases customer satisfaction by ensuring advertising insertion triggers are delivered on time. It is the industry’s first complete solution for advertising cue tone / DPI notification, verification and resolution.

Built-in real-time transmission monitoring provides ad trigger notification, verification, and fault resolution to operators ensuring all advertising income opportunities are included in transmission streams.

AdCheck integrates with your Crystal Control NMS or can be installed as a standalone solution. AdCheck combines off-the-shelf hardware, like the Crystal Insight’s VMA or other manufacture’s video metadata probes, with unique software programming to monitor ad-insertion notifications for both programs distributed through transport streams.



Crystal architects solutions for optimization and creates delivery mechanisms that ensure quality control. Crystal know-how and technology is the solution to connect complex, mission-critical environments on a global scale.



#### > CONTRIBUTION

Everyone's a content creator now—and effectively managing a myriad of incoming feeds is imperative for competitive success. From media companies and sports leagues to enterprises and individuals, contributors produce a flood of content that demands rapid and precise configuration, analysis, tagging, routing, storage, and access.



#### > PLAY OUT

Crystal takes the time to understand your unique needs and create an IT-based play out solution that seamlessly integrates the workflow across your network. This approach allows you to take advantage of the industry evolution towards delivering both linear and non-linear content to consumers.



#### > DISTRIBUTION

In a world of steadily growing content complexity, content distribution needs to remain agile, dependable, and flexible. Crystal is the leader in simplifying the flow of content across your network.



#### > OPERATIONAL RESILIENCY

The more complex multi-format content distribution evolves, the more opportunities for transmission interruptions. Crystal works with you to create a plan and build systems that anticipate and prepare for these eventualities before they happen.



#### > BUSINESS INTELLIGENCE

Building on knowledge of how your network is constructed and architected to run, Crystal puts all the information you care about in one place. This knowledge helps you understand how content is flowing across your network and determine how to maximize your investment.



Founded in 1986, Crystal designs and delivers network monitoring and management solutions that improve operational efficiency, analyze errors, and enhance system resiliency, particularly for businesses that deal with complex and dispersed distribution pathways. Every day, program and advertising content worth billions of dollars flows through equipment managed by Crystal for leading media, enterprise, and satellite customers – including Fox, CNN, Disney, and Intelsat. Crystal, a privately held company, is headquartered in Greater Atlanta, GA. For more information, please visit [crystalcc.com](http://crystalcc.com).