

Content Validation for the Multimedia Home Platform

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Introduction

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An initiative of the Digital Video Broadcasting Project (DVB), MHP envisions a truly horizontal market in content, applications and services over multiple delivery systems including cable, satellite, terrestrial broadcasting and even third generation mobile phones. The business implications of MHP are enormous, with the opportunity for new interactive content and services to create additional revenue streams for traditional television broadcasters.

Typical applications for MHP are electronic program guides (EPG), information services (super teletext, news and stock tickers); applications synchronized to television content (score cards, local play-along games); and e-commerce and secure transactions.



Example MHP Application

Using MHP standards, content producers can author once and "play" on a wide range of devices including set-top boxes, integrated digital television sets, multimedia personal computers and handheld appliances.

A New Challenge

However, with this vast new opportunity comes a challenge. How does a broadcaster monitor the signal quality of complex compressed MPEG signals that may encompass audio, video and other data types in a single transmission path? How does one validate that interactive programming is being delivered correctly to its designated audience? How long will it take to discover a potentially costly problem before it can be corrected?

These challenges require new solutions in broadcast monitoring. Since digital networks must carry content reliably from point-to-point in an accurate and timely manner, the signal impairments and errors that can accumulate along the way must be diagnosed and stopped before catastrophic failure can occur. Preserving signal quality is essential in any effective maintenance strategy.

However, simply ensuring that signals are correctly sent does not guarantee that the service quality of multimedia programming is maintained successfully to the target audience. Some service information profiles may be modified during the processes of encoding, multiplexing, decoding, re-encoding and re-multiplexing. As a result, service parameters, such as languages or subtitles, may be configured incorrectly.

To insure the highest broadcast-quality standards throughout a network infrastructure, new tools and advanced monitoring techniques are needed that can detect and automatically alert operators to potential signal and service integrity problems before a failure.

A New Paradigm

A new broadcast monitoring paradigm is represented in the Pixelmetrix DVStation, the most advanced preventative monitoring solution available for digital networks. DVStation conducts multiple real-time, continuous and simultaneous evaluation checks in the broadcast chain from program origination to receiver. These check points are enabled through preset thresholds along the signal path.

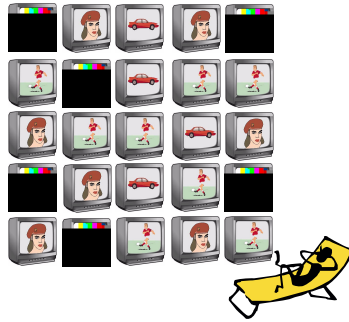
DVStation, through its on-air program validation feature, ensures that all content – including MHP multimedia applications -- are sent correctly through the network.



DVStation

Broadcasters are under contract to reliably deliver all program content -- including MHP applications -- to viewers. DVStation offers broadcasters a powerful new tool to monitor and validate that delivery.

In the analog era, broadcasters could monitor their signals with a waveform monitor, vectorscope and some trained "golden eyes" scanning a row of control room monitors. That traditional approach to monitoring won't work when you are delivering multimedia. The question now becomes how do you 'see' the data."

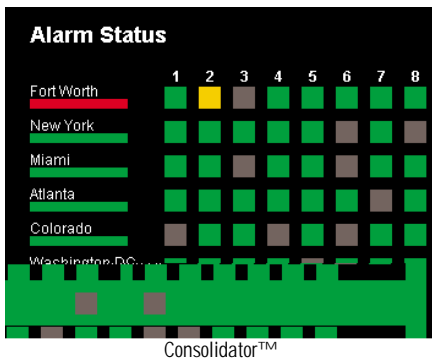


For example, that a popular MHP application is a user configurable stock market ticker that scrolls at the bottom of the video screen. MHP offers a way to provide that ticker to individual viewers. But, as a broadcaster, how do you know the stock ticker is being downloaded correctly? What if instead of sending the viewer the stock information you are actually sending weather data? This can present a significant business issue to multimedia broadcasters.

Preventative Monitoring

New software for DVStation now offers monitoring support for MHP applications. If a preset threshold in a content parameter moves out of range, DVStation sends an instant warning to alert operators.

DVStation is so user friendly that non-technical personnel can monitor its complex analysis through simple "red light, green light" alerts. Remote warnings can be made easily available over a corporate LAN, the Internet and even to pocket pagers. Problems can be isolated quickly because DVStation generates a comprehensive log that clearly explains which threshold deviated from the norm.

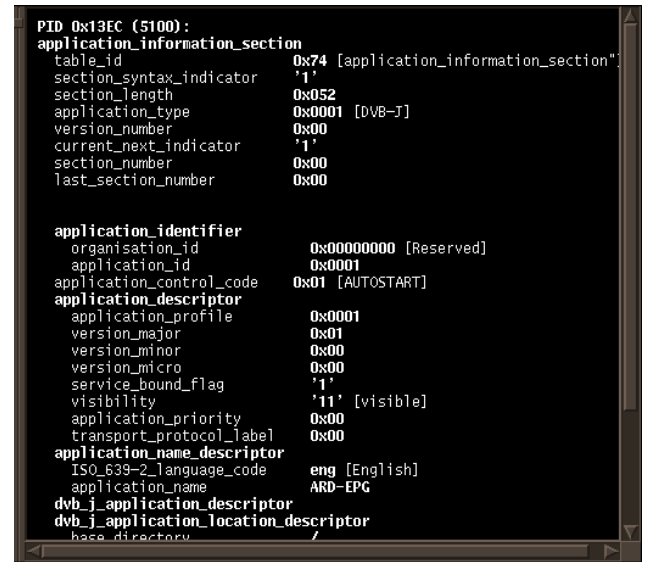


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The MHP core standard has been determined. It identifies now how to write and deliver the multimedia content. People are now starting to develop applications and put the system into use. But there's much work ahead as the standard develops. At Pixelmetrix, we support the monitoring of MHP today and are looking one step ahead of current problems.

To be determined, is how much automatic content validation is necessary for broadcasters to manage the business of multimedia delivery. Where are the business risks for MHP? That remains to be seen. While today in the world there exist various levels of MHP implementation and deployment exist, it's not finished yet.

With the DVStation's expandable architecture, the solutions available will grow along with the customer's business needs in this exciting new environment. Nobody really knows the requirements of the future. But we at Pixelmetrix are committed to find solutions for the pioneers who are leading the way to this sea change in the broadcasting industry.



For More Information

To learn more about the DVStation, request a demo, or learn how Pixelmetrix might help you optimize video network integrity, contact us today!

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About the Author

Danny Wilson is president of Pixelmetrix Corporation, manufacturer of the DVStation, a preventative monitoring solution for digital broadcast networks. Mr. Wilson has 15 years previous experience with Hewlett-Packard in the area of telecom protocol testing and network management.