Professional Services Development Architecture



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The Global Expert in Preventative Monitoring for Digital Television Networ

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Providing effective and efficient monitoring of today's broadcast networks requires not only manual control via local or remote interfaces, but often requires integration with other systems for the automated exchange of performance and analytical data. For example, quality management systems, subscriber management, billing systems, Help Desk centers, and conditional access systems.

BACKGROUND

DVStation is a highly flexible platform consisting of Hardware and Software components that can be easily configured and changed as the needs of customer changes. Furthermore, DVStations are easily networked together into a Wide-Area Network (WAN) management infrastructure through a synchronized clock. The time could be set using GPS or via Network time protocol.

DVStation basic architecture is based on a parallel processing principle to isolate as much of the technical analysis and extraction of critical data to the hardware level.

HARDWARE ARCHITECTURE

DVStation has been engineered with a highly modular and scalable hardware architecture in mind to scale from a single-point to a multiple-site multi-point monitoring system. DVStation is based on a unique parallel processing architecture to isolate complex repetitive analysis into the hardware layer and avoid loading down a single CPU to performing analysis



at the software level. This layering principle is depicted in the diagram at left:

The hardware architecture is divided into plug-and-play cards which can be easily hot-swapped and added to the Host system as your requirements grow.

Each individual card contains an onboard FPGA/gate array and a dedicated CPU. The cards are responsible for the real-time signal acquisition and results calculation.

The Host system is responsible for

result correlation and presentation. Because of the parallel processing architecture, the performance of the overall system is highly scalable and will grow as customer needs change.



Development Architecture



The DVStation hardware platform is complemented by our Open Standards based component host software architecture.

Furthermore, the Linux-based host portion of DVStation has the ability to synchronize with other Hosts to create a highly networked real-time WAN configuration to provide measurement and management of service quality, bandwidth and cost. Information can also be captured on a periodic basis for later analysis and tuning.

DVStation provides concurrent and multiuser control – both through a local interface and via remote control through HTML.



DVSTATION SOFTWARE ARCHITECTURE

DVStation employs a multi-process architecture dividing tasks between user/program interfacing, data collection, correlation and storage.

DVStation's Object Broker allows remote applications to retrieve monitoring results, as well as configure operating and alarm parameters — without having to worry about the specifics of the hardware, operating system, language, or network type used. The Object Broker is CORBA-compliant. CORBA allows remote applications, through the help of an ORB (Object Request Broker) to access monitoring results as objects in any language that the customer's application is written in.

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Using IDL (Interface Definition Language) files, DVStation can easily be integrated to applications written in C/C++, Java, Visual Basic, Embedded into Oracle SQL and any other major development platforms.

In addition, DVStation Software Architecture also has a comprehensive SNMP interface for integration to any standard network management system. A number of industry leading applications have already been successfully integrated to DVStation throughout the world.

PROFESSIONAL SERVICES

Pixelmetrix Professional Services team members are periodically rotated through internal development projects to maintain a high degree of familiarity in the product and the software architecture.

This development rotation coupled with customer project experience increases the overall expertise each team member has and improves the overall project quality to our customers.

