

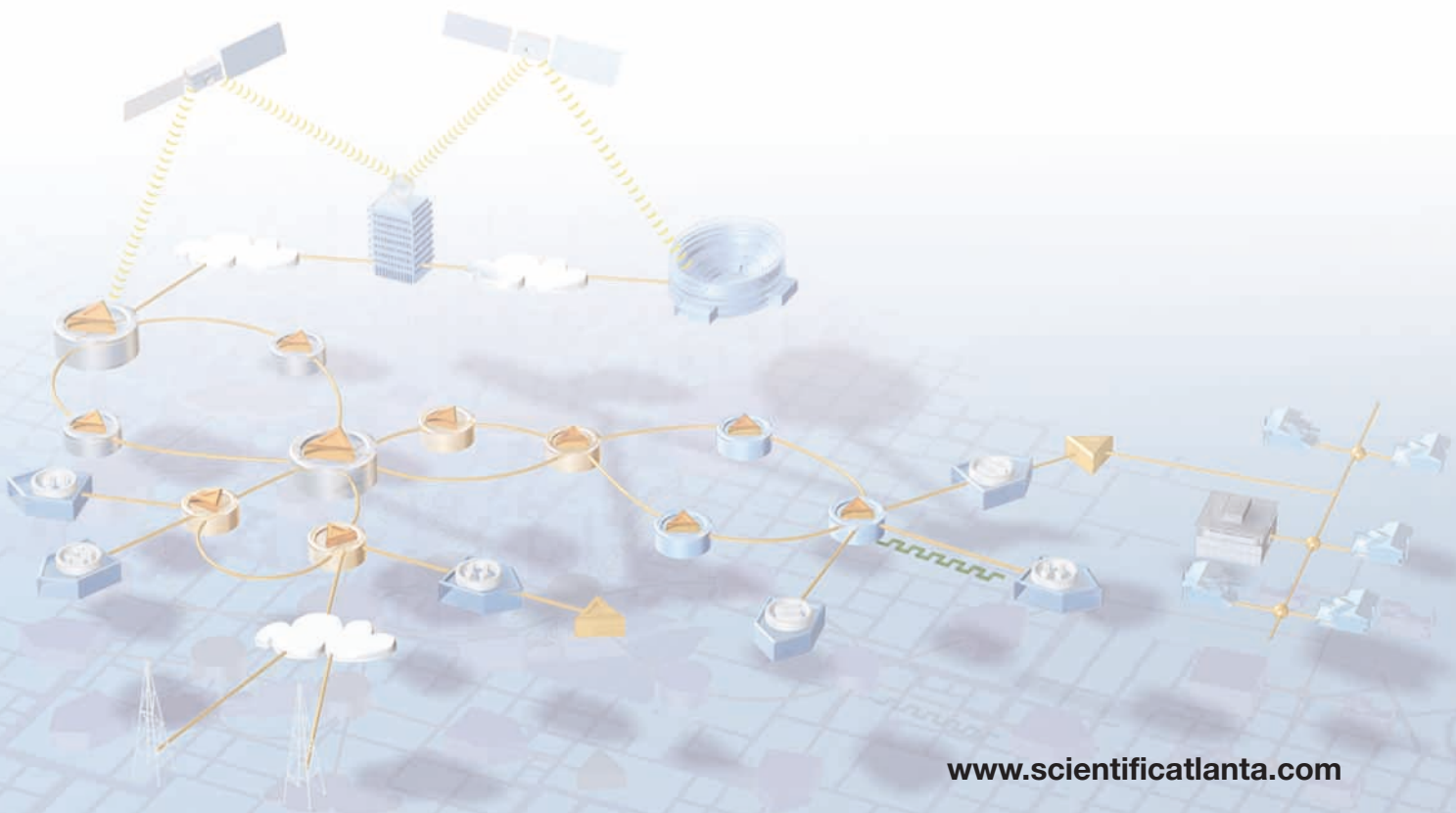


► Service Automation Suite
for Video

The Service Automation Suite for Video

Automated Digital Set-top Performance Verification at Installation and During Service Calls

A SciCare Broadband Services Technical Paper
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Introduction

Incomplete or incorrect customer installations and the on-site service calls required to correct them are costing cable operators time and money, not to mention negatively impacting customer satisfaction. It is not unusual for an installer or service technician to perform only the most basic verifications, if any at all, before moving on to the next location. This can leave behind "latent" issues that, when they surface, lead to unnecessary customer service calls, truck-rolls and dissatisfied customers. They can also lead to lost revenue as many of these latent issues only surface when a customer attempts, and fails, to order an advanced service like pay-per-view (PPV) or video-on-demand (VOD). The irony is that many of these problems could have been avoided.

According to Scientific-Atlanta, SciCare Broadband Services consulting studies, as many as 50 percent of all installations performed by a technician have at least one latent problem that could possibly lead to a support call and return truck roll. Overall, it is not unusual for an MSO to have service call rates in excess of 15 percent within 30 days of an installation at a customer site and repeat service call rates in excess of 10 percent within 30 days of installation.

Certain problems consistently crop up in insufficiently verified installations and service visits, some of them with a surprisingly large impact:

- * In-band and out-of-band RF signal performance
- * Two-way availability
- * Service authorization
- * Feature authorization

The Service Automation Suite for Video (SAS-V), a product developed jointly by Scientific-Atlanta and SupportSoft, is a tool that automates the verification process at the time of installation or during a service call. Using SAS-V, common service and installation problems can be diagnosed, escalated and resolved before the technician leaves the customer location, ensuring that the digital set-top is performing properly and reducing the likelihood of a return service call. In addition to having the potential to dramatically decrease truck rolls, SAS-V provides opportunities for gathering customer and installation information that can be used to improve service, support and other cable systems activities. SAS-V creates a unified process among technicians, dispatchers and headend staff that can lead to additional efficiencies and related savings.

This paper describes the SAS-V solution from a technical perspective. It explains how the solution interfaces to the cable operator's existing Scientific-Atlanta systems and the results of testing conducted to ensure that overall system performance will not be affected by the addition of the Service Automation Suite for Video.

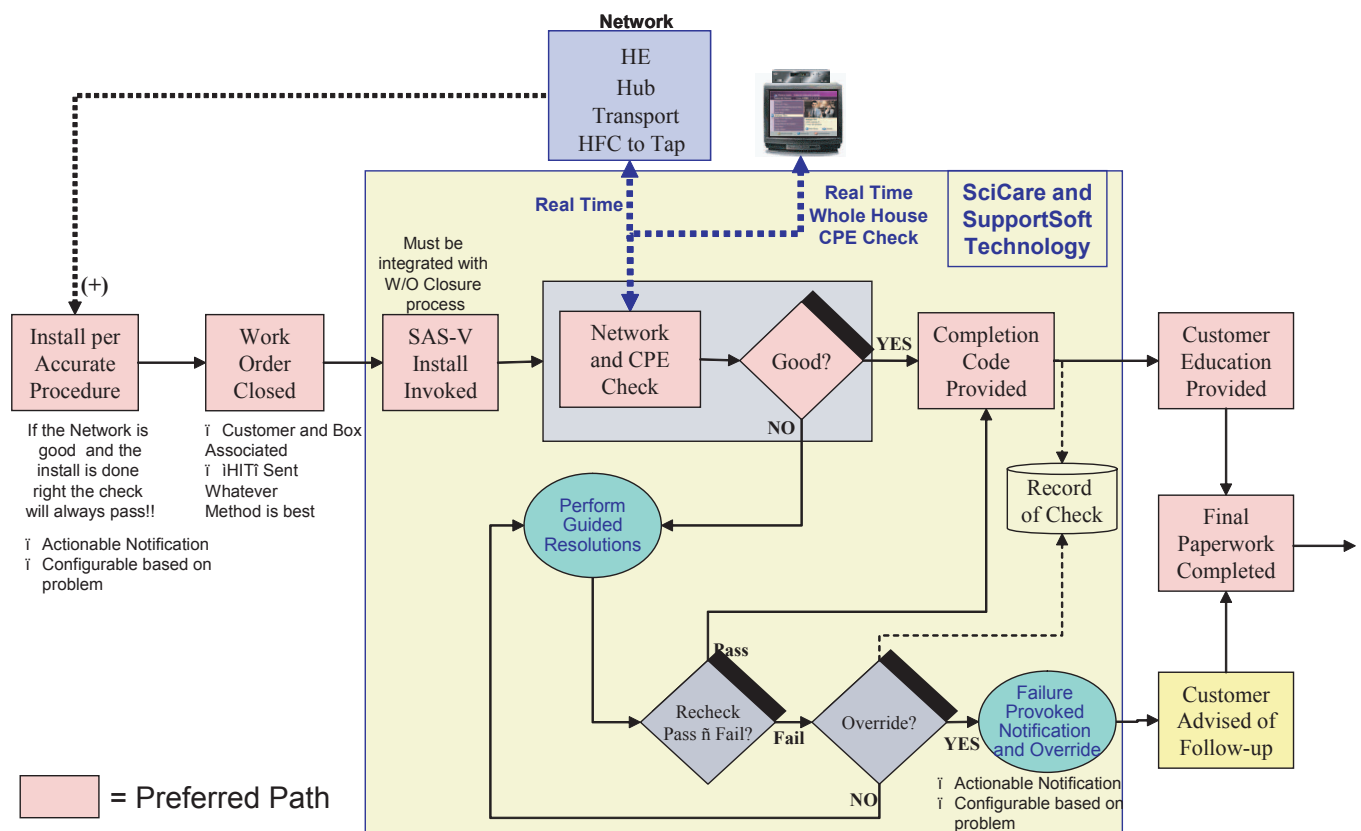
An Overview of the SAS-V Verification Process

The SAS-V verification process is based around an engine and interface through which MSOs can remotely test signal performance and two-way communications and ensure that impulse pay-per-view and other interactive services such as video on demand are enabled correctly. The SAS-V workflow, illustrated in the diagram on the following page, can integrate into the MSO's current operational processes with no significant impact on performance.

The workflow can be customized to accommodate individual MSO requirements. The SAS-V process is very straightforward: Following installation or a service call, a dispatcher or field technician manually invokes automated performance checks. If everything checks out, a pass

code is provided, the customer is given appropriate operational education/training, final paperwork is completed and the field technician goes on to the next installation or service call.

In the event of a failure, diagnostics, guided resolutions and rechecks integral to the SAS-V process identify and solve most common issues. If these steps correct the problem, the pass code is issued, customer education and paperwork are finished and the work order is closed out. When a problem can't be resolved via the SAS-V automated checks, guided resolutions and rechecks, a notification of the failure is forwarded to the appropriate individuals or organizations so that the additional steps necessary to resolve the issues can be initiated. SAS-V



provides for different processes to be followed to close out work orders that can't be resolved but that are judged to be within the field technician's area of control and those that can't be resolved because of problems outside the control of the field technician.

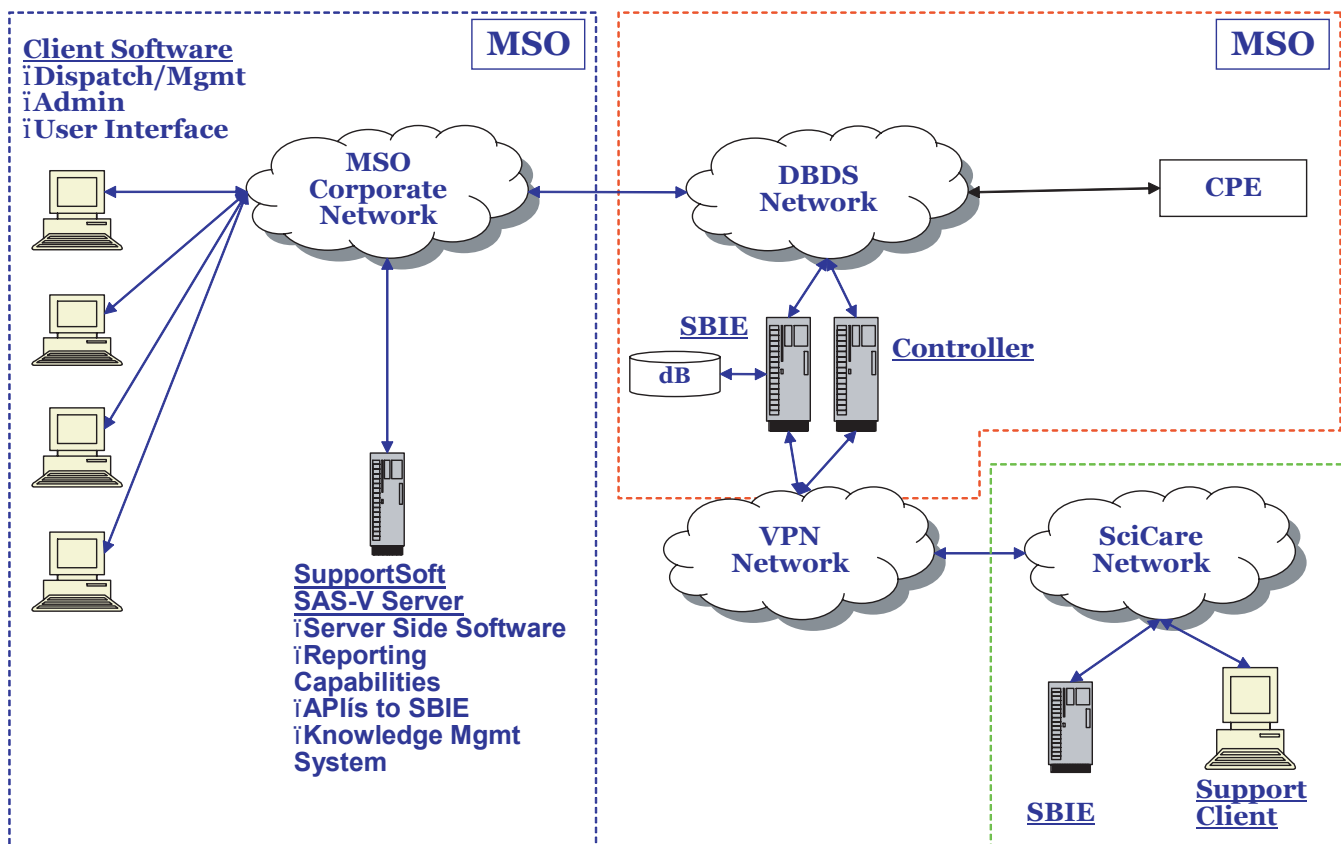
The SAS-V system consists of two main modules: the first installation-related, the second a customer service module. SAS-V includes two servers. One, the SAS-V server, interfaces to the MSO's digital controller via a network connection within the MSO's infrastructure. The SAS-V integration engine resides in the DBDS data network and ties into the network to speak to the digital video controller. A second network connection interfaces the customer's corporate network and the SAS-V SupportSoft server to provide reporting capabilities, initi-

ate API calls to the integration engine and support the knowledge management system.

For ease of use, SAS-V has a Web interface to the desktop, but this is not a Web-based tool. What the user sees is a Web interface wrapped around an application that is contained within the MSO's current operation. To initiate a SAS-V action from a desktop client:

- The user enters information telling the systems to run a particular test
- That information is communicated to the SupportSoft server in the MSO's corporate network
- The SupportSoft server invokes an API call to the SAS-V server connected to the digital video controller
- The SAS-V integration engine runs the requested test
- The results are sent back to the user

SAS-V Components and Interfaces



Gaining Value without Impacting DBDS Performance

In the course of carrying out its verification functions, SAS-V queries the MSO database in real-time and communicates with the digital set-top in the consumer's home. SciCare designed the SAS-V system to ensure that this interaction would not adversely impact system performance.

SAS-V testing consisted of an application that initiated one transaction every second, a significantly greater number of transactions than would be encountered in an actual operational environment. One transaction hit the digital controller ever five seconds, with additional random hits to the controller during the intervening four seconds.

The system was tested for one hour of system at a steady start. The UNIX System Activity Reporter (SAR) collected the test results, which were verified and signed off by SVT (Scientific-Atlanta Verification Testing). The results of the tests were that impact on the INIT process was less than two percent. End-to-end testing was also conducted to check for functionality.

One Element of a Total Solution

The Service Automation Suite for Video is part of a total solution from SciCare Broadband services. SciCare Broadband Services delivers practical solutions and expert assistance in virtually every area of an MSO's operations:

- Launching networks and services
- Expanding, upgrading and building networks
- Assessing, characterizing and optimizing operations and networks
- Improving margins with revenue and service assurance capabilities
- Improving customer satisfaction with education and learning initiatives
- Increasing customer loyalty with more personalized customer interaction
- Integrate Scientific-Atlanta technology with third party and legacy products
- Managing key projects
- Planning, designing, testing, certifying, operating and maintaining network systems