

VERIZON BUSINESS

EMC Smarts: The technology behind Verizon Business' IMPACT fault management architecture



ESSENTIALS

Industry

Managed services

Reach

Serves 99 percent of the Fortune 500

Business Challenge

- Reduction of events in order to move to an advanced, automated NOC management architecture

Solution

- EMC Smarts

Results

- Reduced number of events and automated root-cause analysis
- 99.7 percent of alarms can be identified in real time
- Assignment of one ticket to one outage
- Scalable and technology-agnostic solution

OVERVIEW

Verizon Business comes forth from a heritage of innovation and excellence. It is also a leading provider of managed network services. In this highly competitive marketplace, Verizon Business differentiates its offerings by providing leading-edge network management to business customers around the world. Today, Verizon Business' patent-pending Rapid Fault Isolation capability and world-class IMPACT fault management architecture, using EMC® Smarts® (powered by patented Smarts™ Codebook Technology), provides industry-leading, time-to-repair, service-level agreements (SLAs) to customers in more than 2,700 cities and 150 countries.

BUSINESS CHALLENGE

Achieving exceptional levels of network availability and performance required Verizon Business to take a new approach to network management. The company needed to move beyond traditional event management and began looking for a new solution that offered both root-cause analysis and a platform for advanced automation.

"As long as our operations team had to deal with the very large number of events generated by the existing IBM Tivoli NetView solution, advanced automation was not possible," says Steven Smith, Verizon Business senior manager, Enterprise Network Systems. "Event reduction through root-cause analysis was clearly our first step."

Verizon Business began to explore root-cause analysis solutions that could integrate with Tivoli NetView. "I had a single criterion—one ticket for one outage," says Mark Fontes, senior network consulting engineer for Verizon Business. "We were spending too much time reviewing bad tickets and doing manual event correlation."

As Verizon Business' Managed Network Service business grew to more than 1,000 networks under management, its system had to be highly scalable, support multiple technologies, offer ease in adding new devices, and have the ability to feed events into the Verizon Business mainframe in a standardized way.

SOLUTION

After extensive lab testing, Verizon Business made its initial purchase of Router Connectivity Manager, an early version of EMC Smarts IP Availability Manager. "The customer networks we manage are dynamic, and topology changes are often not within our control," says Smith. "We needed a root-cause analysis solution that was easy to monitor and maintain. EMC Smarts ready-to-use automated discovery, topology, certification of devices, and root-cause analysis worked 'out of the box,' and were all instrumental in choosing EMC Smarts over other options."

In 2002, when EMC Smarts Service Assurance Manager was released, Verizon Business made the decision to retire NetView as its "Manager of Managers" (MoM) and convert to an all-EMC Smarts solution.

CUSTOMER PROFILE

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According to Smith, Verizon Business' findings were validated when Network Computing magazine published an article that ranked EMC Smarts Service Assurance Manager as the top product in its class.

ACHIEVING ADVANCED AUTOMATION

With the success of its root-cause analysis deployment, Verizon Business decided to take automation to the next level. A project was begun to integrate the company's internal IMPACT system to automate first-line fault management operations such as testing, maintenance verification, and ticketing.

"Ten years ago, when we saw that a device was down, we turned to our manual," says Mark Fontes. "Seven years ago, we looked it up on a web page. Most recently, we used an Oracle database, but the process was still largely manual. Instead of acting as 'human modems,' we wanted to build a process where an event populates the ticket automatically. We wanted a system that could look at three to four alarms, automatically determine if they had a single cause, and open one ticket."

EMC Smarts provides this functionality, with automation improving mean-time-to-isolation by an average of eight to 11 minutes per event.

Today, automatic trouble-ticket generation is just one advanced feature of the IMPACT system. Integration with change management lets operators know if events are caused by a scheduled change in the network. The system also runs end-to-end circuit tests without operator intervention (required for 80 percent of tickets), updates tickets appropriately, and notifies the customer via pager, e-mail, and web-based portal.

"This is a complex process," says Fontes. "Reliable identification of the disruption is the critical first step. EMC Smarts pinpoints the root cause of network issues with amazing accuracy."

"Advanced automation makes it possible for us to quickly restore networks when an issue occurs. With automated root-cause analysis, 99.7 percent of alarms can be identified in real time, which reduces time-to-repair, helps us consistently meet our industry-leading SLAs, and delivers the levels of network availability and performance our customers demand."

Steven Smith
Senior Manager, Enterprise Network Systems, Verizon Business

REAPING COMPETITIVE ADVANTAGE

Today, with Rapid Fault Isolation capabilities and EMC Smarts-based IMPACT fault management, Verizon Business is offering customers an unparalleled set of SLAs for availability and restoration. The company's three-and-one-half-hour time-to-repair in the U.S. (Verizon Business network), a four-hour time-to-repair for third-party managed networks in the U.S. and key global business centers, and a six-hour time-to-repair for remote regions of the world (all with Verizon Business maintenance) lead the industry.

Faster restorations translate to a significant bottom-line advantage for Verizon Business customers. With industry estimates putting the cost of downtime at \$4.5 million per hour for a large enterprise (Zeus Kerravala, Yankee Group), network availability and performance are absolutely critical.

“Advanced automation makes it possible for us to quickly restore networks when an issue occurs,” says Smith. “With automated root-cause analysis, 99.7 percent of alarms can be identified in real time, which reduces time-to-repair, helps us consistently meet our industry-leading SLAs, and delivers the levels of network availability and performance our customers demand.”

CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, [contact](#) your local representative or authorized reseller—or visit us at www.EMC.com.

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