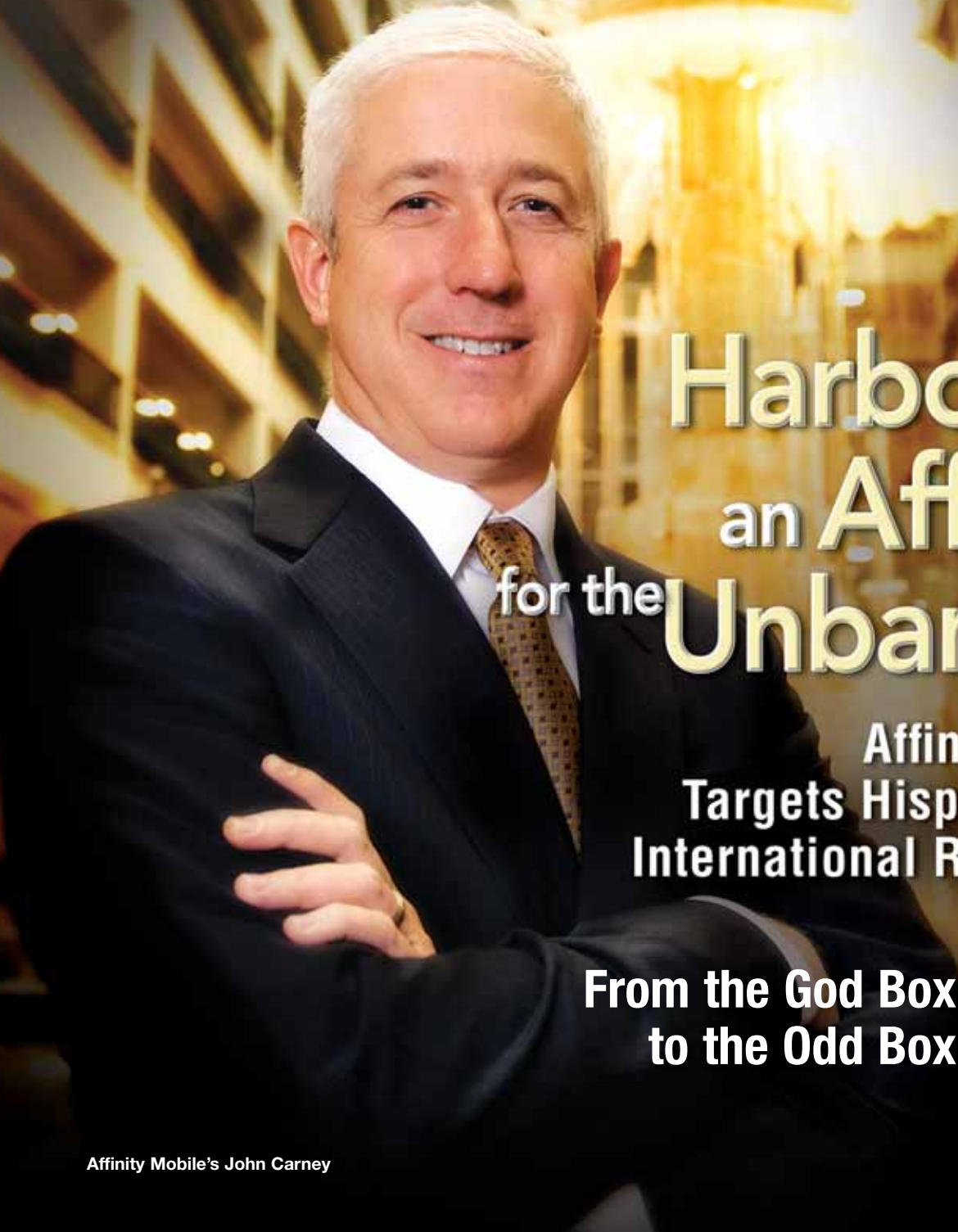


B/OSS

B I L L I N G & O S S W O R L D
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Harboring an Affinity for the Unbanked

**Affinity Mobile
Targets Hispanics with
International Remittance**

**From the God Box
to the Odd Box**



FROM THE GOD BOX

When Alexander Graham Bell's

second telephone patent

expired in 1894,

competitive vendors

flooded the market.

The challenge of managing

multivendor networks has

been raising its ugly

head ever since.

And for 114 years,

network managers have

been finding excuses to ignore it.

Can one vendor manage it all?

By Tim McElligott

TO THE ODD BOX

E

veryone knows if you ignore the diet too long or neglect the oil in the car, or keep telling yourself that it's just a freckle, you'll wake up one day wishing you hadn't. Network managers have known of and lived with the inconvenience and cost of multivendor network management seemingly forever. Today, with the proliferation of elements in the next-generation network, they are waking and asking themselves why they have not addressed this problem before.

There have always been hotter fires to put out and more interesting problems to solve. And MOM has always been there to smooth things over — MOM being the work-around known as the manager of managers. But there is another reason network management in a multivendor environment has remained an issue that has nothing to do with network managers or the excuses they make. It is the vendors themselves. They have had no interest in solving the problem. In fact, it has always gone against their best interests.

But the network of today is too unwieldy, too complex, to let the issue linger any longer. The question is: Who is going to solve it?

In response, there have been several initiatives over the last few years by large equipment vendors to find a solution. For example, a group led by Ericsson, Motorola, NEC, Nokia and Siemens was formed within the TM Forum in October of 2004 and called the Co-operative Open OSS Project (CO-OP.) It had a mandate to reduce the complexity of integrating network equipment and management systems from multiple vendors in mobile operator networks.

A spokesman for one of the biggest mobile operators in Europe, who wished to be kept anonymous, said the only positive thing that came from that initiative was a common standard for user management. However, as you'll see below, it may have been the impetus for other initiatives.

Many equipment vendors claim to provide multivendor support already. Whether that is true is unimportant if service providers refuse to believe they can.

Even some equipment vendors don't buy it. "Expecting an equipment vendor to build a product that is as good at managing the competition's product as it is its own, I don't think it's possible," said Mike Marshall, senior product manager of network and system management at Juniper Networks.

Others agree to varying degrees, but, like Peter Mottishaw, partner and senior analyst at OSS Observer, they didn't quite delve into the impossible. "There are a lot of challenges getting vendors to cooperate at that level," he said.

Some vendors have made good strides, said Andrew Ponticelli, NOC architect at Time Warner Cable. "But element management is still a huge problem. Element management systems are typically an afterthought with our providers and they don't cover the entire FCAPS requirement." FCAPS stands for the five primary functions of element management: fault, configuration, accounting, performance and security.

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Getting More Value Out of Multivendor Networks

Join Nakina Systems for a technical discussion of the Network Operating System as well as its merits in real-world deployments.

Ponticelli said that as a cable provider, Time Warner Cable still is learning how to deploy and manage telecom networks. "Just entering the carrier space is transformation enough," he said. Still, he would like his EMS to make the process of deploying network elements more deterministic and all-inclusive operationally. He said having both Layer 1 and Layer 2 solutions presents a problem for service providers because they don't have the resources to manage them.

"So it is good to leverage a single company to address multiple supplier problems and be able to get probes and adapters all on schedule. That's of interest to us," Ponticelli said.

On the other end of the spectrum from Juniper are a couple of vendors who strongly disagree with the notion that the problem cannot be solved by the equipment makers themselves. Cisco Systems Inc. and Nokia Siemens Networks, emboldened by their combined 25 percent market share in the network management space, launched an initiative to deliver a jointly developed platform for multivendor network management and element management systems (EMS). This was back in May of 2007. However, promises of a road map in November were broken and timelines remain unclear.

"We probably underestimated the scope of the work we were trying to accomplish and underestimated how much traction the individual products would get," said Karen Sage, director of Cisco's network management team.

Sage gave no dates for a progress report but says the two companies still are working on a solution.

So with no hardware solutions in the offing, where will a solution come from? For the last few years, Nakina Systems Inc. has been trying to sell service providers on the idea of a universal network mediation layer it calls the Network OS (operating system). The NOS provides a single point of integration for all network elements and/or element management systems. It was built to discover, secure, configure and manage any and all elements in the network. It also provides an abstraction layer that separates the EMS function from the upper layer BSS and OSS.

In essence, Nakina is asking service providers to do what they historically have been wont to do: trust a potential paradigm-shifting network solution to a small independent software vendor (ISV).

To find broad adoption with and earn the trust of Tier 1 carriers, small ISVs need the cache of another major Tier 1 deployment. Nakina has that in Verizon Business. It is at the heart of the company's Common Element Management System (CEMS) initiative launched two years ago. CEMS supports 6,000 network elements from 15 different manufacturers and uses the NOS to provide one set of methods, applications and interfaces for all vendors, according to Dan Baker, research director of Dittberner's OSS/BSS KnowledgeBase at Dittberner Associates Inc.



Nakina's Marco Pagani

"Nakina does a good job of partitioning the OSS from the network element layer so that upgrades and modifications can be made independently without requiring extensive end-to-end retesting," Baker said.

Though testimonials are hard to come by, especially for solutions that touch security and sensitive element-access issues, Nakina president and CEO, Marco Pagani, said his company is seeing traction beyond its first two customers and that the paradigm shift is being accepted more globally.

Pagani said in addition to Verizon Business and two other North American Tier 1 operators, for which the company provides network access security and management of an Ethernet backbone, Nakina has several trials under way as well as companies in the procurement process. They span North America, Europe and Asia Pac and support wireline, wireless and cable networks.

"We are seeing the market developing because the guys that are going to buy this type of solution are starting to put their money where their mouth is," Pagani said. "A certain PTT in Europe is embarking on one of the biggest broadband Ethernet infrastructure plays in the world, and it

has commanded — commanded! — one of its most significant Asian suppliers to work with Nakina to solve its management problems."

While the ultimate goal of Nakina is to create a paradigm shift to its NOS concept, there are lesser goals upon which the company can focus and still flourish. Pagani calls these his five dominos.

The first domino is to provide point solutions for point problems using applications that run on its platform, such as optimizing the distribution of software to the network infrastructure. That's how it got into MCI, which led to the Verizon Business project. The second domino is to provide network access security using an application that centralizes the management of user IDs and passwords for elements in the network. That's how it got into its U.S.-based Tier 1 operator.

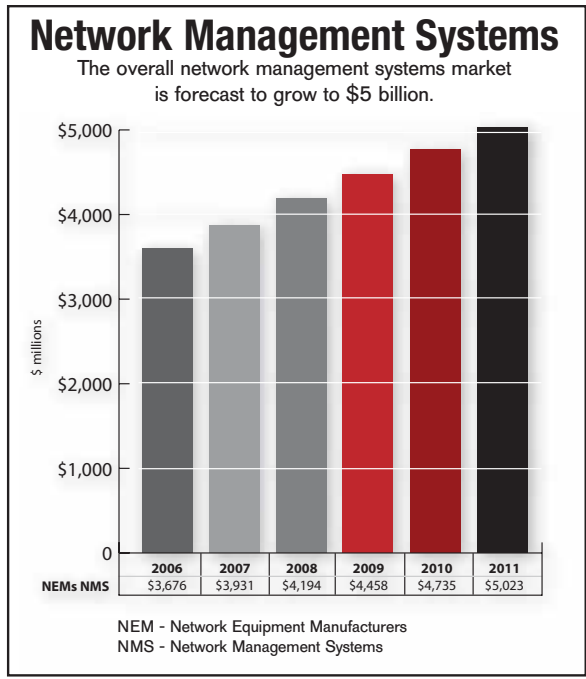
Pagani calls his third domino odd-box EMS. "There have always been odd boxes in the telecom infrastructure and today they are proliferating quickly as a direct result of having broadband Ethernet everywhere. Odd-box equipment vendors do not have a lot of experience building carrier-grade management solutions. Video servers are a good example of that," he said.

Domino number four applies multivendor attributes to the first three dominos as a way to extend its presence once inside the telco environment, and it leads directly to the fifth domino: the ultimate adoption of the NOS. The company hopes to reveal a sixth domino this spring.

Knocking over that fifth domino requires more than the bragging rights from a Verizon deployment; it requires critical mass. To Pagani, and most of his potential customers, that means \$100 million in revenue and an ambitious \$100 million in cash. Pagani calls this his 100/100 plan. "Beyond that, the sky is the limit. As we all know, it is a big market and the paradigm shift is gaining acceptance," he said.

It is a big market. Mottishaw put the overall network management system market at \$3.9 billion last year and projects a \$5 billion market by 2011. However, he thinks it is unnecessary and unlikely that Nakina will cause a paradigm shift. "Nakina has found good opportunities, but it isn't going to fundamentally change the industry," he said. "It doesn't have to be a big-bang replacement for Nakina to be successful. Nakina has the big vision and will win some customers over to that vision, but right now there are more customers using it for a specific need."

So it looks as if Nakina has toppled its third domino, has the fourth teetering and with the help of some potent deals in Asia and India, may topple the rest. After all, Mottishaw said there is no other software vendor directly competing with Nakina (although Cisco named a few it thinks are, such as Dorado Software, HP and OSI, the Agilent spinoff now owned by SRIT in India.)



Source: OSS Observer

Nakina may be in the odd position of being an ISV competing directly with hardware companies, but it also has hardware companies as partners. Juniper Networks, for example, which once upon a time had its own EMS, has formed a partnership with Nakina to go to market with its NOS. Without its own EMS, Juniper needed a way to plug into both network management systems and northbound OSS.

"The reason for the alliance was simple: to make it easier for Juniper to deploy its product," Marshall said. "We have customers who have looked at their operations environment and realized they aren't managing things end-to-end and they have to start. They are less inclined to

spend money developing tools and want a true multivendor solution."

Another partner, metro Ethernet equipment provider ANDA Networks Inc., also discovered the futility and waste of developing and supporting its own EMS and turned to Nakina. "We turned the tables so we wouldn't have to spend millions building a carrier-grade management system that our customers didn't want anyway, so we partnered with Nakina," said Greg Gum, vice president of marketing and business development at ANDA Networks.

ANDA is a supplier to Verizon Business and took its direction from there. "When a large customer says we like your product but you

need Nakina adapters, that's a pretty good validation. So we got the hint," Gum said.

Because its gear is in the access network, Gum said ANDA has no choice but to be interoperable and work in a multivendor environment. "We have to be like Switzerland because we are always connecting to other companies," he said.

Others partner with Nakina for different reasons. Sun Microsystems Inc. provides the Solaris 10 server platform upon which Nakina runs, but Steve Terry, manager of BSS/OSS at Sun, said Nakina is a like-minded partner with the standards-based approach Sun likes to promote.

"Sun has always been supportive of open, standards-based initiatives and the Nakina NOS is vendor-neutral. They take an interesting thought-leadership position that seems to be resonating with many of our accounts," Terry said.

Terry doesn't believe the industry has viewed multivendor EMS as a major issue until recently. "All these technologies coming together are causing carriers to get a much better grip on what is happening at the element layer," he said.

Nakina may be a software vendor solving hardware issues, but its technology and leadership teams have their roots in hardware. So they probably know that if dominant hardware providers like Cisco and Nokia Siemens Networks decide they are going to get aggressive about maintaining and growing their share of a \$5 billion market segment, that they will have a fight on their hands.

"They may be finding it more difficult than expected, but Cisco and Nokia are not backing off," Mottishaw said.

Cisco bought Sheer Networks in 2005 for a reason. Sheer, too, had designs on being the software vendor that solved the multivendor EMS issue. Sheer Networks technology forms the basis of Cisco's ANA platform, which it was working to join with NSN's Open EMS Suite to create a vendor-based multivendor solution that carriers could believe in. Mottishaw called it a significant move at the time it was announced, and Dittberner's Baker said that the Nokia Siemens merger resulted in a "wonderful integration engine for vectoring future developments ... toward a common framework."

Baker thinks Cisco and NSN have pulled back somewhat on their joint efforts. Cisco's Sage said the companies have reconfigured when and where they would come out with a solution, but that they still were committed to working together. "We have a strong partner in Nokia and we recognize the challenges in being open and we have committed to addressing those," she said.

In the meantime, if Nakina can get a couple of more dominos to fall, even a small bite of that \$5 billion market will help the company reach Pagan's 100/100 plan and service providers can begin eliminating a few EMSs.

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