MAXIMIZING ROI FROM YOUR EMS:
Top FAQs for Service Provider Executives

With the Nakina Network OS™, it *is* possible to have a powerful, simple and scalable, carrier-grade solution to discover, secure and manage multi-vendor networks. This document provides a guide to some of the top questions that come to mind when considering solutions to integrate and manage your next-generation, multi-vendor networks.

Nakina
Systems

1. What are the available options when considering solutions to integrate and manage my next-generation, multi-vendor network equipment?

There are many different options available to you when considering OAM solutions, but they generally fall under three categories:

1. The first option is to simply do what many service providers have done in the past – deploy multiple EMS/NMS solutions from different vendors and try to integrate each of these into your existing back-office systems. This might include some automation via basic scripts or mediation software that is developed by your in-house IT staff or purchased off the shelf. This is certainly an option, but it typically means operators must learn multiple user interfaces, different methods and procedures for managing each vendor's system, and a dizzying array of element management software solutions. This leads to a complicated mix of systems and processes that don't really provide the kind of solution you are looking for. On average, it costs service providers $1-$3 Million to integrate each new EMS into their back office systems – significantly increasing the total cost and time it takes to roll out new services. In addition, this can limit your flexibility and scalability as each new type of network element deployed requires new integration work, which can lead to vendor lock-in.

2. Your second option is to develop your own EMS/NMS solution and try to bring all your different vendors' various network element types under your single management umbrella. This solution has the potential to better address your needs, but it takes a significant investment of time (6+ months per NE type) and money to develop even basic FCAPS functionality; let alone something that will differentiate your service offerings from competitors. An important consideration here is that the solution needs to be designed to scale to support both current and future network element types, from multiple vendors, and with various management interface protocols like TL1, SNMP, CLI, etc. Additionally, developing and maintaining an open management framework to support technology integration and multi-vendor equipment is an internal business process, and not a core customer-facing service that brings in new revenues.

3. The third option, one that service providers are increasingly deploying, is the use of a best-in-class, off-the-shelf, multi-vendor, multi-domain management solution like the one available from Nakina Systems. The Nakina Network OS™ is a scalable, carrier-grade, multi-vendor management solution that collapses the EMS and NMS layers and provides a powerful, single point of integration between your network elements and your higher-layer OSS/BSS systems. You gain the benefit of having a world-class, scalable, secure, carrier-grade network operating system with a full set of applications (such as discovery, backup and restore, network audit and software delivery, etc.) that allows you to easily integrate all of your vendors' products under one system. And with the substantial time and money saved on integrating each new device and automating network maintenance and configuration processes, you can expedite your services roll out and focus on delivering the value-added features that will differentiate your whole services offering.

2. What are the significant factors I need to consider in deploying and integrating multiple different vendor's network equipment and EMS/NMS systems?

There are five key factors to consider when deploying and integrating multiple EMS/NMS systems:

1. Can your chosen solution actually integrate all the different vendors' network element types required? This should cover not only your current and next-generation networks, but also your large installed based of legacy gear. It also needs to include how your solution will cope with integrating and supporting new software releases for each of these systems over their product lifecycles.

2. Does your chosen platform deliver all the functionality you require? This means the solution should provide all the major network management FCAPS applications such as: discovery, backup and restore, network audit and software delivery, performance measurement, provisioning, etc. In addition to these, the solution must provide carrier-grade scalability and security.

3. What is the cost and how long will it take to develop and deliver? On average, it costs service providers $1-$3 Million to integrate each new EMS into their back office systems. Large equipment vendors with dedicated network management R&D teams estimate that it takes 6 months or more to integrate each different EMS or network element type into their management solutions – and this is with the benefit of owning the product R&D and source code. In any case, this is a significant project that needs to be well planned, budgeted and staffed, allowing for full development cycles if it is going to successful.

4. How easily can your solution be customized? This is important to enable you to develop creative and differentiated new service offerings and to take advantage of the value-added features delivered by your equipment vendors.

5. Is your solution based on open industry standards? Standards-based solutions simplify development and integration costs for you and your vendors – for example, standards-based south-bound interfaces provide easier integration of new network element types or introduction of new vendors into the network.

3. What are the commercial benefits of using an existing platform like the Nakina Network OS™?

Already deployed by some of the world's largest service providers, the Nakina Network OS™ provides you with a scalable, carrier-grade, multi-vendor management solution that allows you to quickly and easily integrate all of your network elements under one network operating system. The Nakina management solution provides full FCAPS functionality that is common across all the products in your network and has been pre-integrated into industry-leading back-office systems. The substantial time and money you save on integrating new products, training your operations staff, and automating routine network maintenance and configuration processes can be used to expedite your services roll out and to focus on delivering the value-added features that will differentiate your service offerings.

In a live deployment at a tier-one service provider, the Nakina Network OS™ achieved payback simply on the cost-avoidance of purchasing single-vendor EMS's. In addition, the customer estimated $1 - $3 Million in integration cost savings per each EMS, plus avoidance of the yearly software maintenance fees. In one example, they were able to reduce network element software upgrade effort and costs by over 75% through Nakina's ability to audit network readiness and perform remote upgrades; drastically reducing service provisioning fallout. The end result was savings from day one with an estimated 90% cost reduction for each incremental vendor / EMS and the ability to roll out new services 50% – 60% faster. The customer now enjoys significant operational benefits and cost savings that include a single point of integration to higher level back office systems, consistent procedures and interfaces for all NE types, and the ability to rapidly introduce any vendor's system regardless of its EMS capabilities.

4. What are the technical benefits of using an existing platform like the Nakina Network OS™?

The Nakina Network OS™ was built on a foundation of four key technical pillars: intelligence, scalability, security and standardization. Each one of these provides multiple benefits.

1. Intelligence defines the Nakina Network OS™ as one of the only products on the market that can provide a multi-vendor, multi-domain management solution that delivers full FCAPS functionality at the network, service and element management layers. This intelligence is leveraged by collapsing the EMS and NMS layers into a powerful mediation layer that provides a single point of integration between the network elements and your higher-level OSS/BSS systems.

2. Carrier-class scalability, reliability and availability are key requirements that were designed into the Nakina Network OS™ from day one. Scalability is delivered across multiple dimensions; providing network-wide, multi-vendor coverage for networks from only a few hundred NE's to tens of thousands; and from a handful of users to more than 1,000 concurrent operators. In addition, the product is based on a services-oriented architecture that mitigates single points of failure through clustering and load balancing over a distributed network of carrier-class servers.

3.　　　Security is becoming ever more important in telecom networks and the Nakina Network OS™ delivers the highest-compliance rating in the industry to the ANSI/ATIS T1.276-2003 standard. The Nakina Network OS™ provides a single user interface that can be used to manage passwords across all network elements – dramatically reducing and simplifying security administration. Each operator can be given a unique username and password and be provided with precise privileges in access to commands, applications and network elements as specified strictly by security administrators. All communication sessions and transactions are authenticated and encrypted with industry standard protocols such as SSL, SSH, HTTPS, sftp etc. and activities are centrally logged for security tracking and reporting purposes. This enables service providers to enforce rigorous security policies with strong password authentication and regular password changes – on both the NE and operator sides – that can be rolled out easily across the network.

4.　　　Standardization and openness are key elements integrated into the design philosophy of the Nakina Network OS™ that are delivered across multiple dimensions. Firstly, the Nakina solution conforms to important standards initiatives such as NGOSS, OSS/J and ANSI/ATIS T1.276-2003. Secondly, Nakina supports fully open, standards-based, south-bound interfaces (e.g. TL1, SNMP, CLI...) along with published specifications and a SDK that allows rapid development of adapters for new NE types using industry-standard XML and Java®. Thirdly, open north-bound interfaces built on Java® APIs and industry standard machine interfaces (e.g. MTOSI) ensure quick and easy integration into your back-office / OSS systems. Finally, open east- and west-bound interfaces are supported to allow full customization of the Nakina Network OS™ to support your unique workflows and to handle vendor or element-specific features and new value-added functionality. The degree of openness of our solution means practically anyone (service providers, equipment vendors, and system integrators) can rapidly create run-time loadable adaptors for new NE-types or customer-specific customizations that enable management consistency across the network and highly creative, scalable and differentiated management applications.

5.　How much faster could I deploy new network elements and integrate them into my management solution?

The initial deployment of Nakina's Network OS™ will take approximately the same amount of time as it would to integrate any new EMS into your back-office systems. However, once completed, any new network elements introduced will be much faster. Nakina already has a wide range of off-the-shelf adaptors available today to support numerous products from many of the industry's leading equipment vendors. Given the tiered architecture of the Nakina Network OS™, new adaptors/device drivers can be produced on average, in just a few weeks (depending on the functionality to be supported) as opposed to months. Additionally, each new device can leverage all the existing Nakina Network OS™ features and applications (like discovery, commissioning and provisionable parameters / templating, etc.), further reducing your time-to-market and training costs. Finally, all the tools required to quickly develop network element adaptors are available in a complete SDK that can be used by your equipment vendors, system integrators or your in-house IT staff. This gives you the power to make pre-integration into the Nakina Network OS™ solution an RFP requirement for your equipment vendors; and the flexibility to easily deploy new equipment vendors' products as required.

6. ## Am I limited with the functionality of an off-the-shelf solution? Don't I lose the ability to customize it to fit our internal work-flow processes?

No. In fact standardization and openness are two key design elements and differentiators for our solution. You actually gain flexibility because the Nakina solution is built on a services-oriented architecture that enables hot-deployable NE adaptors to be developed independently as plug-ins or device drivers to the main network operating system. This not only enables you to deliver differentiated management applications on top of our network operating system, but also enables your system integrators and equipment vendors to build and deliver highly creative and scalable applications for you. This frees up your staff's time and budget to focus on building value-added applications and special features that differentiate your service offerings and help close deals - instead of on basic FCAPS functionality.

7. ## Are there performance trade-offs in using a solution like Nakina's versus vendor-specific ones?

No, in fact it's the opposite. You and your customers will see performance improvements because all Nakina interfaces and processes are work-flow driven (versus equipment-driven) functions that were developed with the combined help of usability experts and service provider operations-staff (through exercises like job-shadowing for performance of specific tasks, etc.). By reducing the number of systems requiring access to the network, both performance and security are improved, while costs are reduced. The Nakina Network OS™ has passed acceptance lab testing with some of the world's largest service providers and has been proven in live network deployments to support multiple different vendors, each with many NE types and software versions. It has the ability to provide maximum performance, robustness and scalability to support tens of thousands of nodes.

8. ## How do I know Nakina delivers more than just claims of being a multi-vendor, multi-domain, carrier-grade reliable and scalable management solution?

The Nakina Network OS™ has been deployed by some of the world's largest and most demanding service providers. For example, in one live deployment, it currently supports thousands of network elements with multiple product types and software versions from many of the industry's leading equipment vendors. In this case, while it was initially deployed to support optical equipment, over 60% of the elements under management are now Ethernet products. Carrier-class scalability, reliability and availability are key requirements that were designed into the Nakina Network OS™ from day one. Scalability is delivered across multiple dimensions; providing network-wide, multi-vendor coverage for networks from only a few hundred NE's to tens of thousands; and from a handful of users to more than 1,000 concurrent operators. In addition, the product is based on a services-oriented architecture that mitigates single points of failure through clustering and load balancing over a distributed network of carrier-class servers.

9. What if my company is involved in a merger or acquisition, what can I do to integrate with other management systems?

By using the Nakina Network OS™ you start with a scalable, multi-vendor, multi-domain solution that gives you a unified management solution with very little effort and time. Its open management framework can support technology integration and multi-vendor equipment from your business partners with simple adaptor plug-ins that can developed in just a few weeks as opposed to months. In addition, its support of open northbound interfaces built on Java® APIs and industry standard machine interfaces (e.g. MTOSI) ensure quick and easy integration into back-office / OSS systems.

10. My organization has purchasing policies to qualify all but the largest vendors, how can I address these concerns?

Nakina recognizes these concerns and that superior customer solutions can be provided by working with industry-leading partners. That is why we are continuously working with our Global Strategic Alliance Partners such as HP, Syndesis and Juniper Networks, to deliver end-to-end solutions for service providers that incorporate powerful applications like provisioning and service activation, inventory management, performance management, and identity and access management applications in multi-vendor network environments. With fewer integration points, we deliver combined solutions that are easier to manage, less expensive to administer, and more readily deployable.

Interested in finding out more? Let's talk >

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