EMA Radar[™] for Enterprise Network Management Systems (ENMS): Q4 2012

Report Summary & EMC Profile

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Executive Summary

The term "network management" encompasses a broad range of solutions from single point products to element managers to large enterprise-class solutions. For the purpose of this ENTERPRISE MANAGEMENT ASSOCIATES[°] (EMA[™]) report, the term Enterprise Network Management Systems (ENMS) includes network-centric management solutions that are used by large organizations' operations and engineering teams to discover, monitor, assess, troubleshoot, and generally maintain highly distributed enterprise networks.

For this EMA[™] Radar, the focus was put specifically on core capabilities and features primarily associated with network operations' need to ensure health and availability of the network. Supporting functional capabilities such as performance monitoring, configuration management, asset management, as well as integrated management of connected non-network devices were also considered, but as non-critical (albeit helpful/valuable) extensions.

In this EMA Radar, 16 current ENMS solutions coming from 15 vendor providers are reviewed and compared according to a broad range of measures regarding both product strength and overall cost efficiency, as well as in terms of the overall strength of the vendors themselves.

Introduction and Methodology

For the purpose of this EMA Radar, the goal was to review and compare solutions that have been specifically designed for and credibly deployed in large enterprise settings. Consequently, all ENMS solutions were required to meet the following minimal criteria to be covered in this report:

- 1. Precious few enterprise networks are comprised solely of one network equipment manufacturer's equipment (a.k.a. "mono-vendor"). Consequently, ENMS solutions were required to support management of components and elements from multiple networking equipment manufacturers, so element management solutions that only support (or substantially only support) one particular networking equipment vendor's platforms and products are not included in this report.
- 2. ENMS solutions will rarely if ever exist or be operated in a purely standalone manner. Solutions covered were required to have proven abilities to share information with and obtain information from other IT planning and operations management tools and systems.
- 3. To be appropriate for large enterprises, ENMS solutions must be capable of scaling to monitor tens of thousands of elements. Medium enterprises have somewhat lesser needs, but still require ability to scale. Only those ENMS solutions that have been credibly deployed in a setting where at least 5000 elements are being concurrently monitored/managed within a single customer/ user deployment were included.

In the development of this EMA Radar, EMA engaged 15 providers of ENMS solutions in a detailed analysis of the scope and capabilities of their offerings. The solution providers represent a mix of vendors, ranging from small, privately held, pure-play vendors to very large systems and software technology providers.



EMA Radar[™] *for Enterprise Network Management Systems* Report Summary & EMC Profile

This EMA Radar covers ENMS solutions from the following vendors:

- CA Technologies
- Centerity
- EMC
- Entuity
- Hewlett-Packard (two products)
- IBM
- Infosim
- Ipswitch
- Kratos Networks
- OPNET
- Paessler
- Quest Software
- ScienceLogic
- SolarWinds
- Zyrion

While there are other suppliers of such products, it is EMA's belief that this represents a significant majority of those that are actively and viably addressing the needs of medium and large enterprises today.

The Role of ENMS Solutions

Despite the maturity of this market, ENMS solutions continue to play a vital role in today's large enterprise, and not just in older/mature IT shops. Of course, the longevity of these tools in the market means that some large enterprise customers have heavily invested in and customized these solutions to the point of which in order to remove them, it would require a forklift overhaul of the Network Operations Center (NOC) itself. At the same time, these solutions are a good fit for younger organizations that have grown and matured to the point where the disparate low-end (often open source or freeware) solutions they had been using do not scale and are too difficult to maintain. While ENMS tools from the large IT vendors such as CA Technologies, EMC, HP, and IBM are firmly rooted in the large enterprise NOC and datacenter, other players are finding purchase in part because of their ability to scale and monitor a variety of IP devices. Virtualization, WLAN, VoIP, mobile devices, and "everything gets an IP address" from UPCs to motion detectors are all driving an increase in the amount of IP traffic that needs to be enabled and supported. Such hyper-growth in connectedness is making the network, and hence the role and importance of assuring the network is healthy and working, increasing critical. As the ENMS solutions market has matured, newer entrants have come into the market that offer a particular set of functionality, addressing operational needs that were not fully met by existing solutions or have not been easily achieved with the traditional tools of choice. Often the case is such that solutions from more than one of the vendors in this EMA Radar will sit in the same NOC or datacenter, being used in conjunction with each other or even just in a standalone manner. For example, during the course of



our study, it was not usual to come across shops whose primary ENMS tool came from one of the "Big Four," but whom had also deployed solutions from other vendors covered here.

In large enterprise organizations the NOC and datacenter often have their tools of choice. This means that it is not uncommon for ENMS solutions to be deployed alongside any number of management and monitoring point solutions – EMA has uncovered shops with upwards of 20 or 30 different tools in use to support operations. As IT teams engage in datacenter consolidation projects it is not unusual for them to look for ways to reduce the number of management tools in use across the organization and standardize on fewer platforms. This makes it even more important that an ENMS solution remain relevant to the organization as a whole.

The Market and the Players

The ENMS market is a mature, but active global market. The majority of leading vendors (in terms of market share and existing installed base) are U.S.-based. ENMS solutions constitute a very established sector with some tools having been on the market for over twenty years. Even among the newer entrants, most have been around, on average, six to seven years. Consequently, many of these solutions are in second, third, fourth or even greater generations, and have survived because of clear and continuous value delivered to enterprise network operations teams. But being mature does not mean that there are not ongoing and current new requirements, demands, and challenges. There is a relentless drumbeat of technological innovations that must be embraced, both in terms of managed elements as well as the techniques used to develop ENMS solutions themselves. For instance, the wildfire of server virtualization has transformed datacenter architectures and brought with it new demands for managing mixed physical/virtual infrastructures. The advent of cloud services has brought with it an increased sensitivity regarding network reliability, visibility, and efficiency for reaching externally hosted systems, workloads, and storage. And evolving software development practices have moved UI/consoles from thick client to lightweight/Web-based and now mobile devices. Some solutions are even moving toward hybrid delivery models, with SaaS options and subscription licensing.

After reviewing the data collected for this study, it was clear that the solutions should be divided into two distinct groups in regards to the size of the organizations that typically adopt and deploy each, as well as just how large those managed environments were. CA Technologies, EMC, Entuity, HP ANM, IBM, Infosim, Kratos Networks, and OPNET all primarily sell into very large enterprise, government, and communications service provider (a.k.a. "Telco") environments and all had documented live deployments covering at least 25,000 network elements within a single customer/implementation. Henceforth in this report, this higher-end cluster is called the "Large Deployments" group. Centerity, HP IMC, Ipswitch, Paessler, Quest, ScienceLogic, SolarWinds, and Zyrion typically sell into small and medium-sized enterprises, though many have also sold to large enterprise on a regional or divisional basis. In the case of Centerity and Ipswitch, a substantial portion of their installed based is also found in small business (less than 500 employees). This latter group is referred to in the balance of this EMA Radar as the "Medium Deployments" group.

It should be noted here that many of the solutions in the Medium Deployments group have been designed to scale in a manner similar to those in the Large Deployments group. Indeed, some in the Medium Deployments group are managing 10,000 or even 20,000 network devices. In these borderline cases, core market penetration (small/medium/large) was used as a tiebreaker for classification.



What has been interesting to note is that most of the newer players have found particularly firm footing in the medium enterprise – a market that has been historically underserved by the bigger IT vendors. At the very lowest end of the network management tools market, small businesses and small enterprises have a plethora of open source and low-cost point solutions that will commonly meet their needs, and/ or often turn to Management Services Providers (MSPs) for network management. But medium-sized enterprises need something different, tending to favor tightly integrated or unified solutions that are on a single platform and therefore easier to deploy and manage. While mid-market ENMS solutions might lack the depth of features and ultra-high scalability of the largest platforms, they provide a good, solid solution for managing a wide range of devices. In a growing number of cases, including several based on EMA reference calls for this study, the buying decision for mid-market ENMS solutions was an operations person in the datacenter rather than the NOC, largely because the traditional NOC is often small or doesn't even exist in a mid-market enterprise.

Visibility, the Cloud, the Growing Influence of Virtualization

As enterprise IT teams look to embrace cloud computing and service models, one factor that is a serious point of difficulty is visibility and monitoring. EMA research has shown that the network team is heavily involved in operational monitoring of internal and external cloud-based resources, and is often held primarily responsible for assuring health and performance. But this represents a real challenge, because the use of cloud commonly includes a significant degree of virtualization and abstraction, obscuring the relationship between physical and virtual resources and elements. Internal cloud, which is really nothing more than the service-oriented endpoint seeded by virtualization of the datacenter servers, is perhaps the easiest problem to solve, requiring only that network managers gain access to information about virtual network elements, such as vSwitches, and the incremental connectivity that those virtual network elements provide as part of the end-to-end path. External cloud services are more difficult to accommodate, because rarely do they include discrete definition or visibility into network connectivity beyond the initial hop to the external cloud provider's location(s). While most ENMS solutions have turned to engage and embrace network management in virtual server environments, few have made significant headway in solving the external cloud challenge. EMA is continuing to follow these emerging areas, as they represent substantial potential for change and disruption to network management tools, technologies, and best practices, and has included a set of sophistication tests within this research report to determine current progress.

Focus of This Research

This EMA Radar Report is intended to assemble a clear picture of the current range of ENMS products in the marketplace today, how they differ in terms of product approach, core strengths and weaknesses, the total cost of ownership and operations, and the relative strength/size of supplier vendors. The output is intended to guide IT practitioners engaged in research on this topic to identify a short list of solutions for their needs. Under each of the key areas, vendors and their respective ENMS product and service offerings were evaluated on a broad range of weighted factors that were subsequently used to rate each product relative to the others in the study. The report generated individual ratings charts of the type as seen in Figure 1 for each solution as well as a final EMA Radar Map showing how all of the vendor solutions scored relative to one another.



Criteria

In all EMA Radar Reports, EMA evaluates solutions based on five key areas: *Deployment & Administration, Architecture & Integration, Functionality, Cost Advantage,* and *Vendor Strength.* Figure 1 shows the ideal graphic for a perfect score, as well as the average scores resulting from this research. Each vendor has been evaluated using the factors listed below to determine how close to an ideal score each ENMS solution received. For a complete discussion of the EMA Radar Report process, please see Appendix A.

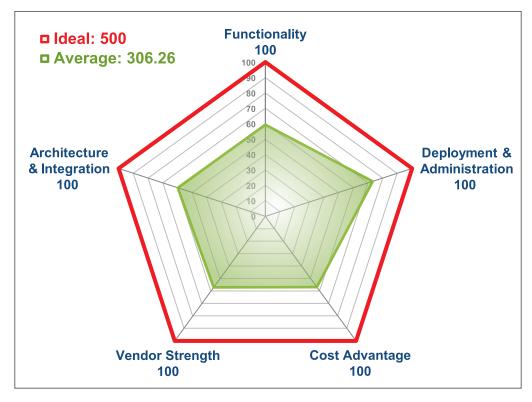


Figure 1. Ideal Vendor-Solution Radar Chart with Average Scores

Following is a detailed description of each of the scoring/rating topics and subtopics, and which components and capabilities were studied in their evaluation.

Deployment & Administration

- Deployment ENMS solutions can be complex and have non-trivial deployment requirements in order to get the solution up and running in a production environment. This section looked at the staffing requirements, time to deploy, and ease of deployment factors when going through an initial ENMS rollout.
- Support and services Support and services play an important role in overall ENMS deployment success and operator satisfaction. This section looked at the range and types of service and support programs offered in conjunction with each ENMS solution.



• Ease of use/administration – The easier the system is to deploy and manage once it is up and running, the "stickier" the solution becomes, fostering positive operator experience with the product as well as improved likelihood that the product will be fully utilized. This section looked at the level of expertise typically required to administer and maintain ENMS solutions, as well as levels and forms of automation available to assist in these tasks.

Cost Advantage

- Medium enterprise deployment scenario This section assessed a sample deployment scenario for a medium/large-sized enterprise to determine total solution requirements in terms of hardware, software, and staffing, as well as solution list pricing.
- Large enterprise deployment scenario This section provided a sample deployment scenario for a large/very large enterprise to determine total solution requirements in terms of hardware, software, and staffing, as well as solution list pricing
- Licensing/maintenance costs This section looked at the range and type of licensing models available for ENMS solutions as well as the ongoing operational costs for associated maintenance and support charges.

Architecture & Integration

- Data collection There are a broad range of methods for collecting data relevant to ENMS functions, as well as a variety of data types that can be collected. This section examined the breadth of data collection methods as well as the breadth of data standards/types supported.
- High availability For many operations teams, continuous and uninterrupted management and monitoring are an absolute must. This section examined the various methods available to ensure an ENMS can continue to function despite outages on the network as well as outages (planned or unplanned) within the ENMS itself. **Note emerging approaches to this set of objectives using live server virtualization load balancing, such as VMware vMotion and HA, were not included in this analysis.
- Scalability Enterprise deployments can grow very large, sometimes in relatively short order, making it critical that solutions are capable of supporting expansion. As demand increases, solutions should provide options for scaling up to meet needs, with proven top-end capabilities to support tens or hundreds of thousands of managed elements. This section looked at the degree of elasticity for growth in ENMS solutions.
- Internationalization/localization Globalization of the economy makes localization of the user interface an important factor when working with large organizations whose network operations teams are scattered across the globe. This section assessed how broadly an ENMS solution has been adapted to support multi-lingual operations teams.
- Integration The growing demand for cross collaboration between IT departments is making integration an important component for ENMS solutions. This section looked at supported integration options and methods as well as the existence of commonly-fielded integrations with complementary and related IT management systems and disciplines including event management, service desk, cross-domain dashboards, and CMDB/CMS.



Functionality

- Discovery One of the first and most critical aspects of any ENMS system is its ability to discover elements to be brought under management. This section looked at the different methods of discovery, the types of elements that could be discovered, and the ability of the discovery engine to work with third party repository tools.
- Correlation ENMS scope is no longer about just managing network hardware devices. Today's ENMS must be able to correlate data across hybrid infrastructures that contain physical as well as virtual elements. This section looked at how well a solution handles data and event correlation across mixed managed environments.
- Fault isolation When failures do occur, job #1 is fast response and absolute minimum MTTR. This section examined how each ENMS solution delivers and facilitates isolation and root cause analysis.
- Troubleshooting Once a problem is isolated, the next step is to zero-in and understand the true underlying source of the issue, so that mitigations can be applied. There a number of methods for handling troubleshooting with an ENMS, and this section looked at the breadth and depth of options available.
- Alerts/alarms Alerts and alarms comprise the most visible day-to-day operations data flow from most every ENMS, and management of them has long been one of the key features of these types of solutions. This section looked at the range of alert and alarm management capabilities supported.
- Monitoring While catching traps and alarms is considered table stakes, many solutions go above and beyond by actively harvesting additional management data to paint a more complete picture of operational activity and health. This section looked at some of the more advanced monitoring features available on ENMS platforms.
- Grouping When managed environments get large, logical grouping of elements and components becomes essential for turning large volumes of monitoring data into digestible, actionable information. This section looked at the range of grouping and mapping features available in ENMS platforms.
- Business impact analysis While network or network-connected component failures or degradations are important, it is even more crucial to understand which business systems, applications, or processes are impacted by any outage. This section looked at what options are in place to assess the business impact of network incidents and problems.
- Virtualization Extending an ENMS to manage virtual network elements is one of the greatest current growth areas. This section evaluated the types of features and capabilities each ENMS offered for gathering data from virtualized environments and integrating virtual network elements and virtual networking into traditional/physical coverage capabilities.
- Cloud While this is still an emerging area, network managers need their ENMS to help them understand which resources are cloud based (particularly for external cloud services) and the basics in terms of health, availability, and reachability. This section examined functional capabilities with ENMS solutions to address this growing need.



Vendor Strength

- Vision/strategy This section looked at each ENMS solution provider's ability to clearly define and articulate their market position and strategy in comparison to their core business as well as other vendors in this market sector.
- Financial strength Part of ENMS evaluation is the assessment of strength and staying power of the technology vendor. This section assessed each solution provider vendor's current stability and financial outlook.
- Partnerships/channel The best solutions surround themselves with supporting "friends," whether they are complementary technology providers or "feet on the street" to distribute, deploy, and support the ENMS. This section evaluated the breadth and depth of technology and channel partners for each ENMS product and vendor.
- Customer validation As part of the survey process, we ask each ENMS solution provider to identify at least three customer references with whom EMA can speak, in order to validate features, functionality, and overall customer experience. The quality and strength (and in some cases quantity, or lack thereof) of customer references play an important role in EMA's overall evaluation of each vendor and solution.

General Findings

First and foremost, our study found a broad range of solutions that provided solid, valuable network monitoring and management capabilities. By passing the core criteria for inclusion (see above), each solution had to support large-scale multivendor environments with a core set of features that would be sufficient for supporting network engineering and operations, whether or not a formal NOC exists. The clearest differentiation among ENMS solutions was found in the breadth and scope of advanced features, integrations, and related/supporting functions, as well as in the range of cost effectiveness.

Also, this study found that the majority of vendors reviewed offered a high level of cost efficiency, and this is good news for networking pros. The question for those evaluating such solutions is what level of feature/functionality completeness is required of an ENMS solution versus specific deployment requirements and budget limitations. What we found in this particular study was a good spread that should encourage practitioners to evaluate a number of options, each of which could fit a broad range of functional objectives.

Besides ranging in functional capabilities and scope, product architectures were also found to vary. For example, one point to take into consideration when reviewing these solutions is how many components or separate binaries need to be set up and installed. In some cases there is a single binary that requires no additional installations, and additional add-ons (as available) simply require the purchase of a licensing key to access the features. Other solutions require multiple independent binaries to be installed, offering some advantages in terms of deployment flexibility and load distribution, but increasing deployment complexity. Integration of multi-binary components can range from tightly integrated to (essentially) standalone, even requiring launch of totally independent applications during regular use. Further, all ENMS solutions require a database, which can sometimes be embedded or sometimes must be purchased separately (or either, at the users option). Among the vendors in this survey, we found an even split between vendors offering embedded versus requiring a separate database, with no discernable correlation between vendor size or product time in the market, nor with overall scalability.



A clear trend has emerged within ENMS solutions in response to the fast growth in new IP-addressable endpoints, as well as the recognition that even existing, well-known endpoints are an important part of the whole picture for infrastructure monitoring and management. Traditional ENMS tools tend to be network-oriented and therefore geared towards the network engineer or operator, but from the broader operations perspective, it is necessary to obtain basic information from all network-connected elements. Cross-domain, service-oriented operators daunted by the rigor of traditional monitoring are in some cases looking for a "lighter-touch" style of monitoring, such as just an occasional ping rather than a full SNMP agent and MIB. In many cases in this study, particularly in shops below large enterprise size, we found that the buying decision tended to be driven not by the NOC, but rather someone within the datacenter or cross-domain operations team looking for greater visibility across all IP-addressable devices on the network. Such buyers indeed sought lighter-weight solutions that could scale, were easy to use (not just for network engineers), easy to deploy, and in many cases cost was a big factor. This tended to push those buyers towards more broad-ranging, network-centric or networkinclusive solutions that might not have the same feature depth as a traditional ENMS.

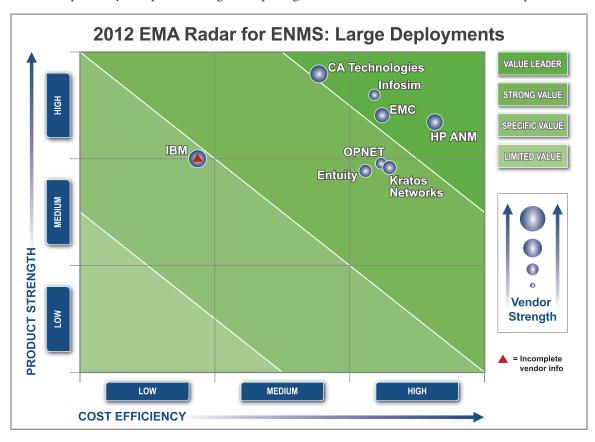
Licensing models varied widely among the different solutions reviewed, and in some cases the first year of maintenance is included in the purchase price. Most vendors offer more than one type of licensing model. A growing number, for instance, offer subscription licensing, which commonly includes the cost of maintenance and support in a monthly or annual rate, making it possible to gain access to highly function ENMS products without having to tap capital budgets. Ultimately, it is critical to determine what type of licensing model makes the most sense for a particular deployment environment. Highly dynamic, changing environments require more flexible licensing models while more static environments can make due with a more restrictive one. This point proved to be an important criterion for some networking pros when choosing an ENMS solution.

The most important takeaway from this EMA Radar was that there was no one right answer. Sometimes more sophisticated and complex ENMS solutions are overkill. At the same time, a lighter ENMS that is lacking in functionality and scale will eventually break if pushed beyond its design parameters. Each and every deployment environment is unique and it is critical to take the time to execute a proper evaluation process, taking into consideration site-specific management objectives and environmental factors in determining which requirements are mandatory and which are nice to have. The role and criticality of the network is increasing – keeping that network up and running is becoming paramount and that means the requirements for network visibility and monitoring will keep ENMS solutions viable and essential for years to come.



EMA Radar Map for ENMS Large Deployments

The ENMS Radar map shown in Figure 2 shows how eight of the ENMS solutions that have proven mega-scale deployments ranked in comparison to each other, in terms of *cost efficiency* (x axis) and *product strength* (y axis). The size of the "bubble" indicates relative measures of *vendor strength*. In order to be included in the Large Deployments group, solutions must have been fielded successfully in managed environments exceeding 25,000 network devices, and the installed base for the products must have been primarily composed of large enterprise/government and communication service providers.





Distribution of Results

The results shown in Figure 2 indicate a high level of cost efficiency among the majority of solutions. Four solutions – CA IM, Infosim StableNet, EMC Smarts, and HP ANM – reached the "Value Leader" category, while ranging in product strength and cost efficiency. CA IM achieved the best *product strength* rating of all the solutions in this analysis. The relative lack of results in the "Specific Value" and "Limited Value" categories is not surprising, because niche players that might focus on a single or narrow set of criteria (this would include open source tools and/or point solutions) did not meet the minimum inclusion criteria for this analysis.



Value Leaders

Value Leaders are those solutions that achieved the best combinations of *product strength* and *cost efficiency*. Four ENMS solutions emerged as Value Leaders within the Large Deployments group.

Value Leader: EMC

The importance of network management has never been lost on EMC, which put a stake in the ENMS ground with the acquisition of SMARTS many years ago. EMC also understands the importance of playing well with others in the datacenter. The Smarts solution scored particularly well for its fault isolation and correlation capabilities, as well as in several areas of integration including CMDB, service desk, and event management. EMC's close relationship with VMware enables them to leverage the power of vCenter Operations and extend Smarts advanced metric monitoring and analysis features beyond what other solutions can offer. This particular functional area was recently bolstered by EMC's acquisition of Watch4net and it's purpose-built cross-domain performance monitoring engine and platform.



EMA Radar[™] *for Enterprise Network Management Systems* Report Summary & EMC Profile

EMC Profile EMA Radar for ENMS Functionality EMA ENMS 2012 Radar: Large Deployments: 66.77 Q4-2012 100.00 Large Deployments 90.00 80.00 70.00 Average 60 Architecture & 40.00 **Deployment &** Integration Administration 30.00 68.54 75.42 20.00 10.00 0.00 Vendor Strength Cost Advantage 66.04 53.88

Introduction

EMC long ago understood the importance of the health and stability of the network as a critical aspect of IT infrastructure and so acquired SMARTS back in 2004. EMC's goal is to deliver a centralized management platform to simplify converged operations' ability to rapidly identify and resolve issues in the network. Back in May at its user conference, EMC announced DataBridge, a "single-pane of glass" management tool to enable customers to quickly build customizable dashboards that span network, server and storage infrastructure. EMC has made further investments in their networking portfolio with the purchase of Watch4net. Watch4net filled a gap for EMC in the area of real-time and historical performance management. Also, EMC has recently made the decision to return to the Smarts brand to simplify and refocus their efforts in this market segment.

EMC – At a Glance

Founded:	1979	Locations worldwide:	400
HQ Location:	Hopkinton, MA	Primary market penetration:	Enterprise/Telco
Public/Private:	Public	Twitter:	@EMCcorp
Profitable:	Yes	Free trial download	No
Total employees:	20,000+	Vendor url:	emc.com



Enterprise Network Management Product Offering

Primary Enterprise Management Components included for this survey:

- Smarts IP Availability Manager
- Smarts Service Assurance Manager
- Watch4net
- Smarts VoIP Management
- Smarts Server Manager

Database:

• Sold separately - Oracle 10G or MySQL v5

Deployment Options

• Software client

Survey Results

The following section reviews how the EMC solution compared to others in the large deployment group, across each of the major study segments.

Deployment Cost Efficiency

Within the group of large deployment peers, the EMC solution finished ahead of the majority, showing reasonably strong overall cost efficiency. The Smarts solution scored near or above average in just about every measure in this category, and ranked particularly well in maintenance process. The company has what EMA considers to be an ideal software update cycle for major releases – every 7 to 12 months. That adds new features in a timely fashion, but the major updates are not so frequent that they cause major service disruption.

Product Strength

The EMC Smarts solution scored well above average in overall product strength versus its peers. EMC's long list of technology partners gives them a better-than-average integration story on a number of fronts. In particular, the solution ranked near the top regarding supported integrations with CMDB, service desk, and event management. EMC Smarts also ranked well for discovery, alert/alarm management, and fault isolation, and achieved top ranks for troubleshooting and monitoring (the latter by virtue of the recent addition of Watch4net to the solution.) The product also supports end-to-end business impact analysis.

Vendor Strength

EMC is one of the big four in this market, bringing to bear a strong financial position and a solid set of technology partnerships. The company is extremely well positioned to take advantage of their role in the market. The recent purchase of Watch4net and the decision to stick with the Smarts brand indicates a renewed focus on the product line, and this is great news for new and existing customers.



Customer Insights

The following section is drawn from our customer conversations. We asked EMC customers what they liked best about the vendor and product as well as new features or functionality they would like to see included or addressed in future product releases.

Customer Kudos:

- CMDB integration This was an essential point of requirement for one EMC customer.
- Service desk integration Customers appreciated the fully bi-direction integration with ticketing systems.

Customer Wish List:

- Client update The current client is still a fat client written in C and it is perceived to be "slow." The EMC solution needs a refreshed, lightweight client that can be deployed on mobile devices such as tablets. (The first release of the new DataBridge dashboard represents a planned path forward, but this is still a work in progress for the bulk of the Smarts UIs.)
- Load balancer monitoring One customer would like to see load balancer monitoring added to the product.

EMA Summary Opinion

As a result of the data from this survey, conversations with customers, channel partners and the vendors this section summarizes what EMA believes to be the strengths of each vendor as well as areas in which the vendor could make improvements.

EMC Strengths

- Technology partnerships This is huge advantage for EMC and it enables the company to address any new technology as it becomes relevant in the market. It gives them access to key technology players, putting them front and center to address any emerging market trends.
- VMware No one else can play this card. EMC wins "best acquisition ever" accolades for having
 picked up what has turned out to be the hottest technology trend since the browser and it is only
 heating up as VMware focuses on new opportunities, especially in the area of VDI. The VMware
 suite pays direct benefits to the EMC's network management solutions, by keeping them closely
 aligned with technology changes in the virtual datacenter and lending its predictive analytics
 dashboard, vCenter Operations, as an integrated component.

EMC Areas for Improvement

- Leverage VMware relationship to its full extent Given EMC's unique position regarding VMware, the company could do more to leverage that relationship and build-in either integration points or features unique to that union.
- Retain focus on networking EMC has had fits and starts with Smarts where it appears to come in and out of focus for them as a strategic area. Now more than ever, especially in the area of network virtualization and all the buzz with SDN, etc., is the time to have a hand in the game and an eye on the networking ball moving forward.



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