EMC Drives Integrated Physical/Virtual Infrastructure Management

**Event**

In December 2011, EMC released updated products across its IT Operations Intelligence suite of infrastructure and service management solutions. Version 9.0 addresses many of the hottest and most urgent issues facing infrastructure managers today in both enterprise and service provider environments. Specific enhancements include major extensions within EMC Server Manager for VMware environment discovery and monitoring, such as innovative new storage resource mapping for virtualized environments, deeper support for virtual switches, and validation of HA and vMotion readiness. Also included are early elements of a next-generation operations console interface, as well as technical capabilities for supporting deep and detailed modeling and monitoring of Metro Ethernet infrastructure and services.

**Pushing Virtualized Data Center Operations Toward the Mainstream**

Recent research by ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) analysts indicates that the ongoing number one concern amongst both IT infrastructure managers as well as IT executives is integrated management of the virtual server environment. Server virtualization has become such a critical and strategic technology that its mainstreaming is no longer a question—it is merely embraced. Consequently, all of the surrounding operations management tools and technologies must adapt to accommodate this unstoppable evolution.

While a variety of server virtualization solutions are found around the industry, the dominant technology player is VMware, with its ESX hypervisor. The primary management tool for configuring and monitoring VMware environments is vCenter, which offers extensive capabilities for configuring each virtual server and its hosted virtual machines. However, vCenter is designed solely as a platform for managing VMware hypervisors, one system at a time. In order to bring VMware virtual servers into mainstream operations, those servers must be brought into context with all surrounding and related infrastructure, including networking and storage, which together comprise a virtualized data center. Specifically, operations management tools must be able to traverse between physical and virtual components seamlessly, both for recognizing what physical and virtual elements exist at any given time, as well as how they are related and interconnected.

**EMC IT Operations Intelligence v9 Fills the Gaps**

With version 9 of its IT Operations Intelligence solutions, EMC continues to extend its lead in providing management systems optimized for the virtualized data center and converged operations. This release includes several specific, new functions designed to further that objective:

- **Full physical/virtual topology**: New in this release is deeper support for virtual switch (vSwitch) discovery, providing the ability to show connectivity (a.k.a. network topology), from the virtualized application, to the VM it is running on, through the virtual switch and the hypervisor, and out to the physical switch and the rest of the network. Server Manager supports native ESX vSwitches, VMware Distributed Switches, and Cisco's Nexus 1000V for these capabilities. No other management tool in the market today has effectively “knitted together” this combination of physical and virtual topology and extended it to include impact analysis for VMs and virtualized applications.

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Server virtualization is a strategic technology, and surrounding operations management tools must accommodate this unstoppable evolution.
• **Virtual storage discovery**: Truly groundbreaking for consolidated operations management are the features that have been added for recognizing which storage resources are being used by each virtual machine and system. By leveraging vCenter to gather this information, EMC’s solution can find, map, and relate HBA, data path, data store, and even LUN elements within connected storage infrastructure, completely independent of storage vendor or manufacturer. Although this feature will not fully reveal or resolve storage fabric issues, it delivers the direct benefit of a combined view so that potential performance issues can be effectively triaged, and problems in the storage domain can be recognized and related to any virtual compute systems that may be impacted.

• **vMotion and HA validation**: The new, more complete understanding of related network and storage relationships around each VM and hypervisor puts the EMC system in a position to review and validate whether or not any vMotion or HA configuration will work when invoked. This important risk-reducing function is not available from any other operations management tool today, including vCenter.

• **UCS visibility**: With this new combination of features, the EMC solution delivers deeper and more complete visibility into converged infrastructure solutions such as Cisco’s UCS, a highly virtualized, integrated compute/networking platform. In fact, early beta testers of IT Operations Intelligence v9 characterized the new UCS visibility as “unprecedented.”

The new “Companion” user interface console, also part of the IT Operations Intelligence v9 release, represents an important step toward better support of complex, virtualized data centers, as well as broader distributed infrastructures. Accessed via the operator’s browser, the new Web-based Companion UI will allow EMC to rapidly evolve integrated operations data presentations as well as accommodate custom operator demands. In this first iteration, an intriguing new capability is introduced for cross-domain notification presentations. For instance, a traditional view of an element under management including object details and a containment view can be complemented directly with change history for that element as derived from EMC Network Configuration Manager, as well as related Key Performance Indicators (KPIs) pulled from partner Watch4net’s APG platform. This new composite data presentation will greatly enhance the efficiency of incident analysis and diagnostics. Also added in this release is support for graphically intensive mash-ups, such as a heat map indicating overall health and service levels.

Finally, extensions for Metro/Carrier Ethernet in IT Operations Intelligence v9 will remove barriers for service providers seeking to streamline operational support for this popular and fast-growing new family of services. Capabilities in this framework include recognition and modeling of Ethernet Virtual Circuits (EVCs) and related pseudo-wires, enabling the full power of IT Operations Intelligence root-cause and impact analysis features to be applied to these service infrastructures.

**EMA Perspective**

Within its portfolio of management tools, EMC has continued to push the envelope around highly effective infrastructure management solutions, particularly in the area of integrating virtual server infrastructure. The close business relationship between EMC and VMware has fueled an unparalleled working relationship that continues to keep IT Operations Intelligence one or two steps ahead of all others in the marketplace. Further, EMC’s clear dedication to continued advancement of the core technology within its management portfolio, as well as extensions for supporting fast-emerging new technologies and services, provide evidence of a level of vendor stability and reliability that is always important to recognize.

**About EMA**

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help its clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals and IT vendors at www.enterprisemanagement.com or blogs.enterprisemanagement.com. You can also follow EMA on Twitter or Facebook.