Three Asset Lifecycle Management Fundamentals for Optimizing Cloud and Hybrid Environments

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Three Asset Lifecycle Management Fundamentals for Optimizing Cloud and Hybrid Environments

Introduction

The ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) concept of "Service-centric Asset Management" has its own roots, but shares a largely common vision with ITIL v3's concepts of "Service Lifecycle Management" and "Asset Lifecycle Management." The telecommunications industry and best practices such as the Telecommunication Management Forum's eTOM guidelines also support this idea. Collectively, these approaches underscore the logically obvious assumption that if a technology organization's "products" are its "services," then all assets (capex and opex) should ideally be planned and optimized as performing entities to support the delivery of superior services.

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However, IT organizations have historically been staffed, managed and run on what EMA calls an "academic model." This model is defined by skill groups that tend to work in siloed isolation of each other, and are often protective of "turf" much in the way academic departments fight for support across a common university budget. This is a territorial model for cost allocation in which IT as a whole becomes a "territory to be defended." The result is a fragmented, incomplete and often conflicted approach to managing and optimizing IT and IT-related assets in support of service delivery.

This is gradually changing for many reasons. One of these is the growth of ITIL and best practices, and the shifting role of IT as its services become more business transformative through new application technologies such as Web 2.0. An outgrowth of this and other technologies has been the rise of IT/business ecosystems in which partners, service providers and sometimes supply chains interact in an umbrella of IT/business services that are radically altering not only e-business, but virtually all verticals from Financial Services, to Healthcare, to Manufacturing, to public sector organizations.

But the single most visible accelerant for this process today is Cloud computing services. These are putting pressures on IT to optimize their capex and opex investments more dynamically in support of new service delivery models. This includes critical requirements to account more effectively for asset costs and asset values in context with capacity optimization and service lifecycle management. Cloud computing and the various virtualization and other technologies that support it require a more dynamic, more automated, and fundamentally more cross-domain approach to managing and optimizing assets –including service provider resources – as a cohesive extension of IT service planning and service delivery.

The Rise of Service-centric Asset Management and Why It's Relevant to Cloud

The good news is that IT organizations have been slowly evolving towards a more service-centric model for optimizing assets for at least five years. For instance, in the EMA report *Service-Centric Asset Management in the Age of Cloud Computing*, February 2011, data showed that 39% are managing services and assets together, a modest increase of 5% over 2009 (Figure 1).

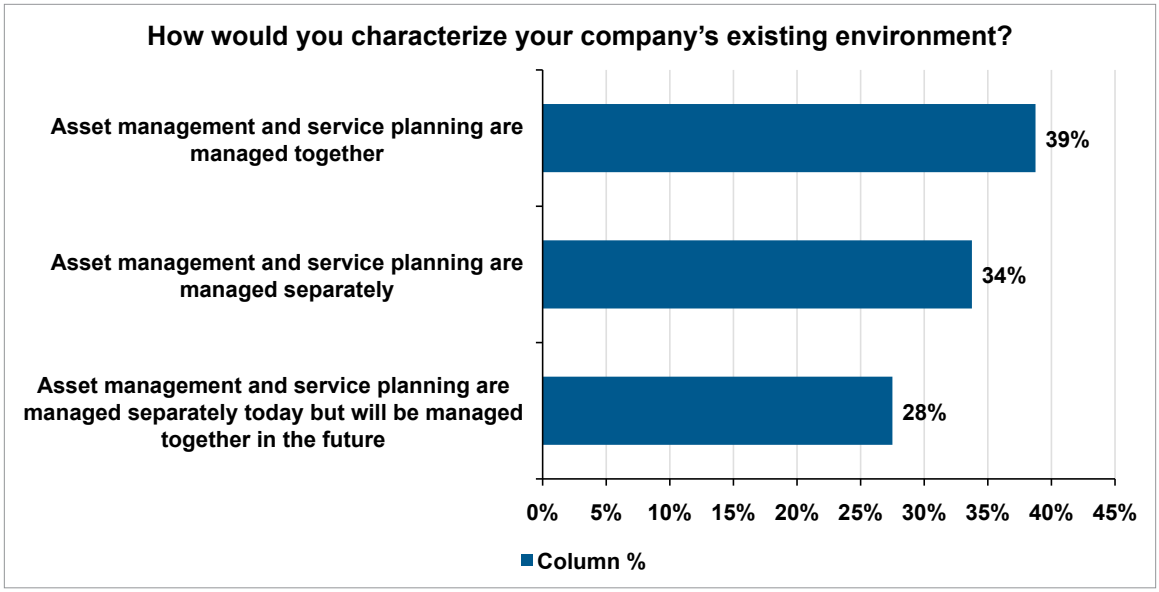

Figure 1: EMA research data shows a modest growth in IT organizations managing at least some portion of their assets and services together.

This data shouldn't be construed as indicating that 39% of respondents have overarching processes and technologies for integrating all aspects of service and asset planning across all domains, but that at least a meaningful stake has been put in the ground. Indeed, other data from the same research indicates that only 33% have a single central organization for managing assets – which is not always combined with service planning (e.g., when organizations such as "procurement" take the lead.)

But there are other factors that show that combining asset management with service management is a significant plus. For instance, when service and asset management are brought together, IT organizations are more than twice as likely to leverage ITIL best practices. And perhaps even more significantly, this combination favors more effective IT performance overall. One indication of this is that IT organizations with service-centric asset management are *more than twice as likely to see their budgets grow* as IT organizations with a more siloed approach to asset management!

Cloud Computing as Catalyst and Transformer

While Cloud computing is often misrepresented as an endgame in itself (e.g., "the journey to the Cloud"), it does have a serious catalytic impact not only on technology adoption, it has also begun to accelerate changes in the very role of IT and, as an extension of that – the role of *asset lifecycle management* within IT. Cloud, across its various enabling technologies (Software-as-a-Service, Infrastructure-as-a-Service, and Platform-as-a-Service), and its mix of private, public and community environments, is moving IT towards more a of a service broker model with linkages very much in keeping with ITIL v3's concepts of integrated service and asset lifecycle management.

In the EMA 2011 report, *Service-Centric Asset Management in the Age of Cloud Computing*, 86% of respondents indicated that Cloud computing was impacting their asset management strategies. Significantly, 89% view Cloud computing as making asset management more cross-domain, and 70% see Cloud as moving their asset management towards a more service-centric model (Figure 2).

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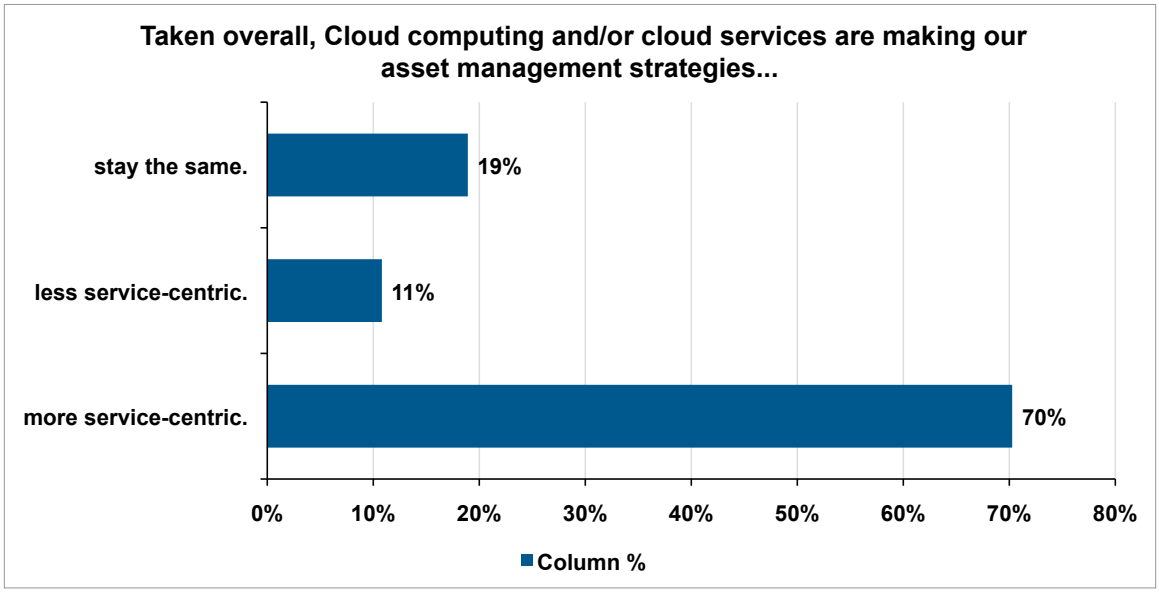

Figure 2: 70% of respondents believe that Cloud computing is moving their IT asset management capabilities towards a more service-centric model, and 89% see Cloud as making asset management more cross-domain.

Among some of the key areas where Cloud is impacting asset management, respondents indicated:

- *Changes in how assets are measured for cost and value*
- *Changes in organizational ownership in asset management*
- *Added requirements for real-time awareness of where assets are and how they're performing*
- *Added requirements to account more effectively for asset usage and impact*
- *Added requirements for automation*

Discovery – Understanding Your Assets and Their Interdependencies

Discovery is a term that can mean many things – especially once asset and service management are brought together. Traditional asset discovery systems focused on inventory and as they advanced, more insights into software and hardware configurations and software license management. As it continues to evolve towards a more service-centric model, IT asset management is beginning to leverage discovery as a vehicle for capturing service interdependencies across entire application ecosystems.

Capturing asset-to-service interdependencies isn't just "bells-and-whistles." Once IT makes the transition from viewing its assets as more or less static commodities, to seeing them as performing entities in support of superior service delivery, understanding the context for where and how assets are used becomes even more important as managing them in isolation. This natively links *asset management*, *capacity planning*, *service provisioning* and even *service performance*.

Needless to say, the need for automation in discovering assets is growing, especially with the increasingly dynamic nature of Cloud computing and its service delivery options.

Needless to say, the need for automation in discovering assets is growing, especially with the increasingly dynamic nature of Cloud computing and its service delivery options. In the EMA 2011 report, however, only 58% of respondents had automated capabilities for asset discovery and inventory. But there is definitely a "we/them" group between those who manage services and assets together and those who manage them separately as indicated in Figure 3. This discrepancy is yet one more testament to the value in integrating service and asset lifecycle management.

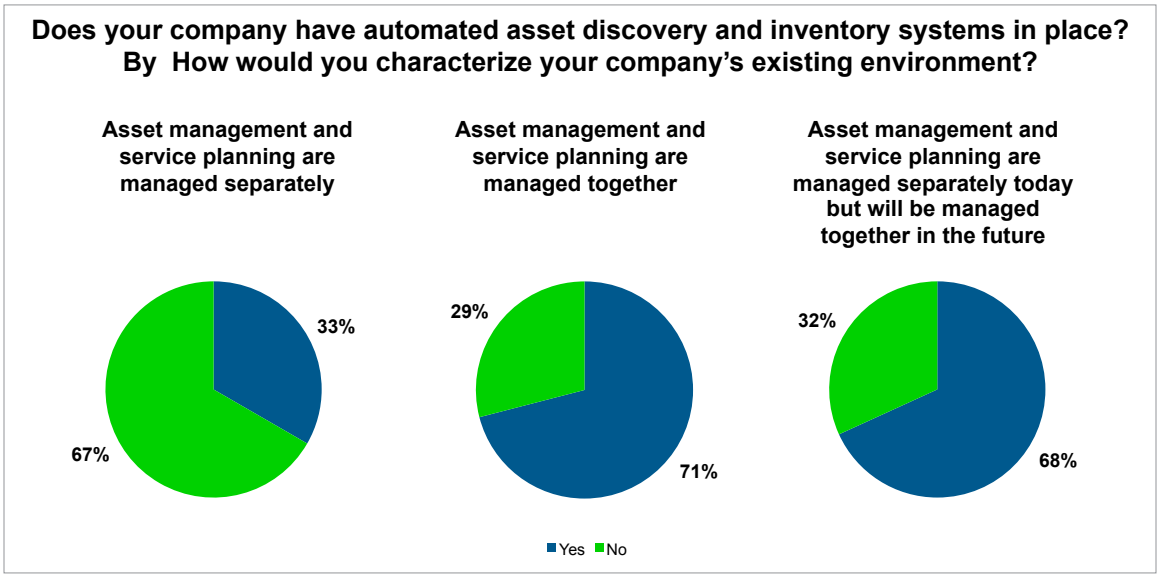

Figure 3: Those managing services and assets together are much more likely to employ automated capabilities for asset discovery and inventory.

Modeling Assets to Support Real-Time Actions and Long-Term Strategic Planning

There is a clear transition from discovery and inventory management to service modeling, as discovery becomes more and more about configuration and interdependencies. Simply put, the importance of modeling is that it allows both physical and logical asset associations and dependencies to be captured and reconciled as a consistent, contextual foundation for everything from real-time decision making, to long-term planning, to diagnostics and automation.

An effective modeling system can potentially enable:

- More accurate and reconciled sources of information about assets
- Clear and consistent delineations of asset "owners," and "consumers"
- Clear and consistent mapping to contractual, vendor and other financially specific interdependencies
- Clear and consistent information about how, when and where service-related assets are used
- Change automation in support of asset lifecycle management
- Diagnostics in support of asset availability
- Service provisioning and request management
- Audits, governance and other related actions critical to asset lifecycle management
- Service portfolio planning

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The EMA report, *Service-Centric Asset Management in the Age of Cloud Computing,* documents the fact that asset-related information is still spread out across the corporation in a variety of places from spreadsheets and Visio drawings, to local databases, to separate asset information repositories, to CMDBs and federated Configuration Management Systems (CMSs). Not surprisingly, asset-related data accuracy was modest at best, with only 23% claiming more than 95% data accuracy for managing asset lifecycles, while more than 70% wished they had a more than 95% level of data accuracy.

Cloud computing is, once again, accelerating the importance of modeling, as can be seen in the data below. Both Service Catalog and CMDB investments show strong benefits in realizing values from Cloud adoptions. In EMA research from *Operationalizing Cloud: The Move to a Cross-Domain Service Management Strategy,* February 2011*:*

Those surveyed with CMDB/CMS investments are:

- 1.4 times more likely to reduce complexity of management via Cloud
- 1.4 times more likely to improve service resilience via Cloud
- 1.6 times more likely to accelerate deployment of existing services via Cloud
- 1.6 times more likely to accelerate the creation of new services via Cloud
- 1.5 times more likely to increase infrastructure flexibility via Cloud
- 1.7 times more likely to expand revenue channels via Cloud

Those surveyed with Service Catalog investments are:

- 1.4 times more likely to reduce management complexity
- 1.4 times more likely to reduce capital costs via Cloud
- 1.5 times more likely to improve service resilience via Cloud
- 1.5 times more likely to accelerate deployment of existing services via Cloud
- 1.6 times more likely to accelerate creation of new services via Cloud
- 2.2 times more likely to expand revenue channels via Cloud

Unique Requirements for Service Portfolio Planning

Modeling between capabilities such as the CMDB/CMS and a service catalog or service portfolio are central to service portfolio planning. As IT organizations move to understand value and performance as well as cost and compliance interdependencies, virtually everything in the list above for modeling becomes relevant to effective service portfolio planning. Figure 4 provides a simplified but useful way of grasping the interdependencies that ideally should be captured for service portfolio planning as IT moves more and more towards assuming its role as a fully integrated part of the business or organization it serves.

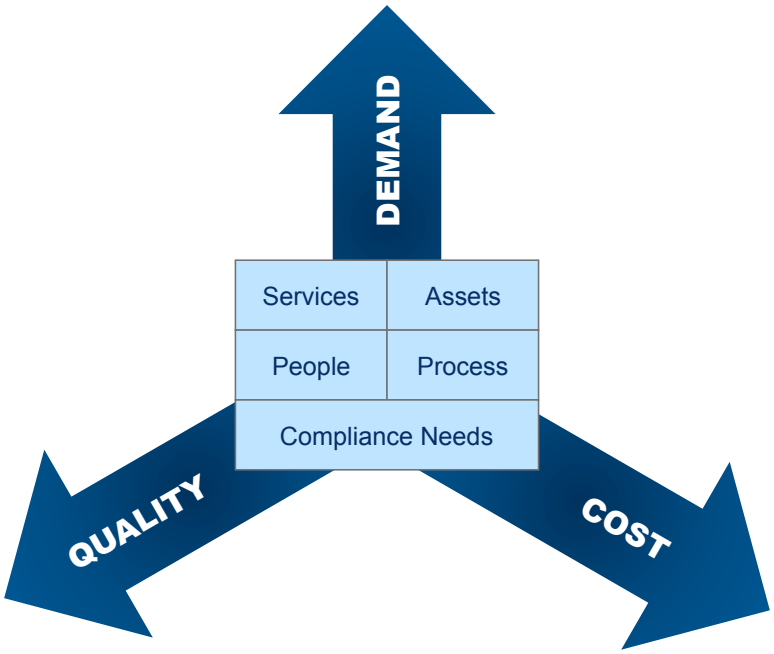

Figure 4: Service Portfolio Planning requires a fully integrated awareness of the dynamics inherent in integrated service and asset lifecycle management.

Automation – Optimizing Asset Investments in Real-Time for Cloud

It should come as no surprise that automation is a key aspect in optimizing assets for Cloud where IT asset management, capacity optimization, service performance and configuration management can be collapsed into single moments in time.

But automation, itself, is multi-faceted. EMA typically divides it into: *people-to-people (e.g., workflow), people-to-machine (e.g., configuration management, service request management), and machine-to-machine (e.g., workload automation).* But it's the emergence of IT Process Automation (ITPA) or run book automation that's becoming the glue to help set policies that can orchestrate automated processes across all these, and other areas, such as diagnostics, load balancing, patch management and application provisioning.

Effective lifecycle service and asset management depends on having well-defined policies and technologies that can support contextually driven automation such as configuration management for the introduction of new assets and retirement of old assets, or discovery to support compliance and audit requirements, or diagnostics to support security and performance requirements.

In EMA research on *Operationalizing Cloud,* for instance, those with IT Process Automation were:

- 1.5 times more likely to reduce management complexity
- 1.3 times more likely to reduce capital costs via Cloud
- 1.5 times more likely to free up resources for strategic projects
- 1.4 times more likely to improve service resilience via Cloud
- 1.7 times more likely to accelerate deployment of existing services via Cloud
- 1.4 times more likely to accelerate the deployment of new services via Cloud

Summary and Conclusion

While *Service-Centric Asset Management* becomes an intuitively valuable approach once it's grasped, that doesn't mean that there is a ready-made highway to take you there. One might argue that far more than Cloud, *Service-Centric Asset Management* truly is a *journey* in which each step requires a solid combination of pragmatism, honesty, attention to process, effective leadership, and the creative adoption of relevant technologies such as discovery, modeling, and automation.

While Service-Centric Asset Management becomes an intuitively valuable approach once it's grasped, that doesn't mean that there is a ready-made highway to take you there.

But the benefits of this approach can be substantial and are typically realized with each phase forward. Indeed, the very recognition that IT assets don't exist in isolation, but are effectively "contributors" to the creation and delivery of critical business services, can bring immediate rewards in terms of portfolio and asset planning, accountability, and process definitions. When combined with the right mix of technologies, an integrated approach to lifecycle service and asset management can increasingly gain in power, value and credibility, both within the IT organization, and with the business and organizational customers that IT supports.

About BMC

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About Enterprise Management Associates, Inc.

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 IT professionals, lines of business users, and IT vendors at www.enterprisemanagement.com or follow EMA on Twitter.

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