



# Reduce Operational Costs with Automated Service Provisioning

Automate provisioning and management to minimize complexity and lower operational costs

Now, more than ever, IT must be more responsive to the business with significantly less cost. Virtualization holds that promise but adds additional complexity that, combined with lack of integration between the associated technology components, can actually increase costs while decreasing efficiency and agility. The Cisco Unified Computing System, combined with BMC BladeLogic, delivers a radically simpler solution that maximizes the value virtualization offers. Together they provide an integrated architecture that connects the infrastructure components with management of the whole system, including the applications they support. The result is a virtual computing system that is dramatically more efficient to maintain and operate; enabling enterprises to execute business processes much more efficiently and with uncompromising availability and performance.

Virtualized platforms have quickly become the default for new datacenter server needs and offer users greater agility at a much lower cost than traditional single use systems. To increase the benefits of virtualization, from both a cost and agility perspective, IT organizations have turned towards blade servers as the underlying infrastructure to support their virtualization initiatives. In fact, in a December 2008 report titled "Blade Servers in the Data Center", Jeffrey Hewitt of Gartner indicates that 49% of respondents are implementing both blade servers and virtualization technologies together.

While today's blade servers offer customers greater density and increased agility than traditional rack systems they are more limited when it comes to balancing server workloads across them. This is due, primarily, to the need to dedicate specific hardware configurations to virtualized workloads. This inflexibility can negate the agility virtualization offers as a change in workload requirements can often times require physical changes to the blade systems supporting them.

In addition, today's virtualized platforms remain independent components of a very complex system held together by the IT operations staff themselves. This lack of integration between critical system components reduces the overall cost benefit of virtualization as basic administration requires highly skilled resources to manage the complexity and coordinate activities across various disciplines.

BMC BladeLogic for Cisco Unified Computing System integrates with and leverages the Cisco Unified Computing System Manager to unify the Cisco computing infrastructure with BMC's unparalleled management and automation. Together they provide an integrated virtualization architecture that connects infrastructure components such as network, compute and virtualization together with management and automation of the whole system, including the applications they support. The resulting virtual computing system, consisting of virtualized hardware, software and

BMC BladeLogic provides the ability to configure whole business services to deliver complete services to the business faster and with lower risk and cost. Our solution ensures that all changes meet security, operational, and regulatory policies, and reduces the risk of change in a highly complex environment while reducing the effort related to configuration change and the time required rolling out production applications.

## WITH BMC BLADELOGIC, IT ORGANIZATIONS CAN:

- » Use one integrated platform to provision, configure, administer and manage the Cisco Unified Computing System and associated applications all through a single console for day-to-day server operations and activities;
- » Foster strong collaboration between IT teams, with different technology and functional expertise, to accomplish key data center tasks;
- » Increase staff productivity and improve cost structure while supporting a complex and dynamic virtual environment;
- » Reduce complexity and better align with the business through the abstraction of IT configuration components into IT services, where management decisions are made at the IT service level;
- » Create an environment that supports an extremely high rate of change while ensuring consistency and application stability, and where data center resources are easily repurposed and reallocated based on changing business needs.

management, can automatically map workload requirements to virtual and physical resources to enable extremely responsive and high-performance computing services.

## BUSINESS BENEFITS

BMC BladeLogic for Cisco Unified Computing System integrates with and leverages the Cisco Unified Computing System Manager to unify the Cisco computing infrastructure with BMC's unparalleled management and automation. The result is a single unified platform for the virtual datacenter that is dramatically more efficient to maintain and operate; enabling enterprises to execute business processes much more efficiently and with uncompromising availability and performance.

This powerful combination reduces the costs of delivering IT services while also increasing service quality, IT efficiency, and business agility.

## MANAGE FROM THE SERVICE PERSPECTIVE TO BE MORE RESPONSIVE TO THE BUSINESS

BMC BladeLogic for Cisco Unified Computing System provides the ability to configure whole business services to deliver complete services to the business faster and with lower risk and cost. This solution helps to ensure that all changes meet security, operational, and regulatory policies, and reduces the risk of change in a highly complex environment. It also reduces the effort related to configuration change and the time required to roll out production applications. In addition, it increases the effectiveness of the virtualized platform through accurate planning, deployment, and management.

BMC BladeLogic helps IT administrators with the initial installation and configuration of the Cisco Unified Computing System including the initial UCS Manager setup. As a result of the tight integration with the UCS Manager, BMC BladeLogic provides the ability to request hardware resources and provision new server instances from SANs, Local Disks and ESX hosts. Using BMC BladeLogic, administrators are able to fully operate the Cisco Unified Computing System, browse server instances and take action to effect change in the environment.

## AUTOMATION LEADS TO PROCESS AND EFFICIENCY GAINS

BMC BladeLogic for Cisco Unified Computing System automates tasks and procedures related to network, server and application change, configuration, and release practices within the virtualized data center. These practices manage all aspects of a unified computing environment and have a significant impact on IT service availability and quality. A recent report by the IT Process Institute titled, "Change, Configuration, and Release Performance Study", found that change, configuration, and release practices have a significant measurable influence on key operations performance measures. They also have a substantial impact on the ongoing cost of IT. BMC BladeLogic for Cisco Unified Computing System reduces these ongoing operational costs while also improving the quality, efficiency, and agility of core data center administrative processes by automating both repetitive manual tasks that are a process burden on key resources and the high-risk, high-impact procedures that have a significant potential effect on service quality.

## WHY BMC BLADELOGIC FOR CISCO UNIFIED COMPUTING SYSTEM?

### POLICY BASED CONFIGURATION MANAGEMENT

BMC BladeLogic for Cisco Unified Computing System is tightly integrated with the Cisco Unified Computing System Manager and uses a policy-based approach to configure, patch, and update its associated, storage, network and server resources as specified in the hardware service profile as well as virtualization and application resources as specified in the software service profile. Respective changes are applied to a specific policy and then synchronized with the target servers as appropriate. This bi-directional approach lowers the cost and errors associated with managing a highly dynamic virtual server infrastructure. It also features a cross-platform, command line interface (Network Shell™) that supports single-sign on using a range of authentication protocols. All user communication is encrypted, and all user actions are logged and can be authorized based on a user's role.

### SERVICE-ORIENTED COMPUTING

Instead of solely managing configuration elements as individual entities, BMC BladeLogic manages infrastructure at the IT service level by assembling the requisite configuration elements of a service into a model for that service. Once the model has been created, provisioning, change and compliance tasks can be executed at the service level. In the background, BMC BladeLogic automatically manages all the



underlying configuration elements. This service-oriented computing methodology simplifies the complexity of managing dynamic application environments.

### INTEGRATED PROVISIONING ACROSS MANAGEMENT FUNCTIONS

BMC BladeLogic for Cisco Unified Computing System integrates with and leverages the Cisco Unified Computing System Manager to automate full server stack provisioning of the Cisco Unified Computing System including the virtual hardware and network resources, base OS, drivers, disk layouts, systems software, application middleware and custom code and content at the business application layer. By supporting Cisco Unified Computing System-specific configurations as well as any user-defined custom configurations, this highly flexible and customizable approach automates the entire server provisioning process at lower storage and management cost than otherwise possible.

### SOPHISTICATED RULES BASED ACCESS

Without BMC BladeLogic, all the configuration elements of the Cisco Unified Computing System, including the files, configurations files, packages and processes are provisioned individually, and the tasks must be assigned to a number of different IT personnel. With BMC BladeLogic and its service-oriented computing model, managing the Cisco Unified Computing System consists of provisioning a single model rather than each individual configuration element. Moreover, the IT organization is now more tightly aligned with and responsive to the business since it is considerably easier to translate business requests into operational tasks and associated actions.

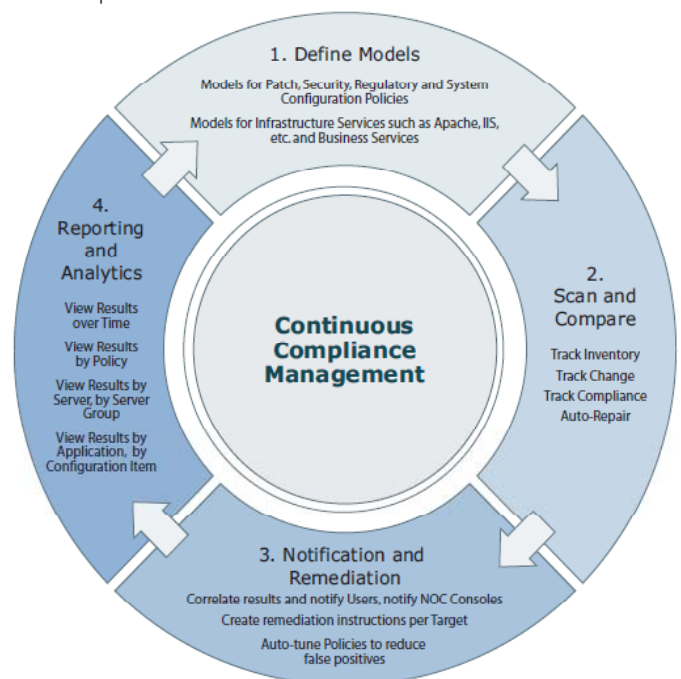
### OPERATIONAL DASHBOARDS

The BMC BladeLogic for Cisco Unified Computing System maintains a Configuration Management Database for both server and applications infrastructure. Combined with a rich set of analytics, the CMDB provides management and operational staff with access to complete and timely configuration, activity, and compliance information, which provides a clear picture of the current state of business critical applications and infrastructure and how that state has changed over time. While many solutions provide tactical reports documenting patch and rudimentary configuration issues, BMC BladeLogic for Cisco Unified Computing System recognizes that management reporting is really about providing a holistic view on how change is impacting the business, identifying key issues before they become problematic, and helping managers take action to prevent or resolve problems.

### OPTIONAL COMPLIANCE MODULE INCREASE BUSINESS VALUE

BMC BladeLogic provides an ability to define reference (desired state) configurations for the entire server Cisco Unified Computing System or a specific sub-set of configuration components. Once defined, BMC BladeLogic Compliance Manager can inspect those configurations to determine what servers do not comply with the reference configuration. Because reference configurations allow for aggregation, multiple low-level reference configurations, such as a patch standards and particular security standards, can be rolled into a larger application reference configuration. Furthermore, configurations of multiple live production servers can be compared

**BMC BladeLogic is fully integrated with the Cisco Unified Computing System Manager to maximize agility while minimizing operating costs.**



when a reference configuration does not exist. Configurations of servers that are out of compliance can be automatically remediated so that no server is ever non-compliant for anything longer than an audit scan.

	Before BMC		With BMC
<b>Servers</b>	900	<b>400%</b> →	4,735
Applications	50		150
Administrators	20		40
<b>Server:Admin Ratio</b>	45:1	<b>160%</b> →	118:1
Outages	2 Major		None
SOX 404 Solution	None		Fully Compliant
<b>App Changes (Weekly)</b>	200 (40 critical servers x 5 changes per week)	<b>20,000%</b> →	40,000 (1,000 critical servers x 40 changes per week)
Changes: Admin Ratio	10:1		1000:1

## MAXIMIZE YOUR VIRTUALIZATION INVESTMENT AND START SAVING TODAY

The foundation to a highly agile, business-driven IT environment starts with the implementation of the Cisco Unified Computing System and BMC BladeLogic.

The Cisco Unified Computing System changes the virtualization paradigm and radically simplifies virtualization while accelerating agility to maximize the value it offers. Combined with the BMC Operations Manager, it enables you to dramatically accelerate the deployment of new infrastructure resources and application services to support changing business needs in the most cost effective and efficient manner possible today.

BMC BladeLogic for Cisco Unified Computing System addresses the inherent challenges associated with today's virtual data centers. The unique architectural approach, compelling benefits, and successful deployments in production environments across a large number of customers in different vertical and geographic markets fundamentally changes the conventional view on data center management.

For more information about BMC and BMC BladeLogic for Cisco Unified Computing System, please visit [www.bmc.com](http://www.bmc.com) or contact us at **1-800-841-2031**.

## BUSINESS RUNS ON I.T. I.T. RUNS ON BMC SOFTWARE.

Business thrives when IT runs smarter, faster, and stronger. That's why the most demanding IT organizations in the world rely on BMC Software across both distributed and mainframe environments. Recognized as the leader in Business Service Management, BMC offers a comprehensive approach and unified platform that helps IT organizations cut cost, reduce risk, and drive business profit. For the four fiscal quarters ended Dec. 31, 2008, BMC revenue was approximately \$1.88 billion.

## PROVEN OPERATIONAL IMPROVEMENTS AND PAYBACK

Using BMC BladeLogic, Chicago Mercantile Exchange, increased the volume of changes made to their virtualized environment from 200 to 1,600, increased the number of virtual and physical servers from 900 to 2,800 and increased the number applications managed from 50 to 200 while only increasing their server admin headcount by 5 people.

