

I D C V E N D O R S P O T L I G H T

Achieving Operational Efficiencies and Compliance Assurance Through Service Provisioning and Configuration Management

January 2007

By Stephen Elliot, Research Manager, Enterprise Systems Management Software

Sponsored by [BladeLogic](#)

Enterprise IT organizations have been under cost-savings pressure for years, and IDC expects this trend will continue and accelerate. One of the best strategies to decrease operations costs is to reduce IT infrastructure complexity. In addition to cost reduction, a more recent business pressure on IT organizations is compliance assurance. Sarbanes Oxley, HIPPA, PCI, and other regulatory requirements put pressure on IT organizations to implement automation technology to reach compliance status. Combined, budget and compliance pressures are forcing IT and business leadership teams to deliver new tactics and IT strategies that automate workflows and management tasks to enable increased controls and tracking of application and server environments. This paper examines how the combination of people, process, and technology deployments for service provisioning can have a profound impact on IT's ability to lower operational costs, guarantee compliance assurance, and improve change management processes.

*The paper also looks at the role of BladeLogic, a vendor of configuration change, compliance, and provisioning automation solutions that has experienced significant sales growth to become a leader of the server automation market. The company's suite of automation solutions utilizes a policy-based management approach built on best practice processes that have been successfully deployed in many enterprise IT organizations, including those of Capgemini, E*Trade, Expedia, Lockheed Martin, priceline.com, VeriSign, Virgin Mobile, and Walmart.com. The company is growing very quickly and is invariably on the short list for enterprise IT organizations considering solutions that address application and server change management, configuration, and compliance assurance.*

Introduction

The shift from legacy computing architectures to the distributed computing (n-tier) model has fundamentally changed the datacenter. The large increase in servers, the escalating rate of change, and the increasing need to conform to a variety of regulatory and security compliance policies are having a profound impact on the cost and complexity of managing the datacenter. To address these challenges, IT organizations are accelerating their adoption of server configuration management solutions to lower operational costs by automating important management processes, improve their ability to measure, assess and adhere to specific server and application compliance policies, and reduce the cycle time to roll out applications. IDC has defined this market as server provisioning, and has developed a forecast that suggests that this market is currently growing quickly (see Table 1).

TABLE 1

Worldwide Server Provisioning Software Revenue, 2005–2010

	2005	2010	2005–2010 CAGR (%)
Revenue (\$M)	277	758	22.3
Growth (%)	28.2	15.9	

Source: IDC, 2006

As IT organizations and business leaders consider adopting service oriented architectures (SOA), the ability to rapidly provision and roll out new applications puts even more pressure on the IT organization to support a more dynamic computing environment. Consequently, the emphasis on managing change in the datacenter, with all the attendant implications on technology, people, and process, has never been greater.

Business Impact

In today's global business environment, IT organizations have to address typically three competing business directives: be able to quickly respond to changing business requirements to take advantage of new opportunities, continually cut costs to maintain competitiveness, and adhere to a variety of industry-specific and complex regulatory requirements.

The complexity of today's computing infrastructure makes managing change very difficult and time-consuming. Highly skilled resources with specific domain knowledge are required to make intricate changes to various elements of the software stack in coordination with other domain experts in order to provision new systems, secure existing systems, roll out new applications and continually maintain and manage IT services and their underlying infrastructure.

Managing the state of compliance of the datacenter has become an increasingly important priority. These requirements, driven by industry-specific regulatory requirements, security considerations, or internal business needs, force IT organizations to demonstrate how well compliance policies are enforced, show clear segregation of duties across the user base, and track and report on the state of compliance at any point in time.

Next-generation server-configuration management solutions allow IT organizations to address all three important requirements. By implementing server management solutions, organizations can easily automate complex tasks to dramatically reduce costs, improve collaboration between different groups to quickly respond to changing business conditions, control access based on the skills and privileges of the user, and track and enforce compliance policies.

Technology Considerations

Unlike many other IT devices, servers are managed by a variety of multiple IT groups with different domain expertise — systems administrators, database administrators, security engineers, application support staff — all focused on managing different elements of the services delivered from the datacenter. Enterprise IT organizations have invested in many tools to instrument the datacenter from an incident and problem management point of view. However, many of the tasks for server provisioning and change management are disjointed, using a combination of point tools and scripts along with plenty of manual activity.

Moreover, these tools focus on automating a set of management tasks by a particular group in isolation, and as a result do not take into consideration inter-related management tasks performed by other groups that affect the specific services being managed. The inherent conflicts created by this piecemeal approach result in significant service quality and security problems, as well as considerable operational costs. Consequently, an inordinate amount of time, effort, and money is spent reconciling actions performed by one group with actions of another. Next-generation technologies bring together an automated approach that synchronizes the activities of one group with the actions of another to ensure that changes are made in the context of the business services being delivered.

Large enterprise organizations have adopted a number of automation tools. It is important to note that there is no "perfect" product or technology, and business managers must carefully assess their goals and create reasonable deployment expectations. Users must understand that the easiest way to reduce costs is to reduce complexity. Implementing holistic management solutions that streamline the management process is an excellent way to achieve this goal.

Definitions

The worldwide server provisioning software market is a submarket of the worldwide enterprise system management software market. The revenue included in server provisioning software is a subset of revenue already included in enterprise system management software revenue, principally in the change and configuration management software functional market.

In IDC terminology, server-provisioning software is a "competitive market." The server provisioning market is centered on the deployment, configuration, and management of server system and application software stack images. The four key technology areas included in the definition of server provisioning software are:

- **Server provisioning.** The ability to build a master server and/or image via a build policy and deploy to multiple servers with accuracy and control
- **Configuration management.** The task of managing and discovering detailed configurations of servers and execute change management processes
- **Patch/software management.** The ability to scan vulnerabilities, collect and analyze necessary patches, and distribute them for servers and applications
- **Change audit and reporting.** The ability to create detailed server audit trails tracking changes and reporting on activities across provisioning, configuration, compliance, and patching

It is important to note that this market is highly competitive and feature/function development is fast-paced. IDC expects this market to continue to expand in functional capabilities, notably in compliance reporting, configuration management, and task automation.

Benefits and Pitfalls

IT organizations must heed caution as they decide which server automation tool to deploy, as the wrong decision will not deliver on the organization's goals. To increase the success, organizations should consider the following and develop an expected benefits and pitfalls analysis:

- **Rapid service delivery.** The ability to roll out new services by automating and streamlining application release management processes from development to test to preproduction to production environments
- **Compliance reporting, reconciliation and remediation.** The ability to report, in granular fashion, on the state of current and historical configurations relative to particular policies and, when necessary, to automate the remediation process to bring configurations back into compliance
- **Lower operations cost.** The ability to automate the complete life cycle of server and service management processes, from provisioning to configuration management to compliance management, across all major server platforms using a unified policy-based management approach to dramatically lower operational and management costs
- **Facilitate ITIL adoption.** The ability to enable the adoption of change, configuration, problem, and incident management-based processes by developing workflows to address specific management processes across different functional IT groups; also enable the seamless integration with service desk, fault management, event correlation, and other enterprise management systems

Potential Pitfalls

- **Deployment costs.** Assess the full costs associated with deploying an automation solution, including the required training and adoption impact on people, the amount of customization required, the time to value, and the on-going management costs of the automation solution itself.
- **Integration.** The lack of deep integration among a vendor's own products and with third-party tools will limit the implied benefits of any automation solution.
- **Lack of executive sponsorship.** Executive visibility and leadership buy-in are essential for the organization to fully embrace any automation solution and drive the necessary organizational changes required.
- **Poor ITIL alignment.** Automation solutions should facilitate, not hinder, the adoption of ITIL-based management processes. This means facilitating collaboration across multiple groups and being flexible to enable easy assimilation into the organization.

Technology Trends

As with any high-growth market, a plethora of solutions are available that are being driven by a broader focus on datacenter automation, process and technology standardization, and improved business alignment. Some major market trends include:

- **Datacenter standardization.** Datacenter consolidation, server repurposing, frequent application releases, and software upgrades across platforms are driving the need for standardized technologies and processes to improve task transparency and service availability.

- **Change and configuration management process adoption.** Enterprise IT organizations are developing more standardized processes to improve IT control and lower the cost of infrastructure change. There is a growing trend toward integrating change process orchestration and execution in a closed-loop model. This is vital to ensure accountability and success of any and all changes.
- **Compliance and government regulations.** There is an increasing need to achieve continuous compliance with security and regulatory policies in order to gain enterprisewide compliance assurance.
- **Service oriented architecture adoption.** IT organizations are evolving from static to more dynamic service delivery requirements that look at IT services as loosely coupled and reusable, rather than static components. This trend requires IT organizations to dynamically provision and change service components at run time to support changing business services.
- **Virtualization.** The trend toward shrinking physical environments into virtualized environments continues, requiring datacenters to develop management strategies for these environments. The key is to invest in a unified management platform to seamlessly manage across all server and application environments regardless if they are virtualized or physical.

In order to address these trends, IT organizations must determine if they are going to take a best-of-breed versus a broad-brushed solution approach. Best-of-breed offerings focus specifically on the area of server and application configuration change, compliance, and provisioning automation, as opposed to broader solutions that only focus on addressing common challenges across all datacenter infrastructure elements spanning servers, applications, networks, and storage.

During this discussion, it's important that companies consider the breadth and depth of capabilities that each product set delivers, and how these capabilities will help IT organizations meet their specific server and application management needs. While both types of products deliver value, IT organizations must determine considerations such as ease of deployment, time to value, project focus, third-party integration support, the role of change and compliance management within their IT operations strategy, and the importance of functionality offered for meeting long-term business and technical objectives.

Considering BladeLogic

BladeLogic is a leading datacenter automation software vendor that has experienced significant sales growth during the past five years. The company continues to invest in product development, sales support, and key partnerships to satiate increasing customer demand for its solutions. The company's product lines include a tightly integrated suite of server and application management software solutions.

- **BladeLogic Operations Manager** enables IT organizations to manage the entire lifecycle (inventory, provisioning, configuration and change control, and continual compliance) for servers and applications and consists of Discovery Manager, Compliance Manager, and Configuration Manager Modules.
- **BladeLogic Application Release Manager** enables IT organizations to automate the process of application rollouts from development to production environments, resulting in shortened release cycles, lower application defects, application compliance, and automated release controls across groups.
- **BladeLogic Orchestration Manager** provides run-time event, data exchange, and workflow integration between BladeLogic's solutions and other best-of-breed management software tools found in the datacenter.

Key Product Features

BladeLogic's suite of solutions has been successfully deployed in many large-scale, global enterprise IT organizations. The suite has key cross-platform functionality that spans server and application configuration change and patch management, real-time application dependency mapping and tracking, application packaging and promotion, rules-based auditing, compliance reporting, and configuration item-level, role-based access and administration controls. The architecture has been designed to include high resiliency, security, and scalability as it relates to these functional areas. BladeLogic has designed its solutions around a novel architectural approach labelled Synchronous Management™. This unique architecture is designed to specifically address the complexity of managing today's distributed applications and infrastructure by allowing the creation of sophisticated policies that link people, configuration data, target servers and applications, and management tasks to ensure that IT organizations have maximum visibility at all times across all groups for all changes to their server and application infrastructure.

Differentiation

BladeLogic's solution suite has the unique capability of collecting and organizing extremely granular server and application configurations and mapping the information to meaningful configuration change and compliance requirements using standardized, encapsulated workflows and policy-driven automation. The solutions do a solid job of managing the change and configuration management processes for servers and applications, notably in their ability to define the processes and related configuration items utilizing strict access controls. A key differentiator for BladeLogic is its ability to automate workflows and deep configuration data collection across heterogeneous platforms.

BladeLogic's architecture, one of the major differentiators of the company's solutions, has been developed with a strict focus on people, process, and technology integration and accuracy that enables streamlined configuration, the ability to segregate IT roles and duties, change and configuration management handoffs, and extensive compliance reporting. BladeLogic's Synchronous Management™ offers a new management paradigm by allowing organizations to synchronize all configuration management activities across disparate IT teams performing different management actions. Through the use of dynamic, multifunctional policies that link specific people and teams to explicit server and application components and the precise management actions they are authorized to perform, this paradigm ensures provisioning, configuration management, and compliance management actions are not made in isolation, but in context of the overall needs of the business. Key features of the architecture include:

- A normalization model for representing configuration items across server platforms as granular, actionable configuration targets with the ability to aggregate and correlate them to define business services
- Ability to control access to specific configuration items by role and management function
- Ability to model and orchestrate a set of complex configuration changes across server platforms into a single cohesive change with dependency tracking and selective rollback built-in
- Ability to perform granular rules-based audits and remediate servers with built-in exception handling

Value Proposition

BladeLogic's value proposition is the ability of its software solutions to enable IT organizations to manage, control, and enforce configuration changes to servers and applications to address the three competing requirements outlined in this report (being responsive to changes, lowering operational costs, and assuring IT compliance). Through advanced automation and a truly unique architecture, BladeLogic enables IT organizations to crisply segregate change and configuration duties, secure access controls, utilize policies and generate granular compliance reports, resulting in more responsive and cost-efficient datacenter operations.

Challenges

BladeLogic faces several challenges as it continues to expand its market presence and product functionality. These challenges include the following:

- Increasing its market awareness further and the need to expand the sales force and sales channel development.
- Product integration or partnerships with other best-of-breed solutions focused on change and configuration capabilities in network and storage disciplines. BladeLogic recently announced a partnership with AlterPoint as a step toward this goal.
- Increased workflow automation to integrate with an IT organization's operational processes. BladeLogic recently announced the availability of its Orchestration Manager product that provides it with a platform to deliver workflow automation by integrating with major ticketing and monitoring systems available in the market today.
- System integrator relationship development to participate in turnkey solution channels.
- Increased virtualized infrastructure coverage. BladeLogic has a partnership with VMWare in this area but needs to broaden its coverage to include other virtualization platforms as well

BladeLogic must continue to address product, sales, and marketing challenges as it continues to increase its market share. As a privately held company, it must also show long-term viability as an independent ISV through continued new license growth. The ability to close more customers and develop the relationship to add new license sales is important to developing strategic account relationships to keep competitors out. BladeLogic recently announced that it has reached profitability, is cash flow positive, and has achieved a remarkable 108% growth between FY2005–FY2006. We believe that this is an excellent indicator that demonstrates strong business execution and viability.

Conclusion

Enterprise IT organizations should continue to determine the roles that change management, configuration management and compliance requirements play in delivering IT service management. The opportunity to lower costs by reducing datacenter complexity through server provisioning solutions that utilize standardized reporting and workflows is a powerful strategy. Automated solutions that use granular best practices and standards-based policies, offer granular access controls, integrate to existing datacenter management tools, demonstrate enterprise-class scalability and resiliency, offer rules-based auditing with remediation and exception handling, and deep configuration visibility should be considered during the purchase selection. Enterprises utilizing provisioning, change, and configuration management solutions with integrated workflows stand to reap benefits that drive teamwork, improve cross-silo communications, improve compliance assurance, and lower operations costs.

A B O U T T H I S P U B L I C A T I O N

This publication was produced by IDC Go-to-Market Services. The opinion, analysis, and research results presented herein are drawn from more detailed research and analysis independently conducted and published by IDC, unless specific vendor sponsorship is noted. IDC Go-to-Market Services makes IDC content available in a wide range of formats for distribution by various companies. A license to distribute IDC content does not imply endorsement of or opinion about the licensee.

C O P Y R I G H T A N D R E S T R I C T I O N S

Any IDC information or reference to IDC that is to be used in advertising, press releases, or promotional materials requires prior written approval from IDC. For permission requests contact the GMS information line at 508-988-7610 or gms@idc.com. Translation and/or localization of this document requires an additional license from IDC.

For more information on IDC visit www.idc.com. For more information on IDC GMS visit www.idc.com/gms.

Global Headquarters: 5 Speen Street Framingham, MA 01701 USA P.508.872.8200 F.508.935.4015 www.idc.com