WHITE PAPER

The Emerging IT Shift Toward Business Service Automation

Sponsored by: HP

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IDC OPINION

IT business service automation has executive-level visibility today; these capabilities and processes are driving business initiatives such as compliance management, lower operations costs, and higher business service availability. Companies are maturing in their approaches toward IT management; they are moving away from silo-based approaches toward end-to-end, automated, and integrated IT management solutions and processes that deliver high-quality IT services to business managers. This approach spans all the underlying infrastructure tiers (client, network, server, storage, application, and process) and enables IT organizations to turn standardized processes into procedures that deliver tighter business alignment. IT business service automation enables IT and business executives to better understand the impact of change on business services that support revenue-generating business processes.

SITUATION OVERVIEW

Enterprise IT organizations continue to mature skill sets and process standardization to improve IT's alignment with meeting business objectives in the most productive, cost-efficient manner. As part of this transformational journey, IT and business leaders must consider the foundational capabilities that ensure service availability. With increasing pressure from business drivers such as compliance, globalization, and competition, IT organizations must address the core foundational requirements of delivering business services that require visibility across all application and infrastructure tiers. It is no longer "good enough" for IT organizations to manage only at the component level; business demands require management integration across all the associated tiers to deliver business outcomes.

Managing IT services requires a life-cycle perspective enabled through key capabilities such as performance base-lining, automated IT processes, change and configuration management, problem management, and compliance assurance. The integration of change and configuration management into a service life cycle is necessary to drive tighter change controls that impact the need for highly available business services and speed up problem and incident management processes. IT must understand the priority of changes and the impact of those changes on business services. Application and infrastructure changes often drive configuration updates; thus, the change deployment process needs to be efficient and reliable. Often, erroneous change deployments and poor configuration updates cause service degradation that reduces revenue, causes customer dissatisfaction, and destroys

brand credibility. By adopting a service life-cycle perspective for management, IT organizations improve their opportunity to address business requirements and ensure service performance from an end-to-end perspective.

Managing Business Services Across the Life Cycle: People, Process, and Technology

Historically, enterprise IT organizations have struggled with creating standardized processes across IT "silos." In fact, many IT organizations have been challenged with the notion of simply defining what a change is and how it should be executed, tracked, and verified. To address these challenges, many IT organizations are adopting pseudo–process frameworks such as the IT Infrastructure Library (ITIL version 3) or Control Objectives for Information and Related Technology (CoBit) to improve the communication and deployment of processes that improve service quality and availability. Based on conversations with and results from surveys of IT organizations, IDC estimates that 50%+ of Global 2000 IT organizations have adopted at least one ITIL process; this trend will continue to grow with the recent release of ITIL version 3. ITIL version 3 is backwards compatible with ITIL version 2 and moves from a tactical perspective to a service-based, life-cycle approach to enable tighter business and IT alignment.

While process standardization is taking hold and is a strong starting point, it is not enough. IT staff must reengineer and refresh their skills and sometimes be retrained to match new demands that processes bring forth; training becomes a critical factor in the success of efficient business service delivery based on ITIL or CoBit. Change request workflows, impact analysis and collision identification, and the ability to efficiently and reliably trigger change deployment are also key points of integration.

To complement process and IT staff skill set improvements, IT organizations must also consider their technology decisions as they relate to the management of business services across the IT life cycle. A trend that started during the early part of this decade is automation. Automating processes and tasks has become a top priority for many IT and business executives as it relates to change and configuration management. IDC has done extensive research on this topic and concludes that IT organizations are automating some of the core foundational operational processes necessary for meeting service-level agreements (SLAs) in areas such as change, configuration, and patch management (see Figure 1).

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FIGURE 1

Technologies Planned for Automation in the Next Two Years

Q. From a task automation perspective, what technologies do you plan to have automated in 2 years?
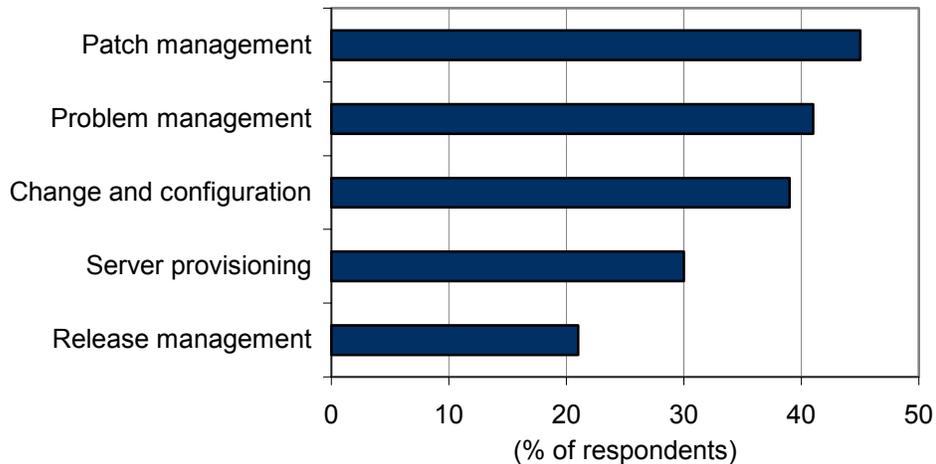
n = 100

Note: Multiple responses were allowed.

Source: IDC, 2006

Drivers for Business Service Automation

IT organizations face growing requirements from business leadership that are driving the need to create teams that span multiple groups within the IT organization to deliver holistic management of business services in an integrated, end-to-end fashion. Improving IT services that deliver innovative approaches to new revenue sources, increasing customer satisfaction, ensuring security and compliance, and driving up business service availability while driving down operational costs are business drivers forcing IT organizations to refresh their infrastructures to better address and meet rising business demands. At the core of these initiatives is the need to manage integrated change across technology, process, and staffing. IT executives should consider how the following business drivers affect business service automation approaches and processes to deliver business results:

☐ **Innovative revenue source generation:** Service automation, through process encapsulation and product integrations, delivers streamlined task delegation and efficiency gains for IT staff; the time savings can be spent on more strategic initiatives and innovation-based projects.

☐ **Increased customer satisfaction:** Effectively managing IT services can prevent business service downtime and degradation, enabling customers to access business services when and how they need to.

- ☑ **Compliance assurance:** Auditors and business executives require deep visibility into processes that impact financial reporting, security, and other governance concerns. Integrating holistic business service automation processes delivers strong compliance reporting with the granular view of who made what changes, and when, thus helping IT organizations meet auditor and governance requirements.

- ☑ **Lower costs and higher business service availability:** Deploying standardized service management processes across multiple IT teams, with visibility into impact and potential change collisions, improves communications among various IT silos, identifies collisions prior to deployment, and decreases the need for problem resolution.

It is important for IT organizations to best understand the value and business results that business service automation offers. These are foundational capabilities that need to span multiple IT silos and drive a service management approach to IT service delivery. End-to-end service management requires teamwork and an integrated approach to deliver business results.

The Changing IT Landscape: From Component to Service Management

IT organizations are facing the reality that a "silo" or "component" mentality is not enough to meet the dynamic, changing requests from the business. Creating a team-based approach to managing change and configuration processes is critical to lowering costs, driving efficient operations, and exceeding business objectives. This drives the move away from component-based change management toward business service automation; essentially it is a top-down approach.

The rise of service-oriented architectures (SOAs), virtualization, distributed applications, and increasing technology complexity create a demanding environment for IT organizations to manage change and the configurations of the underlying supporting infrastructure. As such, IT professionals must recognize that dynamic business demands require agile technology solutions — solutions derived from working across teams to deliver a service perspective such as business service information in a configuration management database (CMDB). The pressure to reduce the time-to-market window for businesses is forcing IT organizations to compress their ability to identify and resolve change and configuration errors. While individual domain knowledge will not dissipate, the need to extract that knowledge and apply it to an integrated workflow that addresses a service is increasing. The maturation of IT organizations, processes, and staff is moving toward a service management mentality that transcends organizational boundaries and delivers end-to-end control over changes and configurations in relation to a defined business service.

Developing Business Service Automation

IT organizations continue to struggle with manual tasks and processes, subjective change decision making, and a lack of insight into inventories and service dependencies. These factors propagate a static legacy approach that is not dynamic enough to keep up with fast-moving business demands. To improve decision making and relate it directly to the business, IT organizations should consider adopting the following product capabilities:

☑ A single view of and across the entire business service — from the business service layer to the application layer to the infrastructure layers — delivering real-time, cross-tier visibility

☑ A single integrated process across all the infrastructure tiers — from client to network to servers and storage — coordinating all changes that impact the business service in a seamless fashion

☑ A single plan of record (e.g., policies, compliance reports, change audit trails) that feeds into the CMDB — delivering a consistent set of data for making operational decisions when supporting the business service

☑ Automated and traceable processes and workflows that integrate across products and that can be enforced from the business service perspective

☑ Consolidated decision making, potentially from the creation of a change advisory board (CAB), that utilizes the best available information in a manner that relates to the service definition versus the component

☑ Dashboard views into information and service relationships to manage and prioritize change and configurations based on business impact

☑ A consistent automation approach that spans virtual and physical infrastructure across all infrastructure tiers and the service delivery life cycle

The shift toward business service automation requires the notion that traditional manual processes, silo approaches, and an IT-centric view are not effective and too inefficient to drive business alignment. Key pieces of automation technology and processes are necessary to bring to fruition business service management. These critical pieces are:

☑ **Discovery and dependency mapping of all the components that compose a business service in the CMDB.** The discovery of critical infrastructure assets and information that are organized via configuration items (CI) in a CMDB is critical. A CMDB is essentially a data scheme composed of an agreed-upon data structure and collection of critical asset information items that maps the dependency of those objects in relation to a defined service. IT organizations should have a service view from the discovery of cross-silo information in CMDBs.

- ☑ **Technology to assess and mitigate the impact of change on a business service.** Such technology enables business service impact assessments — the ability to analyze impact and risk based on the CMDB data to prioritize changes relative to their business service impact.

- ☑ **Broad automation of the deployment of the change across the breadth of components that make up the business service.** This enables stronger compliance monitoring, scalability, and a continuous audit trail for IT.

- ☑ **Scalable, coordinated, and integrated automated processes created by cross-silo IT teams.** These processes are as flexible to create as they are to reengineer when business demands dictate.

While moving from a component to a service automation perspective and solution is not easy, IT organizations must determine the cost of not doing so across business demands, security risks, downtime, and process inefficiencies.

HP'S BUSINESS SERVICE AUTOMATION SOLUTIONS

HP Software offers customers and prospects a product portfolio that enables a life-cycle approach to business service automation based on the notion of a repeatable process and integrated technologies that span client, storage, servers, applications, and the network. Key HP business service automation solutions include:

- ☑ **Client Automation:** This solution manages change to the client infrastructure, creating and managing software configurations via policy management based upon user or machine identity with hands-off automation.

- ☑ **Network Automation:** This solution manages heterogeneous network change and configuration capabilities in a real-time, automated fashion for device provisioning, inventory tracking, and change tracking.

- ☑ **Server Automation:** This solution enables the provisioning of both physical and virtual server environments and ensures compliance of the server infrastructure by delivering change and configuration controls with deep levels of task delegation capabilities.

- ☑ **Storage Automation:** This solution incorporates the storage resource perspective of the service and empowers administrators to view and change storage resources specific to defined services and SLAs.

- ☑ **Operations Orchestration:** This solution provides the ability to create automated process workflows, often based on ITIL, that enable complex changes that span multiple infrastructure tiers utilizing built-in audit trails.

- ☑ **Service Automation Visualizer:** This solution offers integrated views into infrastructure layers across physical and virtual servers, storage, and network devices to enable change automation for datacenters.

◩ **Service Automation Reporter:** The key reporting portal for the automation suite, this product enables reporting of historical data collected across the solution portfolio.

◩ **HP Live Network:** This solution enables the automatic downloading of key patch, vulnerability, and compliance content, enabling an automated approach to vulnerability management.

In addition, HP's business service automation solutions work in conjunction with other HP software solutions such as:

◩ **HP Change Control Management (CCM) Software:** A decision support tool specifically designed to help the CAB make better decisions, HP Change Control Management consolidates change requests across multiple request sources and IT teams, automates impact analysis and risk assessment, identifies change collisions prior to deployment, and provides the CAB with a global Forward Schedule of Change.

◩ **HP Discovery and Dependency Mapping Software:** This solution is critical for providing visibility into hardware and software assets as well as reducing manual labor during CMDB deployments, maintenance, and business service configuration updates. Key product capabilities include discovery and inventory, service dependency mapping, base-lining, and auditing delivered through HP Software.

◩ **HP Universal CMDB:** This is the core foundation for service-based change and configuration management; a federated data schema is used as the "single source of the truth" for change and configuration information, CI organization/collection, and compliance assurance. The CMDB serves as a business service configuration integration point that is federated and based on open standards to enable integrated data-level integrations.

Besides the core products, it is important to recognize that integrations across the portfolio are critical to deploying automated workflows and repeatable processes that reduce business risks and management costs and speed service delivery. Service Manager, CCM, and the Universal CMDB integrate to manage the operational change management workflow and offer a strong differentiation in the market. The Universal CMDB offers an accurate picture of the production environment and leverages CCM with Service Manager to bring in change requests for automated impact analysis in relation to the business service to auto-update Service Manager with change approval status and identification of unauthorized changes.

Operations Orchestration (OO) integration occurs in both business service management (BSM) and IT service management (ITSM) solutions. OO integrates with monitoring solutions (Operations Center, Network Node Manager, Business Availability Center, and Service Manager) to receive alerts and triage and remediate incidents (including opening and closing tickets in Service Manager) to reduce mean time to repair (MTTR) and increase service availability. OO integration also occurs with Service Manager and the rest of the business service automation solutions for closed-loop change management.

HP SOFTWARE CHALLENGES

HP Software faces many challenges as it brings forth a new generation of products to the market to solve the business and technology problems of integrated, service-driven change and configuration management. Some of the critical challenges include:

☑ **Product integrations:** Execution of future product integrations is critical to driving additional automated workflows and the continued buildout for business service configuration management capabilities.

☑ **Product development focus:** HP Software has grown through acquisitions; this competitive market requires strong features across multiple domains (e.g., server, network, storage) to drive a life-cycle approach for change and configuration management.

☑ **Discovery:** The conversion of discovery mechanisms will help drive a more elegant, easier-to-use solution for deep-dive discovery and CMDB data population.

☑ **Sales strategy:** A strict sales focus is a requirement to win in this market; thus far, success has come from the direct model with sales teams deep in customer segmentation knowledge, technical, and business process acumen.

☑ **Marketing:** This involves the creation of strong value propositions and product marketing literature that surround compliance, automation, and encapsulated workflows while addressing key business problems.

OPPORTUNITIES

HP Software can capitalize on many opportunities as it brings forth its product portfolio. A few opportunities include:

☑ **Market growth:** The change and configuration management markets are growing faster than the rate of IT spending; there exists ample opportunity to generate high-margin deals.

☑ **Installed base:** HP Software has a large installed base; cross-selling solutions into its existing customer base should bring "solution selling."

☑ **Services:** HP Software has a strong partnership with HP Services, notably in ITIL, which can provide deep expertise and implementation skills to customers interested in customizing their workflows and processes.

☑ **IT organization expertise:** HP Software has strong brand recognition, which it can utilize via expertise in IT organizational advisory work specific to change and configuration management and CAB creation.

☑ **Depth and breadth of products:** HP Software has shown a propensity to listen to customers and, if required, develop organically new capabilities or purchase companies that fill specific gaps.

CONCLUSION

Business service automation is an opportunity for IT organizations to more closely align with business objectives such as compliance, security, cost reduction, and the delivery of innovative products that reduce time to market. Cross-tier infrastructure automation enables lower operations costs and tighter business alignment while increasing staff productivity. The legacy manner in which many IT organizations execute enterprise infrastructure management processes is quickly becoming obsolete because the processes are too static, take too long to execute, and lengthen time-to-market cycles. IT organizations must mature toward processes and technologies that enable a more dynamic, business-driven impact by automating process workflows through clearly defined orchestration, visualization, and compliance tracking capabilities. To get started, IT organizations should analyze their automation needs in relation to core foundational disciplines and make the proper investment to establish a strong service delivery platform.