WHITE PAPER

BMC Digital Enterprise Management Powers Digital Business Transformation

Sponsored by: BMC

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September 2015

IDC OPINION

IDC's research shows that business-driven initiatives impact over 60% of enterprise IT spending. The vast majority of this investment is associated with what can be broadly described as digital transformation (e.g., harnessing innovative cloud, big data, social, mobile, DevOps, and Internet of Things technologies) to radically automate business processes, create new revenue opportunities, and improve customer engagement.

These new, highly digitized business environments rely on an increasingly diverse, hybrid mix of physical, virtual, and cloud infrastructure and application architectures supported by private on-premise datacenters, dedicated hosting centers, and public cloud services. IT teams are being asked to be more productive while optimizing costs and performance of diverse mission-critical applications and systems across these hybrid environments. Digital enterprise management tools must provide IT organizations and end users with integrated, policy-based automation, monitoring, analytics, and collaboration tools to support today's dynamic digital business architectures.

BMC's Digital Enterprise Management portfolio offers customers a broad set of capabilities that are already helping customers address four major digital enterprise management imperatives. Specifically:

- **Digital Service Management** transforms traditional service management processes and tools to provide business users, IT knowledge workers, and service delivery managers with collaborative, real-time self-service solutions to improve productivity and empower individuals in the new digital workplace.
- **Digital Infrastructure Optimization** provides physical and virtual infrastructure capacity management and automated, policy-based provisioning, migration, and scaling of workloads and systems while maintaining consistent configurations and compliance profiles.
- **Digital Enterprise Automation** automates workload management and business process workflows using modern, self-service tools to enable real-time transformation and integration of big data, analytics, continuous application releases, and complex business events.
- **Digital Service Assurance** provides insight and intelligence about application and service performance through extensive monitoring and data analytics that enable proactive and predictive approaches to maintaining digital service performance and ensuring cost-effective use of resources.

IN THIS WHITE PAPER

This white paper discusses the impact that digital transformation strategies are having on enterprise IT management requirements and investment priorities. This white paper also discusses how BMC's recently announced Digital Enterprise Management set of solutions and operational framework are helping enterprises take advantage of automation, analytics, and social IT to manage their fast-changing IT infrastructure and application environments to power digital transformation.

SITUATION OVERVIEW

Digital technologies are transforming virtually every facet of business, from the way organizations engage with customers to the methods employed to create new revenue streams and online service offerings. Big data is allowing enterprises to gain fresh insights into customer and competitor behaviors. Cloud computing and DevOps are enabling faster, cheaper, and more flexible application development and innovation. The Internet of Things and open APIs allow machine-to-machine communication anywhere, anytime.

IDC refers to these new, innovative digital technologies collectively as the 3rd Platform of computing. The 3rd Platform is much more dynamic and agile than the previous 1st Platform mainframe computing and the 2nd Platform client/server computing. Yet, because many mission-critical applications and databases continue to reside on 1st and 2nd Platform architectures, 3rd Platform innovation needs to seamlessly integrate with 1st and 2nd Platform digital assets in order to serve the needs of traditional industrial IT and today's modern digital economy.

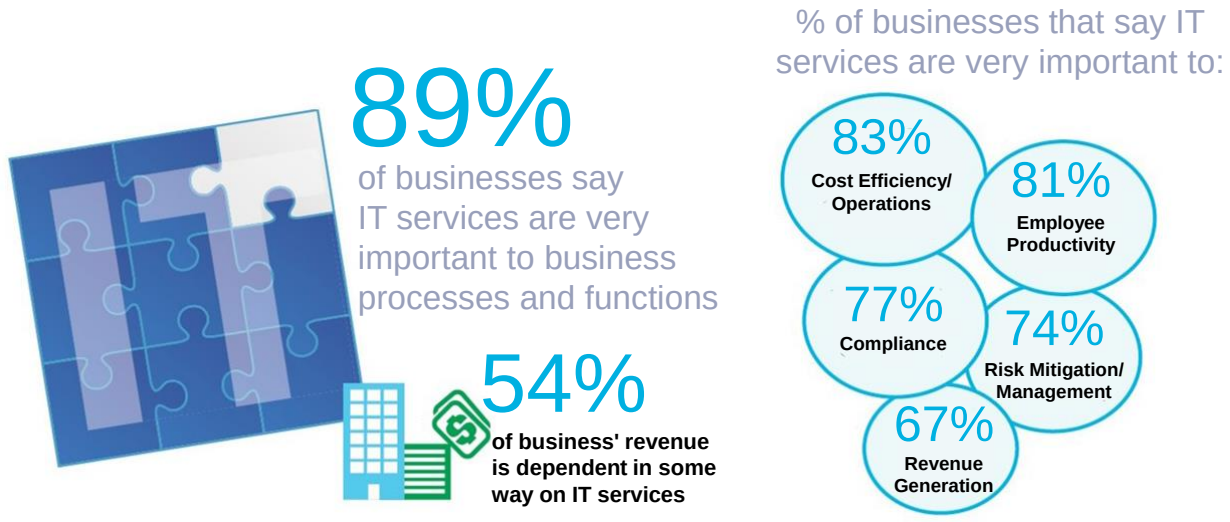
IDC's research indicates that:

- 3rd Platform technologies already represent 30% of IT spend and 100% of IT growth.
- 80% of current licensed enterprise application users also use mobile versions of those applications.
- 75% of 3rd Platform applications will be data intensive, with many taking advantage of big data technologies and analytics.
- By the end of 2015, over 65% of enterprise IT organizations will commit to hybrid cloud strategies that rely on a mix of public, private, and/or noncloud resources to support a range of business needs.
- 80% of the CIO's time will be focused on analytics, cybersecurity, and creating new revenue streams through digital services by the end of 2017.
- The Internet of Things market will encompass more than 30 billion connected "autonomous" things by 2020.
- Business stakeholders impact the funding decision for 61% of IT projects, including funding spent on public cloud services and contractors hired directly by the line of business (LOB).

For most CIOs and senior business executives across the organization, the top priority in the coming years must be to craft a transformational digital enterprise strategy that grows and differentiates the business while continuing to support existing processes and customer needs. As Figure 1 shows, 89% of IT and business decision makers polled by IDC agree that IT is critical to the success of their business in terms of improving revenue, containing costs, and improving overall productivity and agility.

FIGURE 1

Increasing Role of IT in Enabling the Digital Enterprise



n = 1,432 business and IT decision makers

Source: IDC's *IT Friction Survey,* 2014

IDC believes that going forward, the most successful enterprises will be those that can take full advantage of emerging digital technologies while continuing to maintain and gradually evolve existing mission-critical systems.

FUTURE OUTLOOK

In today's emerging digital enterprises, change is the only constant. DevOps and big data are driving torrents of innovation as business analysts identify opportunities to build markets, create new mobile and social services, and increase customer engagement. Many organizations expect to move from one or two major annual releases of mission-critical applications to near-constant incremental delivery of new capabilities. As more and more applications are made available as cloud services, it becomes easier and more cost effective to introduce additional functionality on the fly. Cloud-based infrastructure and development platforms provide the ability to rapidly and cost effectively set up and scale development infrastructure as well as production platforms and datacenters.

Digital Enterprise Management Priorities for a New Generation of Business and IT

In the 3rd Platform era, the lines between business and IT teams blur as they collaborate more and more closely to drive digital enterprise innovation. LOB, IT operations, and development teams have specific responsibilities and day-to-day priorities but need to rely on shared performance data and highly integrated and automated workflows. Changes to applications and increases in human and machine-driven interactions impact databases and traditional computing systems as well as demand for cloud and big data.

IDC has identified the following personas that actively depend on insights developed from IT management, automation, and performance and analytics systems:

- **Business analysts** study application performance management and end-user experience data using big data analytics tools to identify customer engagement preferences, locations, and application navigation pathways. They expect seamless, automated integration across legacy systems of record and agile systems of engagement to deliver the best experience possible to customers and partners.
- **Information protection and compliance officers** examine information management, security, and change control logs to determine compliance with data protection regulations and corporate policies across modern and legacy systems.
- **Development teams** need real-time insight into the user experience and application performance impact of the latest update or new application release, with sufficient context to be able to diagnose, remediate, and update any problems as swiftly and automatically as possible.
- **IT operations teams** rely on monitoring, predictive analytics, and automation to maintain end-to-end performance, to anticipate changes in capacity requirements, and to optimize workload placement, performance, and operational costs across a wide range of legacy and modern systems including hosted and cloud-based services.
- **End users and service support teams** depend on self-service automation, orchestration, and analytics to rapidly request, provision, migrate, and maintain a range of mission-critical resources and services.

Effective management, delivery, and support of today's unpredictable, ever-changing digital business solutions are critical for success and innovation but strain traditional datacenter management strategies and tools to the breaking point. Traditional IT environments relied on monitoring and control systems that optimized individual components and anticipated slow evolution rather than unpredictable and rapid change. In 1st and 2nd Platform datacenters, infrastructure and applications were tightly coupled, and updates were limited to a few specific change control windows over the course of a year. Capacity forecasts were linear, and resources were frequently overprovisioned to ensure consistent performance at peak times.

By comparison, modern, digital environments need to be able to:

- Scale dynamically as needed based on workload and business priorities.
- Optimize capital costs by increasing density and utilization of compute, storage, and network resources.
- Accommodate near-constant application updates and changes to user accounts.
- Take advantage of new, more efficient software-defined infrastructure options.
- Anticipate unpredictable changes in capacity and processing requirements before they impact performance and user experience.
- Support an ever-increasing diversity of endpoint devices, whether they are activated by humans or machine-driven APIs as part of the Internet of Things.
- Maintain control, security, compliance, and performance of applications even as the infrastructure changes and workloads migrate across in-house and public infrastructure and cloud services.
- Empower end users with personalized self-service control and automation wherever possible.

Attributes of Effective Digital Enterprise Management Solutions

To effectively optimize and control modern digital environments, digital enterprise management solutions need to be both secure and open while taking advantage of ongoing innovations in automation, data management, and real-time advanced analytics. Specifically, they require:

- **Policy-based automation and orchestration** to accommodate scale, improve stability, and enable repeatability and compliance with configuration standards and controls
- **Secure, intuitive self-service capabilities** that empower users, streamline IT operations, and improve dev/IT/LOB governance, security, collaboration, and productivity
- **Advanced analytics** that can drive predictive service level-based management, rapid root cause analysis, optimization of resource consumption, and workload placement and provide new insights into end-user experience, business process performance, and revenue impact of new applications and IT investments
- **Integration with traditional systems and management tools** to support consistent end-to-end business process and information management service-level agreements (SLAs)

In addition, effective solutions need to support open standards to ensure integration across heterogeneous environments in ways that protect an organization's existing IT investments and permit consistent end-to-end visibility and control.

Considering BMC Digital Enterprise Management

BMC, a long-time major player in the enterprise systems management software industry, was taken private in 2013 with the goal of creating a company and a management software portfolio that are more agile and better able to serve the needs of modern digital enterprise customers. Over the past 24 months, the company has undertaken a number of executive changes and has been reorganized into "innovation centers" intended to accelerate the rate of product transformation and position BMC to better address the onslaught of disruptive 3rd Platform technologies that are reshaping enterprise IT and business.

As part of this effort, BMC has updated and streamlined the bulk of its product offerings with the goal of enabling much stronger cross-product orchestration and analytics to meet the dynamic, real-time needs of today's digital enterprise transformation agendas. New products and major product updates have been unveiled with increasing velocity over the past several months, and additional product updates and extensions are planned throughout the remainder of 2015 and into early 2016.

Collectively, this updated and extended portfolio represents BMC's Digital Enterprise Management solution. This rearchitected product portfolio addresses four major digital enterprise management imperatives by replacing traditional, static processes and fragmented point solutions with more integrated, orchestrated, and automated management solutions using modern technology for the digital enterprise (see Figure 2). Specifically:

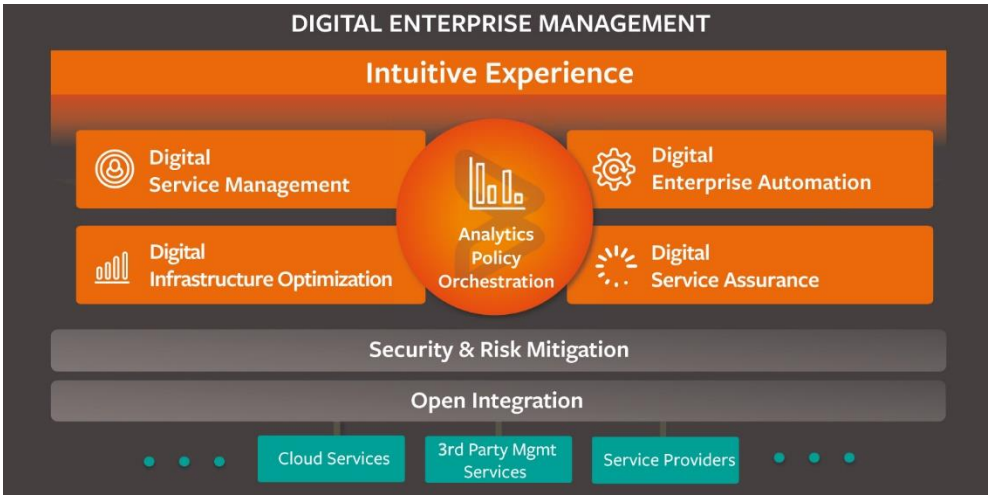
- **Digital Service Management** transforms traditional service management processes and tools to provide business users, IT knowledge workers, and service delivery managers with collaborative, real-time self-service solutions to improve productivity and empower individuals in the new digital workplace.
- **Digital Infrastructure Optimization** provides physical and virtual infrastructure capacity management and automated, policy-based provisioning, migration, and scaling of workloads and systems while maintaining consistent configurations and compliance profiles.

- **Digital Enterprise Automation** automates workload management and business process workflows using modern, self-service tools to enable real-time transformation and integration of big data, analytics, continuous application releases, and complex business events.
- **Digital Service Assurance** provides insight and intelligence about application and service performance through extensive monitoring and data analytics that enable proactive and predictive approaches to maintaining digital service performance and ensuring cost-effective use of resources.

BMC is emphasizing ease of use, shared policy-based governance, and open, federated cross-product integrations as it evolves and extends its Digital Enterprise Management portfolio.

FIGURE 2

BMC Digital Enterprise Management Portfolio



Source: BMC, 2015

BMC Digital Enterprise Management Solutions

IDC expects the majority of enterprise-class organizations will depend on hybrid 1st, 2nd, and 3rd Platform computing strategies and established industrial back-end systems for many years, even as they aggressively transform the way they engage with customers and create innovative, information-driven digital business programs. From a datacenter and enterprise computing management perspective, effective digital enterprise management strategies need to integrate operational workflows, reporting, and tools across 1st, 2nd, and 3rd Platform environments in order to deliver reliable end-to-end services in the most efficient and reliable way possible.

Many BMC customers have already embarked on their journey toward digital enterprise management and are making use of one or more BMC solutions to automate, optimize, and ensure cost-effective, agile operations. The sections that follow discuss some of the most widely used solutions.

IT Service Management

Effective **Digital Service Management,** which includes service and incident management as well as tracking of IT assets, resource request management, and related support processes, is critical to maintaining employee productivity and ensuring that both traditional and newer, digital services maintain desired service levels. BMC offers tools to empower end users and IT staff and to automate many routing service management, inventory, dependency mapping, and asset management activities. These include:

- **Remedy Service Management with Smart IT** provides a fully mobile service management experience with embedded social and collaboration capabilities to help improve IT support staff productivity, collaboration, and agility. It is available in the cloud or in on-premise datacenters and provides ITIL best practice processes for incident, problem, change, knowledge, service request, service-level, asset, and configuration management.
- **MyIT** provides anywhere, any device access to digital services and support. MyIT offers formless service requests and real-time help via virtual and collaboration options, using a modern, consumer-like experience. Business users can browse the digital service catalog, download and install apps, request help, check service health, collaborate on solutions, and find and book conference rooms, hot seats, assets, and service appointments. The MyIT Service Broker enables organizations to build a portfolio of digital services and automate fulfillment across multisourced vendors in the cloud, on-premise, and on mobile devices.
- **Atrium Discovery and Dependency Mapping** automatically discovers datacenter inventory, configuration, and relationship data and maps business applications and service models to the IT infrastructure. It provides a foundation for tracking digital services and the applications and infrastructure to support them.

BMC reports that Digital Service Management customers are able to maintain and improve service levels even as they reduce help desk calls by an average of 33%. IT-related downtime can be reduced by as much as 25% by connecting business users to IT services on demand, anywhere, anytime, and on any device rather than forcing end users to wait to get help until a traditional help desk staff person can respond. BMC also reports that Remedy Service Management with Smart IT can enable as much as a 75% productivity improvement to service desk personnel managing and resolving the most common incidents and service requests.

TrueSight Operations Management and Analytics

BMC's TrueSight solutions enable **Digital Service Assurance** by optimizing computing and application resource utilization and proactively managing performance using real-time behavior learning and predictive analytics. Specifically, BMC provides:

- **TrueSight Operations Management** monitors and analyzes performance data about complex IT environments. It examines operational norms, automatically reveals abnormalities, measures service impact, and proactively identifies risk to ensure applications and services keep running.
- **TrueSight Pulse,** a SaaS-based solution, provides second-by-second monitoring and real-time alerting for Web-scale applications and their underlying cloud and on-premise infrastructure.
- **TrueSight Capacity Optimization** aligns IT resources with service and workload demands to ensure consistent service levels and optimal cost across physical, virtual, and cloud compute resources. Recent updates added full stack visibility for OpenStack cloud services and workloads running on the Amazon Web Services (AWS) public cloud.

IT and end users benefit from the improved application and service performance that results from more proactive and predictive management that allows them to find and remediate problems faster, with context for setting priorities. Application performance is improved, and end users experience less downtime. BMC reports that customers have improved time to resolution from 60% to 90% and increased staff productivity by as much as 60% using TrueSight solutions to improve the monitoring and operation of datacenters, applications, and workloads.

Many TrueSight customers are working with BMC to improve monitoring and performance of workloads running on AWS public cloud infrastructure. By using TrueSight Capacity Optimization to help rightsize AWS infrastructure and manage showback cost of service reporting, organizations are able to improve the uptime of critical business processes while reducing infrastructure spending.

Continuous Service Delivery Automation

BMC offers customers a number of automation solutions to enable continuous service provisioning and delivery across hybrid, physical, virtual, and cloud infrastructure that is needed to power dynamic digital enterprise initiatives. Specifically, BMC supports **Digital Infrastructure Optimization** and **Digital Enterprise Automation** imperatives with the following offerings:

- **BladeLogic** helps systems administrators use policies to automate physical, virtual, and private cloud server provisioning, configuration, patching, and maintenance.
- **Cloud Lifecycle Management** enables self-service, policy-based cloud service provisioning and monitoring using predefined, full stack blueprints to maintain configuration compliance and consistency.
- **Atrium Orchestrator** automates common, repeatable configuration and provisioning tasks using thousands of predefined ITIL-based runbooks and best practices.

Together, BMC's infrastructure automation solutions allow IT organizations to provision digital enterprise resources more quickly and consistently than would be possible using more traditional manual tools.

Control-M Workload Automation

Contributing to **Digital Enterprise Automation,** Control-M is BMC's workload automation solution. It enables application workflow automation and automated application promotion across mainframe and distributed environments so that development and IT operations teams can significantly improve business agility and time to value for applications that blend industrial systems of record with digital enterprise systems of engagement. Included with Control-M are three modules that specifically address application development and operations collaboration:

- **Control-M Workload Change Manager** automates the promotion and deployment of new applications in a production-ready format across dev, test, and production environments.
- **Control-M for Hadoop** provides out-of-the-box native integration to Apache Hadoop and Apache Spark.
- **Control-M Application Integrator and the Application Hub** is a self-service Web design tool enabling customers to easily and quickly integrate any application to Control-M.

BMC reports that the Control-M family is helping customers significantly streamline complex application deployments and upgrades. For example, a major U.S. retailer allows application developers to use Control-M to self-schedule test and dev job requests and is encouraging developers to make their own changes to job workflows in both stage and production cycles as well. Work turnaround times have dropped measurably to under 24 hours in many cases.

Another example is how a major international bank uses Control-M to enable an internal self-service Hadoop analytics cloud offering that provides members with the ability to automate queries across data drawn from a wide range of sources including DB2 and UDB databases, EBCDIC files from the mainframe, and logs from the Web infrastructure and from several other applications. By using Control-M to orchestrate complex data extraction and integration processes, the organization has been able to optimize the use and analysis of the information collected and provide cost-effective, scalable infrastructure that can deliver existing and future services via the cloud.

Mainframe MLC Cost Management Solutions

Many important digital business applications are designed to engage with customers and partners across a diverse range of endpoint devices as well as the Internet of Things. In many cases, those interactions and API calls require integrations with data and processes running on mission-critical, industrial mainframe systems. As digital engagement increases, so do the processing demands on the back end. BMC's mainframe solutions contribute toward cost-effective **Digital Infrastructure Optimization** and can serve to help power BMC's other digital imperatives as well.

For organizations that rely on zEnterprise mainframe computing to provide mission-critical application support and contribute to digital transformation strategies, the cost of usage-based mainframe software licenses (Monthly License Charge [MLC] costs) can represent as much as 30% of total monthly mainframe operations costs. BMC's Mainframe MLC Cost Management Solutions support a number of digital enterprise management imperatives by offering customers a set of tools to rein in these recurring costs and make more economic use of costly mainframe computing resources. Specifically, customers are using the following tools to help reduce MLC costs:

- **System Optimizer for zEnterprise** to provide data access and communication across logical partitions (LPARs), making it possible to efficiently redirect workloads among DB2, IMS, and CICS instances to reduce MLC charges
- **Cost Analyzer for zEnterprise** to provide reporting and predictive modeling to analyze system and cost data, identify system capacity peaks, evaluate potential changes for cost and performance impacts, and recommend more efficient workload allocations
- **Intelligent Capping (iCap) for zEnterprise** to dynamically automate and optimize defined capacity settings to lower MLC

BMC reports that depending on the size of the organization's mainframe environment, customers have experienced 10-30% monthly reductions in MLC charges, allowing them to support rapidly increasing processing volumes driven by big data and digital transformation initiatives while keeping MLC costs stable or lower.

Challenges/Opportunities

Just as its customers plan for digital transformation initiatives that gradually extend online engagement and optimize integrations across different applications, BMC expects to continue to evolve its Digital Enterprise Management portfolio over time. Customers should expect to see ongoing improvement in

cross-product integration, analytics, and automation in order to further streamline IT management operations and improve the end-user experience.

Demonstrating constant digital transformation progress while continuing to support existing 1st and 2nd Platform use cases and customer needs is challenging for any organization. BMC will need to be diligent in designing and communicating its product development road maps and ensuring integration across all elements of the portfolio. The core building blocks represented by Remedy Service Management, TrueSight Operations Management, Control-M Workload Automation, and an array of datacenter automation and analytics solutions provide BMC with the basis to move forward. In a fast-changing digital economy, execution is critical to success.

CONCLUSION

The business value of today's digital transformation strategies depends on the continued reliable and cost-effective operation of established, industrial 1st and 2nd Platform computing platforms in ways that allow for real-time integration with modern systems of engagement. Digital enterprise management solutions that enable automated, role-based management, support, and optimization will be critical to the execution of these important initiatives. For organizations that are committed to growing their business via digital transformation and mission-critical application modernization, effective digital enterprise management solutions must be a top priority.

About IDC

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