

Enabling the Multi-Cloud Enterprise



Rethinking IT management strategies for a multi-cloud environment



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Executive Summary

Enterprises are increasingly turning to the cloud for the agility, scale, and operating flexibility that is needed to meet the rapidly changing needs of customers and today's digital business environment. Businesses look to the use of multi-cloud platforms over a single-provider solution to avoid vendor lock-in, enable the ability to match the right workload with the right platform, increase cost savings, and mitigate risk.

As organizations move to multi-cloud environments, IT must contend with new realities and pressures. These are the six main challenges in a multi-cloud environment:

1. Cost
2. Performance
3. Visibility
4. Security
5. Automation
6. Migration

BMC's multi-cloud management solutions help IT achieve the full benefits of multi-cloud ecosystems with its breadth of industry-leading, vendor-agnostic solutions. Core capabilities include cost optimization, proactive performance monitoring, comprehensive visibility across all environments, end-to-end security, orchestration and automation, and seamless migration of workloads to the cloud or between clouds.



LEVERAGING THE CLOUD

To compete in today's changing business environment, a company's IT infrastructure must be agile enough to adapt to changing demands placed on it by both the business and its employees. Most businesses turn to the cloud to provide flexibility, since cloud computing enables businesses to scale up or down as needed, deliver services more quickly, and requires fewer resources to manage. In many cases, businesses are using more than one cloud service provider to enable these benefits.

70%

of enterprises are using multiple clouds to meet different enterprise requirements (451 Research, November 2016).

More than 85%

of enterprise IT organizations will commit to multi-cloud architectures by 2018 (IDC Futurescape, December 2016).

By 2021

more than half of global enterprises already using the cloud today will adopt an all-in cloud strategy (Gartner, January 2017).

MULTI-CLOUD MANAGEMENT CHALLENGES AND SOLUTIONS

The benefits of cloud computing are well-documented, but keeping track of how cloud services are used and managing that use can be challenging. Many employees use public cloud services, including Amazon Web Services, Dropbox, or Salesforce, and use them without proper authorization from IT.

BMC defines multi-cloud as a strategy that involves using multiple cloud services from multiple public cloud hosting providers, often in combination with on-premises physical, virtual, and private cloud infrastructure. Note that this definition includes on-premises physical, virtual, and private cloud infrastructure. The main reason for this is that from a manageability perspective, IT needs to manage the entire IT infrastructure, not just cloud. This especially applies for security, monitoring, and cost analysis.

BMC's multi-cloud management solutions make all clouds better with products and services that support cloud cost optimization, proactive performance monitoring, comprehensive visibility across all environments, end-to-end security, orchestration and automation, and seamless migration of workloads to the cloud or between clouds.

Cost

Challenge: IT and business owners are often surprised and unprepared for the large monthly or annual expenses of using cloud services. With buyers of public cloud services throughout the organization, it is challenging to control cloud costs and utilization. In fact, optimizing cloud costs is the top initiative indicated in a survey (53%) across all cloud users (Rightscale 2017 State of the Cloud Report, February 2017).

Solution: With a single view of on-premises and public cloud infrastructure expenditures, **TrueSight** allows businesses to track and analyze infrastructure costs and utilization, identify wasted spend, and forecast future costs. Furthermore, the ability to easily simulate migrations to AWS and Azure and compare on-premises and public cloud infrastructure costs allows applications to run on the most cost-efficient infrastructure.

TrueSight also provides visibility into the entire IT infrastructure—physical, virtual, and cloud—so IT and DevOps can easily add, remove, or adjust compute, storage, network, and other IT infrastructure resources to changing application and service demands. Service views, forecasting, modeling, and reservation capabilities provide the insight for future resource needs and the ability to control the timing and cost of new capital and operating expenditures.

Performance

Challenge: IT operations teams need to ensure the speed and performance of applications delivered to end users from complex multi-cloud environments. The scale at which IT needs to monitor data and identify problems cannot be effectively managed by humans alone. They must leverage artificial intelligence and machine learning to get the job done. According to an IDC survey, 84% of multi-cloud users surveyed cite application performance management as a priority (IDC Multi-Cloud Management Survey, July 2016).

Solution: **TrueSight** is a turnkey solution that provides a comprehensive view of how key services are performing, so IT knows immediately if customer experiences may be impacted. TrueSight helps IT teams merge operational silos and streamline efforts across technology domains—shifting focus from managing individual service components to delivering an exceptional customer experience. In addition, TrueSight uses artificial intelligence, machine learning, and real-time monitoring and alerting that watches streaming metrics from web-scale applications and underlying cloud and on-premises infrastructure to deliver unparalleled agility and scalability.

Visibility

Challenge: Without comprehensive visibility into a multi-cloud environment, IT cannot consolidate and prioritize fixes, perform audits, and know what assets support which parts of the business. Difficulty understanding a multi-cloud environment is a big challenge, as 24% of survey respondents cite “lack of visibility into cloud provider operations” as an issue (McAfee Cloud Survey, September 2016).

Solution: **BMC Discovery** creates a dynamic, holistic view of data center and multi-cloud assets, highlights their relationships, and gives IT crucial visibility into how the infrastructure enables the business. Each scan delves into the information and dependencies for all software, hardware, network, storage, and cloud services—providing IT with the context needed to create an application map from any piece of information about it.

Security

Challenge: One of the largest drivers of the inability to appropriately defend organizations from hackers is the lack of integration and coordination between security and operations teams. Security teams scan a multi-cloud environment for vulnerabilities and then deliver that information to the operations team for action. When the operations team receives information from the security team, it frequently lacks the context needed to take or prioritize action.

Organizations leveraging a multi-cloud environment for DevOps require security and compliance testing throughout the application development process to avoid the risks and costs associated with a security or compliance incident, while enabling businesses to deliver their new applications on time and within budget. In fact, 35% of survey respondents cite cloud security as a significant challenge (Rightscale 2017 State of the Cloud Report, February 2017).

Solution: **SecOps Response Service** is a SaaS-based solution that extends the power of endpoint management systems, such as BladeLogic Server Automation and Microsoft SCCM, to provide IT operations and security teams the data they need to prioritize and remediate threats based on potential impact to the business. Its native integration into popular scanning tools, such as Rapid7, Tenable, and Qualys, enables teams to quickly consume scans and automatically tie vulnerabilities to known remediations. Furthermore, SecOps Policy Service embeds compliance and security testing into the service delivery process by providing continuous verification, analytics, and governance.

Automation

Challenge: Managing workloads that span multiple disparate platforms creates the need to address real-time processing and orchestration. Application development organizations, especially in a multi-cloud environment, are slowed by their manual processes for creating and modifying workflows and getting applications into production. The increased complexity introduced by a multi-cloud environment is evident in that automation, integration, and management of business application and data workflows across multiple cloud environments is second only to security in terms of challenges faced in implementing a multi-cloud strategy (BMC Multi-Cloud Survey, September 2017).

Solution: **Control-M** delivers the next wave of IT automation—Digital Business Automation—moving beyond traditional workload automation and adapting to modern IT technologies and processes. Control-M improves workflow services performance and usability, and reduces operating inefficiencies with capabilities, such as out-of-the-box predictive analytics, automated agent and client deployment for faster upgrades and maintenance, and a time-saving global calendar. Moreover, Control-M enhances automated application workflow promotion in the DevOps process through automated job promotion across multi-cloud environments.

As artificial intelligence (AI) and automation become fundamental to service management, IT organizations must evolve to meet new expectations for service delivery across multi-cloud environments. The next stage of the service management journey embraces and integrates cognitive technologies to create the new intelligent enterprise. BMC offers **Remedy which utilizes Cognitive Service Management**—next-generation service management enabled by digital automation, AI, and machine learning—to drive new levels of agility, productivity, and efficiency for multi-cloud environments.

Migration

Challenge: Guidance and best practices are needed on how to assess which workloads and applications should be moved into the cloud and what cost efficiencies can be achieved by doing so. In fact, 57% of IT decision makers cite migrating data and applications to the cloud as a challenge (Frost & Sullivan Cloud User Survey, January 2017).

Solution: When it comes to migration, BMC's goal is to help businesses validate and create a strategy for transitioning current applications to the most cost-effective cloud environments, help them execute the transition, and then manage and monitor those applications and environments in the most efficient way. **BMC Cloud Consulting Services** help organizations achieve the most cost-effective, secure, and agile cloud model via three focused offerings:

- **Multi-Cloud Strategic Advisory Service** – Rapidly assesses the current state of a business, and identifies applications and services that would provide cost and operational efficiencies and increased agility by transitioning to the cloud. It delivers a strategy for getting to a desired state that supports business goals and objectives, and provides recommendations on the target operating models and supporting processes.
- **Multi-Cloud Transition Service** – Validates multi-cloud strategies and assists with the execution of the programs to transition applications to multi-cloud environments. This also may include optimizing and upgrading any BMC applications the business may have to support the transition and provide the capabilities required to monitor and manage the transitioned applications in the multi-cloud environments. Finally, this service implements the recommendations created in the Multi-Cloud Advisory Service for the supporting processes and operational alignments to ensure optimal service management.
- **Multi-Cloud Value Governance Service** – Validates the value associated with the transition to the cloud and creates a set of post-transition checkpoints to provide visibility of value and benefit realization to key customer stakeholders.

CONCLUSION

There may be different reasons for adoption of multiple cloud services, such as the desire to lower costs, increase business agility, accelerate DevOps, or all of these and more, but the use of multi-cloud services brings with it a common set of challenges that businesses face. To address this complexity, many businesses rely on a piecemeal approach, using solutions such as custom scripts to coordinate workloads, making best guesses on capacity utilization, or using a multitude of different point solutions for their needs. While these efforts may provide temporary relief from the challenges that these businesses are facing, they don't deliver the scalability and holistic visibility needed to manage their multi-cloud ecosystems efficiently.

BMC's multi-cloud management solutions enable IT to optimize use of the cloud in the most cost-effective way, ensure performance of cloud-based applications, deliver accurate asset and dependency information to assist in decision making, remediate multi-cloud security issues based on service impact and business exposure, automate workloads across diverse cloud and on-premises environments, and analyze and assist in smooth migrations to the cloud.

FOR MORE INFORMATION

To learn how BMC can help you in your multi-cloud journey, visit bmc.com/multi-cloud.

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BMC digital IT transforms 82 percent of the Fortune 500.



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