

Ovum Decision Matrix: Selecting a Hybrid Cloud and Virtualization Management Solution, 2015–16

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Summary

Catalyst

The role and purpose of IT in an organization is undergoing significant change, driven by the need for businesses to become more agile and have greater control over the cost levers when it comes to technology. This transformation of IT involves many different aspects, not all of which are technology related, but the one thing they have in common is that IT modernization is about changing to meet the current and future demands of business. This report provides a side-by-side comparison of leading virtualization and hybrid cloud management solutions, looking at IT modernization from a data center infrastructure perspective, with the findings delivered as the Ovum Decision Matrix (ODM). It considers the significance of management in the virtualization and hybrid cloud environments and how this influences how technology is deployed, used, and controlled.

Ovum view

One of the major benefits associated with virtualization and cloud is their ability to accommodate a flexible approach to workload management and service availability. However, this flexibility comes at a price: virtualization effectively adds a layer of indirection that increases the complexity of managing the delivery of these services dynamically. The market is still evolving, and is characterized by proprietary technologies that have only a rudimentary ability to support cross-platform interoperability. Ovum believes that managing the delivery of IT services today requires three key capabilities.

The first is the ability to manage highly virtualized environments. An often overlooked aspect of managing virtual environments is the need for any management tool to operate at a more granular level than its physical environment counterpart. This more granular approach is further complicated by the need to holistically manage the server, network, client, user, and storage elements. In Ovum's opinion the virtualization concept has far-reaching implications for all aspects of infrastructure management, even without taking into account the extensions of the technology beyond the simple server consolidation entry ramp most organizations use to justify the move to virtual environments. Areas such as network performance and memory management are often overlooked, but it is our view that the storage implications of virtualization remain the single most significant aspect that organizations fail to understand, or manage, before embarking on their virtualization journey. Complete infrastructure management must cover all aspects, and be able to link activities and events so that IT and business managers can see the operational performance, cost, and service levels the IT infrastructure is delivering at a glance.

The second capability relates to the emergence of software-defined technologies, mobile, containers, and application and desktop virtualization that have created a new challenge for IT departments. The issues of management discussed above are amplified when data center managers become entirely responsible for the delivery of services from desktops to mainframes. These teams have traditionally been separate, and not just because the devices were not co-located, but also because the skills, working practices, and technologies employed are at different levels of management maturity and come under different levels of end-user scrutiny and pressure. The software-defined movement is challenging this segmentation of roles and responsibilities and creating the conditions under which IT transformation can be initiated.

The third element causing massive disruption is the rise of "shadow IT" and the use of public cloud solutions such as Amazon Web Services (AWS) and Microsoft Azure. The challenge for the CIO is to understand the extent to which shadow IT is present so they can begin to understand the real enterprise spend on IT. The management of these public cloud solutions when integrated with on-premise management provides a powerful combination of capabilities that allow CIOs to understand where lines of business are using technology, and for what purpose.

Ovum suggests that one of the principal roles of virtualization and cloud management is to mitigate the risks involved in deploying these new technologies. This responsibility now extends beyond the confines of the data center. Although management alone cannot solve the problems new technologies introduce, by treating the entire IT infrastructure as a single entity and addressing its concerns, organizations can reduce the incompatibility issues new technologies are susceptible to.

Key findings

- BMC ranks second overall. It is the second vendor to score more than 9 out of 10 for the technology dimension, and is one of the leaders on the execution dimension.
- BMC, CA Technologies, Dell, HP, IBM, Microsoft, and VMware are classified as market leaders.
- The gap between the market followers and challengers has closed considerably since the 2013–14 ODM. The followers recorded scores of less than 3 out of 10 in two categories on the technology dimension, compared to one category for the challengers.

Vendor solution selection

Methodology

Technology assessment

In this assessment dimension Ovum developed a series of features and functionality that would reveal differentiation between the leading solutions in the marketplace. The criteria for virtualization and hybrid cloud management are as follows:

- **Performance monitoring:** This looks at a solution's ability to monitor resource usage and its impact on performance. In the 2015–16 report, monitoring is extended to mobile and containers technologies.
- **Virtualization management:** The ability to manage all aspects of the infrastructure delivery chain from server, network, storage, endpoint, to I/O.
- **Cloud management:** How well the solutions integrate with other cloud solutions, and not only allow visibility into resource usage, but control and management of those environments.
- **Infrastructure modeling and analysis:** One of the biggest challenges for any CIO is being able to predict future resource needs by type and delivery method. This section looks at how well the solutions allow for modeling and support "what-if" analysis.
- **Financial management:** An increasingly important, if underrepresented, capability is that of managing the cost and financial aspects of delivering services to line-of-business customers.

In this section the capabilities of how the solutions surface costs and associate them to services are evaluated.

- **Delivery scale and manageability:** The ability to manage at scale across different geographies and technologies.
- **Security and backup:** The ability to secure and protect data should be implicit in any solution. Although these solutions are primarily seen as backup and recovery solutions, they must be able to perform basic data protection and support security integrations.
- **Provisioning and automation:** The need to automate as many operational activities as possible aligns with the CIO's need to reduce costs. This section looks at how the solutions enable different levels of automation.
- **Lifecycle management:** The rise of DevOps has changed how the IT operations function thinks about the management of applications. This section focuses on how well the solutions support the concept of lifecycle management and align with any DevOps approach.
- **Reporting and integration:** The final capability is the need to produce more than the standard weekly resource usage report. This section evaluates the solutions' ease of integration with other data sources and how user-friendly their reporting capabilities are.

Execution

In this dimension, Ovum reviewed the capability of the solution around the following key areas:

- **Maturity:** The stage that the product/service is currently at in the maturity lifecycle is assessed here, relating to the maturity of the overall technology/service area.
- **Interoperability:** This element assesses how easily the solution/service can be integrated into the organization's operations, relative to the demand for integration for the project.
- **Innovation:** Innovation can be a key differentiator in the value that an enterprise achieves from a software or services implementation.
- **Deployment:** Referring to a combination of assessed criteria and points of information, Ovum provides detail on various deployment issues, including time, industries, services, and support.
- **Scalability:** Points of information are provided to show the scalability of the solution across different scenarios.
- **Enterprise fit:** The alignment of the solution is assessed in this dimension, and the potential ROI period identified.

Market impact

The global market impact of a solution is assessed in this dimension. Market impact is measured across five categories, each of which has a maximum score of 10.

- **Revenue:** Each solution's global virtualization and hybrid cloud management revenues are calculated as a percentage of the market leader's. This percentage is then multiplied by a market maturity value and rounded to the nearest integer. Overall global revenue carries the highest weighting in the market impact dimension.

- **Revenue growth:** Each solution's revenue growth estimate for the next 12 months is calculated as a percentage of the growth rate of the fastest-growing solution in the market. The percentage is then multiplied by 10 and rounded to the nearest integer.
- **Geographical penetration:** Ovum determines each solution's revenues in three regions: the Americas; Europe, the Middle East and Africa (EMEA), and Asia-Pacific. These revenues are calculated as a percentage of the market-leading solution's revenues in each region, multiplied by 10, and then rounded to the nearest integer. The solution's overall geographical reach score is the average of these three values.
- **Vertical penetration:** Ovum determines each solution's revenues in the following verticals: energy and utilities; financial services; healthcare; life sciences; manufacturing; media and entertainment; professional services; public sector; retail; wholesale and distribution; telecommunications; and travel, transportation, logistics, and hospitality. These revenues are calculated as a percentage of the market leader's revenues in each vertical, multiplied by 10, then rounded to the nearest integer. The solution's overall vertical penetration score is the average of these three values.
- **Size-band coverage:** Ovum determines each solution's revenues in three company size bands: large enterprises (5,000 employees and above), medium-sized enterprises (1,000–4,999 employees), and small enterprises (fewer than 1,000 employees). These revenues are calculated as a percentage of the revenues of the market leader in each region, multiplied by 10, and then rounded to the nearest integer. The vendor's overall company size-band score is the average of these three values.

Ovum ratings

- **Market leader:** This category represents the leading solutions Ovum believes are worthy of a place on most technology selection shortlists. The vendor has established a commanding market position with a product that is widely accepted as best-of-breed.
- **Market challenger:** The vendors in this category have a good market positioning and are selling and marketing the product well. The products offer competitive functionality and a good price-performance proposition, and should be considered as part of the technology selection.
- **Market follower:** Solutions in this category are typically aimed at meeting the requirements of a particular kind of customer. As a tier-one offering, they should be explored as part of the technology selection.

Market and solution analysis

Ovum Decision Matrix: hybrid cloud and virtualization management, 2015–16

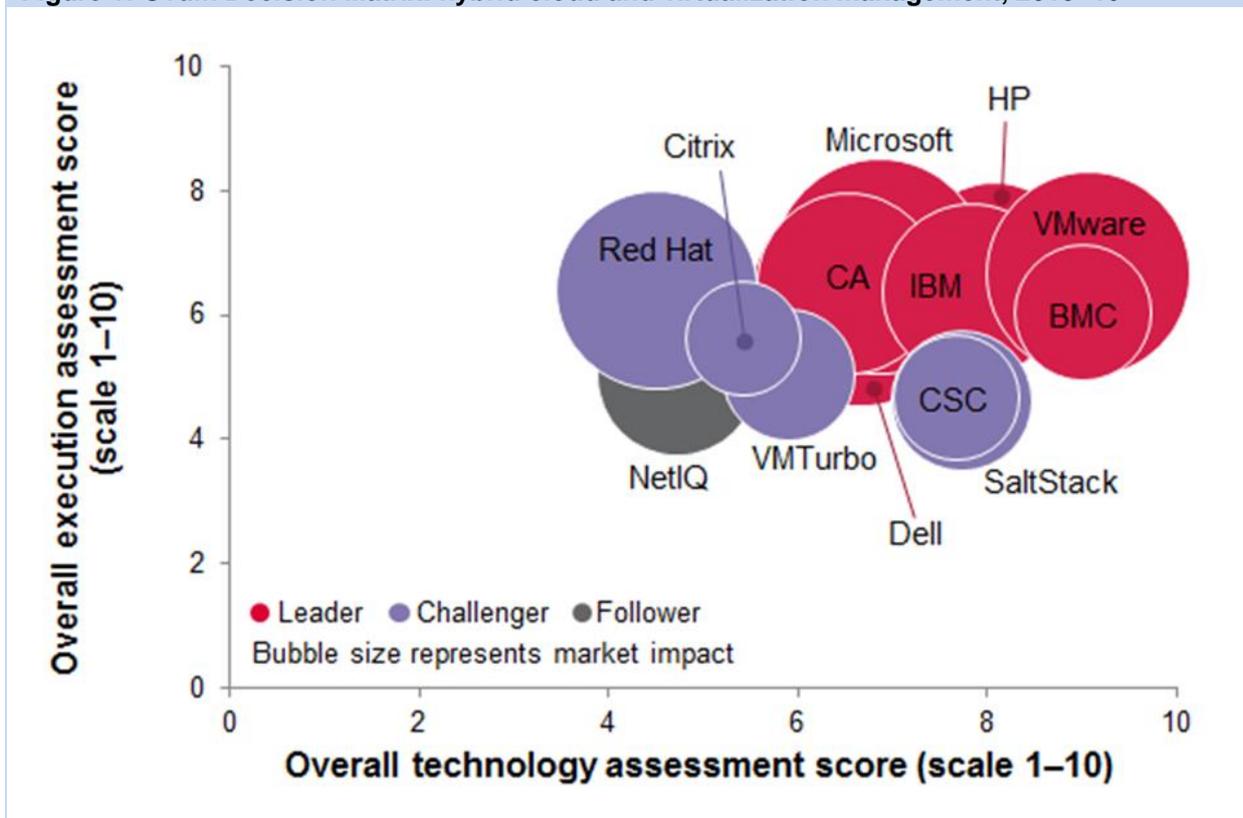
The hybrid cloud and virtualization management market is evolving rapidly and the vendors in this space mostly have a traditional infrastructure or systems management heritage. However, in this second ODM on the topic Ovum sees these traditional vendors being challenged by newer entrants with approaches that were developed in the cloud era. These challengers are driving some innovative

solutions designed to deal with the challenges of operating in a heterogeneous and bimodal IT service delivery environment.

The traditional vendors dominate the ODM from a leadership perspective, mainly due to the breadth of coverage their solutions have, and the fact that they provide a bridge between the traditional and new eras in computing. However, the new entrants are highly disruptive; all of them have recorded at least one category-leading score on the technology dimension. This demonstrates a shift taking place in the market, and the traditional vendors not in the market leader category are reinventing their solutions for the cloud era.

Ovum believes the software-defined movement will be the next technology to create vendor disruption in this market. This will bring increased speed of change and levels of automation that must be integrated with best practice processes and procedures. Ovum believes those vendors that have embraced heterogeneity must now embrace automated control and machine-to-machine (M2M) learning.

Figure 1: Ovum Decision Matrix: hybrid cloud and virtualization management, 2015–16



Source: Ovum

Table 1: Ovum Decision Matrix: hybrid cloud and virtualization management, 2015–16

Market leaders	Market challengers	Market followers
BMC	Citrix	NetIQ
CA Technologies	CSC	
Dell	Red Hat	
IBM	SaltStack	
HP	VMTurbo	
Microsoft		
VMware		

Source: Ovum

Market leaders: BMC, CA Technologies, Dell, IBM, HP, Microsoft, and VMware

The market leaders all scored an average of at least 6.70 out of 10 across all three dimensions. However, VMware is the clear leader overall with an average score of 8.09 out of 10. BMC, HP, and IBM rank second, third, and fourth, respectively, with average scores of 7.56, 7.40, and 7.14 out of 10. CA Technologies, Dell, and Microsoft are some way behind the top three market leaders, with average scores of less than 7 out of 10.

The market leaders are distinguished by the breadth and depth of their solutions, and by the maturity of their offerings in the market. One defining feature of the market leaders is their consistency across the different categories; their overall weighted normalized scores are above average, compared to the below average scores of the challengers and followers.

This consistency demonstrates that their solutions are designed to address the future challenges of managing in cloud environments, and not just current needs. Another distinguishing factor among the market leaders is that they have developed a pedigree in the management space and are recognized as being technology-agnostic. Only one, BMC, can be categorized as being a truly independent vendor, but all of these vendors now provide cross-platform capabilities.

Market challengers: Citrix, CSC, Red Hat, SaltStack, and VMTurbo

The market challengers include a wide range of vendors, from established management vendors like Red Hat and Citrix that are in the process of redeveloping/expanding their solutions for the new hybrid cloud world, to newer vendors such as CSC, SaltStack, and VMTurbo, whose solutions are disrupting the market. The single distinguishing characteristic of these market challengers is that they all have low scores (less than 4 out of 10) in one technology category.

The overall grouping of these vendors is very close; the overall average scores of all six were within one point of each other, in a range from 5.33 to 6.36 out of 10. There is a wide variety of scores within each dimension, however. For example, on a technical level CSC and SaltStack score higher than at least one of the market leaders, whereas Red Hat ranks below the followers. On the execution dimension these performances are transposed, with Red Hat scoring in line with the market leaders,

and CSC and SaltStack being more in line with the followers. The other vendors' scores are consistently just below the average for that dimension.

Ovum believes that for any of these vendors to move up to the market leader category, they would need to improve consistency by improving in the areas identified as specific weaknesses. All of these vendors have the potential to become market leaders.

Market followers: NetIQ

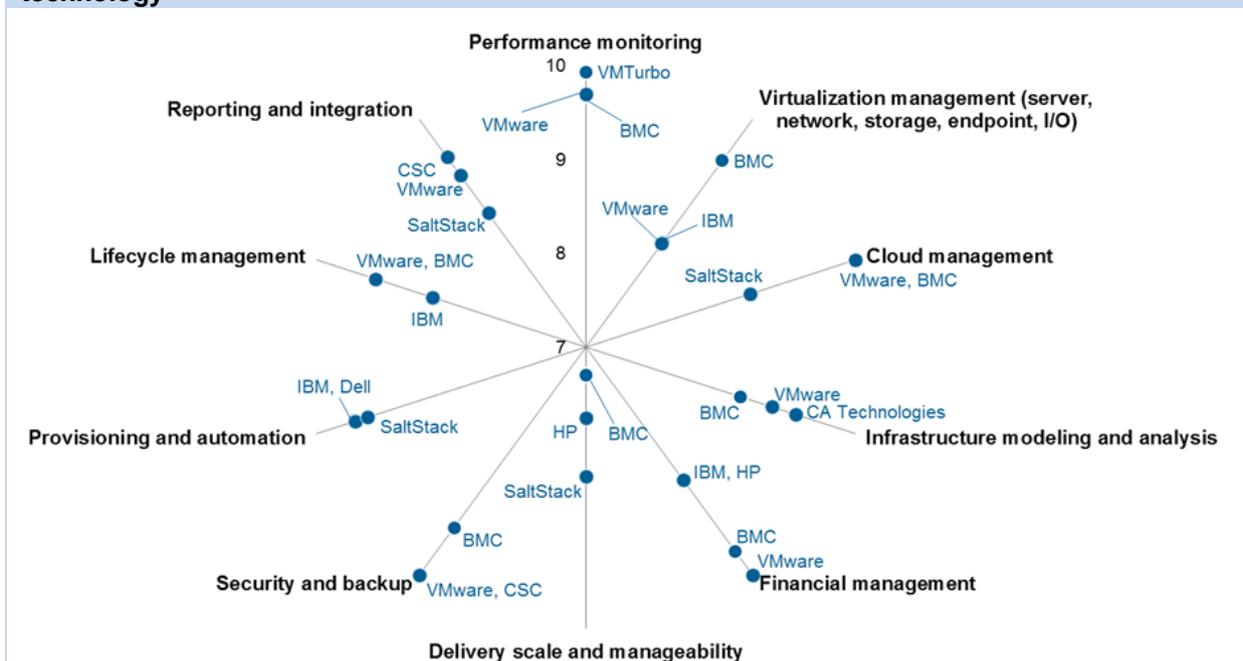
The sole vendor in the market followers category, NetIQ, has an average normalized score of nearly 5 out of 10 across all three dimensions of the ODM. The main differentiator between those in the followers and challengers categories is that this follower is weak in 2 of the 10 sections of the technology dimension, scoring less than 3 out of 10; this compares with the challengers, which score low in only one section. However, the gap between this market follower and the market challengers has narrowed significantly since the 2013–14 ODM. Ovum considers the vendor to have good solutions that provide breadth of coverage but lack some deeper domain-specific capabilities.

NetIQ has scored poorly in the virtualization management and financial management categories on the technical dimension. Its score is consistent across all three dimensions, and it has improved in terms of consistency since the 2013–14 ODM. Ovum believes this vendor has the potential to progress to the market challenger category.

Market leaders

Market leaders: Technology

Figure 2: Ovum Decision Matrix: hybrid cloud and virtualization management, 2015–16 – technology



Source: Ovum

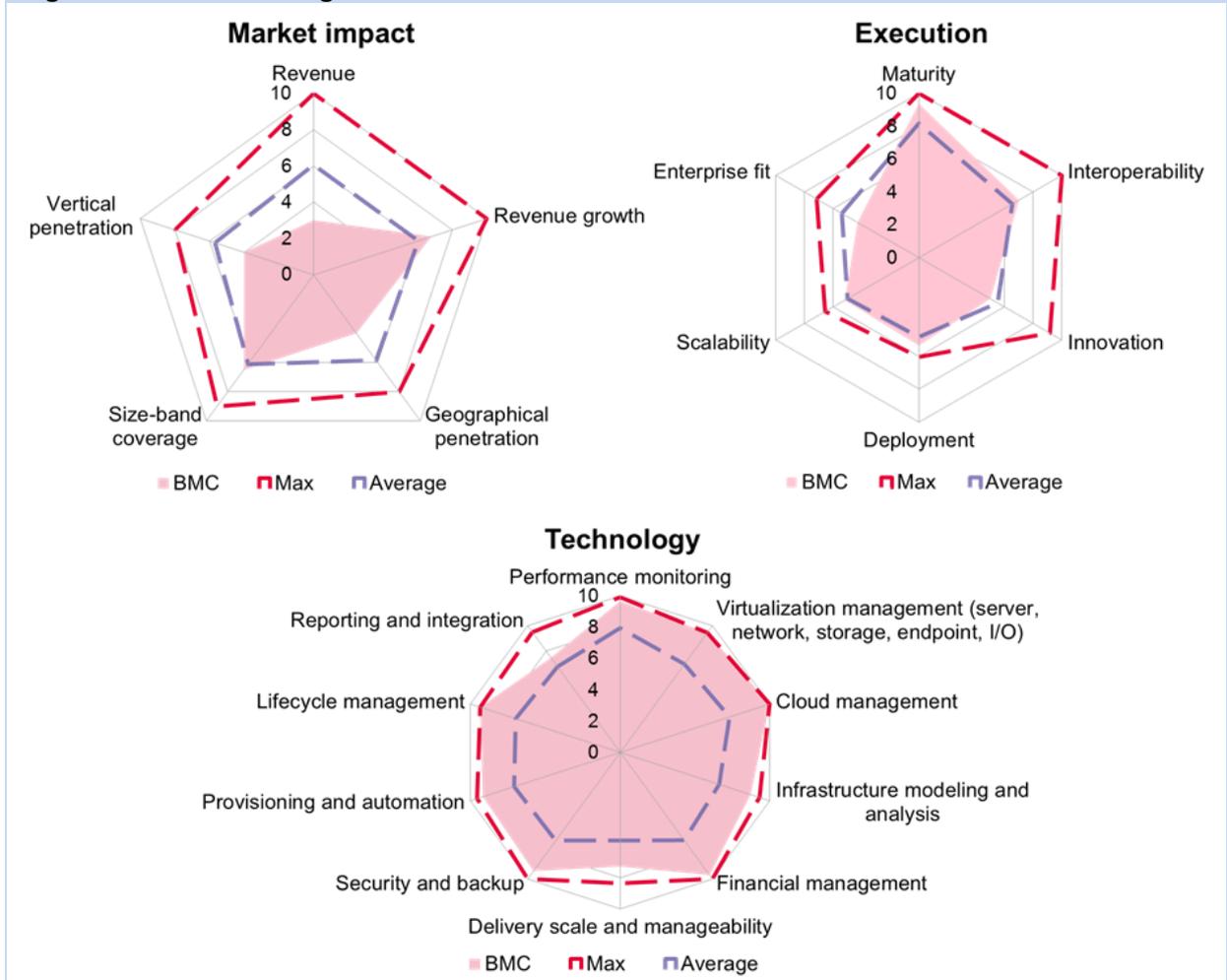
BMC and VMware are the clear technology market leaders; they are the only two vendors to score more than 9 out of 10 on average for all categories within the technology dimension, with scores of 9.02 and 9.08, respectively. These vendors also have the leading scores for five categories, with four maximum 10 out of 10 scores. VMware accounts for three of these maximum scores, and BMC for one, with CSC being the only other vendor to record a maximum score – although VMTurbo comes close with a score of 9.92 for performance monitoring. The difference between BMC and VMware and the other vendors is demonstrated by the fact the third-placed vendor (HP) scores just over 8 out of 10 on average, with a score of 8.08. The next three vendors after HP score more than 7 out of 10, with a gap of less than one point between the sixth and seventh (7.67 and 6.87, respectively). This spread shows that in terms of technology, VMware, BMC, and HP have a clear lead across all categories.

The most interesting finding from the technology dimension is that all three new entrants to this ODM (CSC, SaltStack, and VMTurbo) have at least one category-leading score. VMTurbo comes top in terms of performance monitoring; SaltStack is the leader in delivery scale and manageability; and CSC is the leader in reporting and integration, sharing the category leader position in security and backup with VMware. The only other vendors with a category-leading score are CA Technologies for infrastructure modeling and analysis, and IBM and Dell for provisioning and automation.

Vendor analysis

BMC (Ovum recommendation: Leader)

Figure 3: BMC radar diagrams



Source: Ovum

Products

Cloud Lifecycle Management (CLM) v4.5

Ovum ODM analysis

BMC is categorized as a market leader in the ODM; it ranks second overall and has recorded four category-leading scores. BMC is one of only two vendors to score over 9 out of 10 in the technology dimension, and is one of several to score an average of nearly 7 out of 10 in the execution dimension. BMC's main weakness is on the market impact dimension, on which its score is below average across all but two categories. However, its larger rivals have traditionally performed particularly well on this dimension. Ovum believes BMC's position will improve as it continues to grow and build its reputation as a technical innovator in the hybrid cloud and virtualization management space.

Ovum SWOT assessment

Strengths

Uses Service Blueprints to accelerate deployment

CLM's Service Blueprints can accelerate deployment and reduce the administrative overhead associated with deploying new services in cloud environments by capturing all configuration and best practice information. They lower the bar for offering new services or variants to users and increase the benefit of IT.

Provides wide support for operating systems and cloud platforms

Ovum feels the key to cloud management is the ability to support the breadth of different platforms and operating systems available. This will eventually be reduced to a smaller number of more popular cloud platforms, although this natural selection will take between five and 10 years, so any current cloud management solution must support as many of these as is feasible.

Delivers automated governance and compliance processes

The need to manage IT risk across traditional environments and new cloud platforms is at the forefront of CIOs' minds, so the ability to extend IT processes to cloud management is essential. CLM has built-in integration for change approvals, CMDB updates, and regulatory and operational compliance policies. Importantly, this IT process integration is automated within the service provisioning process so that the required levels of compliance and governance can be applied across all platforms, without affecting IT agility.

Weaknesses

CloudStack and Google support is missing

BMC offers one of the largest selections of different cloud platforms of any cloud management solution on the market, with two notable exceptions: CloudStack, a viable open standards-based approach alternative to OpenStack, and Google Cloud. The latter is currently a minor omission, although it could become a major one in the future given Google's strategic intent.

Opportunities

Filling the cloud orchestration market gap

Ovum believes that given the broad range of platforms supported by BMC CLM, it could become a leading solution in the nascent cloud orchestration market. However, to achieve this it needs some workload migration capability, or to at least integrate with one of the emerging technologies on the market. Ovum recognizes that BMC is addressing this with CLM's Cloud Foundry integration.

Developing a version of the solution for telco service providers

CLM is currently used by both enterprises and service providers. It holds specific appeal to the latter, however; it can operate a service provider's cloud infrastructure as it does for the enterprise customer, and can also underpin providers' own public cloud offerings, giving customers visibility into the cloud and allowing management of workloads, with infrastructure management retained by the service provider. Ovum would like to see this extended to the telcos entering the enterprise IT market that are less mature than existing service providers.

Threats

Docker implementations change the market

The cloud and virtualization markets have been evolving for the past 10 years, and the technologies that have emerged are broadly complementary. However, Docker could potentially be a disruptive influence on this ecosystem; if it gains significant momentum it could transform the cloud orchestration market. BMC's stated direction with respect to container support will become even more critical should this occur.

Competition from SaaS vendors offering similar heterogeneous management solutions

Ovum research in 2013 discovered that most IT departments operate at least seven different cloud management solutions, with CIOs looking to reduce this number to as few as practically possible. The threat for BMC is that if new software-as-a-service (SaaS) vendors enter this space, competition could increase. These new vendors cannot currently boast heterogeneity and compliance capabilities across complex environments at the same scale as CLM, however.

Appendix

Methodology

- Vendors complete an in-depth questionnaire and comprehensive capability matrix that is analyzed and evaluated.
- There is a series of comprehensive, structured meetings, including a demonstration where appropriate.
- Supplemental information is obtained from vendor literature and websites, and from the results of Ovum surveys, some of which were specifically designed for this report.
- The article is peer reviewed and is authored by at least two analysts.

Further reading

Licensing Management for Cloud-based and Virtualized Enterprise Infrastructure, IT0018-001460 (January 2015)

2015 Fundamentals of Hybrid Cloud and Virtualization Management, IT0022-000338 (May 2015)

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Ovum Consulting

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