IBM Cloud Services

Balancing compute options: How IBM SmartCloud can be a catalyst for IT transformation

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IT professionals are meeting complex business requirements using public cloud computing as one piece of the puzzle

ADOPTION OF CLOUD SERVICES OFFERS CUSTOMERS OPTIONS TO REDEFINE HOW THEY PROVISION COMPUTING INFRASTRUCTURE

The availability of cloud services – defined as Internet-based subscription services for applications, platforms or infrastructure – is rapidly reshaping the way businesses provision their IT. Simple, consumer-style offerings make it easy for end users to self-provision compute capacity – with or without the blessing of IT. The option to add public cloud compute capacity makes the sourcing decision of CIOs and IT Managers more complex as they balance a mix of on-premise, cloud and other deployment options to meet all of their business, financial and IT requirements.

How IT is sourced is now a search for the right mix of options: for a compute architecture that matches IT requirements; for the contract options that balance capital versus operating expenses; and for a vendor with the right offerings, expertise and experience for the long haul. Purchasing compute capacity has broader implications as one component of a holistic IT operation. Abstraction technologies, such as virtualization, automation and standardization, enable a continuum of IT delivery options, including traditional on-site capacity, hosting, private clouds and public clouds. CIOs and IT Managers must address the question of how to transform their business, using IT as a lever, including building bridges to cloud and operationalizing cloud in their IT infrastructure.

Additionally, public cloud compute buyers have to consider how to integrate and leverage their existing IT investments. Making full use of an integrated public compute cloud depends on how well customers can leverage the software assets they already own. Customers should ask if they can move select software and workloads to the compute offering instead of having to buy or rent new licenses. Customers are seeking the architectural benefits, as well as the contract benefits of public cloud offerings, but only for requirements that make business sense. This white paper examines the challenges CIOs and IT Managers face as they attempt to select a cloud computing vendor that can help them address their immediate requirements, as well as address their long-term needs for a holistic computing strategy.
PUBLIC CLOUD COMPUTING IS ONE PART OF A CONTINUUM OF IT DELIVERY AND PAYMENT OPTIONS

Public cloud computing with its virtualized delivery model is one of many options CIOs and IT Managers can choose from to address their computing requirements. Additionally, the utility “pay-as-you-go” payments are another innovation. These offerings can be categorized using two dimensions:

- Delivery model – to what extent is the vendor providing or committing physical resources to a client?
- Payment model – how is the client being asked to pay for those resources?

The ideal solution is a unique blend of delivery and payment models for each customer situation. IT decision makers can continue to invest in traditional physical compute capacity, but they can now also invest in hosted, private cloud and public cloud options. While buyers who opt to continue utilizing traditional models gain the benefit of easier integration with current architectures, they do not gain the scaling, utility and flexibility of cloud-based delivery models. They can also elect to choose virtualized environments, which offer more flexible options to allocate compute capacity across multiple workloads. In the end, customers face the challenge of integrating new architectures with traditional models.

*Figure 1: The Expanded Range of Compute Options*
Since both vendors and customers need to decide how to cover the options represented in Figure 1, there is increasing confusion in the marketplace over how comparable functionality should be delivered and paid for. TBR believes vendors that cover all of the delivery options, as well as the payment plans, have a distinct advantage as customers begin to build out hybrid end-to-end IT infrastructures that may include on- and off-premises assets and services.

**BUYERS PURCHASE PUBLIC CLOUD COMPUTE OFFERINGS IN THREE DISTINCT SCENARIOS**

Cloud compute customers are not all the same; they purchase compute capacity to address differing requirements or scenarios. TBR recently completed a global study of cloud purchasing behavior that included 960 quantitative surveys and 240 in-depth interviews. Figure 2 reports the three key purchasing conditions for public cloud computing: 1) their existing compute infrastructure is aging and actually inhibits business operations; 2) IT is under-provisioned and cloud compute capacity makes up the difference; and 3) IT is launching a new service and cloud compute capacity allows them to launch and scale the new service in line with demand.

**Figure 2: Cloud Compute Customer Purchasing Scenarios**

- **Aging systems inhibit business**
  - Lack of automation
  - Distributed processing/ storage inhibits information access
- **IT capacity / perform gaps**
  - High ops & IT mgmt costs
  - IT responsiveness & business performance suffers
- **New IT service launch**
  - Infrastructure investment cost requirements
  - Time & expense of implementation

Three key purchasing scenarios emerge for cloud computing.

However, customers should know not all cloud computing offerings can address highly complex or hybrid environments.

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Source: TBR 2010 Cloud Services Adoption Survey (n=100) and IDH (n=120) & Vendor
Customer View on Purchase Scenarios

Aging systems inhibit business

“We wanted a solution which would help us to scale up during peak times and then scale down when not needed. While we wanted to improve the online experience for our customers, we also had to be aware of the cost restraints.”
– Senior IT Manager, Large Enterprise, Germany

“We were eager to offer our global customers a solution that takes advantage of cloud computing, an emerging technology based on offering computer resources, applications and storage from the Internet or cloud.”
– IT Director, Medium Business, U.S.

IT capacity or performance gaps

“Being the leader of the IT transformation for our clients worldwide, we wanted to offer a cloud-based solution that would be simple to deploy, easy to scale and require zero maintenance from our customers.”
– IT Manager, Medium Business, U.S.

“We had operated on a set of systems that used 20-year-old technology. Apart from that, our legacy environment was built to support a business much smaller than we were. We wanted to implement a structural change. Other than that, we were looking forward to streamlining the IT infrastructure.”
– Senior IT Manager, Large Enterprise, China

“In order to accomplish the goals, we needed a technology platform that could scale globally, while being robust enough to operate smoothly.”
– Senior IT Manager, Medium Business, India

New IT service launch

“We have always stayed ahead of our competitors by incorporating new technology and utilizing it to the best of its ability. And we were looking for a more cost-effective way to deliver our services and help our customers to reach the market faster with their websites.”
– Chief Information Officer, Medium Business, U.K.

“As a company we did not have the resources to launch such a campaign on such a short notice and our infrastructure was not efficient enough to handle high volume of traffic that we planned to achieve; plus, we would not be able to scale it as per the need.”
– Development Manager, Large Enterprise, Brazil
ROBUSTNESS: NOT ALL CLOUD COMPUTE OFFERINGS ARE THE SAME – ENTERPRISE BUYERS NEED EFFECTIVE SOLUTIONS FOR COMPLEX REQUIREMENTS

Cloud compute offerings are often portrayed as simple commodity offerings with little differentiation. However, when security and security practices, integration options, management and control and enterprise-grade service levels and support are taken into account, the offers are differentiated. In the end, cloud compute offerings differ on two key axes: the robustness of the overall functionality of the offering and the richness of the technology underlying the offering.

Integrating cloud as part of a transformation is more complex. Customers need to understand how to build bridges from their existing assets and include public cloud.

TBR research reveals vendor cloud offerings fall into three basic use cases:

1. **A low cost, commodity solution** that suits customers who need raw capacity
2. **A business function** that customers do not wish to do themselves; a less complicated form of outsourcing
3. Companies that are looking for a robust **enterprise-class solution** that would be very difficult for them to build themselves

The IBM SmartCloud offerings are designed for the third use-case, targeting the requirement for a more rich set of solutions and technology. The offerings are designed to be a part of a broader and more holistic sourcing strategy for computing.

In Figure 3, we are mapping the ability of key cloud compute vendors in the market to 1) offer a complete end-to-end hybrid compute delivery capability; and 2) offer software license portability of existing on-premises licenses onto and off the cloud compute platform.

The disruptive cloud players, such as Google and Amazon, do not offer on-premises computing, and both vendors rely on web services APIs to enable integration with on-premises capacity. Neither vendor sells software for on-premises deployment, limiting their applicability in enterprise.

AT&T and Rackspace offer traditional hosting, as well as cloud compute capacity, extending their reach; however, neither vendor sells software for on-premise deployment. Customers must purchase a new license to simultaneously run software on-premise and on cloud compute capacity, and those vendors control their license schemas.

HP offers nearly the full range of compute options, yet lacks a market-tested fully public compute option. HP can scale up its licenses to include
deployments on cloud computing; however, the firm relies on partner vendors for operating systems, programming tools and databases. HP’s scalability is based on availability and is not guaranteed – a potential issue for customers with capacity spikes.

**Figure 3: Vendor Public Cloud Compute Plays**

Out of the vendors considered, IBM’s public cloud offerings, experience and range of services best support the needs of a CIO seeking help in building out a hybrid compute strategy.

Microsoft does offer a fully public cloud compute option, but it does not offer the full range of on-premises computing, relying on hardware partners. Microsoft offers a single-stack solution, limited to Windows, and is not an ideal option for heterogeneous IT environments. For example, customers can not lift and shift a Microsoft license, such as Dynamics CRM, to run on both Azure cloud and on-premises; they are required to purchase separate licenses.

IBM is the only vendor examined in this white paper that offers the full range of compute options, as well as software license portability. The investment protection offered by IBM enables true compute portability between on-premises and cloud computing. Customers can choose where and when they wish to deploy their software, without additional software investments. TBR believes this is a key capability that helps reduce the complexity of IT operations for large enterprises.
CONCLUSION

IBM PUBLIC CLOUD COMPUTING OFFERINGS ARE A MATCH FOR COMPLEX CUSTOMER REQUIREMENTS

As this white paper illustrates, IBM SmartCloud offerings:

1. Are a part of a holistic IT sourcing strategy for enterprises that will include on- and off-premises assets and services.
2. Address the complex solution and technical needs of customers with varying and complex business requirements.
3. Are part of a continuum of offerings from hardware to software and services.
4. Are uniquely positioned to provide cloud license portability.

IBM’s public cloud compute offerings target the needs of customers who have high-performance, highly secure and complex hybrid environments. The public cloud offerings are easier to adopt and can be part of a hybrid environment. Customers can more quickly and easily purchase IBM SmartCloud offerings, or they can add in IBM transformation and technical services as needed. All of the public cloud compute vendors included in this study cover one or more aspects, but only IBM was able to provide the full-breadth of offerings and the services to support customers through all purchasing scenarios and across a mature compute landscape.

Cloud computing is an exciting innovation that is reshaping the way computing is sourced and consumed. But it remains one of many options. When the complexities of the enterprise IT landscape are pulled back into clear focus, IBM offers the technology and expertise to cover the entire span of delivery and contracting options for customers, providing choice and continuity for buyers, as well as innovation and flexibility.