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Extracting Value from Cloud Computing

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Cloud computing is made up of a number of new and existing technologies, combined in a way that is capable of delivering broad benefits to the enterprise. Because of its 'newness', the capabilities of cloud computing must be fully understood – especially critical aspects such as security and interoperability – before business value can be gained from their implementation. CIOs within APEJ have begun to recognize that public cloud services have a set of capabilities which make them suitable for certain applications, but not others. A mixed adoption of both public and private cloud technologies is evolving as businesses try to derive as much benefits as possible from cloud computing.

The following questions were posed by Red Hat to Chris Morris, Research Director, Cloud Technologies and Services, IDC Asia/Pacific, on behalf of Red Hat's customers.

Q. How can enterprises extract real business value from cloud computing?

A. When considering cloud solutions, the essential first step to gain value is to have a thorough understanding of the characteristics of the cloud delivery models – the most important distinction being between the public and private deployment models. As some cloud solutions may involve the passing of what are IT responsibilities to an external party, the risk implications must be assessed. Public cloud services often offer value to the enterprise because of their low cost and ease of implementation and can be selectively used for specific applications.

However, IDC has observed increasing numbers of CIOs deciding that, until public cloud services mature further, they can best capitalize on cloud technologies by way of implementing a private, or internal, cloud. A private cloud is maintained within the enterprise firewall and is accessible only by that enterprise's users. Based on the key cloud technologies of virtualization and automation, it is best delivered by way of a structured approach.

To be successful, this approach must follow multiple sequential stages, starting with consolidation and rationalization of the IT infrastructure assets (servers, storage and applications), before virtualizing servers and storage to increase the utilization of these assets. The next essential step is to standardize and then automate the key IT services so that all users have a common service catalog available to them. Once this is available, a self-service facility can be provided to end-users. This approach in delivering a private cloud provides real business value as it minimizes cost by making use of existing IT assets and by allowing a staged implementation defined by the suitability of the application and the ROI of its cloud implementation – not by the service delivered by a public cloud service provider.

Q. Security is at the top of every CIO's mind. How secure is cloud computing?

- A. As companies move their business applications to the cloud, they need to ensure that the cloud model continues to demonstrate the same levels of security and accountability found within on-premise enterprise IT applications. Businesses must still be able to assess and monitor the changes to the security and risk profile of the data, users and applications. Consequently, there is a focus on striking the right balance between risk and cost. Therefore, while the correct answer to this question is "it depends", many organizations are mitigating the risk by way of implementing a private cloud as described above.

When the required security level of your public or private cloud solution has been decided, you should "look under the covers" to understand how the product vendor or service provider will provide that security. If you are implementing a private cloud, you get to choose your security solution – often delivered by way of a partnership with a security specialist. This can be ideal as a specialist should be able to provide a best-of-breed security service. Check the credentials and track record of this specialist to ensure an ability to execute towards a future development roadmap.

Q. How can enterprises and governments take advantage of cloud computing on an open source platform?

- A. Apart from security, the next commonly cited concern about the cloud is interoperability – that is, how one cloud solution can work with other platforms and applications, not just other clouds. Customers also want the flexibility to run applications in their own IT infrastructure, or in the cloud, or in a combination of both. In any IT architecture, users and developers look for standards to facilitate interoperability. However, in cloud services, there are no accepted industry standards for developing, deploying and managing cloud services – major vendors have come up with their own APIs, some of which are widely used.

To achieve maximum interoperability, the software platform implementing the cloud service ideally needs to be as transparent as possible. That is, the private cloud platform should not obscure any layer of the hardware or software infrastructure from the developer while implementing a secure and controlled execution environment for the cloud users. This is a characteristic of open source software and can therefore be very useful to application developers as they can be assured of interoperability.

Enterprise users are almost certainly already using open source cloud services, as most of the current public cloud services extensively use open source cloud platforms. However, if you are one of the growing group of private cloud implementers, open source also offers a very broad range of tools and support for constructing your cloud. And with most open source cloud platforms supporting widely-used APIs such as AWS, enhanced operability can be obtained.

ABOUT THIS ANALYST

Chris Morris is Research Director at IDC's Asia/Pacific Practice Group with responsibility for Global Service Delivery and Business Services research, based in Sydney. Chris is also IDC's regional lead analyst for Cloud computing programs. In his role, Chris leads in further growing the IT Services research business by identifying and penetrating emerging markets, bringing thought leadership content and advisory expertise to IDC and IDC's clients.

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