

# Cloud computing – much more than virtualization

By [James Pierce and Joanne Scouler \(http://www.thoughtsoncloud.com/author/amelia-ross/\)](http://www.thoughtsoncloud.com/author/amelia-ross/) / December 15, 2015

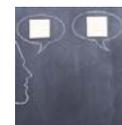


Cloud computing is evolving — what it is and how to best use it is open to interpretation. One area of potentially confusing interpretations is virtualization.

Virtualization has been used for about ten years now to better utilize physical assets (hardware) and reduce capital IT expenditures. But virtualization in and of itself is not the true value of cloud. In fact, virtualization without visibility and control across the cloud introduces security and compliance concerns. Imagine one of your test datasets with real customer data gets cloned and cloned again.

A cloud service is seldom comprised of a single virtual machine. Managing the complexity of a banking app, for example, means more than simple virtualization. A cloud service, such as a bank app, is usually front-ended by load balancers, clustered on web application servers, and connected to a highly available database. Often, high transaction databases are kept on bare metal native hardware for optimum performance.

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Other aspects of cloud, that do not come “out-of-the-box” include: self-service, IT automation and service orchestration.

The cloud model as defined by the US National Institute of Standards and Computing (NIST) says that the five essential characteristics of cloud are:

- On demand self-service
- Broad network access
- Resource pooling
- Rapid elasticity
- Measured service

Companies with virtualization want improved IT management of virtual resources, but have not yet enabled self-service access to their developers. Self-service is an efficiency boost, money saver and benefit to IT service customers. These customers could be line of business users, or end user customers from other companies purchasing cloud services. And according to Forrester, many companies that have had a private cloud for five years do not offer customers on demand self-service.

IT automation is a key aspect of virtualization. It is involved with the “building of the cloud stack,” such as – how do you attach storage? How does the operating system get laid down? How are user accounts created? How does the database get installed and table spaces created? Many of these IT tasks are done manually or are outsourced to public cloud providers. These IT tasks can be automated with cloud orchestration, an efficiency that makes the cloud faster, better and cheaper.

Cloud orchestration automates the configuration, coordination and management of public and private cloud infrastructure. This can include storage, network, performance, and provisioning, as well as automating workflows required for service delivery.

**So what is the value of cloud?**



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The true value of cloud is in automation – automating what you do today so you do it faster, better and cheaper. With cloud you have higher quality service because automation eliminates manual error prone processes.

You have better standard IT service offerings, by default, if you are offering a consistently built service built to the same standards every time.

When you reduce manual effort you also save money. For example, operating expenses are reduced by offering self-service.

In addition to self-service, cloud orchestration provides end-to-end governance of the entire cloud service — from creation to reclamation. Many business processes come into the picture. How does the customer want to manage approvals? What about managing SLAs or tiered services (gold, silver, bronze)?

Taking your cloud to the next level means more than virtualization. IT automation and process orchestration are key to facilitating self-service, improving service delivery, and simultaneously reducing costs.

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