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Moving to the cloud in 2012? Look out for these pitfalls

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Experts point out some of the most common mistakes when moving to the cloud and offer tips about the future

Businesses that want to take advantage of the maturing cloud marketplace in 2012 can learn from some common mistakes others have made when moving to infrastructure- and platform-as-a-service offerings, experts said.

One of the most common errors companies make when moving to cloud services is failing to set up redundancies for disaster scenarios.

“One thing people assume is if you spin up a cloud server on Rackspace or Amazon, that that cloud server is somehow redundant or backed up somewhere else. An individual cloud server on its own is not redundant or backed up,” said John Engates, CTO at Rackspace.

Researchers at Forrester call this “the uneven handshake” — between the services cloud

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providers offer and the responsibilities left to the customer — and say it extends beyond disaster recovery. Developers, who are commonly the people in an organization who start using these kinds of cloud services, “often assume that the cloud service takes care of security, application availability, backup and recovery, and ensuring service performance,” Forrester analysts wrote in a recent report. “In most cases this isn’t true.”

It’s possible that companies might think that they can save more money by skipping the redundancy plan, but that involves ignoring standard best practices, said Vince DiMemmo, general manager of cloud computing for Equinix.

“Some people are so focused on cost it’s like they’re putting blinders on to some best practices. Sooner or later they’re going to get burned,” he said.

Some cloud users did get burned this year. “Thousands” of enterprise apps and a number of startup companies went dark for 24 to 48 hours earlier in the year during an Amazon outage, Forrester wrote.

“It is indeed one of the pitfalls we see, is customers don’t always design for that powerful resilient architecture,” said Adam Selipsky, vice president of Amazon Web Services. Cloud services like Amazon’s are designed so that individual low-cost components can fail but the system routes around the failures to avoid service interruption. But not all customers are designing their implementations to take advantage of that architecture, he said.

In addition, users don’t always accommodate for data center failures. Amazon makes available extensive materials to help customers architect their systems so that they are load balanced, shifting workloads to different zones in the event of an outage, he said.

Other service providers are also responding to the fact that some users aren’t properly architecting their implementations by offering new services and features.

“We’ve started to offer a great deal of services around the cloud so people don’t have to do it themselves,” Rackspace’s Engates said.

Amazon has been continuously adding new enterprise capabilities and has “increased its enterprise readiness through better security and monitoring features and the release of operational audits and certifications,” Forrester said.

Another mistake that some users of cloud services make is failing to accommodate for potential bandwidth issues.

“App performance matters,” DiMemmo said. Companies are beginning to look harder at the ability of the cloud to support business critical elements and achieve desired latency. A couple of years ago, companies were implementing centralized cloud deployments, trying to pack as many servers and storage devices as possible into a small set of data centers, he said. But with a growing focus on app performance, some are starting to shift to distributed platforms where they can run applications on infrastructure closer to end users in order to improve performance for users.

Equinix hopes to help customers in this regard, using its 100 data centers around the globe.

In fact, poor app performance may be driving some businesses to switch from public clouds to private clouds, said Joshua McKenty, CEO of Piston Cloud, a company developing an **OpenStack** distribution designed for businesses to use to build private clouds. “We will continue to see problematic issues with public cloud bandwidth limitations, which are going to send organizations running back to the safety of private clouds in 2012,” he said.

Service providers are starting to offer features that can help. “A lot of customers grapple with the fact that networks work differently because you are inherently on shared infrastructure,” Engates said. Customers with hybrid clouds can use RackConnect, a product that helps businesses connect their internal clouds with Rackspace and isolates the user’s traffic from that of other cloud users. That can help improve connectivity, he said.

Looking to 2012, experts see a few trends that companies should look out for as they make decisions about moving to the cloud. With many independent, relatively young companies offering services, businesses would do well to examine the health of the service provider before moving critical applications to their platforms.

“Betting your business on a venture-funded entrepreneurial shop can be risky,” Forrester wrote.

But even well-established vendors might not be the best bet. Many of the traditional enterprise IT vendors like Dell, HP, Oracle and Microsoft have either announced plans to launch or already have launched cloud services. But few of them are “robust” or are true clouds, Forrester wrote.

Those vendors are likely to rapidly mature, however, in some cases through acquiring some of the independent service providers. Piston's McKenty expects to see "massive cloud computing company takeouts" in the coming year. That could include acquisitions of dying companies for their talent as well as innovation buys, he said.

Still, some segments of these cloud services are growing increasingly stable. "2012 feels like the year when the cloud is maturing," Engates said. "Companies are starting to figure out what they want to do beyond the obvious test and dev."

IaaS services, which Rackspace offers, in particular are maturing, he said. Forrester agrees, noting that IaaS is on the "fast track to maturity." That compares to PaaS, which Forrester said is less mature because most of the services are narrowly focused and lock users in.

Lock-in will continue to be a concern for businesses using these cloud services but 2012 may see more progress toward a de facto standard. Rackspace, Piston and others are betting on OpenStack. "The mindshare around it is huge," Engates said. In the coming year, big players like HP, Dell and Rackspace itself should launch their OpenStack-based cloud services. He also expects a number of enterprises to start talking about their use of OpenStack on internal clouds.

The interest around OpenStack may have one negative impact, however. McKenty expects to see some OpenStack implementations stall in the coming year due to competition for developer talent. "It will get harder and harder to find people with the skill set required to build large-scale distributed systems," he said.

Meanwhile, companies building their businesses around OpenStack are finding themselves up against Eucalyptus, which offers software for companies building private clouds that are compatible with AWS. Since AWS is the most widely used IaaS offering, Eucalyptus is likely to continue to attract users.

But Eucalyptus appears to be leaving the door open to OpenStack becoming a dominant player. If an API (application programming interface) from another major service provider like Microsoft or one using OpenStack becomes widely used, Eucalyptus will support it as well, following market demand, said Marten Mickos, CEO of Eucalyptus Systems.

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Nancy Gohring is a freelance journalist who started writing about mobile phones just in time to cover the transition to digital. She's written about PCs from Hanover, cellular networks from Singapore, wireless standards from Cyprus, cloud computing from Seattle and just about any technology subject you can think of from Las Vegas. Her work has appeared in the New York Times, Computerworld, Wired, the Seattle Times and other well-respected publications.

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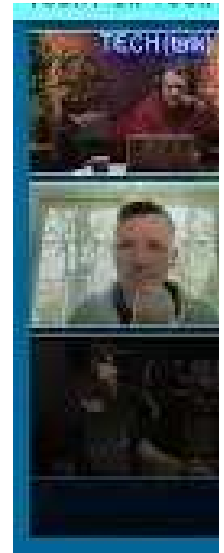
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