Lecture B

Future of Clouds

Source:
What's the Future of Cloud Computing?, 2016,
https://www.futureofeverything.io/future-of-cloud-computing/

Michael Corrado, World Wide Marketing Manager with Hewlett Packard Enterprise

“The future of cloud computing will most likely represent a combination of cloud based software products and on premises compute to create a hybrid IT solution that balances the scalability and flexibility associated with cloud and the security and control of a private data center.

In the current cloud market the benefits of leveraging the infrastructure of a large cloud provider can be beneficial in many ways. The cost structure works like a utility which provides for an operating expense model with no upfront infrastructure costs.

The ability to scale rapidly works well for companies with high growth demands. With these benefits come some limitations. Your experience is limited by the speed and reliability of your Internet connection which can impact your business.

Cloud also introduces additional security concerns in a world where data privacy is increasingly vulnerable. As companies make sense of what is available to them and major technology vendors adjust their business models to allow for flexible consumption payment models to purchase on premises infrastructure, the balance between cloud and in house technology should find its balance.

The variable element of this Hybrid IT future and the most compelling use for cloud will be the software companies that offer their products only as cloud solutions which will diversify a customer’s cloud needs to multiple platforms based on their preferred software vendors.”

Matt Riley,
CEO & Co-founder of Swiftype

“A decade from now, every business will be operating primarily from the cloud, making way for more flexible — yet more productive and efficient — ways of working. Hardware won’t be the problem in a decade — software will.

What is now a ‘budding’ challenge will be full-blown problem in 10 years’ time: the ability to leverage the collective knowledge created in these silos regardless of which service you’re using in the moment. We’re already seeing fragmentation of content and data and it’s posing problems related to organization, search, discovery, and most importantly, collaboration across people/teams/offices/regions/etc.

This is because the trend in successful cloud services is that they solve a specific problem for a specific role/department very well. Large monolithic application suites will become less and less prevalent.

Luckily, we have companies like Swiftype that are trying to solve that today so that it won’t be a big problem in the future. It’s safe to say the only way companies will be able to thrive will be the ones that tackle cloud-born challenges like this head-on.”

Tom Gillis, Founder & CEO of Bracket Computing

“The future of the cloud is a radically different hybrid cloud computing model in which isolated workloads can flex up or down, span multiple public clouds, be moved at any time, and be managed with a single set of controls. Enterprises have struggled to build an IT infrastructure that is responsive enough to move at the speed of business.

The future of cloud computing is a unique architecture based on the Computing Cell that consistently provides best-of-breed software infrastructure, including encryption, authentication, network segmentation, data integrity and data management across multiple public clouds.

It even enables the migration of existing enterprise controls and allows existing policies to be extended across workloads. As such, the hybrid cloud based on the Computing Cell simply appears as a more flexible and robust extension of an enterprise’s private cloud infrastructure.

Moreover, threat prevention capabilities ensure that threats can’t move laterally. Not only will the operation of an entire data center be reduced to the movement of a few simple controls, but its responsiveness will deliver on the CIO’s dreams!”

Jeff Fisher, VP, Strategic Alliances & Category Creating Enterprise Technology Executive at Kemptechnologies

“The future of cloud computing is undeniably hybrid. The term hybrid has several meanings in this context but all are critical to understanding the destiny of cloud computing. On one level, it means that organizations will leverage both public hyperscale clouds like AWS and Azure as well as private clouds.

Contrary to popular belief, private clouds are not simply existing data centers running virtualized, legacy workloads. Conversely, they are highly-modernized digital application and service environments running on true cloud platforms, like Microsoft’s Azure Stack, and can live either on-premises or with a hosting services partner.

Another key aspect of hybrid implies that organizations will leverage multiple cloud platforms such as AWS, Azure and Google Cloud Platform. This multi-cloud mode of operation promises to help organizations avoid lock-in to a single provider but also introduces additional complexity, as IT staff need to become comfortable operating in more than one cloud platform environment.”

Jeff Schilling, CSO of Armor

“History has a tendency to repeat itself in cycles.

Mainframes and centralized compute power kicked off the computer age only to be replaced by remote/distributed compute power of the 80s and 90s with the invention of powerful, personal computers.

Then, early in this century, we went back to the centralized compute architecture with the high adoption rate of the cloud. I believe the next innovation leap in compute will be centered around quantum computing, Artificial Intelligence and neural integration between machine and the human brain.

These innovations will put high capacity compute, storage and functionality in new form factors that will integrate with our clothes and our everyday life and will no longer be devices we carry around. The limitation of the frequency spectrum will once again drive us back to a distributed architecture because the pipes will be too small to centralize this powerful framework.”

Kostis Mamassis,
Founder & CTO of Megaventory

“During the next years, it is predicted that more than a quarter of all applications will be available via the cloud. The huge adoption of cloud services combined with a general need to simplify operations, will put a greater pressure to create connections between various apps.

Therefore, I believe that developers’ focus will be updating APIs and growing their list of integrations. At Megaventory, we aim to set up more system integrations with our app and have a better product consolidation.

On top of that, focus on usability and interface elements is also a must. Great user experience is the next hot thing in cloud computing, so every cloud developer should keep that in mind as well.”

Mike Smith,
Founder of AeroComInc.com

“In the next 15 years, the biggest change we’ll see is 50% of small companies (with 1-500 employees), doing away with buying computer towers and servers and instead, adopting Desktop as a Service (DaaS), as the method for deploying workstations to employees.

Companies will simply buy a monitor, keyboard, mouse and a thin client (which basically controls the keyboard, mouse & monitor), for each workstation. All of the desktop appearance, applications and compute functionality will be handled by a 3rd party cloud provider.

This will allow employees to essentially have the exact same computer appearance, regardless of the device or their location. It will also allow companies to more easily manage the deployment and security of computers and applications, across all devices and locations.

Furthermore, companies will never have to worry about having the latest version of any major productivity software, such as Office, Adobe, etc.”

Marcus Vlahovic,
Founder & CEO of Sustainabody

“Cloud computing is bridging us to a world of unlimited connectivity. In 10-15 years people won’t be talking about routers and individual networks, everything will be the network.”

Siamak Farah,
CEO & Founder of InfoStreet

“In many ways, we are already seeing the beginning of the future of cloud computing. With the introduction of IFTTT and new UI elements such as our phone’s notifications, the applications and devices we use daily are taking a backseat. What matters now is that our apps integrate with each other and with our environment, regardless of where we are.

While the original revolution centered on placing apps in the cloud, the future lies in true app-to-app integration. Soon, centralized meta-languages will be created to streamline the tedious one-to-one app integration process and convert it to mass enablement of apps where each app can readily speak to many other apps, exchanging logic and data.

Standalone apps will be a way of the past as users will expect their apps to be smarter and more connected. Just like humans, apps with more relationships will be the most popular and effective ones.”

David Hartley,
Virtual CIO & Principal, Technology Advisory Services for UHY LLP

“Traditional data centers and the traditional model of delivering IT services will become extinct. The days of building your own data center, owning your own equipment and installing/updating hardware will leave us rapidly. There will be some on premise solutions, but that will diminish dramatically.

As companies rely more and more on service providers (Software as a Service, Infrastructure as a Service, Platform as a Service), independent firms like UHY will be outsourced to test processes and controls in order to develop Service Organization Control (SOC) reports, which provides best practices for not only an organization, but its entire ecosystem, on how to effectively report financial and IT services and processes to user organizations.”

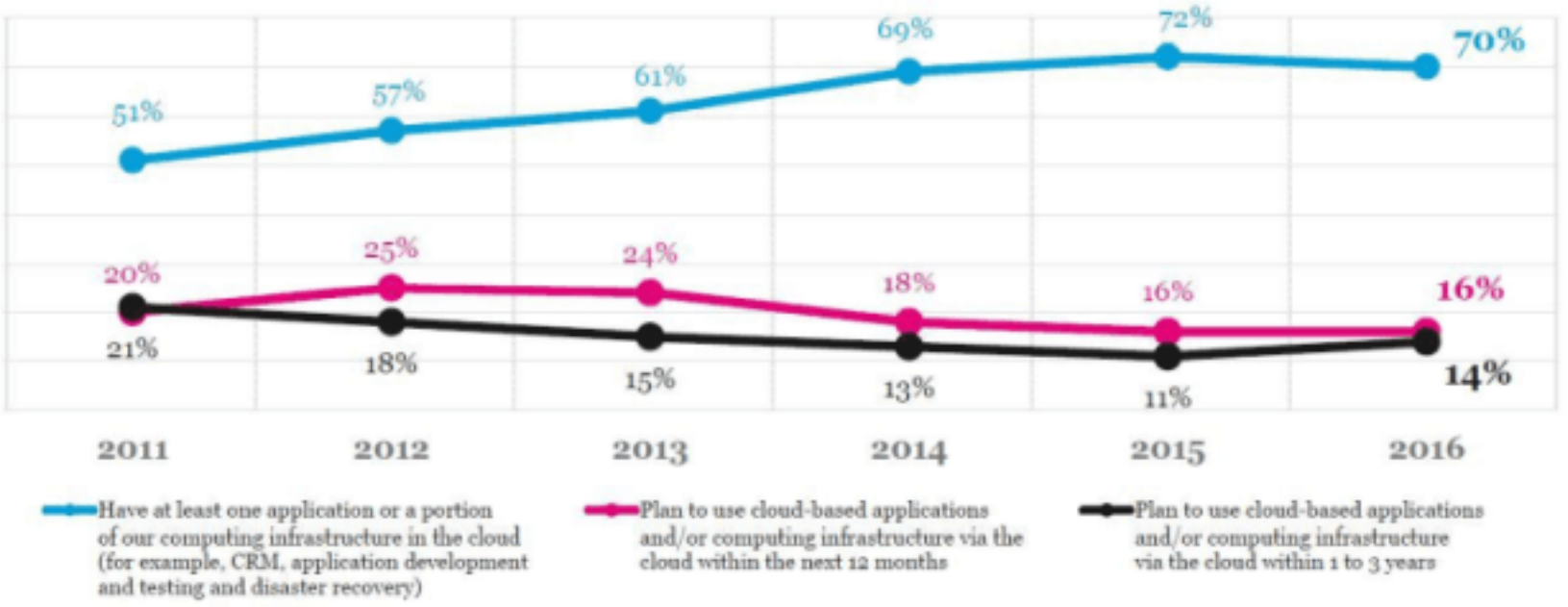
Dennis Allio,
Group President, Cloud Technology Services at Workstate

“Over the next 10-15 years we can expect cloud computing to quickly evolve, and become so ubiquitous, that the concepts we label as “cloud” will simply be known as “computing.” Cloud vendors will have solved the compute hardware problem, and we can expect infrastructure to become a commodity. The real future of cloud will be easy access and consumption of any data and services in the cloud.

Artificial Intelligence will help make these services easily consumable and highly available – perhaps pushing us beyond the current developer roles that are needed to make the most of the cloud. We will experience cloud services much like musical instruments; whereas developers will compose the music and do the arrangements, AI will play the instruments perfectly (maybe too much so). Anyone that cares to learn will have the opportunity to create ghastly noise; as well as potentially wonderful, new pieces of music.”

Cloud Challenges

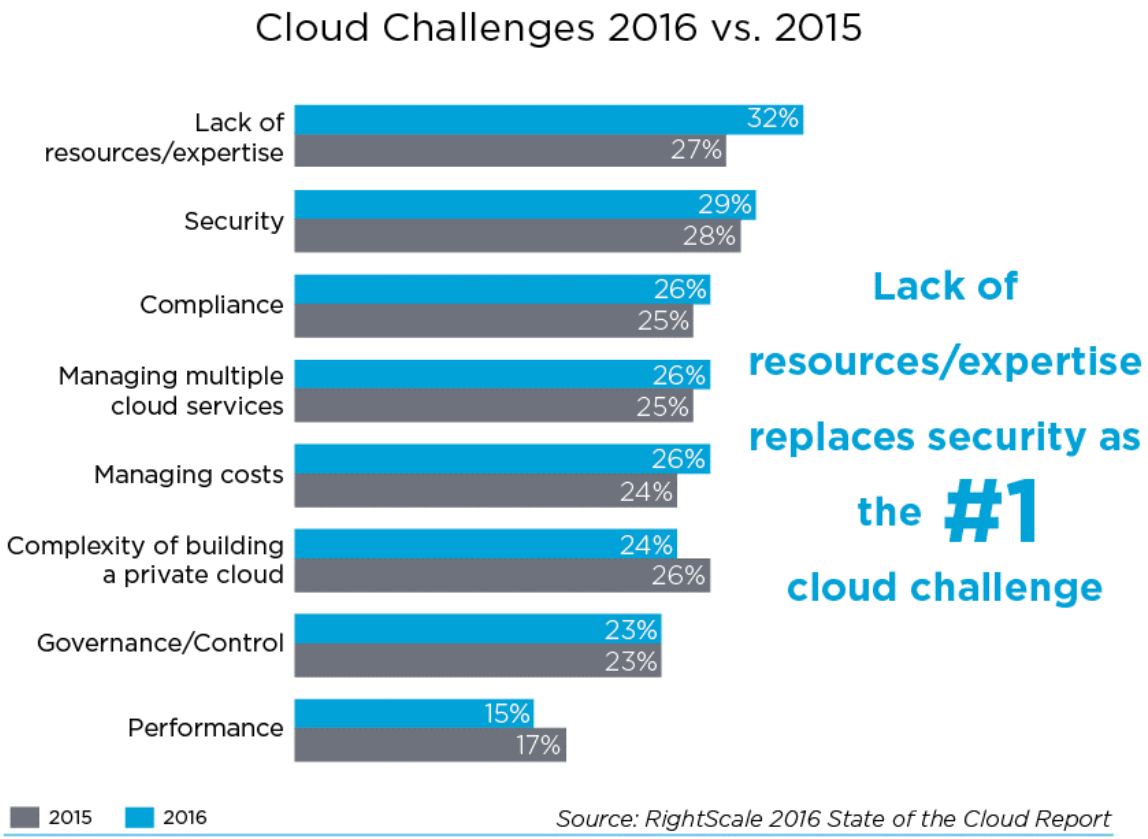
Use of Cloud Technology Continuously Expanding



Q. What are your organization's plans with regard to utilizing computing infrastructure or applications via the cloud?

Source: 2011 - 2016 IDG Enterprise Cloud Computing Survey

Cloud Challenges



Lack of resources/expertise replaces security as the #1 cloud challenge