



## Hybrid: A Bridge to the Cloud

The growth of the cloud continues apace and is now being combined with on-premises deployments to create a new product termed hybrid. In this whitepaper, we'll look at the evolution of the cloud and how the hybrid concept may become the new normal.







## a state of transition

Microsoft just released its latest financial statements for 2015 and the data has shed some light on the company’s newly-charted expansion into the world of cloud. The corporation’s revenue fell by more than 12% compared to this time last year but, interestingly, its profits grew almost 2% to \$4.62 billion. The reason for the loss? Physical components and the PC market: Microsoft Surface, Windows Licensing, and phone hardware.

So what’s the silver lining? Why did profits increase? The cloud. Azure, Windows Server software, and Enterprise services all grew over 8%. Office 365 licenses grew over 66% with 18 million consumer subscribers. The numbers are expected to grow even bigger when SharePoint 2016 is introduced in Q2 of 2016... and this isn’t your standard on-prem SharePoint release. SP2016 will combine “cloud-accelerated functionality” with the traditional on-premises framework.

The inverse relationship between the decline of the traditional (e.g., OS licenses, phone hardware) and the rise of the new (i.e., cloud services) is really a snapshot of the IT world that we all live in right now. The scenario is changing and the chasm between those two worlds is slowly widening. Microsoft, along with many other big IT players, is racing to catch-up and enable their users to cross that canyon safely.

On the one side we have traditional on-premises platform deployments and on the other we have the lofty world of the cloud. Spanning across both is a shiny new bridge, ultimately doomed to be a temporary structure, but hardy nonetheless. That bridge is called *hybrid* and, whether we like it or not, it will be our home for the foreseeable future as we slowly cross towards the cloud.

### The Cloud OS Network

Leading Service Providers Deliver Solutions on the Microsoft Cloud Platform

OPERATE IN MORE THAN

**90 MARKETS**

AROUND THE WORLD

RUN MORE THAN

**425**

DATACENTERS

SERVE OVER

**3 MILLION**

CUSTOMERS

MANAGE MORE THAN

**2.4 MILLION**

SERVERS

## why the big push to cloud?

We won’t waste your time with a pro-cloud diatribe because we know you’ve heard it all before: scalability, cost-savings, collaboration, accessibility, and so on. Afterall, there are countless online top-10 lists espousing the benefits of the cloud. Let’s look behind the headlines and try to understand the real situation.

Really, the cloud is about *control*. When an organization decides to go cloud, they are essentially placing their complete trust in a cloud service. Whether it’s an IaaS like Amazon Web Services or a PaaS like Microsoft Azure, “going cloud” essentially means “we’re giving you control of our data.” That’s not an insignificant statement by any means and, understandably, such a decision poses a wide range of risks. Security is at the vanguard, but a dependence on the Internet and the reliability of cloud services for the long-term are also legitimate concerns.



Quite frankly, the cloud is where the money is, as evidenced by the revenue shifts taking place at Microsoft and other large multi-sector corporations. Organizations are now able to easily develop, package, and deliver robust solutions to customers across a wide variety of marketing channels via the cloud. Whether it's subscription-based or usage-based, the cloud is enabling corporations to offer customized functionality to clients at highly competitive price points based on the need of the customer. This level of flexibility, coupled with the ease of deployment, is what makes the cloud so alluring and is the driving force behind its astronomical growth in the last few years.

Obviously the two situations described above have put Microsoft in a bit of a quandary: how can they overcome legitimate apprehensions over the cloud while gently ushering everyone towards a cloud-only world? And, yes, Microsoft is wholly dedicated to a reality where on-premises platforms are significantly minimized or exist as mere shadows of their former glory. As Microsoft CEO Satya Nadella explains, "Our job is to ensure Microsoft will thrive in a mobile and cloud-first world."

## the journey to the cloud begins

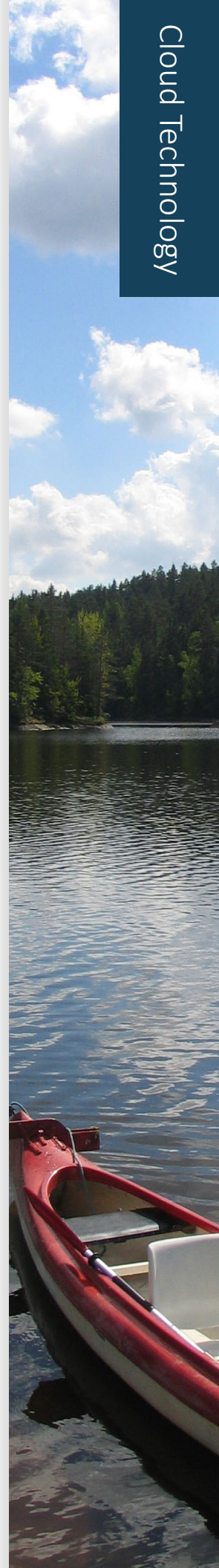
Microsoft realized early on that the journey to the cloud could not be accomplished overnight. Rather, the process would involve attrition-based initiatives across multiple fronts. The goal was not to convert the masses immediately but, rather, to slowly include cloud-centric functionality into products within the Microsoft family.

Like any good builder, the foundation was the first step; specifically, we're talking about Azure. The cloud computing platform has enabled many corporations to switch from an on-premises infrastructure to a completely cloud-based architecture. AccuWeather, for example, used to rely on U.S.-based servers to handle mostly American-based requests. Within 5 years, the number of requests increased from 2 million to 4 billion, their points-of-origin become more international, and the device profiles changed from PCs to mobile. In this situation, the scalability offered by Azure made AccuWeather's decision to switch to the cloud an easy one.

For other organizations, the move to cloud-based solutions was driven more by the inadequacies of older technologies than anything else. For example, Underwriters Laboratories (UL) was the first corporation to deploy a global instance of Office 365 for its 12,000+ employees across 44 countries. The catalyst was a reliance on a highly-bespoke implementation of IBM Lotus Notes and Domino, a solution set whose 300+ customized applications managed to completely stifle productivity and efficiency. UL couldn't even upgrade its software because the customizations couldn't handle it. The switch to Office 365 negated UL's need to maintain on-premises hardware and effectively put all of their employees on the same page in terms of collaboration & communication.

In many instances, particularly in the private sector, the journey to the cloud may be a challenge, but it's a manageable challenge. At the end of the day, cloud infrastructures make perfect sense for some companies... especially those facing the same laundry list of core obstacles: scalability, collaboration, and accessibility.

There is another segment, however, that are in a category of their own. Organizations within this sector operate by a different set of rules and, frequently, the cloud is not compatible with those rules. We're talking about organizations subject to compliancy regulations, such as HIPAA, SOC, and IRS statutes. In these instances, Microsoft went back to the drawing board and discovered a new way to bridge the divide... and a new approach: *hybrid*.







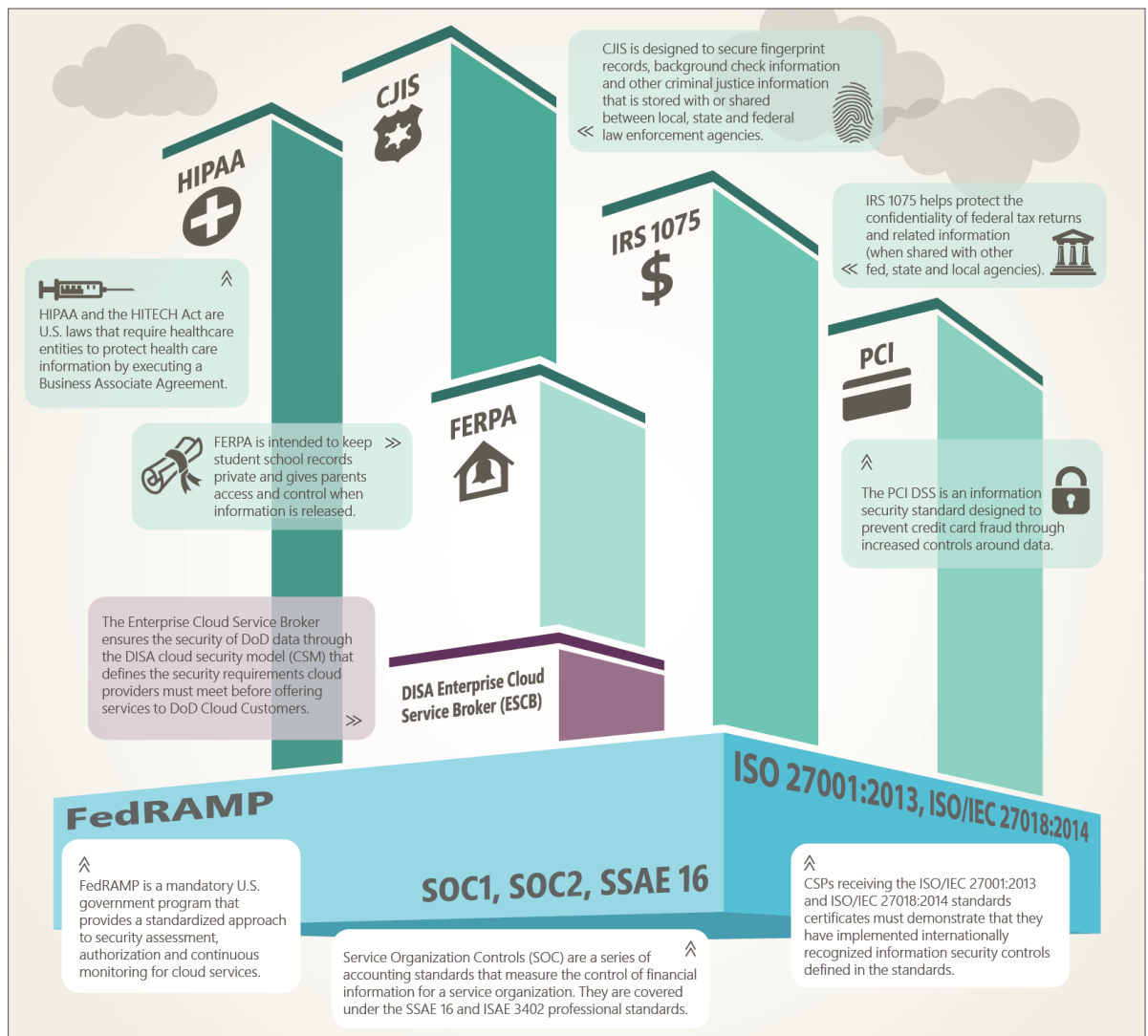
## the compliance hurdle

When it comes to the issue of compliance, a wide range of critical questions take the stage, all of which revolve around “data”:

- Where will the data reside?;
- Who has access to the data?;
- Who is taking care of the data?;
- Will our data be segregated from other data?;
- ...and the million-dollar question: How safe is the data?

Many U.S. organizations rely 100% on securing, and keeping, a state of compliance with a Federal Government entity — their existence, and everyone’s jobs, hinge on maintaining this relationship. Attaining the coveted compliancy seal of approval often takes years... so, obviously, data compliance is a big deal.

Doing all of the above using an on-premises infrastructure will take time, but it’s do-able. Highly-sensitive data can be kept strictly offline, intranet security can be bolstered with SIEMs, and anti-malware appliances can analyze traffic at the network’s perimeters. Layers of security can be built in order to maintain the integrity of critical data. But what about a cloud implementation?





## building the hybrid bridge

The challenge of enabling organizations to remain compliant with the Federal Government using a cloud infrastructure is considerable. Microsoft is trying hard to convince potential customers that their cloud architecture is secure, but the bar is high and the hurdles are frequently too steep to overcome. To put it simply: the cloud is all about the Internet, but the Internet is the primary source of risk to sensitive data. Given this reality, Microsoft has found a way to support on-premises architectures while also promoting the inexorable march towards the cloud: the hybrid approach.

Right now, hybrid enterprise architectures typically combine on-premises data management (e.g., servers) with some cloud-based functionality. This dual approach enables organizations to maintain control over their data while facilitating experimentation with cloud services.

Next year's release of SharePoint 2016 provides a good example of how Microsoft is supporting on-prem while enticing users to try cloud functionality. For example, SP2016 users will be able to keep a secure on-premises platform while providing access to cloud experiences such as Office Delve and Graph. Office 365 and SP2016 on-premises will feature a tighter integration of the hybrid experience... all content, both on and offline, will be searchable via Office 365 indexing. On-prem users can also build intranet portals that feature cloud-hosted videos.

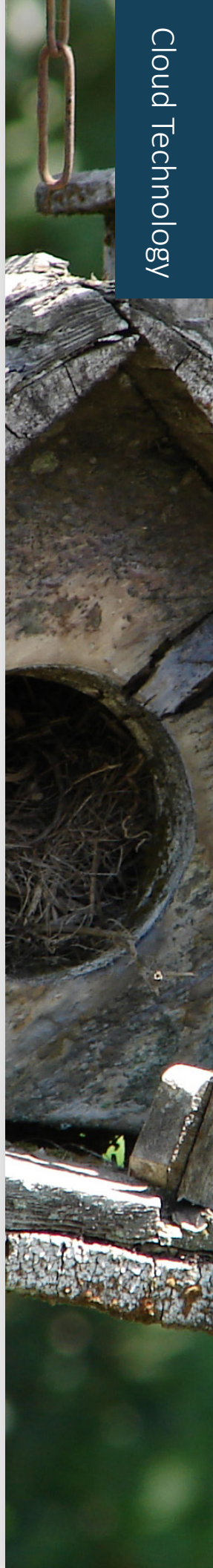
Of course the biggest obstacle to overcome, as mentioned earlier, is data management. The whole point of implementing on-premises is, typically, to ensure that data is stored safely (in other words, putting full control into the hands of the data owner). Microsoft's answer to that is *OneDrive for Business Hybrid*, their cloud storage solution made accessible to SharePoint 2013 and 2016 on-prem users. It's essentially a storage option that syncs data between the cloud and on-premises storage. The idea is to provide the flexibility of the cloud to users while also supporting the storage of data on-prem. The reality, from a security and compliance perspective, is that data is essentially stored in two locations... which sort of negates the entire purpose of on-premises storage. After all, the reason why companies insist on on-premises is to maintain data integrity, not to sacrifice security for the sake of increased accessibility.

## a cloud-first world

The hybridization of Microsoft solutions is resulting in some impressive benefits in terms of additional functionality. In addition to Office Delve and Graph, Microsoft plans to increase accessibility to cloud experiences for on-prem users in the future. There's talk of hybrid team sites, data loss prevention tools, eDiscovery functionality, and additional apps. Over time the line between on-premises and the cloud will become increasingly blurry.

For compliance-reliant organizations, however, all of these added features are a bit like window dressing; the real bread-and-butter is data storage. It's a huge obstacle and cannot be overcome until cloud security matches and/or exceeds on-premises security. More accurately, it cannot be overcome until Microsoft successfully convinces compliant sector organizations that the cloud is safer than on-premises. With all of the high-profile hacks and leaks in cloud data over the last few years, that task will remain an extremely difficult pill for potential Microsoft customers to swallow.

Yet, the inexorable march across the hybrid bridge will continue as solutions become increasingly reliant on cloud technology. Eventually we may see platforms that are 99% cloud with 1% devoted to on-site storage. Time will tell but, for now, the hybrid bridge may be our home for awhile.





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