Data center technology predictions for 2018: The meta-view
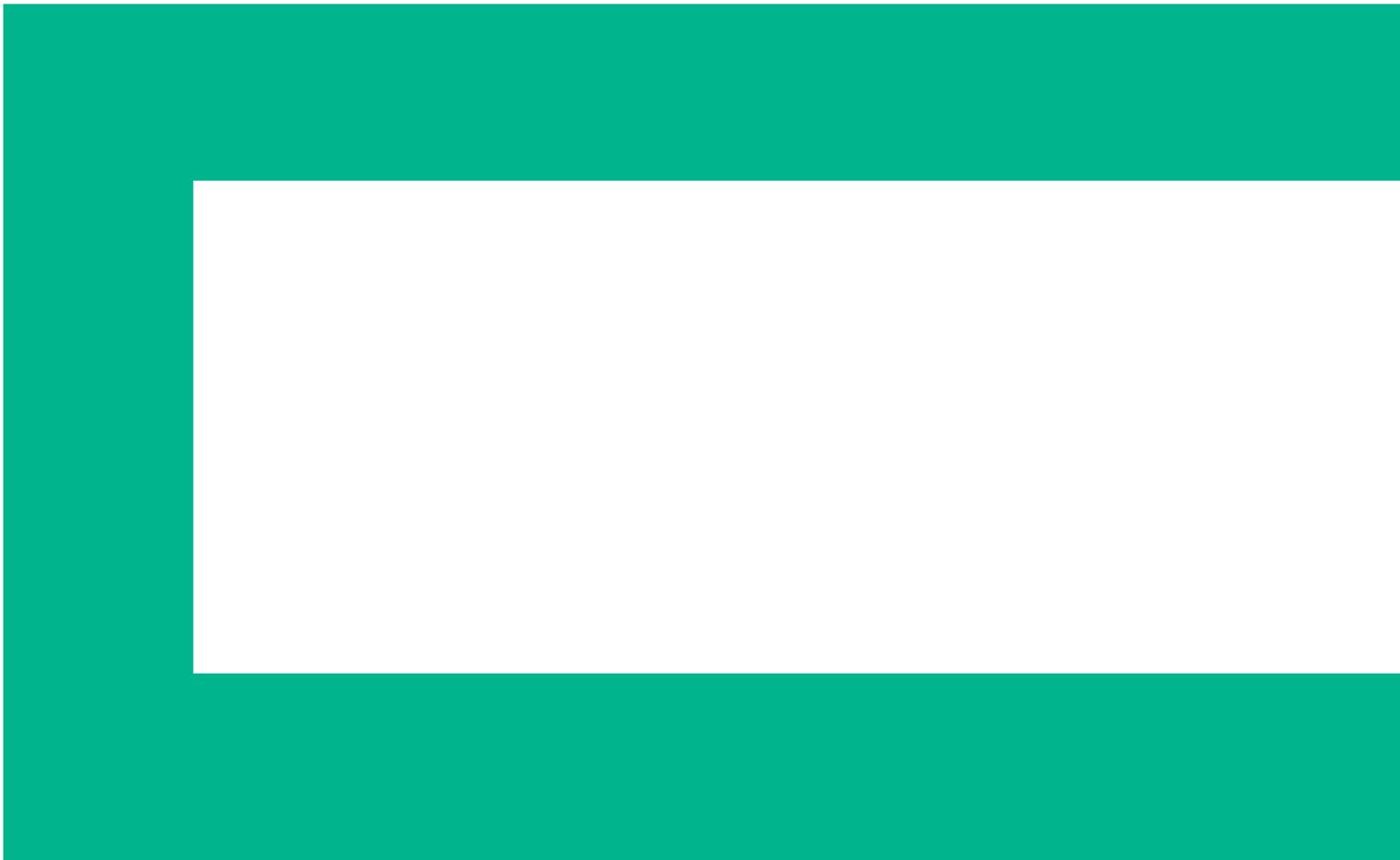
It's a new year, so data center prognosticators everywhere have been making predictions about what's in store. These range from very vague to very specific, and only a few are found on everyone's list.

What technologies does everyone agree are important to the data center in 2018? To find out, we reviewed about 50 predictions. It's no longer a case of everything moving to the cloud—which is just somebody else's data center. Major corporations are building their own clouds to address specific needs. The growth of related technologies means that data centers aren't going away; they are being updated, improved, and made more flexible.

One popular prediction is that data center operators will continue to modernize facilities. Some go further by suggesting that operators will be looking to modularize power and cooling needs while expanding and modernizing facilities.

Other than this, the major data center technology predictions fall into several categories.

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"We looked at a wide range of "what's coming in 2018" predictions, so you don't have to. In short, data centers are here to stay, but you should expect changes in the services requiring support and how those services integrate with the business.

By David Chernicoff

Budget will be reallocated for data center security

Security, which should have already been a top-of-mind issue for data center IT managers, will be the de facto number one concern, and budget spending will likely be redirected into additional training for IT personnel. This includes hiring security specialists—potentially all the way up to the level of Chief Security Officer—and accelerating hardware replacement to additionally mitigate problems inherent in older compute equipment.

This could also cause businesses to carefully re-evaluate current IT models, with security being a factor in evaluating everything from performance-to-value to suitability-to-task.

Ideally, this ongoing security self-evaluation would become a standard part of IT practices. However, if history is any indicator of human behavior, once a current crisis has passed, security functions will become complacent again, until the next major problem hits.

While some enterprises realize the value of maintaining and funding the most secure IT practices, too many put expediency or cost ahead of reliable and secure IT. This allows a lackadaisical approach to the constant patching and fixing of security holes as issues are discovered and repaired or mitigated.

Edge computing will continue to grow and drive business growth and development

Edge computing brings computations closer to the services consumer and limits the bandwidth requirements to deliver services to the end user. In addition to improving bandwidth management, edge technologies that focus on storage management make it simpler for vendors to keep the data they need at locations where it is most used, while limiting the need to send data requests to remote locations.

As edge computing operations grow, they will require more support. Specifically, that prediction applies to Internet of Things devices at the edge. Organizations will put their attention on building edge facilities, including new data centers, ranging from complete buildings to more easily deployable modular and micro data center projects.

One downstream effect of data center support of edge computing is the changes it suggests for cloud and storage security models. The pundits point to the need to put greater emphasis on management tools that allow administrators to see and control entire processes in a single view. The goal is for a system administrator to have control from the edge to central IT, and for management tools to track and report data.

As that data is collected, organizations have to protect it against breaches and ensure it is kept private. The European Union's **General Data Protection Regulation** (GDPR) ranked high in importance among the issues international data center operators have to deal with in the coming year. The more sweeping scope of GDPR (when compared with local issues such as HIPAA in the U.S. or Germany's Bundesdatenschutzgesetz) has brought it to the top of the list of compliance challenges, impacting many aspects of data centers, from day-to-day operations to complex operations like moving data to cold storage.

Some predictions reflect on the ways data centers and their operators need to change to stay viable. This includes technologies such as artificial intelligence and machine learning. While some prognosticators position these technologies in the category of "adapt or die," others suggest an increased awareness of the technologies' importance and potential impact on data centers. The reality is likely somewhere in between.

Cutting-edge providers may differentiate themselves by the AI and ML capabilities they provide, while many types of facilities will find little customer demand for the cutting edge.

Serverless computing will continue to expand

Serverless computing is at or near the top of many prediction lists. This pairs well with the **consumption-based IT** model that also makes an appearance. The ability to deliver a cloud-based, on-demand serverless model to consumers will enable business IT to continue to grow. The fact that traditional data centers can accommodate the back end of the serverless model shows their continued utility. Many business units like having the ability to do development on their own whereas, in the past, they would have had to go through traditional central IT. To support this serverless computing comes to the fore.

Multi-cloud computing will become the standard, influencing management and security technologies

Multi-cloud environments will **continue to grow** and become more of a standard, which implies that management and security challenges will increase. While no specific recommendations are made for tools that enable and allow this technology to provide a well-secured and managed multi-cloud environment, it is clear that without tools to enable multi-cloud management and security, the long-term usefulness of multi-cloud is limited.

Taking control of multi-cloud and serverless environments will also give IT a better handle on issues caused by the development of shadow IT operations. Being able to offer business users the same capabilities that drive them to go outside traditional IT and being able to manage those capabilities within the auspices of central IT will lead to more efficient IT and business operations.
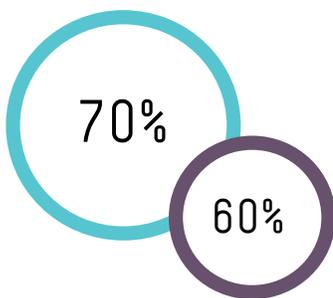
Hybrid IT will grow its presence in corporate IT

Many claim that the cloud is the ultimate expression of corporate IT and that this signifies the end of central IT. However, those who do make that claim should consider the words of Mark Twain: "The reports of my death are greatly exaggerated." The fact is, hybrid IT is showing a strong presence in corporate IT, with surveys indicating it exists in as many as 70 percent of all business IT environments. Consider also that surveys show that 60 to 70 percent of enterprise businesses will be continuing or expanding their investment in hybrid IT, and it is clear that the importance of hybrid IT in the data center can't be understated.

The software-defined data center continues to be the model of the data center of the future. As a result, it is not surprising that hybrid IT sits near the top of the list for those things that will most impact the data center in 2018. With advances being made in areas such as storage technologies, composable infrastructures, AI, machine learning, and high-performance computing, it shouldn't come as a shock to anyone that the enabling technologies that blend on- and off-premises capabilities will be a major point of concern for data center operators over the coming year.

Consumption-based IT will redefine how IT invests

The seemingly sudden realization that the consumption-based IT model could just as easily apply to on-premises equipment, as well as on- and off-premises cloud, may well be the game changer in 2018. Vendors could realize that their equipment needs to cycle at a much quicker rate than the traditional IT hardware purchase cycle, so the pace of innovation will continue to accelerate. Businesses will no longer point to their sunken costs in technology as a hindrance to moving to newer technologies that address their business issues more effectively and efficiently.
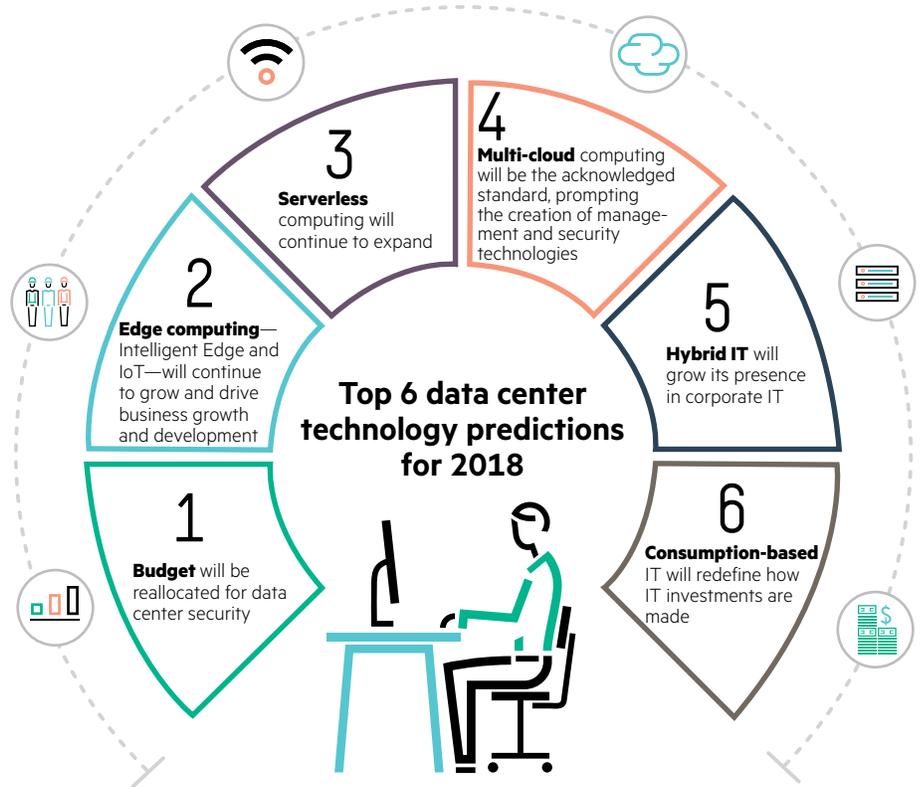
70%

60%

The fact is, hybrid IT is showing a strong presence in corporate IT

It's always the people

Many data center predictions show an awareness of a basic personnel problem: finding **experts in cloud and security technologies** remains a challenge for many operations. And with the combination of services and technologies that data centers are providing to their users, staying ahead of the curve is critical to long-term success.

When you examine almost any list of things necessary for a successful cloud deployment—be it on or off premises, or from consultant, vendors, or cloud service providers—understanding security is always on the short list.

Top 6 data center technology predictions for 2018

3 **Serverless** computing will continue to expand

4 **Multi-cloud** computing will be the acknowledged standard, prompting the creation of management and security technologies

2 **Edge computing**—Intelligent Edge and IoT—will continue to grow and drive business growth and development

5 **Hybrid IT** will grow its presence in corporate IT

1 **Budget** will be reallocated for data center security

6 **Consumption-based** IT will redefine how IT investments are made

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