Protecting data in an age of cloud and virtualisation

W Curtis Preston, Druva

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In a challenging business environment, IT budgets are increasingly tight. A firm today needs to be able to do more with the resources already available if it is to effectively compete with its rivals. Some IT departments are even asked to 'do more with less' – increasing the capabilities of the departments while reducing their costs.

These rising demands are leading a growing number of companies to increase the use of virtualisation and migrate some workloads to the cloud – a movement showing no signs of slowing down.

In fact, according to a survey conducted late last year, the momentum of cloud adoption for virtualised workloads appears to be increasing.[1] The survey found that 41% of companies are currently running virtual machines (VMs) in the cloud – up from 31% just a year ago. That is a 32% increase in just one year. And this number is set to explode: 90% of firms are planning to run VMs in the cloud over the coming year, which could create a 119% increase, were that to happen.

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Of course, many businesses have already started this process and know which vendors they prefer. Respondents to the survey hailed Amazon Web Services (AWS) as the clear winner, with 59% saying they prefer AWS over other choices for virtual workloads. Tech giant Microsoft is also popular with users and its Azure came in second at 35%.

The biggest surprise is how many people said they were interested in VMware cloud on AWS (VMC). It was a strong contributor to native AWS and roughly 15% of respondents stated they prefer VMC over native AWS. It will be interesting to see how this plays out over time.

The trend towards moving virtual workloads to the cloud is being fuelled by the efficiency gains the move brings, especially when firms take full advantage of how the cloud is designed. In addition to making businesses more efficient, in the long term, virtualisation and cloud have the ability to improve the way firms operate, as well as boost security and data protection practices.

However, set against a backdrop of increasing cyber attacks and the EU's General Data Protection Regulation (GDPR), firms must be careful not to make the move without taking data protection into consideration. Indeed, there are multiple issues and challenges to consider around harnessing and safeguarding information as companies transform business environments.

Multiple applications

The challenge is occurring partly because businesses are often using multiple applications to host and process data alongside virtualisation environments. This could include cloud-based applications running on public or hybrid solutions and software-as-a-service (SaaS) apps from the likes of Microsoft, Salesforce and Box.

These disparate ways of computing and storing data are resulting in businesses producing a vast variety and volume of information. But many companies aren't considering how to protect these various data silos. Even worse is the assumption by some that because the data is 'in the cloud', they do not need to worry about data protection.

It is true that the properties of virtualised environments can make them more secure, but all too often, firms forget to implement an adequate data management strategy as migrations are in process. In fact, 54% of individuals surveyed said they have no visibility into whether data management policies are being applied and enforced.

At the same time, a reliance on scripted orchestration is putting a large number of organisations at risk. When asked, 'Is the orchestration of your AWS workloads automated or scripted?', only 28% of survey respondents answered 'automated'. Meanwhile, 19% said they are using scripted orchestration, with 54% uncertain how orchestration is occurring. It is concerning that with the expectations of modern business, so many companies continue to rely on manual processes.

In addition, 55% of organisations do not have a plan to centralise protection of their data across multi-cloud or hybrid cloud environments. When combined with a lack of automated data management, these silos result in a critical gap preventing visibility of a firm's information.

Cloud's role

The growth in respondents running VMs in the cloud year-on-year – and the sheer number of those planning this move – shows the virtualisation trend

is quickly gaining speed. Of course, companies are at varying stages in the journey to the cloud, but one thing is clear: understanding the role that cloud plays in firms' virtual environments has become an integral part of IT initiatives.

An increasing number of businesses say they are migrating virtual workloads to the cloud, yet many are running across common pitfalls. Of particular concern is the fact that nearly three quarters of companies are over-reliant on processes prone to error or operating with uncertainty about the status of their data. This creates risk and hurts efficiencies.

Indeed, the resulting lack of management and visibility into workload storage and usage helps to explain why more than half of the survey respondents (53%) have yet to achieve cost reduction from using the cloud. Saving money in the cloud also requires orchestration – either yours or using a service that is leveraging it. Practices such as scaling resources up and down during the day so you only pay for resources you need at the moment, and automatically migrating workloads between different types of resources, are techniques that can save businesses money in the cloud. But without proper orchestration, these practices are simply ideas.

Businesses are often attracted to the cloud because it has the ability to cut costs. But the survey demonstrated that the motivations behind the cloud journey aren't entirely driven by this benefit. In fact, only one in five survey respondents stated that cost was the most significant reason to move to the cloud. Instead, 'ease of management' and the cloud as 'part of a critical IT initiative' topped the list of significant drivers.

As cyber attacks continue to plague businesses, the ability to recover data, should the worst happen, was also integral in the decision-making process. More than 60% of respondents listed disaster recovery as one of the top technology reasons driving their transition. There are many benefits of using cloud-based disaster recovery, including the ability to get systems back up and running in minutes.

Answers to the question, 'What is the most important reason driving your move to the cloud?'. Source: Druva.
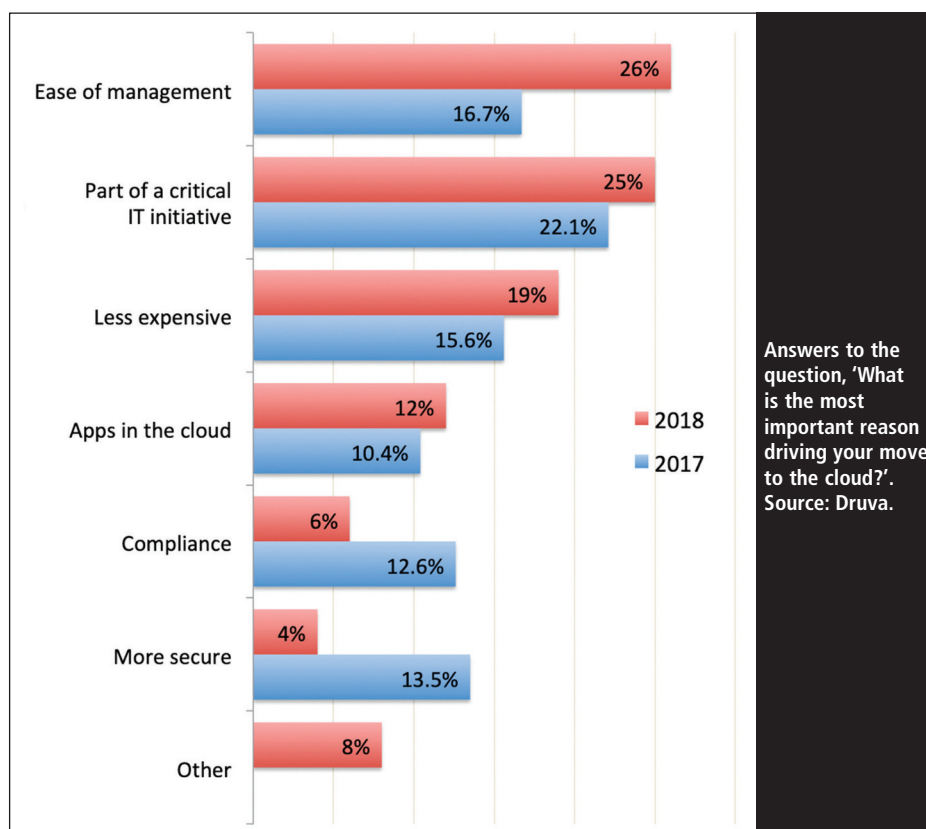
Reaping the benefits

It is clear there are benefits of moving to cloud and virtualisation, and this is backed up by the findings of the survey. And despite some of the initial challenges, the move to solutions incorporating these technologies is accelerating. It's therefore important to take a step back and deal with issues now when it is easier to address issues and properly revise systems.

As an increasing number of firms embrace these new environments, data visibility and protection are key. However, it is also important to realise that migration itself must be managed effectively to prevent risks such as data loss and to ensure that the advantages of cloud are properly leveraged (including cost savings). This doesn't mean simply throwing multiple data protection solutions at the problem: in fact, doing so often makes things worse by increasing management overheads and introducing additional complexity.

In just a couple of years, nearly all firms will be working in cloud and virtualised environments. Therefore, as part of an overall strategy, it makes far more sense to introduce a data management-as-as-a-ser-

vice (DMaaS) platform that is capable of protecting and managing data regardless of where it lives. This offers the ability to unify data protection, governance and intelligence across enterprise data, while ensuring scalability as a company grows. Taking this approach, as a company grows its use of public cloud and SaaS services, the IT team can rest easy knowing that the data is protected in the most efficient and cost-effective way possible.

About the author

W Curtis Preston has been in the back-up and recovery industry for over 25 years. He has designed and implemented back-up systems for the world's largest companies, is the author of three O'Reilly books on the topic and is the webmaster of back-upcentral. com. After following the industry for more than two decades, Preston joined Druva as its chief technologist in 2018.

Reference

1. 'The 2018 State of Virtualisation and the Cloud'. Druva, 22 Aug 2018. Accessed Feb 2019. www.druva.com/blog/new-research-2018-state-virtualisation-cloud/.