Solution Showcase

# IBM Spectrum Virtualize for Public Cloud

## *A New Offering that Could Make IBM a Frontrunner in Integrated Hybrid-IT Storage Functionality*

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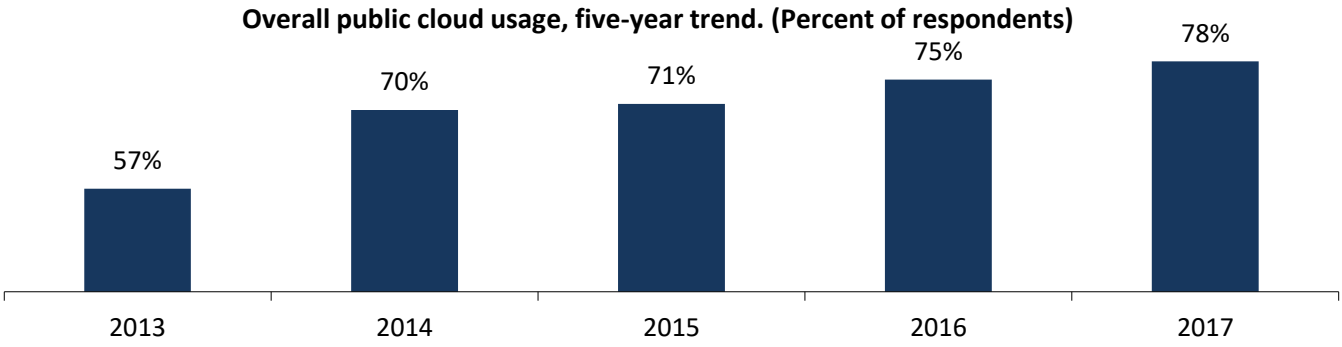
**Abstract:** IBM launched its existing Spectrum Virtualize software product to meet the needs of private cloud environments and support the cloud service provider market. Now in "Act 2" with a new version of the product, IBM is broadening its ability to enable end-user organizations and CSPs alike to use Spectrum Virtualize software for public clouds and hybrid clouds.

## Introduction: Market Dynamics and the Importance of Cloud for IT Today

At this point, most organizations—78%, according to ESG survey research—are using public cloud-based applications and/or infrastructure to some degree. Another 15% say they are interested in doing so, leaving only 7% of the organizations surveyed by ESG uninterested in leveraging these services. These recent findings are another proof point illustrating the steady rise in public cloud usage that ESG has been tracking since 2013 (see Figure 1).[1]

**Figure 1. Usage of Public Cloud Services, 2013-2017**

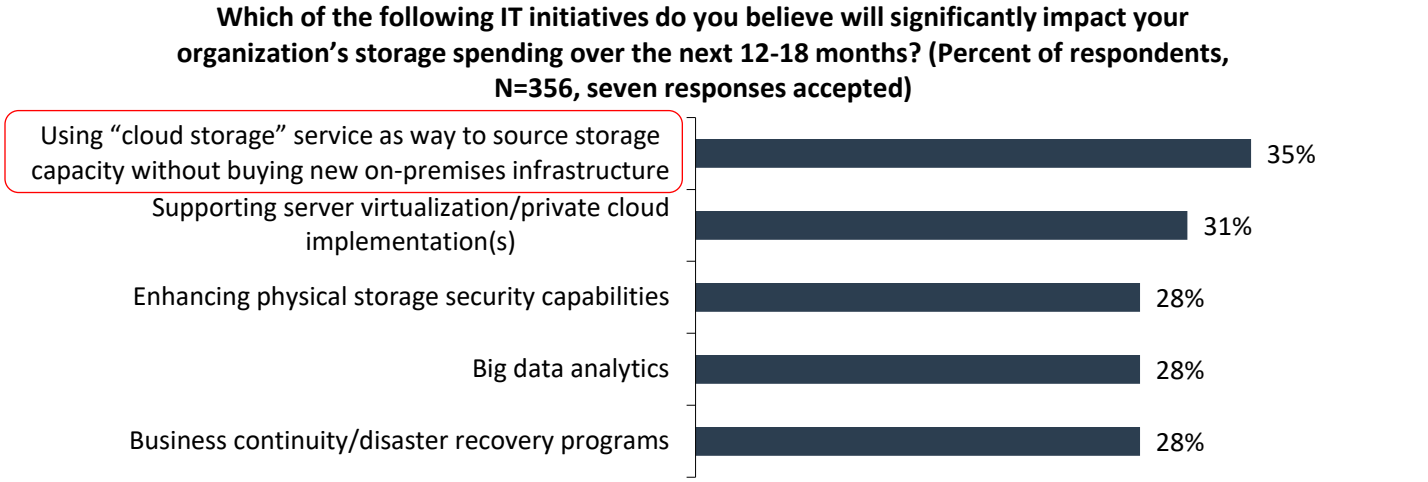



*Source: Enterprise Strategy Group*

Cloud computing, [hyper]convergence, and software definition are dramatically altering "traditional" on-premises data storage and will continue to do so. In fact, 35% of respondents to a separate ESG survey reported that over the next 12 to 18 months, they plan to use cloud storage to avoid buying new on-premises capacity, making cloud usage the most common initiative affecting storage spending this year among those respondents (see Figure 2).[2]

[1] Source: ESG Research Report, *2017 Public Cloud Computing Trends*, April 2017.
[2] Source: ESG Brief, *2017 Storage Trends: Challenges and Spending*, August 2017.

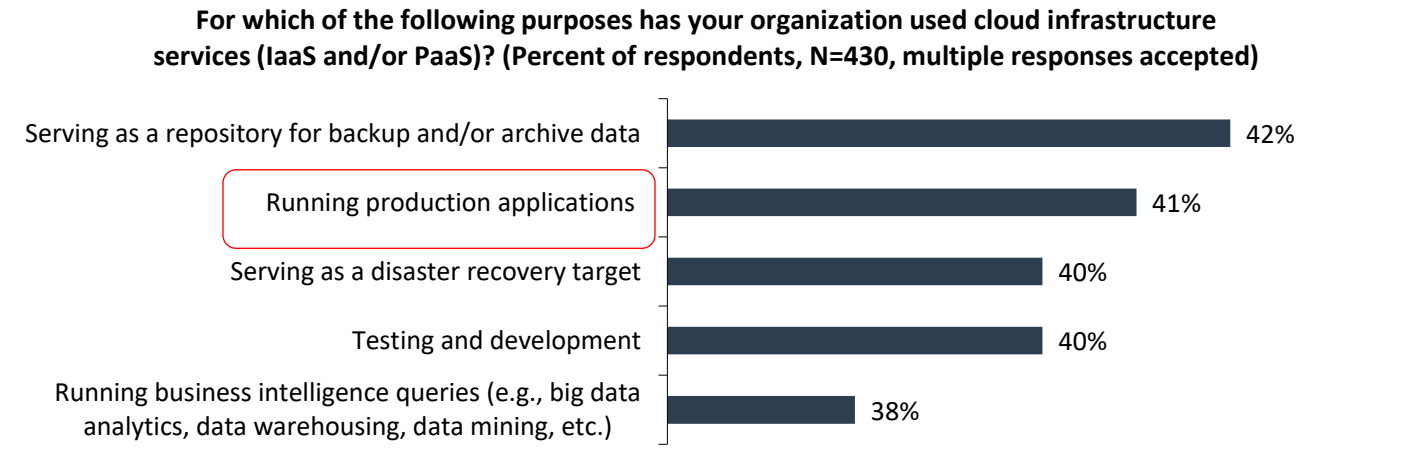
**Figure 2. Top Five IT Initiatives Impacting Storage Spending, 2017-2018**




*Source: Enterprise Strategy Group*

It is also worth noting that IT decision makers are perceiving the cloud as suitable for much more than offsite data protection (although backup/archiving does remain the top use case). Forty-one percent of cloud infrastructure users surveyed this year are taking advantage of cloud services to run at least some production applications (see Figure 3).[3]

**Figure 3. Top Five Cloud Infrastructure Use Cases**




*Source: Enterprise Strategy Group*

Additionally, a combined 80% of respondents are pursuing or considering cloud deployment for their net-new applications and the data those new applications generate.[4] Specifically, 36% now follow a cloud-first policy—deploying a new application using public cloud services unless someone makes a compelling case to deploy it using on-premises resources. Another 44% consider on-premises technology resources and public cloud services equally when considering how to deploy a new application.

So, at this point, only 19% are still taking an "on-prem-first" approach. It appears that cloud services have become much more than an afterthought in the minds of most IT managers.

However, the corollary to cloud's market march is that some amount of onsite IT—probably a significant amount for the foreseeable future—will likely always exist. Ninety-one percent of organizations expect at least half their applications and

[3] Source: ESG Research Report, *2017 Public Cloud Computing Trends*, April 2017.
[4] ibid.

workloads to still be running on-premises in five years.[5] And sensible organizations are right to acknowledge that the cloud can sometimes present challenges, complexities, and extra considerations. But overall, across the IT industry, the trend toward ever-greater cloud trust/reliance is undeniable.

## IBM Spectrum Virtualize—What IBM Already Offered

Once, IBM Spectrum Virtualize was only available bundled with IBM storage systems. But in late 2016, IBM introduced a standalone version, which was a downloadable, DIY, software-only offering that signaled IBM understood where the market was heading—namely, toward software-defined storage and the cloud.

This first iteration of the standalone Spectrum Virtualize was initially for use with Lenovo or Supermicro servers and was targeted to organizations running internally managed or externally hosted private clouds. That iteration was designed to support:

- Enterprise organizations that wanted to make storage more like an application (and less like an "occupation") by injecting ease and flexibility into their virtualization deployments.
- Cloud service providers that wanted to improve the efficiency and flexibility of their data centers.
- Cloud service providers that wanted to offer disaster recovery-as-a-service.

## What IBM Will Deliver with Spectrum Virtualize for Public Cloud

Buyers can still purchase Spectrum Virtualize bundled with IBM storage, and they can still buy Spectrum Virtualize for hosted private clouds. But the vendor is now preparing to unveil Spectrum Virtualize for Public Cloud—largely the same software, but delivered under a "buy and bring a license" model with a low upfront dollar-per-terabyte cost combined with an option to pay extra in a granular fashion as capacity needs increase. The public cloud infrastructure hardware is either purchased and deployed by the client, or it is purchased/deployed by the service provider on behalf of the client.

For now, IBM is targeting the new solution to its enormous existing base of Storwize, SVC, and VersaStack clients who want to establish hybrid cloud deployments for disaster recovery with real-time mirroring, workload offloading to the IBM Cloud, or data migration to the IBM Cloud.

Spectrum Virtualize for Public Cloud offers real-time replication in a hybrid cloud environment leveraging a public cloud and utilizing Spectrum Virtualize capabilities including Global Mirror, Metro Mirror, and Global Mirror with Change Volumes according to a customer's RPO/RTO requirements.

Because Spectrum Virtualize for Public Cloud doesn't care what type of storage is being used, it will allow users to perform migrations or recoveries between different cloud-connected data centers—perhaps eventually, even between public clouds run by different public cloud vendors. True, IBM is rolling out the new Spectrum Virtualize on its own IBM Cloud first, but at its most recent IBM Edge storage event, it did successfully demonstrate the product performing cloud tiering/porting to AWS.

### The True Meaning of Hybrid Cloud

Hybrid IT is not just about engaging in some amount of onsite/private cloud IT activity and some amount of public cloud IT activity. If you have on-premises stuff and off-premises stuff but don't link them, you just have "some of each." That's like parking a diesel truck and a Tesla in your garage, and claiming you have a hybrid vehicle!

The point of a hybrid cloud is to let you use a mix of resources optimally, exploiting those resources in an automated, granular, and flexible manner.

Public and private clouds are distinct entities, but to create and really capitalize on them both, you must establish orchestration between them. That's a hybrid cloud: Multiple environments working in conjunction under one management layer to support IT workloads in more controlled, efficient ways.

[5] Source: ESG Brief, *On-premises Infrastructure Is the Key to Hybrid Cloud*, June 2017.

## This Solution Is Different and Important

The Spectrum Virtualize standalone release late last year focused on private clouds. The new extension addresses the fact that IT users are increasingly interested in integrating/incorporating public cloud capabilities into their operations to support production workloads, data-migration initiatives, disaster recovery, short-term data protection with real-time replication and copy data management, dev/test, and so on. This is definitely a step in a logical/necessary direction for IBM and its large base of customers.

A deeper look at the solution reveals that it embodies several distinctive capabilities:

- One differentiator is the "any-to-any" replication concept it uses. Most IT pros know by this point that it's often a good idea to get data out of the data center and into a public cloud for the purpose of migrating workloads, recovering from disasters, and other activities that have historically been (and continue to be) challenging.

  Yes, there are ways to get data to and from a cloud using solutions other than IBM Spectrum Virtualize for Public Cloud. But often, the alternatives work at the host server level, which affects compute resources. Or they might be tied to a particular hypervisor. Realistically, many organizations have certain applications that they aren't running in a virtualized environment, but the data created by those applications may still need to be housed in the cloud. If those organizations have some form of IBM SVC on-premises, Spectrum Virtualize for Public Cloud can be a great way to get data from any application on any back-end storage into a public cloud.

- IBM has been blazing a software-defined storage (SDS) path for a long time. Its Spectrum Storage SDS product suite provides data management, protection, retention, and other capabilities such as storage virtualization with Spectrum Virtualize. The IBM SDS strategy is to provide enterprises and cloud service providers with more freedom of choice and the benefits of an ultra-sophisticated, dynamically flexible, highly efficient storage environment that works regardless of the hardware in use.

- Organizations will be able to use this technology to provide high availability and disaster recovery between two cloud data centers to achieve cloud-to-cloud DR—a very useful capability when one wants to move production workloads to the cloud. Often, organizations have had to pay for such extra protection in other ways, for instance, by paying separately for public cloud backup services. But now, by setting up a secondary cluster in a separate cloud data center and using Spectrum Virtualize for Public Cloud, they will achieve real-time/zero-RPO recovery between data centers.

- Spectrum Virtualize for Public Cloud offers block storage options in the IBM Cloud called "Performance Storage" and "Endurance Tiers." Performance Storage is for organizations that want to customize back-end block storage to meet certain performance targets. With it, the organization buys capacity and IOPS separately. In contrast, Endurance Tiers are more cost-efficient but not as high-performing. Both connect to Spectrum Virtualize for Public Cloud via iSCSI.

- Heterogeneity means no need to change on-premises components.

- The product accommodates both virtualized and physically hosted applications. And it doesn't rely on any particular hypervisor technology; it interoperates with all of them. VMware is of course prevalent, but companies don't use only VMware hypervisors for everything they run. No one likes being locked into only one vendor. IBM Spectrum Virtualize for Public Cloud works with practically everything.

## The Bigger Truth

The standalone, software-only version of Spectrum Virtualize unveiled in late 2016 revealed IBM's stance on the cloud market: Basically, it appears IBM has concluded that if IT heterogeneity is going to be crucial, then providing a full data platform will be far better than simply providing individual storage components.

Spectrum Virtualize was already a field-proven technology before this latest release. Now it's become an even more versatile offering—capable of working in converging IT environments and with SDS, private clouds, and public clouds. This newest Spectrum Virtualize iteration could help IBM to grab the front-running position in the realm of moving storage functionality out of any particular box, and higher up the IT stack, which is vital in a hybrid-IT world.

Organizations have been noticing how helpful public clouds are in supporting backup, BC/DR, analytics, and test/dev. They are now also moving some of their *business-critical production applications and workloads* to public clouds that operate in conjunction with the onsite data center. This is an important trend, and it is most likely the major reason IBM is introducing this offering. Spectrum Virtualize for Public Cloud represents a very welcome step in making hybrid IT a reality, and even better, it comes from one of the most credible, capable, and committed players in the IT industry.