# ACCELERATING YOUR DIGITAL TRANSFORMATION WITH VERITAS 360 DATA MANAGEMENT FOR AWS

VERITAS™

Almost every organization is undergoing some form of digital transformation. Whether it is mobilizing the workforce, creating rich, rewarding online customer experiences, enabling electronic supply chains, or providing real-time access to medical records or financial statements, the role of IT as a business enabler has never been more critical.

Cloud services play a critical role in helping organizations accomplish this transformation, and for many enterprises, Amazon Web Services (AWS) is the infrastructure-as-a-service (IaaS) provider of choice. While the adoption of AWS services continues to grow in the enterprise, most are doing so as an extension of their IT strategy, opting for a hybrid-cloud model, rather than a complete migration. According to IDC's 2016 CloudView survey, 73 percent of respondents stated that they already have a hybrid cloud strategy in place.

73%
RESPONDENTS EMPLOY HYBRID CLOUD
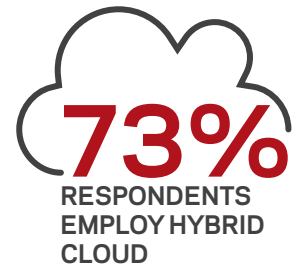
Despite all the change, some things remain constant. You need to protect your data, keep your applications and business services up and running, and you need to be able to leverage insights about your environment in order to optimize it and get the most value from your investments.

More than 86 percent of global Fortune 500 enterprises already use Veritas software-based data protection, availability, and insight capabilities today. With Veritas, the path to AWS doesn't require a complete fork lift of proven and trusted solutions. Rather, we allow you to extend and build on your existing IT investments with Veritas 360 Data Management for AWS (see figure 1), and accelerate your digital transformation by adopting AWS at whatever pace you deem ideal for your business.
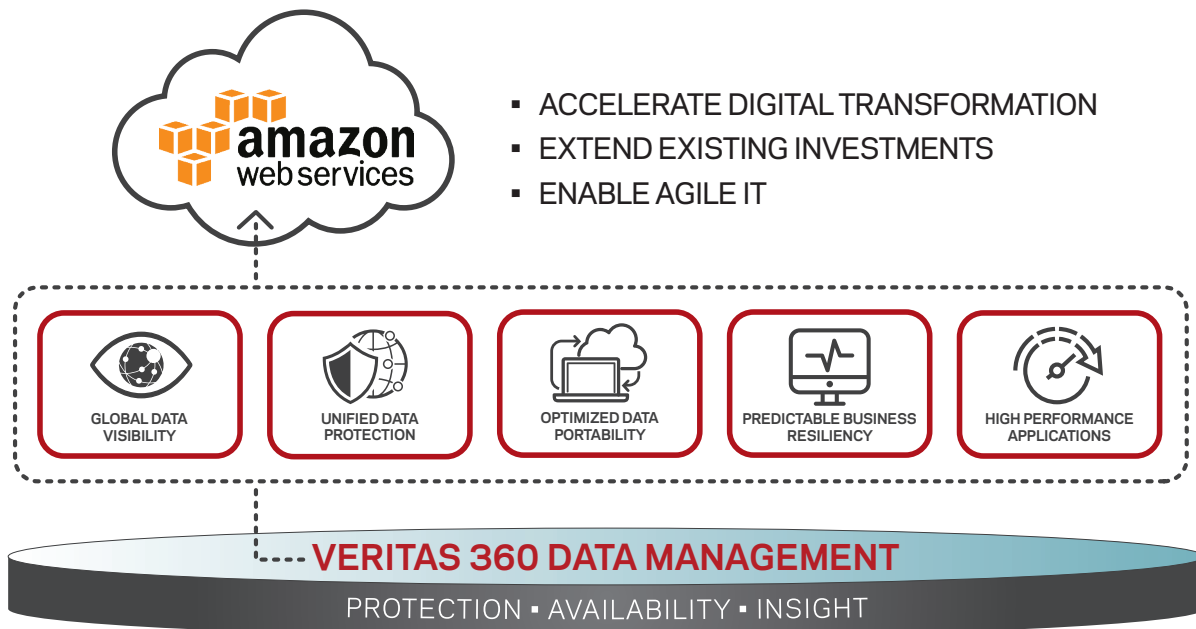
amazon web services

- ACCELERATE DIGITAL TRANSFORMATION
- EXTEND EXISTING INVESTMENTS
- ENABLE AGILE IT

| GLOBAL DATA VISIBILITY | UNIFIED DATA PROTECTION | OPTIMIZED DATA PORTABILITY | PREDICTABLE BUSINESS RESILIENCY | HIGH PERFORMANCE APPLICATIONS |

VERITAS 360 DATA MANAGEMENT

PROTECTION ▪ AVAILABILITY ▪ INSIGHT

Figure 1: Veritas 360 Data Management enables new use cases for customers using AWS infrastructure.

By providing unique integration and support to deliver global data visibility, unified data protection, optimized data portability, predictable business resiliency, and high-performance applications, Veritas enables you to accelerate your own digital transformation – while using your existing investments to establish a reliable foundation for the future.

360 DATA MANAGEMENT STARTS WITH GLOBAL DATA VISIBILITY

Thirty-three percent of enterprise data is redundant, obsolete, or trivial (known as ROT), and 52 percent of enterprise data is dark (see figure 2) – meaning, organizations have no clue what it is[1]. It's hard to get value out of data, stored on storage disks and tapes in the dark corners of your data center, if you don't know what it is. It's not cheap, and it's not easy to know what data must be kept, and what can be eliminated.

If you're like most enterprises, you probably view cloud storage as offering relief to this problem. But blindly moving massive amounts of data up to the cloud can actually drive up costs and increase risks – especially if you're one of the many enterprises that need to carefully consider and navigate an evolving regulatory landscape. A smart move is to establish **global data visibility**, so that you're empowered to take proactive action on your data – which may include leveraging more cloud storage to keep valuable data, but may also include emptying out the trash as well.

When organizations cannot effectively identify their critical data among the junk, time, money

CLEAN	15%
ROT	33%
DARK DATA	52%

Figure 2: Global Databerg

and effort is wasted. This is an especially painful concept when you consider 41 percent of the data hasn't been modified in at least three years[2]. By ingesting metadata captured from Veritas 360 Data Management components (see figure 3), **Information Map** allows you to understand what data you have, where it exists, whether it's redundant and how many copies you have, who owns it (do they still work at the company?), as well as other helpful insights. These insights can inform your data retention and migration policies. With Veritas 360 Data Management for AWS you can move data to AWS seamlessly and pragmatically, and potentially lower storage costs in a dramatic, but smart way.
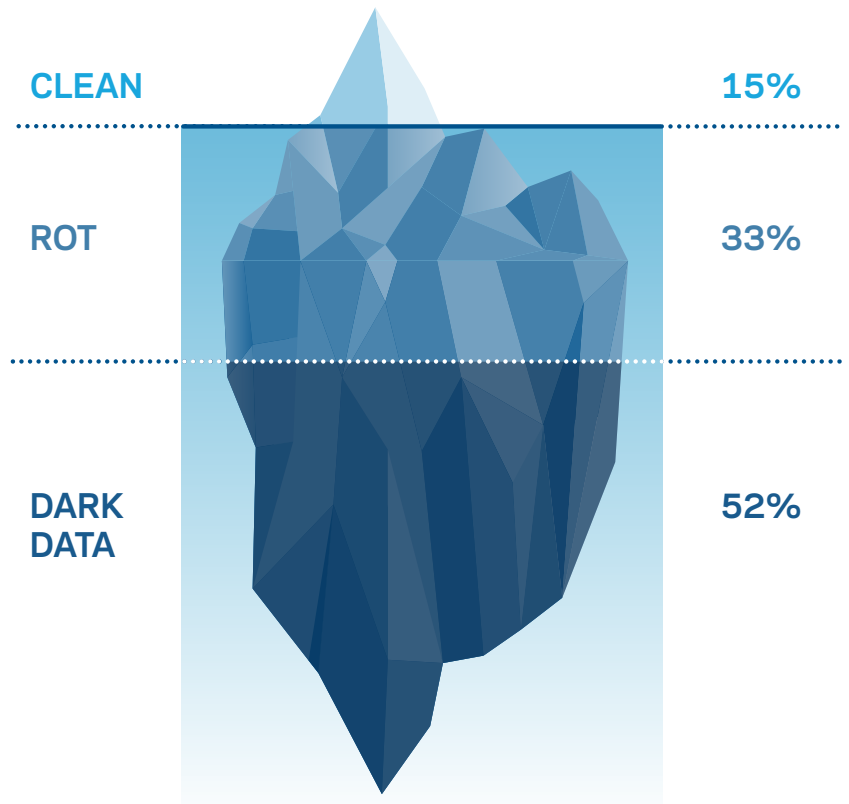
360 DATA MANAGEMENT COMPONENTS

360

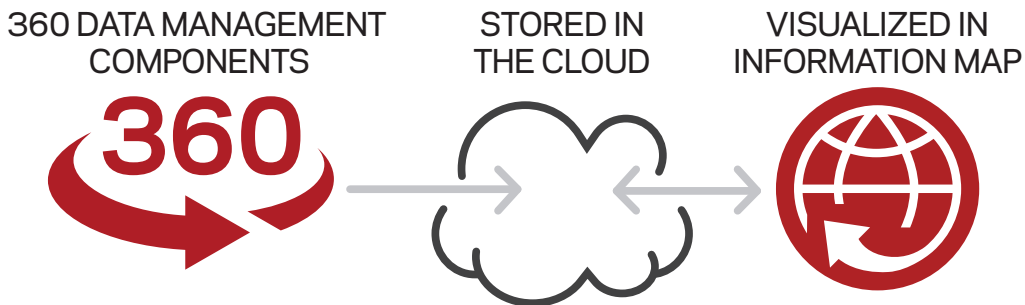**STORED IN THE CLOUD**

VISUALIZED IN INFORMATION MAP

Figure 3: Metadata captured by 360 Data Management components (i.e. NetBackup) is stored in the cloud, then visualized via the Information Map to enable global data visibility.

ENSURING UNIFIED DATA PROTECTION

Many enterprises today use Veritas NetBackup to protect on-premises workloads in physical or virtual environments. As organizations shift workloads to AWS, they now have a unique opportunity to extend their trusted data protection solution to ensure cloud-based workloads gain the same level of data protection. This is good news, because the alternative is either to create yet another data protection silo, or as is too often the case, fall victim to thinking that data protection is unnecessary in the cloud.

> **It's a fallacy to think that data protection is unnecessary in the cloud. While the cloud offers data durability beyond what any enterprise could realistically offer in their own data center, data durability is not the same as data protection.**
>
> — Jason Buffington, ESG

"It's a fallacy to think that data protection is unnecessary in the cloud," says Jason Buffington, ESG. "While the cloud offers data durability beyond what any enterprise could realistically offer in their own data center, data durability is not the same as data protection."

By leveraging NetBackup in the cloud as well as on-premises in data centers and remote branch offices (see figure 4), you gain a unified and efficient data protection experience – which equates to a much lower cost of ownership and dramatically simplified operation – one that siloed and disparate point products simply cannot provide. With the latest release of **NetBackup**, organizations now have even greater flexibility for extending data protection to cloud-based workloads with the new **NetBackup Amazon Machine Image (AMI)**, which allows for a preconfigured and customizable cloud deployment of NetBackup in minutes.
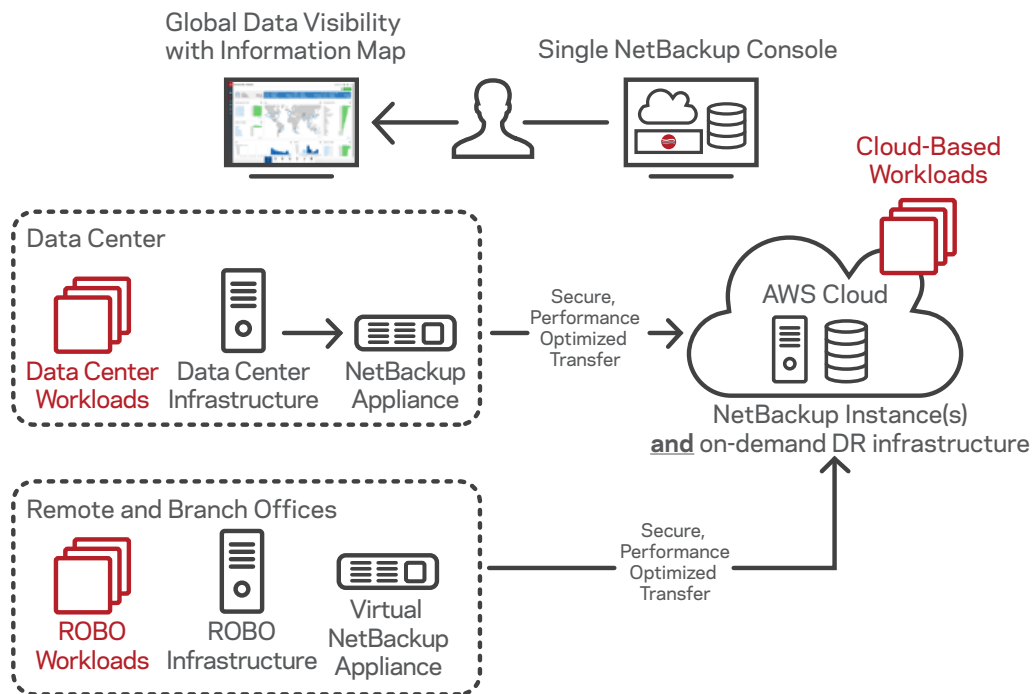

Figure 4: Unified data protection solution with Veritas NetBackup

OPTIMIZING DATA PORTABILITY WITH SOFTWARE DEFINED STORAGE IN THE CLOUD

All applications, whether legacy or cloud-native, require access to storage resources. The type of storage resources allocated are guided (although loosely) by the requirements of the application. Applications demanding peak performance may require flash storage, whereas less-demanding applications may get away with lower-performing spinning disk. Obviously, both scenarios have cost implications as well.

The same scenario plays out in the cloud, though in the case of the cloud, you may not be exposed to the type of storage being allocated. Rather you provision cloud resources based on available service levels to ensure a certain level of input/output operations per second (IOPS). For resource-intensive workloads, this can quickly become very costly. It is in the organization's best interest to not only allocate resources based on performance requirements, but ensure dynamic and intelligent cost management in order to truly optimize.

Veritas Access enables performance and cost-optimized software-defined storage for unstructured data workloads. For on-premises workloads, you're able to use Veritas Access to provision AWS S3 storage as a low-cost storage tier for unstructured data workloads and optimize the portability of that data to and from AWS driven by automated policy (See figure 5).
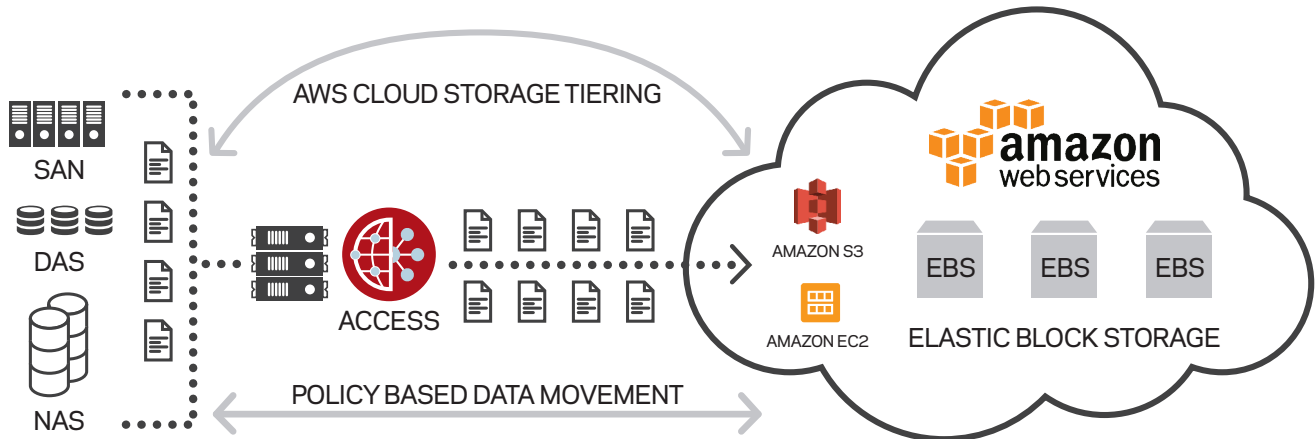

Figure 5: Highly flexible cloud-integrated scale-out NAS for unstructured data

Veritas Access can also be run as an AWS Elastic Compute Cloud (EC2) instance and automatically provision the right tier of Elastic Block Storage (EBS) or S3 storage to meet workload performance requirements (see figure 6). Access intelligently identifies highly-accessed data and caches it locally to boost performance and enables the provisioning of lower cost tiers to meet the same performance needs. When data is no longer being accessed (or accessed less frequently), it can be moved from EBS to S3 or Glacier via policy, further cost-optimizing your environment.
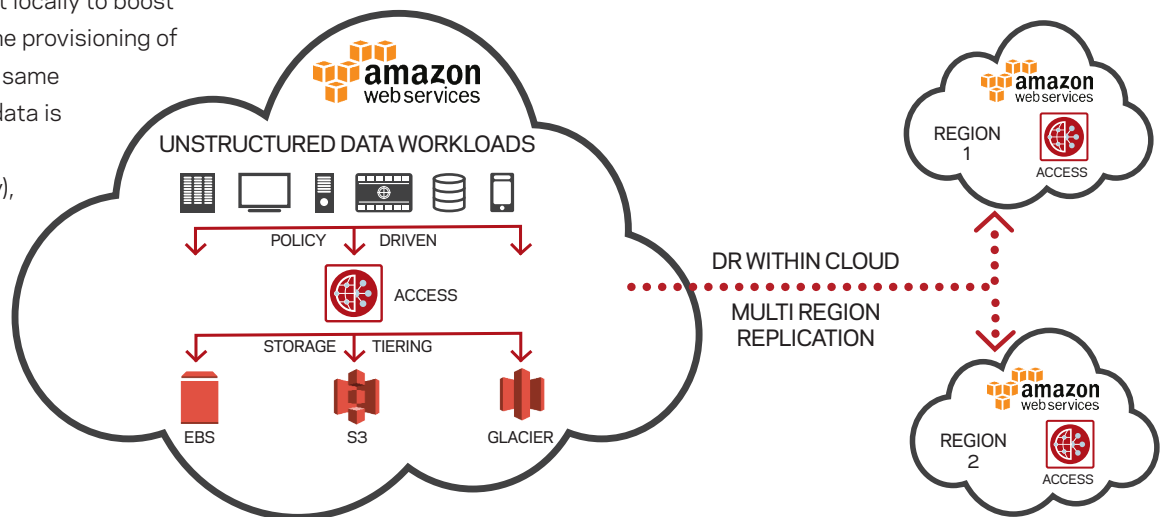

Figure 6: Host unstructured workloads in AWS with DR

CREATING A PREDICTABLE BUSINESS RESILIENCY STRATEGY IN THE CLOUD

Today, 17.2 percent of enterprises indicate they use cloud-based disaster recovery, but that number is expected to more than double to 36 percent over the next two years[3]. This is another key use case for enterprises with a hybrid cloud strategy that look to AWS as a disaster recovery target. Many enterprises still maintain standby data centers to recover to in the event of a disaster. The real estate, infrastructure, operational, utility, software, and other costs of employing this type of disaster recovery strategy is a sobering way of life for many of these organizations. Spinning up AWS resources on demand in the event of a disaster represents both extreme operational simplification and major cost savings.

Applications and workloads are diverse entities made up of various tiers. For the hybrid cloud enterprise, each tier may run on a different operating system or virtual or physical platform on premises. Additionally, in the case of a recovery event, there may be start and stop ordering dependencies across the different tiers. Recovering such applications manually or with point tools is inefficient, unfeasible, and can lead to risk of extended downtime.

Beyond disaster recovery, there is an opportunity to proactively drive value for the business as many organizations are looking for the flexibility to move their workloads in and out of the cloud based on business demands. To meet this need, it is essential to have the ability to not just failover to the cloud, but also failback seamlessly to on premises if required.

Resiliency Platform offers fully automated and orchestrated failover and failback for IT business services to and from AWS as part of a wide-area disaster recovery strategy (see figure 7). This can be used for either temporary or permanent consumption of AWS infrastructure. Because Resiliency Platform integrates directly into AWS Elastic Block Storage (EBS), recovery of assets to AWS is quicker, especially for IO intensive applications. Other products that integrate into S3 storage alone are required to convert from S3 to EBS, as S3 cannot be attached to an EC2 instance.

Resiliency Platform additionally automates migration and recovery testing so you can test or rehearse all recovery operations before run time via non-disruptive rehearsal procedures that include automated clean up. This allows organizations to dramatically increase their disaster recovery readiness and lower both the risk and impact of unplanned downtime.
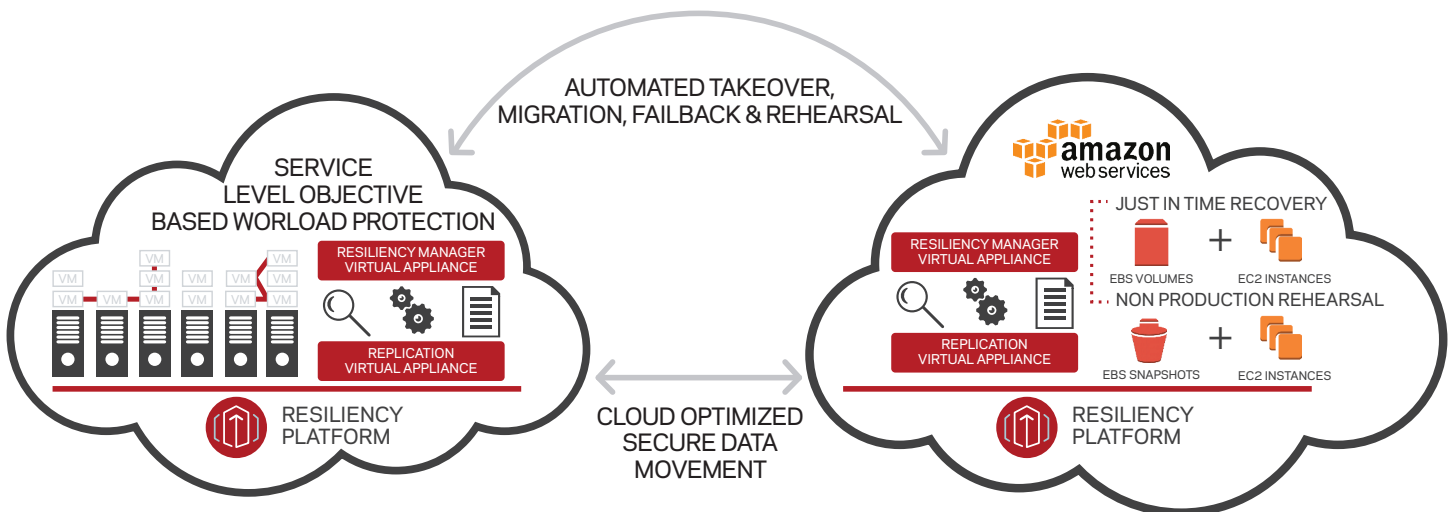

Figure 7: Veritas Resiliency Platform ensures a unified hybrid cloud resiliency strategy

ARCHITECTING FOR HIGH-PERFORMANCE TIER 1 APPLICATIONS IN THE CLOUD

According to 451 Research, the percentage of an organization's workloads that operate in IaaS environments specifically will grow by 107% in the next two years, while overall workloads running in cloud (i.e. SaaS, IaaS, hosted private cloud, on-premises private cloud) environments in general will increase by 43% in that same time frame. The desire to deploy more cloud infrastructure to support critical workloads continues to grow. This is certainly the case for organizations adopting AWS as an infrastructure alternative. However, what is particularly challenging is when organizations look to Infrastructure-as-a-Service (IaaS) to support the needs of tier 1, mission-critical applications with intensive resource requirements, such as Informatica, SAS, Oracle RAC, SAP, Tibco and others. These types of parallel, scale-out applications, built to operate on traditional architectures, can suffer major performance, resiliency, and scalability challenges when "lifted and shifted" to cloud architectures, including AWS. It is therefore critical that you plan for and establish the optimal foundation in the cloud – one that supports moving or deploying these types of applications – within the cloud itself.

Many think that the only way to get these highly demanding tier 1 applications to perform properly in the cloud is to completely refactor them. But this consumes valuable development resources and can take months or even years to accomplish – stalling digital transformation initiatives. While refactoring may be an inevitable part of a longer-term strategy, Veritas 360 Data Management for AWS offers an attractive alternative that accelerates the adoption of AWS to support these applications, yet alleviates the tradeoffs discussed.

Veritas has ensured the performance, scalability, and high availability of these types of business-critical applications for some of the largest enterprises in some of the most demanding environments for many years. That IP is built into InfoScale for AWS, which through a software-defined storage approach, leverages AWS instance store for intelligent data caching to boost throughput, creates shared nothing clusters with EBS volumes for flexibility and horizontal scalability, and application-awareness via agents to ensure high availability for these tier 1 applications. While each organization's results may differ, users should expect to see a minimum 4x improvement in throughput for a 20% cache hit.

4X IMPROVEMENT IN THROUGHPUT | **20%** CACHE HIT

With this approach, enterprises have a fast and simple alternative to refactoring the application, can repurpose scarce development dollars, and obtain a simplified way to lift and shift these applications from on-premises to AWS while avoiding many of the common impediments previously discussed (see figure 8).

In essence, enterprises gain the high performance, scalability, and resiliency characteristics in the cloud for these resource-intensive applications they've come to expect from Veritas solutions on-premises. Only Veritas provides these capabilities to organizations via a common tool across platforms and operating systems, enabling workload portability from on premises to AWS, between AWS availability zones, or AWS back to on premises.

As a result, IT organizations gain much needed flexibility and agility to better meet their needs by using the AWS cloud as a highly cost-effective logical extension of their existing IT environment.
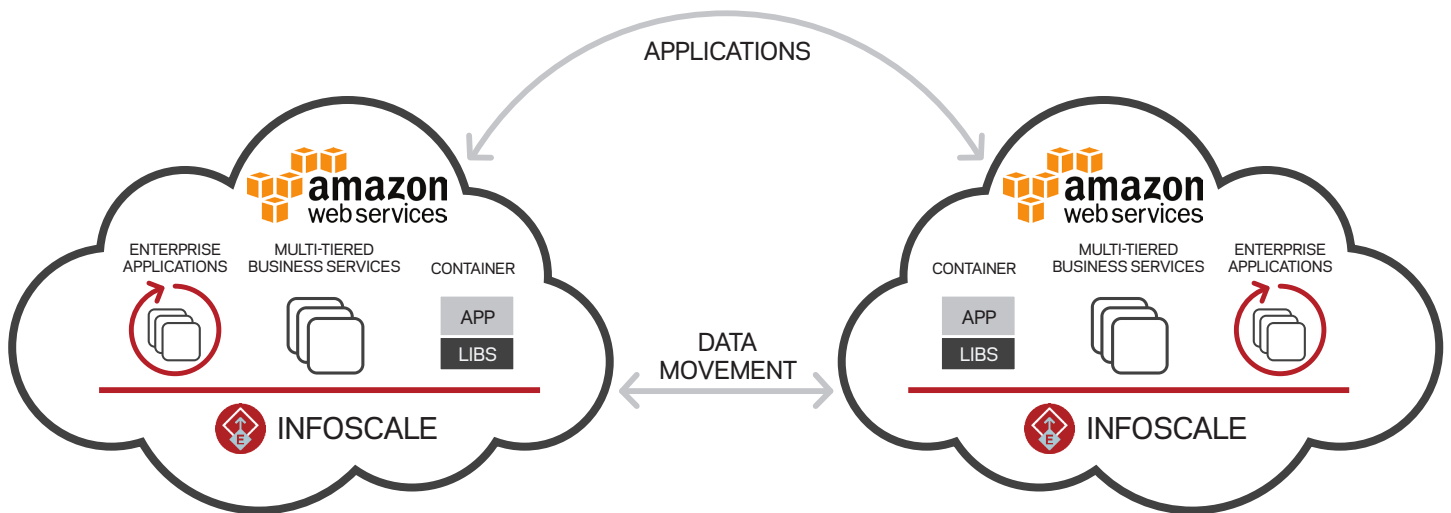

Figure 8: Storage and workload cloud integration with Veritas InfoScale for AWS

DIGITAL TRANSFORMATION WITH VERITAS 360 DATA MANAGEMENT FOR AWS

Veritas is trusted today to provide data management to organizations of all sizes, including 86 percent of global Fortune 500 companies. AWS is the leading infrastructure-as-a-service (IaaS) provider. In combination, organizations can leverage their existing data center technologies to integrate AWS resources as an extension of their IT strategy and accelerate the realization of their digital transformation initiatives.

Organizations need to manage their data as a critical asset, with solutions that reliably protect the right data, help ensure resiliency and on-demand access from anywhere, and reduce the risks and costs of storing their ever-increasing amounts of data throughout the globe.

The "always on" nature of digital business also demands the removal of the artificial barriers between these frequently siloed capabilities to reduce complexity, streamline operations, and benefit from synergies that otherwise are not achievable.

By providing unique integration and support to deliver global data visibility, unified data protection, optimized data portability, predictably business resiliency, and high performance applications, Veritas enables you to accelerate your own digital transformation – while leveraging your existing investments, and establish a reliable foundation for the future.

We invite you to explore the new possibilities presented by 360 Data Management for AWS and join us on the journey.

Visit **www.veritas.com/AWS** to learn more about accelerating your digital transformation with 360 Data Management for AWS.

ABOUT VERITAS TECHNOLOGIES LLC

Veritas Technologies LLC enables organizations to harness the power of their information, with solutions designed to serve the world's largest and most complex heterogeneous environments. Veritas works with 86 percent of Fortune 500 companies today, improving data availability and revealing insights to drive competitive advantage.

Any forward-looking indication of plans for products is preliminary and all future release dates are tentative and are subject to change at the sole discretion of Veritas. Any future release of the product or planned modifications to product capability, functionality, or feature are subject to ongoing evaluation by Veritas, may or may not be implemented, should not be considered firm commitments by Veritas, should not be relied upon in making purchasing decisions, and may not be incorporated into any contract.

Sources:
[1] Veritas Global Databerg Report 2016
[2] Veritas Global Databerg Report 2016
[3] 451 Research, Voice of the Enterprise: Storage, Organizational Dynamics 2016

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