

EFFICIENTLY PROTECT VIRTUAL MACHINES WITH OUR CLOUD BACKUP SERVICE POWERED BY ASIGRA

As virtualization platforms and functionality become more robust, more and more of your data and applications will reside on virtual machines (VM). Organizations such as yours may also look to leverage the strengths of the different virtualization platforms such as VMware, Microsoft, Citrix, Parallels, and Linux KVM.

Managing multiple vendors such as VMware, Microsoft and Citrix is already a complex task. Treating VM data protection separately from your overall data protection plan is a replication of effort and an inefficient use of resources. Don't leave the backup and recovery of data on virtual machines to the administrator of a particular VM platform; instead, you should integrate virtual machine data protection into an enterprise-wide data backup strategy and practice.

Our cloud backup service powered by Asigra enables you to backup and restore

multiple virtual and physical servers with a single, integrated service. Our flexible agentless solution supports multiple hypervisors, operating systems and physical server environments, enabling effortless backup and recovery of virtual machine environments.

Virtualization Backup and Recovery Challenges

Virtualization is now an essential component of your IT infrastructure. Many enterprises are more than 50 percent virtualized with a goal of achieving even greater levels of virtualization over the next few years because of the many business benefits it provides, including rapid provisioning and better utilization of system resources.

Traditional agent-based approaches to data protection increase the load on system resources, so it can nullify the

primary benefits of virtualization. This has led organizations to seek agentless solutions for the backup and recovery of virtual machines. But since there are few solutions in the market that offer combined physical and virtual machine protection, enterprises have been forced to use separate solutions for backing up physical and virtual machines. In addition, since most service providers do not offer a solution that covers multiple virtual machine environments, organizations end up engaging multiple providers. This means the responsibility for the backup and recovery of your virtual machines running on VMware resides with one provider, for example, while another provider provides backup and recovery services for your virtual machines running Citrix.

Because these responsibilities are now divided between different solutions and

service providers, the same data may be being backed up more than once – an inefficient and costly use of storage and network resources. Worse still, no one in your organization has a singular view of all backup and recovery activities, which can lead to confusion and a lack of a clear recovery strategy in the face of a disaster. You also face greater costs from licensing different point solutions and managing different vendors.

Our Solution Powered by Asigra

Our cloud backup service powered by Asigra offers an integrated solution for the end-to-end data protection needs of your organization, including the ability to protect both physical and virtual machines across operating systems or virtualization platforms.

Our cloud backup service leverages the native APIs of virtualization platforms wherever they are available, simplifying the backup, recovery and restore process for virtual machines. APIs currently available include those for VMware, Microsoft and Citrix. VMware has the VMware API for data protection (VADP) with Changed Block Tracking (CBT) features which help perform efficient incremental backups of VMware virtual machines. Microsoft provides a Volume Shadow Service (VSS) API for the backup of Hyper-V. Citrix XenServer's API supports efficient virtual machine snapshots.

Our service also works natively with VMware's vSphere 4.x/5.x VADP with CBT, Microsoft's Hyper-V VSS API and Citrix XenServer VM snapshot API to provide low impact backup of virtual machines. It follows the standardized rules by quiescing and backing up VM images directly via the appropriate APIs on both a full and incremental basis. Our solution powered by Asigra also supports virtualization platforms that do not provide APIs, including RedHat KVM, Parallels Virtuozzo and Oracle VM server

by accessing their data externally via the operating system's published APIs. This reduces the impact on the virtual server's resources and does not disrupt the operating system and applications.

Simple and intuitive recovery

We facilitate the recovery of virtual machines using a simple and intuitive process. In the case of VMware, Microsoft Hyper-V and Citrix XenServer, our solution restores the virtual disks of a virtual machine. Upon restoration, the virtual machines can just be turned on, and the entire machine, including all data and applications, can then be made available at the instant that the previous backup was taken. For virtual machine platforms that don't currently expose an API, we restore all visible and hidden files that have been backed up – a complete machine can be restored and brought online easily without any disruptions.

Benefits of our Cloud Backup Service Powered by Asigra

Agentless backups

Our cloud backup service powered by Asigra is agentless which means it does not require backup agents or clients to be installed, managed, and maintained on virtual servers or operating systems running on physical servers. The benefit of this architecture is that Asigra Cloud Backup does not hog server and network resources when backing up virtual or physical machines in a virtualized environment.

Improved performance

After an initial full backup, fast backup and restore performance is achieved either by leveraging changed block tracking (via APIs) and/or using the incremental forever technology offered in our service. This guarantees only changed or new data is captured, which reduces the amount of data and time required to backup virtual machines. Our cloud

Supported Platforms:

VMware

- VMware vSphere
- VMware ESX
- vStorage API for Data Protection (VADP)
- Changed Block Tracking (CBT)

Microsoft Hyper-V

- Hyper-V Server
- Cluster Hyper-V Server
- Hyper-V Volume Shadow Services (VSS) writer

Citrix Xen

- XenServer
- XenDesktop
- VM Protection and Recovery snapshots

RedHat KVM

- Enterprise Virtualization for Servers
- Enterprise Virtualization for Desktops

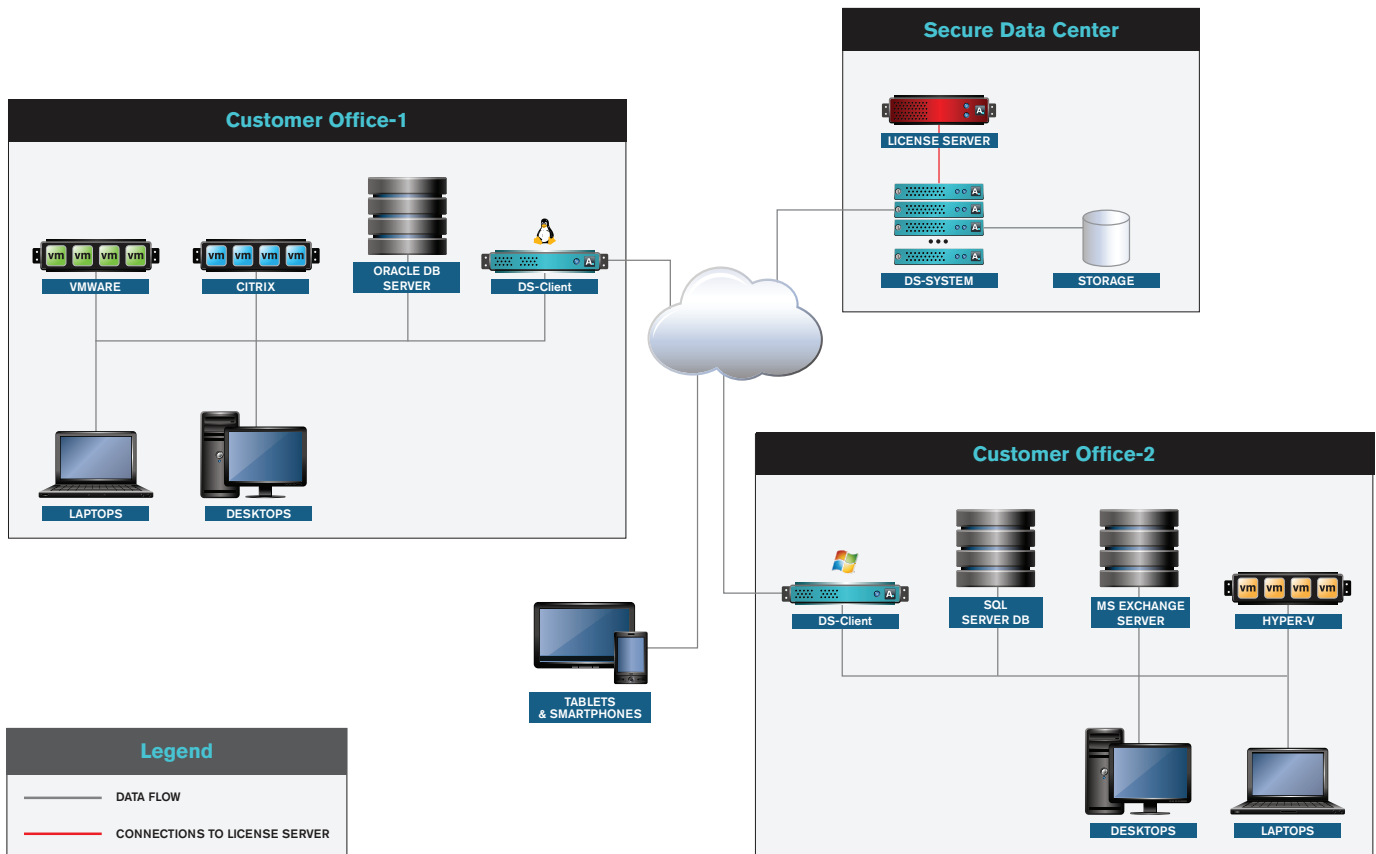
Parallels

- Parallels Virtuozzo Containers
- Parallels Server
- Parallels Workstation
- Parallels Desktop

Oracle VM

- Oracle VM Server

Figure 1: Our cloud backup service powered by Asigra protects physical and virtual machines in the data center



backup service powered by Asigra also performs compression, deduplication and encryption to further reduce storage and bandwidth requirements while securing data for transmission into the cloud. Local caching and storage options are also available to provide LAN-speed backup and restoration.

Enterprise scalability

Our cloud backup service can easily scale to perform the backup and recovery of all virtual machines throughout your organization. When provided with adequate hardware resources, we can backup hundreds of virtual machines. Greater scalability can be achieved by configuring multiple data collectors in a grid configuration and provide additional backup failover and load balancing across your environment.

Quick and simple recovery

We restore complete virtual machines with all the data and applications at the instant that the previous backup was taken. In the case of restoring VMware, Microsoft Hyper-V and Citrix XenServer virtual machines, we can restore virtual machines at the virtual disk level or the entire virtual machine level. In the case of restoring virtual machines from platforms that don't currently expose an API, we restore all visible and hidden files that have been backed up. As a result, the complete virtual machine can be restored and brought online without any challenges or disruptions.

Multiple platform support

Besides supporting the agentless backup of all leading virtualization platforms which expose APIs for data protection

such as VMware, Microsoft Hyper-V and Citrix XenServer, our cloud backup service also facilitates the agentless backup of virtualization platforms that do not have equivalent APIs. It does so by leveraging the well published operating system APIs to backup all visible and hidden file data. All VMs and physical servers can therefore be backed up live and online without disruptions. The result is a unique standardized agentless backup methodology for heterogeneous virtual and physical machines across vendors, virtual servers, operating systems, applications, and platforms.

If you're using different point solutions to backup virtual machines and would prefer a single enterprise-class end-to-end backup and restore solution to protect all of your data, look no further than our cloud backup service powered by Asigra.

ABOUT ITC Infotech

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The company is powered by a growing portfolio of specialized solutions addressing critical business challenges, including: Industry 4.0 solutions (PLM, IoT and Embedded), Customer Value Management, Loyalty, Trade Marketing & Distribution, Supply Chain Optimization, Data Engineering and Analytics, Digital Banking solutions and Digital Agriculture solutions. The company provides solutions to enterprises in Supply Chain based industries (CPG, Retail, Manufacturing, Hi-Tech) and Services (Banking, Financial Services and Insurance, Airline, Hospitality) through a combination of traditional and newer business models, as a long-term sustainable partner.

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