Virtual Server System and Data Protection, Recovery and Availability
Although server virtualization helps reduce IT infrastructure costs, it also adds complexity to protecting the wide range of applications installed on the virtual machines and the ever-increasing volumes of data created on shared storage devices. System and application outages and loss of data translate to loss of revenue, lower levels of customer service and employee productivity, and even loss of reputation. Organizations need more than basic backup to provide business protection in today’s fast-paced environment. They seek faster recovery times and more frequent recovery points to support their demanding service level agreements and disaster recovery strategies.
Customer Challenges

Today, IT organizations use a variety of server virtualization platforms including VMware ESX/vSphere, Microsoft Hyper-V and Citrix XenServer and face many challenges. They need an easier and faster way to migrate from physical to virtual environments, especially for older systems. And once virtualized, they need to take a different approach to backup, recovery and system availability. Some virtualization vendors provide basic system and data protection capabilities, but they only work on their own platform so then you need another solution to protect your physical servers. Deploying multiple point solutions is not cost-effective, and it makes managing the IT environment more complex, especially when addressing business continuity (BC) and disaster recovery (DR) strategies.

The Solution: CA ARCserve

To meet demanding recovery time objectives (RTO) and recovery point objectives (RPO), CA ARCserve provides comprehensive protection, recovery and availability for both physical and virtual servers. You get host-level image-based backup to disk and VM-level file-based backup to tape, both offering granular recovery. You get storage reduction technologies like block-level Infinite Incremental backup (I² Technology™) and data deduplication, at no additional cost. You also get scheduled replication to copy backups offsite for disaster recovery and continuous replication to complement periodic backups to further reduce risk of data loss and improve RPO. For fast system recovery, you get hardware-independent bare metal recovery (BMR), P2V and V2V virtual standby and true high availability with continuous data protection—all to help you address different IT environments and RTOs as part of your business continuity strategy. For flexibility, you have the option of using a traditional software license or selecting a software-as-a-service (SaaS) offering to help reduce capital expenses. CA ARCserve is used by many MSPs offering turn-key data protection and BC/DR managed services. And it’s also integrated with public clouds like Microsoft Windows Azure and Amazon Web Services so you can gain a secure remote BC/DR facility and recover your systems, applications and data when, where and how you want.

Physical to Virtual Migration

All organizations need a faster and easier way to migrate from physical to virtual servers. With CA ARCserve you simply perform an image-based backup of the physical server and then perform a Bare Metal Recovery (BMR) to a supported virtual server platform (VMware, Hyper-V and XenServer) and create a new virtual machine (VM).

Backup and Recovery

You can’t simply approach virtual server backup the same way you do with physical servers. Each virtual server host may have many virtual machines (VMs), each performing a different task and running different operating systems and applications. All of these VMs are vying for processing power from the host and also share common storage.

CA ARCserve provides fast image-based disk-to-disk backup and recovery for VMware ESX/vSphere, Microsoft Hyper-V and Citrix XenServer. For VMware, you get single-pass, host-based backup with “one-step” granular restore. You can recover all VMs, individual VMs, and even a single file or folder. This agentless virtual server backup solution speeds and eases backup and recovery. To recover applications or application
data like Exchange emails or mailboxes, you install our image-based backup in each VM. For Hyper-V, you can backup the hypervisor and you get VM-level backup with granular recovery. And for XenServer, you get VM-level backup and granular recovery. CA ARCserve block-level, Infinite Incremental (I² Technology) helps speed backups to address backup window constraints and can significantly reduce storage costs and the volume of data transmitted across the network. It can also reduce the impact on production server resources and enable more frequent backups (up to every 15-minutes) to improve your RPO. Plus you can copy critical files offsite and to the cloud for disaster recovery. CA ARCserve image-based backup also provides hardware-independent bare metal recovery (BMR) along with P2V and V2V Virtual Standby for near-instantaneous system, application and data recovery. And if you require tape support for long-term archiving or compliance, you get disk-to-disk-to-tape migration by also using CA ARCserve file-based backup.

If you require direct disk-to-tape backup and recovery, CA ARCserve offers file-based backup for VMware, Hyper-V and XenServer. This solution provides VM-level protection, eliminates the need for a staging server, and includes built-in data deduplication at no additional cost to help reduce storage requirements and cost. With CA ARCserve, you get Hybrid Data Protection that offers fast local backup and restore along with the ability to copy and archive critical information and migrate complete backups to a remote site and private and public clouds. You also get a comprehensive backup dashboard, SRM reporting and infrastructure visualization—all to help you more easily manage the environment and help you avoid unplanned outages.

**Replication**

Once backups are completed, most IT organizations want to migrate a copy offsite for disaster recovery. CA ARCserve offers both scheduled and continuous replication for VMware, Hyper-V and XenServer to meet different needs. To migrate backups offsite to a remote location, MSP facility or public cloud, you use scheduled replication once backup completes. If you’re looking to reduce data loss and meet more demanding recovery point objectives (RPOs), you use continuous data replication—whether to a local server or one stored at any remote location or in the cloud.

Today, performing basic backup and recovery is just not good enough to meet demanding service level agreements (SLAs) and disaster recovery strategies. IT organizations need fast system recovery to reduce risk and impact of system outages that cause business downtime. While CA ARCserve offers hardware-independent Bare Metal Recovery (BMR) for fast system recovery, some IT organizations need even faster recovery to address the needs of the business. To support this need, CA ARCserve provides two other system recovery solutions.
Virtual Standby

CA ARCserve provides Virtual Standby for fast system recovery. It automatically converts periodic image-based backup recovery points to a virtual disk format and registers with the standby Virtual Server (VMware or Hyper-V) hypervisor. If the system fails for any reason, you can perform manual or automatic failover for fast recovery. Virtual Standby can be used at the VM level as well as at the host level to protect all VMs on a single host. This solution supports both P2V and V2V failover scenarios.

High Availability

VMware does offer high availability but their solution only works on their own platform, only protects against VM or host failure so it can’t capture an application outage, and it only provides on-premise failover—meaning it can’t failover to a remote site. And this solution does not provide data protection for the shared storage. CA ARCserve is used to protect VMware, Hyper-V and XenServer. It provides VM-level high availability for VMware and XenServer virtual servers and provides Hypervisor and VM-level high availability for Hyper-V virtual servers. It delivers both system and application-level monitoring, automatic and push-button failover, hardware independent, non-disruptive BMR failback, and automated, non-disruptive recovery testing. And you get continuous data replication to help reduce risk of data loss and for better RPO. You can deploy this solution onsite, or at any remote location including a MSP facility or public cloud like Amazon Web Services (AWS/EC2). It supports P2P, P2V, V2V and V2P failover and failback scenarios.

Licensing

CA ARCserve offers per-host licensing that allows you to protect an unlimited number of Virtual Machines (VMs) on a single host server with one, low-cost license. You can also choose from per-socket licensing and per-VM licensing—whichever best meets your specific needs. For environments with a large number of servers, you can use Managed Capacity licensing that allows for an unlimited number of servers/VMs based on the volume of data being protected. CA ARCserve is also available as software-as-a-service (SaaS) if you prefer a subscription-based service offering.

The CA ARCserve Advantage

- **Delivers true hybrid data protection:** That means fast onsite backup and restore for improved business continuity along with file copy, migration, replication and cloud support for offsite protection and disaster recovery.
- **Helps you virtualize with confidence and protect your investment:** VMware. Hyper-V. XenServer. You’re covered, whether you choose one or some combination of these for your server virtualization platform. By
using server virtualization as part of your system and data protection strategy, you can speed recovery time and reduce costs.

- **Helps you build effective business continuity and disaster recovery strategies:** With ARCserve, you can use your own facilities and resources, partner with a managed services provider (MSP) or leverage a public cloud. Besides offering onsite protection and recovery, it allows you to quickly and easily migrate files, applications and even entire systems offsite and to a public cloud for disaster recovery. You can even run your systems and applications from the cloud for business continuity.

- **Allows you recover assets where, when and how you like:** That includes all your systems, applications and data. You can recover a single file, folder or email, an Exchange mailbox, a large server volume or an entire Exchange, SQL Server or SharePoint database.

- **Scales to meet your business’ future needs:** As your business grows and your IT environment and data protection strategies evolve, you can adopt new components to address new challenges.

## Benefits

- Reduce cost, risk and complexity by having one solution with comprehensive protection and recovery capabilities for both physical and virtual servers.

- Enhance business continuity and disaster recovery by recovering systems, applications and data up to 80 percent faster than with traditional methods.

- Reduce storage requirements by up to 95 percent.

- Meet demanding compliance requirements.

- Save money by taking advantage of flexible, needs-based license management.

## Summary

Whether you’re protecting a handful of servers or thousands of virtual machines across your enterprise, CA ARCserve gives you control over your virtualized environments by delivering comprehensive protection, recovery and availability for your virtualized servers, applications and data.

## Next Steps

Learn more about CA ARCserve by visiting [arcserve.com](http://arcserve.com). Please contact your local reseller or visit [arcserve.com/us/partners-info](http://arcserve.com/us/partners-info) to locate an authorized partner in your area.

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