



# MAKING THE RIGHT VIRTUAL SERVER BACKUP SOFTWARE BUYING DECISION:

## CA TECHNOLOGIES ARCSERVE STANDS OUT AS THE RIGHT DATA PROTECTION CHOICE FOR SMALL AND MIDSIZED ENTERPRISES

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## Executive Summary

Many small and midsized enterprises (SMEs) are at a crossroads when it comes to selecting the right backup solution to protect their environments. Many now have a mix of physical and virtual servers to protect and when they try to use their existing backup software to protect it or, alternatively, search for new backup software that better matches their new infrastructure demands they often encounter the following issues:

- **Existing backup software primarily designed to protect physical environments.** The majority of SMEs have already virtualized some of their servers and, as they start to use their existing backup software to protect these virtual machines (VMs), they find it breaking backup.
- **New backup software primarily designed to protect virtual environments.** SMEs are adopting server virtualization but most have not fully embraced or implemented it. Using backup software that only protects VMs may make it more difficult to protect their environment.
- **Too many features ... or not enough.** SMEs need backup software to possess enough features to protect their data without it offering features that they will never use *(but for which they still have to pay.)*

This is where CA Technologies ARCserve enters the scene. While it counts itself among the backup software solutions that had its origins in protecting physical environments, ARCserve has evolved and matured over the years to protect both physical and virtual environments. It has done this so well that DCIG has identified it as one of the leading virtual server backup software solutions on the market.

Distinguishing ARCserve from its competitors is how well it delivers the exact set of features that SMEs need in a single solution. ARCserve accomplishes this by only including the advanced, high end features that SMEs are mostly likely to need to protect their increasingly virtualized environments. It does this while still continuing to effectively protect physical environments that these size enterprises expect to have in place for many more years.

CA Technologies has made it easy for SMEs to make the right choice when it comes to selecting and choosing a single backup software solution to protect their entire environment—be it physical, virtual or both.

On the virtual side it offers deep integration with VMware, support for multiple hypervisors and the availability of virtual backup machines. On the physical side it provides agent-based support for multiple applications and UNIX operating systems. It underpins both physical and virtual data protection with multiple deduplication options with all of its features easy to deploy as they do **NOT** require professional service engagements.

Together these make CA Technologies ARCserve more than a leading virtual server backup software solution. It stands out at the right choice in data protection for small and midsized enterprises today.

## Making the Right Virtual Server Backup Software Buying Decision: CA Technologies ARCserve Stands Out as the Right Data Protection Choice for Small and Midsized Enterprises

### Server Virtualization Adoption Changing Conventional Data Center Wisdom

Server virtualization adoption has moved well beyond being an oddity or an interesting trend; it has gone main stream. All size organizations already use server virtualization in some capacity with organizations over 500 people now virtualizing a majority of their new application servers (See *Side Bar #1.*) While exact adoption rates are not available, Gartner estimates that roughly two-thirds of all x86 Windows and Linux workloads are virtualized and describes the server virtualization market as “mature.”<sup>1</sup>

This maturity level of server virtualization adoption has already resulted in significant changes in how organizations think about managing their data centers. Enterprises have already largely adopted a “virtualization first” mentality and often internally require a compelling business case to justify hosting any new applications on their own dedicated hardware. Meanwhile others wonder if they need a data center at all. More small businesses and start-ups recognize that by virtualizing all of their applications and hosting them with cloud providers they can eliminate their need to have a dedicated IT infrastructure.

Yet perhaps a larger shift in thinking that organizations still need to make is how they protect data in their virtualized environment and what software they use to do so. The backup software in use by many organizations was intended for deployment in physical environments. As such, it included backup agents, was optimized for once a day backups and managed tape libraries. In virtual environments, these backup approaches and technologies are obsolete. If anything, their continued use is detrimental to the point that they **break** backup and may do more harm than good when it comes to protecting data.

### Backup Software Takes a “Virtualization First” Focus

Fixing backup in today’s increasingly virtualized world dictates that organizations adopt backup software that

### A Tipping Point in Data Center Management

It may be safely said that all size organizations use server virtualization in some capacity and, in the case of large enterprises, it has become their preferred method for deploying new and existing application servers. Consider:

- 65 percent of small businesses (50-100 people) use server virtualization<sup>2</sup>
- 79 percent of midsized businesses (100-500 people) use server virtualization<sup>3</sup>
- Enterprises had virtualized over 50 percent of their application servers by the end of 2012<sup>4</sup>

This level of server virtualization adoption indicates that a tipping point is at hand in how organizations manage all aspects of their data center from how they acquire hardware and software to how they manage and protect the data in it.

takes a “virtualization first” focus in its approach to data protection. This design philosophy stands in marked contrast to backup software developed for use in physical environments. Three specific ways in which backup software intended for the protection of virtual servers differentiates itself include:

- **Supports the VMware vSphere APIs for Data Protection (VADP).** VMware vSphere commands 57 percent of the server virtualization market which is more than twice of its nearest competitor, Microsoft Windows Hyper-V.<sup>5</sup> While being one of the first hypervisors available certainly helped propel VMware to this leadership position, its data protection APIs have helped maintain it. Backup software leverages VADP to minimize or eliminate for it to place backup agents on guest VMs, take snapshots of VMs, store these VM snapshots to disk, only capture changed blocks of data between snapshots and manage multiple snapshot copies.
- **Consolidated management.** As organizations virtualize and consolidate their physical IT infrastructures, they are simultaneously consolidating their IT teams that

1. Bittman, Thomas J., George J. Weiss, Mark A. Margevicius, and Philip Dawson. "Magic Quadrant for X86 Server Virtualization Infrastructure." *Magic Quadrant for X86 Server Virtualization Infrastructure*. Gartner, Inc, 27 June 2013. Web. 18 Feb. 2014. <http://www.gartner.com/technology/reprints.do?id=1-1GRGRRU&ct=130702&st=sb>.

2. Eddy, Nathan. "Small Business Adoption of Virtualization on the Rise." *Small Business Adoption of Virtualization on the Rise*. Quinstreet, Inc., 1 Nov. 2013. Web. 10 Feb. 2014. <http://www.eweek.com/small-business/small-business-adoption-of-virtualization-on-the-rise.html>

3. Ibid.

4. Hernandez, Pedro. "Survey: 51% of X86 Servers Now Virtualized." Survey: 51% of X86 Servers Now Virtualized. Quinstreet, Inc., 17 Jan. 2013. Web. 10 Feb. 2014. <http://www.serverwatch.com/server-trends/survey-51-of-x86-servers-now-virtualized.html>

5. Trefis. "Growing Competition For VMware In Virtualization Market." *VMware, Inc. (VMW): Seeking Alpha*, 7 Jan. 2014. Web. 19 Feb. 2014. <http://seekingalpha.com/article/1933181-growing-competition-for-vmware-in-virtualization-market>

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### A Brief History of Virtual Server Backup Software

Backup software intended for use in protecting VMs traces its roots back to the earliest days of server virtualization which, in many ways, mimic server virtualization's early development and adoption. Like server virtualization, virtual server backup software providers made it easy for organizations to deploy and use their software by making it available at very low price points and often provided options where it could be used for free.

As server virtualization was largely used to host applications running in test and development environments as well as those applications with "Tier 3" designations such as file, web and internal-facing applications, these applications often came with no budget for data protection. As such, virtual server backup software with low and no cost price points were irresistible to system administrators tasked with protecting applications hosted on virtual servers. These features were sufficient to help virtual server backup software gain broad adoption in early virtual server deployments.

However as organizations look to use it broadly across their IT infrastructure and standardize on a single backup solution, its limitations became more apparent. Examples of its shortcomings included VMware vSphere-only support; management only available through an ESXi server console, vCenter or via a web browser; difficulty scaling to manage large virtual server deployments; and, no data protection options for physical machines.

manage them. This results in backup, server and storage administrators performing many of the same tasks.

To perform these functions, they prefer to use existing portals to manage all of the various hardware and software solutions for which they are now responsible such as web browsers or vCenter Server. To accommodate this shift in backup management, many virtual server backup software solutions provide both a web portal and integrate tightly with vCenter Server so these consolidated teams may centrally monitor and manage their backup software.

- **Orientation toward disk-based backup and recovery.** Almost any backup software can backup and recover from disk. The big difference with virtual server backup software is it came of age at the same time that disk became the preferred primary backup target. This orientation toward disk is reflected in many of the features that this software offers such as a snapshot-first approach to backup, protecting entire VM images (as opposed to just new or changed files,) the flexibility to restore entire VMs in minutes and more options to store and replicate between disk devices.

### Virtual Server Backup Software's Requirements for Broader Adoption

Despite the success that backup software targeted at virtual server environments already enjoys, to achieve broader adoption and, to even remain relevant, is contingent upon it delivering features that organizations require to standardize upon it for all of their data protection needs. Features that it must support include:

- **Creating and managing snapshots on enterprise storage arrays.** As organizations consolidate and virtualize their server infrastructure, many also implement enterprise storage arrays that have their own snapshot software functionality which is leveraged for backup. However this feature's use case is largely limited to large enterprises and rarely needed by SMEs.
- **Cross-hypervisor migration.** As SMEs look to control and reduce their virtualization costs, Microsoft Windows Hyper-V becomes a more appealing option than VMware vSphere. Offering the functionality they need and at a lower cost, backup software emerges as the preferred option to quickly and easily back up a VM on vSphere and migrate it by restoring it to Hyper-V.
- **Multiple data deduplication methods.** The use of disk as a backup target has largely been made affordable as a result of the accompanying introduction of data deduplication technology into the backup process as well. Yet to efficiently and effectively backup and deduplicate data requires it to be deduplicated at various points in the backup process. Organizations look to backup software to provide them with these various deduplication options, to include it deduplicating data at the source, on the media server and for it to even be configured as a deduplicating backup target.
- **Multiple hypervisors.** Support for VMware vSphere is no longer sufficient to meet organizational backup needs even for their virtualized environment. Recent analyst reports reveal that while number of organizations using multiple hypervisors is still small (about 15 percent,) that could double as hypervisors such as Microsoft Hyper-V and Linux KVM improve.<sup>6</sup> Corporate adoption of these hypervisors will necessitate that backup software evolve to protect these platforms.
- **Protection for applications running on physical machines.** All of the focus on server virtualization

6. Asay, Matt. "IDC: Virtualization's March To Cloud Threatens VMware." *ReadWrite*. Say Media, Inc., 2 May 2013. Web. 20 Feb. 2014. <http://readwrite.com/2013/05/02/idc-virtualizations-march-to-cloud-threatens-vmware#awesm=-owrcUnLLCufg>

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overlooks an important fact: the majority of existing servers in most organizations are still **physical**. While most new servers are virtualized, it will take at least a couple of more years before organizations virtualize the majority of their existing servers. Even then, only about five (5) percent of all organizations expect to create a fully virtualized infrastructure during that period of time.<sup>7</sup>

This necessitates that organizations keep backup software that protects applications on physical applications for the long haul. While some opt to keep one backup software solution for physical and another for virtual, this approach becomes very confusing and difficult to manage over time as organizations can easily lose track of what servers are backed up by what backup software or if they are being properly protected. Using one backup software solution they can consolidate the protection of both physical and virtual machines in a single portal and know that both will be protected.

- **Public cloud storage connectivity.** One drawback of storing all data on disk is that it resides onsite. Public cloud storage cloud providers have emerged as an affordable option to store data offsite for long term retention and a source of data to recover from a disaster. Easily connecting to these public storage cloud providers and managing data stored on them is becoming a growing necessity for backup software.
- **Tape libraries.** Tape's role in backup has evolved in recent years from being a primary to a secondary or even tertiary backup target. Yet tape is still an integral component to the long term data protection plans of many SMEs and is still widely used. This puts the onus on backup software to handle the storage and retrieval of data from tape libraries as part of its overall responsibilities.

- **Virtual backup machine option for protection of remote/branch/small offices.** One area where server virtualization tends to rapidly take hold is in remote, branch and small offices as they may literally go from being 100 percent physical to 100 percent virtual overnight. But as they make this transition, these offices have no desire to deploy backup software on either a physical server or a physical appliance. This makes it critical for backup software to offer a virtual backup machine option so these offices may deploy it as a preconfigured VM on their existing hypervisor.

As these requirements for the protection of virtual servers have emerged, they are causing the pendulum to swing back in favor of using backup software that has its origins in the protection of physical environments. Providers of these established products have been actively introducing new features to better accommodate the protection of virtual servers while carrying forward the historical strengths of their software. This development has in many cases resulted in their products catching up and even surpassing the capabilities of the first backup software solutions targeted at protecting virtual servers.

You Cannot Judge a Book by Its Cover

This innovation in data protection has resulted in organizations having multiple backup software solutions from which they can choose to protect their increasingly virtualized environment as well as their existing environment. Yet all of these choices create a new challenge for organizations: they must sort through these available solutions and identify the one best suited for them.

This is easier said than done. A cursory review of virtual server backup software from the leading providers in this

FEATURE	CA ARCserve	Symantec Backup Exec	Symantec NetBackup	CommVault Simpana	Veeam Backup & Replication
VADP	✓	✓	✓	✓	✓
vCenter Integration	✓	✓	✓	✓	✓
Guest OS—Linux	✓	✓	✓	✓	✓
Guest OS—Windows	✓	✓	✓	✓	✓
Data Compression	✓	✓	✓	✓	✓
Hyper-V Hypervisor	✓	✓	✓	✓	✓
vSphere Hypervisor	✓	✓	✓	✓	✓

Source: DCIG

7. McLellan, Charles. "Virtualizing the Enterprise: An Overview." ZDNet. CBS Interactive, 1 Aug. 2013. Web. 20 Feb. 2014. <http://www.zdnet.com/virtualizing-the-enterprise-an-overview-7000018110/>

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space such as CA Technologies, CommVault, Symantec and newcomer Veeam reveals that their respective products each support the key features required to protect virtual servers.

These surface level similarities necessitate that organizations look deeper to identify the right solution to protect their environment. Key to accomplishing this task is to grasp how these providers have respectively evolved their backup software as each one has developed specific strengths to best align with the needs of the organizations they are trying to serve.

Some take a more large enterprise focus and develop and release features in their backup software that these size organizations are most apt to need. Others tailor their product in anticipation of organizations becoming fully virtualized over time so they put a greater emphasis on delivering on that requirement. Still others target SMEs that expect to protect both physical and virtual servers for the foreseeable future and need the right blend of features to meet their specific requirements short and long term.

Meeting the data protection needs of this last group, SMEs with 100 – 1000 employees, is a primary objective of most virtual server backup software as these organizations represent approximately 90 percent of all businesses in the US that have 100 or more employees.<sup>8</sup> The key for virtual server backup software solutions targeted at these size companies is to deliver a feature set that these size organizations will need without them containing features that these size organizations will rarely or never use.

**The Competitive Position of CA Technologies ARCserve**

CA Technologies ARCserve immediately stands out as a leading virtual server backup software solution. A review of the results in the DCIG 2013 Virtual Server Backup Software Buyer’s Guide reveals that ARCServe delivers 90 percent or more of the features found in the two leading enterprise virtual server backup software solutions, CommVault Simpana and Symantec NetBackup. ARCServe’s high scoring and ranking in this Guide suggests that it possesses most of the functionality available in virtual server backup software today and is likely suitable to even handle the data protection needs of large enterprises.

When one then compares ARCserve’s scoring and ranking against the leading virtual server backup software that is specifically targeted at SMEs, the appropriateness of ARCserve for these environments becomes self-evident. ARCserve’s score is nearly **ten percent higher** than Symantec Backup Exec 2012 and nearly **50 percent higher** than Veeam Backup and Replication which places ARCserve at the very upper end of the scoring range among backup software targeted at SMEs.

**SME Virtual Server Backup Software Scores**

	<b>PRODUCT</b>	<b>SCORE</b>
<b>1.</b>	<b>CA Technologies ARCserve r16</b>	<b>78.00</b>
<b>2.</b>	Symantec BackupExec 2012	71.00
<b>3.</b>	Veeam Backup & Replication 6.5	55.00

Source: DCIG 2013 Virtual Server Backup Software Interactive Buyer’s Guide

ARCserve’s overall score and ranking in the DCIG Buyer’s Guide indicate that it possesses the robust mix of features to meet the data protection needs of every SME, to include even the most demanding. To meet their specific requirements, ARCserve possesses seven specific features that give it a competitive edge in these organizations.

**ARCserve’s Seven Competitive Advantages**

Due to the diversity of data protection requirements that a SME will likely possess, backup software needs multiple areas of strength to meet these needs. In the case of ARCserve, its strengths in seven areas give it the breadth of feature functionality that SMEs will need to confidently protect their entire environment whether it consists of physical, virtual or both types of servers.

**1. Advanced VMware vSphere Integration**

Protection for VMs starts with support for the VMWare APIs for Data Protection (VADP). Support for these APIs is a prerequisite for any SME that uses VMware vSphere in any capacity. As such, it is not surprising that all leading virtual server backup software solutions include support for VADP as it delivers the most robust set of backup options needed to effectively protect VMware vSphere.

8. U.S. Census Bureau. "Statistics about Business Size (including Small Business)from the U.S. Census Bureau." *Statistics about Business Size (including Small Business) from the U.S. Census Bureau.* US Census Bureau, 22 Aug. 2012. Web. 20 Feb. 2014. <https://www.census.gov/econ/smallbus.html>

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Yet what distinguishes ARCserve from the other leading products is that it is one of only two to integrate and provide support for all of the advanced functions found in vSphere such as high availability (HA), distributed resource scheduling (DRS) and fault tolerance (FT). More notably, it is the only one among the three solutions specifically targeted at SMEs that currently supports these four (4) features.

	CA Technologies ARCserve r16	CommVault Simpana 10	Symantec Backup Exec 2012	Symantec NetBackup 7.5	Veeam Backup & Replication 6.5
<b>vSphere Distributed Resource Scheduler</b>	✓	✓	✓	✓	✗
<b>vSphere Storage DRS</b>	✓	✓	✓	✓	✓
<b>vSphere High Availability</b>	✓	✓	✓	✓	✗
<b>vSphere Fault Tolerance</b>	✓	✗	✗	✓	✗

Source: DCIG

Support for these four (4) advanced vSphere is needed more than ever as organizations look beyond simply backing up and recovering their applications. They want to achieve consistent application availability all of the time by effectively utilizing their virtualized underlying physical resource. SMEs may use ARCserve and its integration with these advanced VMware vSphere features to centrally them so they can move closer to achieving these ideals.

**2. Multiple Hypervisors**

As recently as 2011, VMware vSphere was the most widely adopted hypervisor with up to 84 percent of enterprises using it.<sup>9</sup> Today VMware continues to maintain its dominant market position but other hypervisors such as Citrix XenServer, Microsoft Hyper-V and Red Hat Linux KVM are making inroads. Further, as the features on these other hypervisors improve to equal or surpass VMware vSphere, it makes it more likely that SMEs will adopt these other hypervisors in some capacity—either to replace VMware vSphere or, more likely, introduce these other hypervisors into their environment because they are more economical and it puts them in a better negotiating position with VMware on licensing costs.

Regardless of which of these paths an SME may take, it becomes more important than ever that the backup

	CA Technologies ARCserve r16	CommVault Simpana 10	Symantec Backup Exec 2012	Symantec NetBackup 7.5	Veeam Backup & Replication 6.5
<b>Microsoft Hyper-V</b>	✓	✓	✓	✓	✓
<b>Citrix XenServer</b>	✓	✓	✓	✓	✗
<b>VMware vSphere</b>	✓	✓	✓	✓	✓
<b>Red Hat Linux KVM</b>	✓	✓	✗	✓	✗

Source: DCIG

software it chooses support multiple hypervisors. In this way, they have a single solution to protect these different hypervisors.

Once again, ARCserve demonstrates how it is on par with leading backup software solutions intended for use in large enterprise environments and distinguishes itself from those targeted at SMEs by providing support for all of these competitive hypervisors. Using ARCserve, SMEs can know that they can centrally protect **any** hypervisor introduced or used in their environment now and into the future.

**3. UNIX**

The UNIX operating is steadily losing market share to the likes of Linux and Microsoft Windows. However many SMEs still use some flavor of UNIX to host at least a few their applications—most likely business or mission critical—and it will take them years before they will completely transition away from UNIX, if indeed that ever occurs.

This puts SMEs in the position of having to protect and recover their UNIX-based applications into the near future and potentially indefinitely. As such, they will need backup software that supports UNIX. Ideally, they will want one solution that protects UNIX along with the rest of the operating systems in their environment.

	CA Technologies ARCserve r16	CommVault Simpana 10	Symantec Backup Exec 2012	Symantec NetBackup 7.5	Veeam Backup & Replication 6.5
<b>HP-UX</b>	✓	✓	✗	✓	✗
<b>Sun Solaris</b>	✓	✓	✓	✓	✓
<b>AIX</b>	✓	✓	✗	✓	✗

Source: DCIG

9. Hill, Brandon. "DailyTech - Virtualization Reaches 92% Enterprise Penetration Rate, VMware Leads the Way," DailyTech, LLC, 20 July 2011. Web. 24 Feb. 2014.

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Using ARCserve, SMEs get this flexibility to protect any of the three most common versions of UNIX that they may use—an option not available from any other backup software specifically targeted at SMEs. Further, if and when the day ever comes that an SME migrates an application from any of these versions of UNIX to either Linux or Windows, they can continue to centrally protect it using ARCserve.

CA Technologies ARCserve r16	
Microsoft Windows	✓
Linux	✓

Source: DCIG

**4. Virtual Backup Machine**

As organizations consolidate, centralize and even reduce the number of IT staff responsible for managing and maintaining their infrastructure, they also need solutions that are faster and easier to install. Backup software is not exempt from this requirement.

As a result, many organizations are turning to virtual backup machines as a means to make the deployment of backup software a turnkey operation. Virtual backup machines have particularly appeal as they:

- Align with the “virtualization first” mentality that many organizations now possess
- Make it easy, fast and affordable to deploy backup software in remote, branch and small offices
- Minimize or eliminate the need to deploy additional server and storage hardware
- Reduce the amount of time needed to get backup software operational

In this area, ARCserve is even **better** equipped to meet this particular requirement of SMEs than the other leading backup software solutions, to include those targeted at large enterprises, as ARCserve is already available as a virtual backup machine.

	CA Technologies ARCserve r16	CommVault Simpana 10	Symantec Backup Exec 2012	Symantec NetBackup 7.5	Veeam Backup & Replication 6.5
<b>Virtual Backup Machine Support</b>	✓	✗	✗	✗	✓

Source: DCIG

**5. Multiple Deduplication Options**

When it comes to deduplicating backup data, it is not a “one size fits all” scenario. Those SMEs that want to use a single backup software solution to protect all of the applications in their environment need a solution that gives them multiple options to deduplicate data.

Applications found in many SMEs such as Microsoft Exchange, SharePoint or SQL Server or databases such as MySQL or Oracle may have much higher data change rates (over 5 percent per day.) Trying to deduplicate this application data at the source during the backup process may be both time-consuming and disruptive to the application.

ARCserve provides SMEs the multiple options they need to deduplicate data. By giving them the option to deduplicate data on the ARCserve media server and across different backup jobs, they can tune the type of deduplication implemented to the specific needs of each application.

ARCserve even provides **target-based** deduplication which may be attractive to those SMEs not yet using one backup software solution. Using this feature, they may still store all of their backup data regardless of what product they are using in one centralized, deduplicated backup repository.

		CA Technologies ARCserve r16	CommVault Simpana 10	Symantec Backup Exec 2012	Symantec NetBackup 7.5	Veeam Backup & Replication 6.5
<b>Deduplication Options</b>	<i>Media Server</i>	✓	✓	✓	✓	✗
	<i>Target</i>	✓	✗	✓	✓	✗
<b>Cross Job Deduplication</b>		✓	✓	✓	✓	✓

Source: DCIG

**6. Physical Machine Backup**

Many if not all SMEs anticipate virtualizing all of their servers at some point the future. The reality is that the day when they are fully virtualized is at best a couple of years away and many may never fully realize that goal. To avoid using multiple backup software solutions to protect their physical and virtual machines, they need a backup solution that protects both physical and virtual environments.

This is where solutions such as ARCserve that has its origins in protecting physical environments is particularly

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well suited for this requirement. Few, if any, backup software products designed for virtual server environments are going back to equip it to protect physical environments. This makes it almost imperative that for organizations that want to use a single solution to protect both their physical and virtual environments select a solution like ARCserve.

**7. Application Consistent Backup**

One of the most appealing aspects about virtualizing servers and then using a leading virtual server backup software solution to protect them is that organizations finally address one of their largest pain points: failed backups. DCIG finds that most organizations who implement these solutions often achieve near 100 percent backup success rates.

But just because an organization successfully completes a backup of a VM does not mean that its data is recoverable, especially if the application running on it needs to be acquiesced before and/or during the backup so as to create an application-consistent backup. To accomplish this almost always requires the deployment of a backup agent to coordinate the pausing and restarting of the application when the backup takes place.

Here again, backup software solutions such as ARCserve that have their roots in physical environments already possess the backup agents that integrate with these applications so they may be acquiesced during the backup and then restarted. This ensures that the data is more than just backed up, it is protected in such a way that the application may be successfully recovered and restarted.

these leading virtual server backup software products subtle differences between them persist which contributes to them being better positioned to solve the specific requirements of different size enterprises.

CA Technologies has successfully evolved and matured ARCserve to remain very relevant in a highly competitive space experiencing a tremendous amount of change. CA Technologies ARCserve particularly stands out from among these other leading products as it does the best job of delivering the core set of features that SMEs are most apt to need to fully protect their entire environment.

ARCserve offers many of the features that one would expect a leading virtual server backup software solution to deliver such as deep integration with the core VMware vSphere APIs for data protection as well as support for multiple hypervisors. However it distinguishes itself from these other leading products by offering **ALL** of the features that **SMEs** are most likely to need.

Among the three leading solutions specifically targeted at SMEs, it is the only one to offer support for the advanced features found in vSphere such as DRS, FT and HA. It is also the only one among these products to support the various forms of UNIX as well as all of the leading hypervisors on the market. This level of hypervisor support gives SMEs the flexibility to do cross-hypervisor migrations from vSphere to Hyper-V.

It even differentiates itself from those backup software solutions targeted at large enterprises by delivering the specific features that SMEs may need but which large enterprises may not, such as making it backup software available as a virtual appliance and supporting the implementation of deduplication in various ways.

Finally, ARCserve demonstrates that while it is well-equipped to meet the specific backup requirements of virtual environments, it carries forward the features needed to centrally support the backup of physical environments that persist in most SMEs and which they will likely still have in place for many more years. This wide breadth of feature functionality gives these size enterprises assurance that whether their applications remain physical or are eventually virtualized, ARCserve possesses the necessary features to do more than back them up but protect them in a way that they can successfully recover them.

An examination of the features that ARCserve offers when compared to the other four leading virtual server backup

	CA Technologies ARCserve r16	CommVault Simpana 10	Symantec Backup Exec 2012	Symantec NetBackup 7.5	Veeam Backup & Replication 6.5
<b>Application Consistent Backup</b>	✓	✓	✓	✓	✗

Source: DCIG

**ARCserve Stands Out as the Best Backup Solution for SMEs**

DCIG regularly performs comprehensive reviews of virtual server backup software solutions that are intended for use by all size enterprises. Among this group of over 20+ products, the five covered in this report are ones frequently considered to be the leading virtual server backup software solutions which DCIG's research confirms. However among

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software products reveals why it is the one best suited to meet the unique needs of SMEs. It provides the exact features that SMEs need to protect their applications without either getting too far out in front of their actual needs or providing them with features they may never want or need.

No magic formula exists for any provider to follow to meet the exact data protection needs of SMEs. However CA Technologies ARCserve has clearly done the best job of identifying and implementing the exact right mix of features among these leading virtual server backup software solutions such that SMEs can turn to it and have a high level of confidence that it will meet their internal backup needs.

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# APPENDICES

## APPENDIX A

**CA Technologies ARCserve Competitive Advantages**

## APPENDIX B

**DCIG Disclosure**

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**Appendix A: CA Technologies ARCserve Competitive Advantages**

		<b>CA Technologies ARCserve</b>	<b>CommVault Simpana</b>	<b>Symantec Backup Exec</b>	<b>Symantec NetBackup</b>	<b>Veeam Backup &amp; Replication</b>
<b>Application Consistent Backup</b>		✓	✓	✓	✓	✗
<b>Backup Utility: P2V</b>		✓	✗	✓	✓	✗
<b>Detect VMs w/Significantly More Data</b>		✓	✗	✓	✓	✓
<b>Deduplicaton</b>	<i>Media Server</i>	✓	✓	✓	✓	✗
	<i>Target</i>	✓	✗	✓	✓	✗
<b>Exception Report</b>		✓	✓	✓	✓	✗
<b>Exclusion of Powered Off VMs</b>		✓	✗	✓	✓	✗
<b>File Restore from Snapshots</b>		✓	✓	✓	✓	✗
<b>Guest OS</b>	<i>AIX</i>	✓	✓	✗	✓	✗
	<i>HP-UX</i>	✓	✓	✗	✓	✗
	<i>Red Hat Linux</i>	✓	✗	✓	✓	✓
	<i>MAC OSX</i>	✓	✗	✓	✓	✓
	<i>Novell OES</i>	✓	✗	✓	✓	✗
<b>Hypervisor</b>	<i>Citrix XenServer</i>	✓	✓	✓	✓	✗
	<i>Red Hat Linux KVM</i>	✓	✓	✗	✓	✗
<b>Inclusion of Powered Off VMs</b>		✓	✗	✓	✓	✗
<b>Metadata Collection</b>		✓	✗	✓	✓	✗
<b>Mgmt Interface</b>	<i>API</i>	✓	✗	✗	✗	✗
	<i>CLI</i>	✓	✗	✓	✓	✗
	<i>Client App</i>	✓	✓	✓	✓	✗
	<i>Console</i>	✓	✓	✓	✓	✗
	<i>Telnet</i>	✓	✗	✗	✗	✗
	<i>Web GUI</i>	✓	✓	✗	✗	✓
<b>Notification</b>	<i>Paging</i>	✓	✗	✗	✗	✗
	<i>SNMP Traps</i>	✓	✗	✓	✓	✗
	<i>Syslog</i>	✓	✓	✓	✓	✗
	<i>Windows Event Log</i>	✓	✓	✓	✓	✗
<b>Resume Producing Event</b>		✓	✓	✗	✗	✗
<b>Server Prioritization</b>		✓	✗	✓	✓	✓
<b>Server Self Backup</b>		✓	✓	✓	✓	✗
<b>Single Archive for Each VM</b>		✓	✗	✓	✓	✗

*Continued on next page*

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**Appendix A: CA Technologies ARCserve Competitive Advantages (continued)**

		<b>CA Technologies ARCserve</b>	<b>CommVault Simpana</b>	<b>Symantec Backup Exec</b>	<b>Symantec NetBackup</b>	<b>Veeam Backup &amp; Replication</b>
<b>Storage Array Snapshots</b>	<i>Dell Compellent</i>	✓	✓	✗	✗	✗
	<i>EMC VNX</i>	✓	✓	✗	✗	✗
	<i>Fujitsu Eternus</i>	✓	✗	✗	✗	✗
	<i>HP P4000</i>	✓	✓	✗	✗	✓
	<i>NetApp FAS</i>	✓	✓	✗	✓	✗
<b>Support</b>	<i>Chat</i>	✓	✓	✓	✗	✗
	<i>Web</i>	✓	✓	✓	✓	✗
<b>VADP: Storage Arrays</b>		✓	✓	✗	✓	✓
<b>vCenter Server</b>	<i>Backup Options (D, F, I)</i>	✓	✗	✓	✓	✗
	<i>Full Image Restore</i>	✓	✓	✓	✓	✗
	<i>Host Discovery</i>	✓	✗	✓	✓	✗
	<i>File Restore</i>	✓	✓	✓	✓	✗
	<i>Mailbox Restore</i>	✓	✓	✓	✗	✗
	<i>Notification</i>	✓	✗	✓	✓	✗
	<i>Populate UI w/Snapshots</i>	✓	✗	✓	✗	✗
	<i>Schedule Backups</i>	✓	✗	✓	✓	✗
	<i>View Backup Jobs</i>	✓	✓	✓	✓	✗
	<i>View Restore Jobs</i>	✓	✗	✓	✗	✗
<b>Virtual Backup Machine</b>		✓	✗	✗	✗	✓
<b>vSphere GBT</b>	<i>Application</i>	✓	✓	✓	✓	✗
	<i>Email</i>	✓	✓	✓	✓	✗
	<i>OS</i>	✓	✓	✓	✓	✗
	<i>Partial/Full Restore</i>	✓	✗	✓	✓	✗
<b>vSphere Integration</b>	<i>DRS</i>	✓	✓	✓	✓	✗
	<i>Data Protection</i>	✓	✗	✗	✗	✗
	<i>Data Recovery</i>	✓	✓	✗	✗	✗
	<i>FT</i>	✓	✗	✗	✓	✗
	<i>HA</i>	✓	✓	✓	✓	✗
	<i>Network IOC</i>	✓	✗	✓	✓	✗
	<i>SIOC</i>	✓	✗	✓	✓	✗
	<i>Virtual SMP</i>	✓	✗	✓	✓	✗
<i>vMotion</i>	✓	✓	✓	✓	✗	

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## Appendix B: DCIG Disclosure

Prior to preparing this particular report, DCIG had previously gathered information on all virtual server backup software available in the market as part of its research in preparing the DCIG 2013 Virtual Server Backup Software Buyer's Guide. All vendors were given at least two (2) opportunities to review and validate the information published in that Buyer's Guide. They could optionally complete a blank survey about their product(s); review and provide feedback on a survey that DCIG had completed on their behalf; and, review a data sheet with information about their product(s).

In preparing this report, DCIG only contacted the providers to be examined in this report and gave them the opportunity to review and provide feedback on the information that DCIG had previously collected on their respective products. Each provider was given five (5) business days to respond. Only CA Technologies and Symantec provided feedback on their respective products. Some updates were made to the features supported by Veeam Backup and Replication based upon research conducted independently by DCIG as it was preparing this report.