

Agentless Backup is Not a Myth



White paper: Agentless Backup is Not a Myth

Executive Summary

Backup and recovery software typically requires agents that are installed onto servers that a system administrator wants to backup. Even in a modest-sized environment, agent management can become extremely complex when an administrator is forced to deal with different operating systems and revision levels. The complexity of agent management is further complicated by the growing number of applications that also require agents running on the same servers. This proliferation of agents and its associated drain on CPU resources is often referred to as "agent pollution".

Dealing with backup software agents is a cumbersome and mundane task that can be extremely time consuming. Matching agent revisions with operating system levels, researching compatibility issues, and other labor-intensive tasks are non-existent when using our solution.

Additionally, many problems that occur while managing backup software in complex environments are due to compatibility issues with agents. Compared to other solutions, our agentless design is inherently easier to support and the risk of problems is reduced. Finally, agents rob processing power from the core applications of every machine on which they're installed. Our system makes no such demands on the servers it is backing up. Multiplied over thousands of machines, that extra power efficiency can mean significant savings and greener operations.

Seven Benefits of Agentless Backup

Significant savings. Even if backup agents from other vendors were free, our solution would still provide huge savings. First-year operating expenses alone approach an estimated \$150,000 for an enterprise environment with 1,000 server agents. Annual server maintenance and operating expenses for this same configuration add up to nearly \$60,000. The agentless solution eliminates those operating costs in addition to the purchase price of the agents.

1. **Simple licensing.** We offer businesses a unique pay-as-you-grow pricing model instead of the traditional agent-based pricing, based simply on the amount of compressed backup data stored. Customers purchase our software the same as disk capacity — no license fees, no tracking, no overspending on site licenses — paying only for compressed storage capacity consumed.
2. **One piece of software to install, manage, and diagnose.** Our software even upgrades itself, so there are no time-consuming and resource-draining updates required for the hundreds or perhaps thousands of systems on typical enterprise networks.
3. **WAN/LAN/CPU resource conservation.** Our software runs with negligible impact on servers, workstations, and

laptops, eliminating the drain on CPU resources associated with agent-based solutions. Data reduction technologies also minimize the impact on bandwidth and storage resources. While traditional agent-based backup and recovery solutions require implementation of high-speed connections between the central data center and remote offices, we work with existing links such as DSL.

4. **Robust, hardcoded security.** Our solution provides extremely safe in-flight and at-rest data security utilizing up to 256 bit AES encryption. And it works within the organization's security framework—there are no agents to open hacker-tempting ports in the firewall. With secure data transmission across an IP WAN, we help businesses achieve compliance, minimize information-loss liabilities, and protect customer confidence.
5. **Elegant scaling.** The software is capable of elegantly scaling both in the dimensions of capacity and performance. This type of scalability is critical for environments with large numbers of remote sites, high-capacity data sets, and rapid data growth. While agent-based solutions compound complexity in rapid growth environments, our agentless backup and recovery solution easily accommodates new capacity, new applications, and new sites. Features such as integrated load balancing ensure efficiency across multiple system IP addresses.
6. **Backup consistency, improved recoverability.** The simplicity, efficiency, and security of the system makes it easy for remote sites to implement and maintain consistent data backup programs. This means companies can significantly boost data recoverability in locations where success rates below 50% were once the norm.

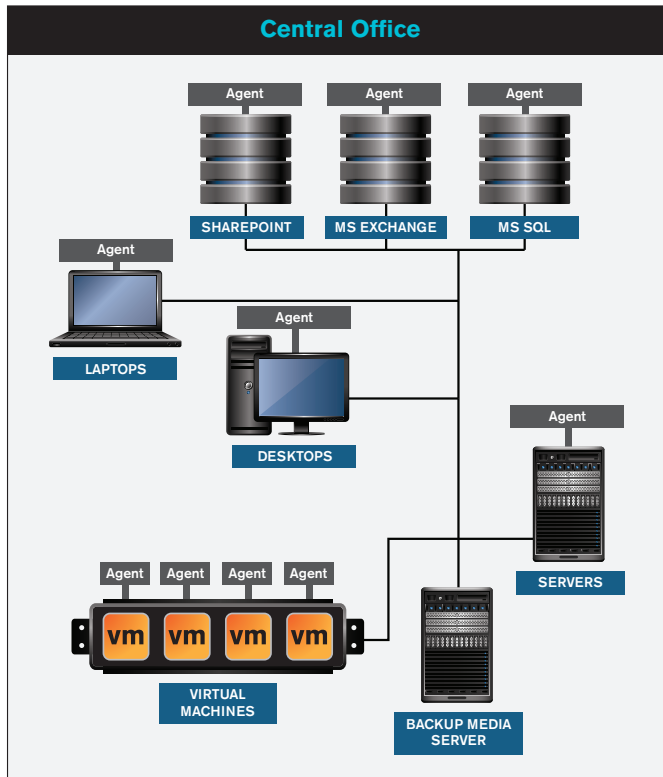
The Problem With Agents

The use of agents with a backup and recovery solution (either a tape or a disk-to-disk (D2D) product), has a direct impact on data security, recoverability, and costs. IT managers know the downsides that accompany agent-based solutions:

Compromised security. A port in the firewall must be opened for every agent. Since almost every agent has administrative privileges, it effectively creates vulnerability in the server architecture. Hackers need only to tap into the agent to attack the server. With no in-flight encryption, agents put data at risk during transmission from the remote office to the data center.

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Traditional Agent Based Backup Software



More pieces of software to manage and to fail.

More sites, more data, more applications, more users, more systems, more agents—growth makes everything harder to manage—agents only compound the problem. As infrastructure expands in size and complexity, problem diagnosis takes longer. Every operating system upgrade (now implemented monthly by many organizations) creates more opportunities for conflicts amongst applications, including proliferating backup agents.

The fact is backup agents drain IT resources, cause disruptive downtime, and, ultimately, undermine the certainty of data recoverability.

Exorbitant licensing fees. Traditional software vendors charge for software based on the old per-system model. This is costly and requires customers to closely monitor their complex system and user landscapes. For many growing organizations, buying a site license is actually a simpler solution — albeit even more costly and often unnecessary — than trying to keep track of backup products installed across hundreds or thousands of machines.

Mounting administrative costs. Heterogeneous application environments can be administrative nightmares when backup processes require the installation and management of a different agent for every kind of database, application and operating system. It takes time and a lot of 'touching' of remote-site systems

to push agents and upgrades out to every server. Each time a data center administrator or service provider has to deploy an agent, or intervene to support it at a remote site, cost rolls back into the business model making it increasingly difficult to remain competitive.

To put licensing and administrative costs in perspective, an enterprise with as few as five offices can easily spend \$50,000 to purchase and maintain backup agents for file/print servers, email servers, databases, and workstations. For large enterprises with thousands of backup agents, licensing and support costs can quickly add up to millions of dollars.

Application disruption. Each time a hot fix or new version of the software is released, the agents must be upgraded too. This upgrade process requires a reboot of the server that the agent resides on. Unfortunately, this application disruption must be repeated for every affected server on the network. With our solution, there is no application disruption. Our agentless client software is dispatched and upgraded silently with no need for a server reboot.

How Does It Work?

Our backup and recovery solution does not require any agents to be installed but instead reaches out over the network to backup operating systems, file systems, and applications, using industry-standard programming interfaces, which inherently makes it easier to install and support than other backup and recovery solutions.

To understand how our solution backs up data over a network without the use of agents, consider how a local hard drive on a typical PC can be accessed remotely.

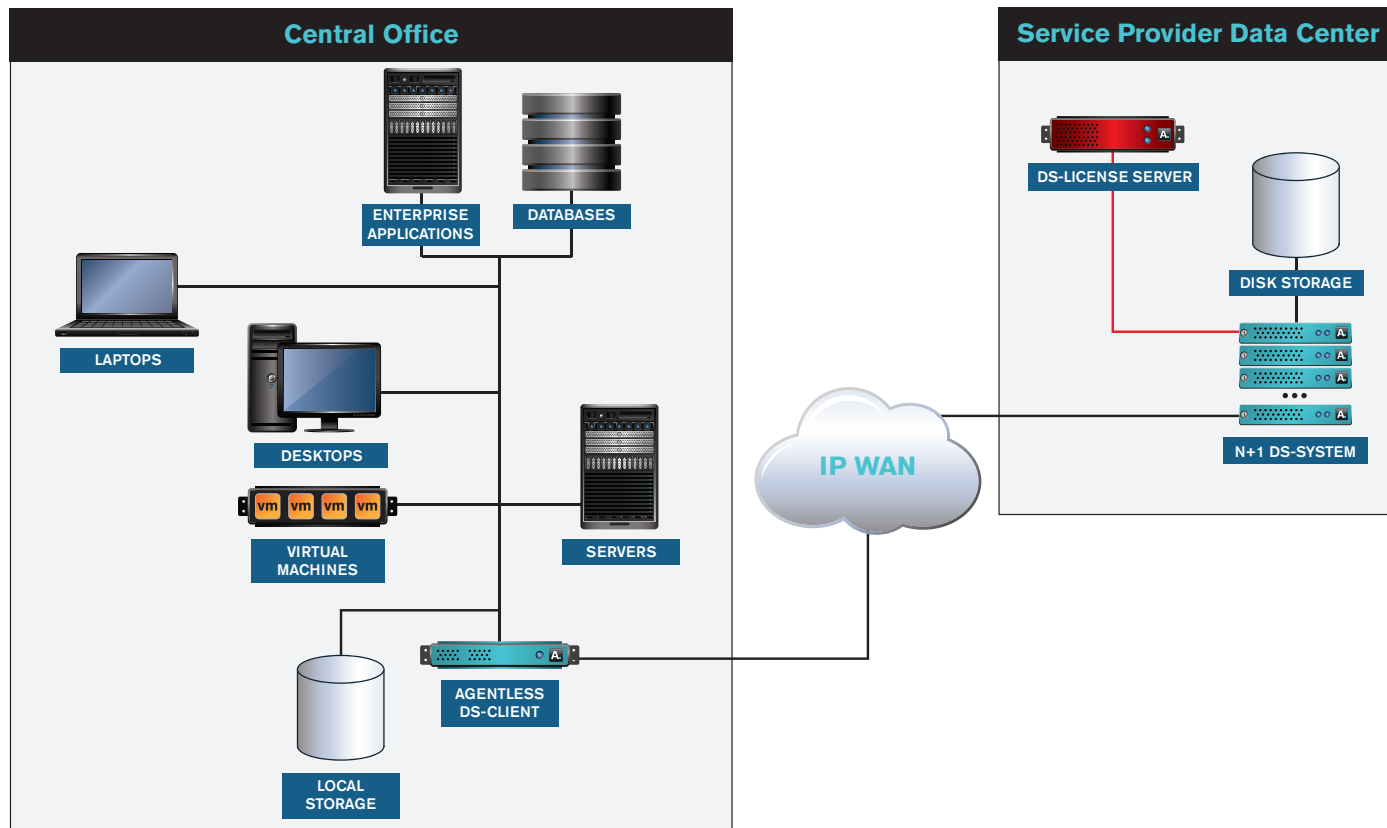
A system administrator only needs the right permissions to access that local hard drive over the network. A disk-to-disk backup is performed by simply copying the contents of the hard drive to another hard drive on the network. We use a sophisticated extension of this idea, unlike other software that requires agents on every machine. Our solution is simple and elegant in concept, on a broad variety of operating systems and data types.

As the industry's only agentless, multi-site backup and recovery software solution, our technology completely eliminates the negative impact of agents.

Our architecture consists of two software components: the DS-Client and the DS-System.

DS-Client software, installed on one server (Windows, Macintosh, or Linux) at each local and remote site, captures data from its target backup machines. The DS-Client then processes the data to reduce its size (compression and deduplication), encrypts it for security, and then transmits the data via IP WAN to the

Agentless Backup and Recovery Software



DS-System at the storage location.

The DS-Client does not require installation of any backup agents on its target machines. The DS-Client fully integrates with NT domains, Trusts and Novell NDS trees, and otherwise adopts the remote site's existing LAN security settings. Using standard APIs, the DS-Client can remotely log into target backup systems, capture requested data, and securely manage transmissions to the central site. Utilizing common data reduction technologies, the DS-Client minimizes the amount of data transmitted and stored at the on-site or off site vault.

The DS-System manages the storage repository for backup data transmitted from one or multiple DS-Clients. The DS-System (configured as direct-attached disk, NAS or SAN) can be installed on Linux and Windows platforms.

Our software integrates a comprehensive feature set designed to maximize and accelerate data recoverability. An Autonomic Healing module, for example, runs seamlessly in the background to identify and isolate corrupt or otherwise problematic files. If a corrupt file is found to be irreparable, it is tagged to be re-transmitted on the next scheduled backup. Another feature, the Local Restore tool, allows remote-office storage of backup data.

This ensures that local users can restore critical data immediately and at LAN speed.

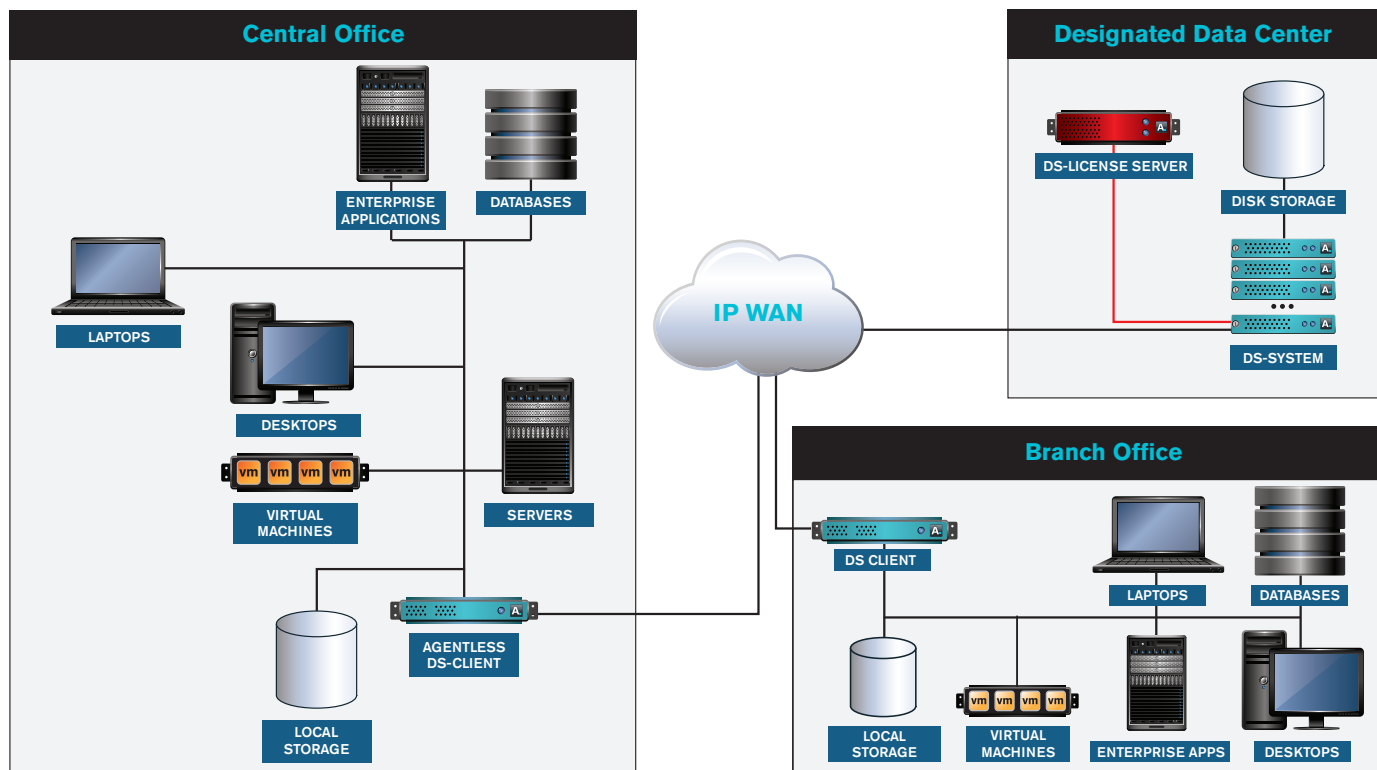
Additional tools include an Online File Summary, Long Term Storage policy-making, a Discovery Tool to automatically ascertain characteristics of primary data, Email Message Level Restore, Bare Metal Restore capability, Client and System Monitoring, and SNMP Integration.

Why It Works?

Our software eliminates the requirement for locally installed agents because it leverages the protocols, APIs, methods and functionalities that platform, operating system, database, and other application vendors utilize for remotely managing their own systems. Other backup and restore solutions require a unique backup agent (installed on every target machine) for each type of system and application. We, however, supports all major platforms and applications with a software system composed of just two major components: the DS-Client (one installed at each site) and the DS-System (installed at the vaulting location).

Another advantage of our software is that it enables multi-

Agentless Backup and Recovery for the Enterprise



level access controls. At installation, the DS-Client is assigned privileges to establish access rights that meet the requirements of the site or organization. For example, the DS-Client might be assigned multiple credentials for the same network to allow the domain administrator to backup all systems, including servers and workstations, while enabling users to control the backups of individual workstations. The software has also been

highly optimized to conserve both LAN and target-system CPU resources. Implementing our backup and recovery solution powered by Asigra, produces immediate and dramatic benefits.

To find out more about our solution, visit our website or [call us today](#).