

Seagate Backup and Recovery Private Cloud

Data Sheet

Seagate Backup and Recovery Private Cloud Accelerates Business Outcomes for Service Providers

Today, Service Providers (SPs) with diverse backup requirements for multiple clients are overwhelmed with the operational complexity and never-ending capital expense investments required to keep their backup and recovery infrastructure and solutions up and running. They need to address their clients' exponential data growth and associated service requirements with manual application intervention to add storage capacity. Many solutions also require SPs to balance backup loads and to manually assign individual client backup jobs to backend physical storage, both of which leave little time to put toward accelerating the core business.

Seagate Backup and Recovery Private Cloud successfully addresses these significant challenges. The solution comprises Seagate modular scale-out converged infrastructure paired with Seagate Backup and Recovery Software. By combining the industry's fastest, converged scale-out architecture with superior availability, resilience, enterprise performance and serviceability, Seagate Backup and Recovery Private Cloud gives Services Providers the ability to support the most data-hungry clients in a cost-efficient manner. The solution also makes it easy for SPs to expand their services, drive increased revenues and scale out their systems to support petabyte (PB) requirements. There is no interruption to the current production environment because no application intervention is required. This improves IT staff productivity, allowing employees to focus on accelerating the core business.

Key Benefits

Function	Features and Benefits
Scalability	<ul style="list-style-type: none">Organic growth up to petabyte scale
Performance	<ul style="list-style-type: none">Fast backup and recovery throughputUp to 6TB/hour compressed data read speeds
Manageability	<ul style="list-style-type: none">Storage capacity addition with no impact on production
Resilience	<ul style="list-style-type: none">RAID 1 configurationReserved network channels ensuring storage and bandwidth availabilityFast rebuild architecture
High Availability	<ul style="list-style-type: none">Ensures operational performance with high loads
Low TCO	<ul style="list-style-type: none">Enterprise performance with reduced upfront expenses



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Moving at the speed of business. Using a disk-based architecture, Seagate Backup and Recovery Private Cloud is designed to make data immediately accessible with a first-byte latency of less than five seconds. Combined with partial object recall, the solution provides on-demand granular access to digital content. Seagate Backup and Recovery Private Cloud delivers incremental, block-level patented backups, high-performance enterprise components, and granular restore for fast and efficient backup and recovery operations.

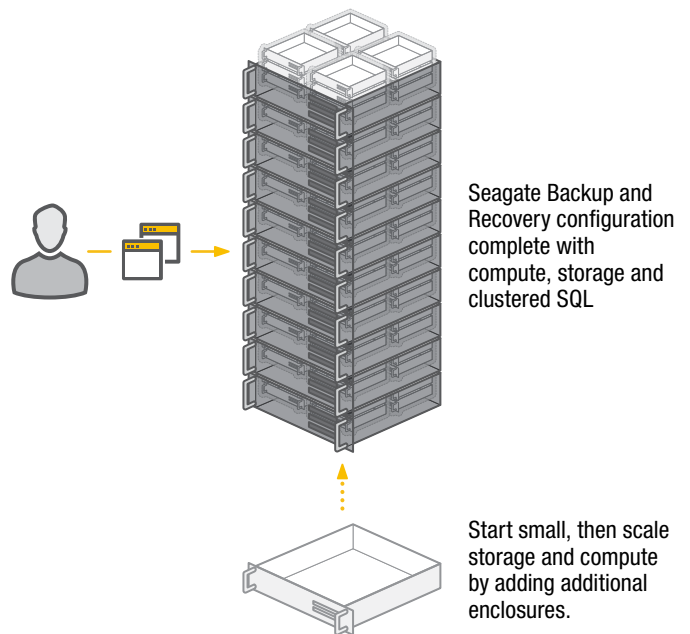
Scalability simplified. Seagate Backup and Recovery Private Cloud employs an easy-to-implement, highly modular architecture. The solution is backward compatible, and as long as an existing Seagate SP has at least one Seagate Backup and Recovery Private Cloud enclosure, existing hardware with adequate performance can be integrated into a single large cluster. As soon as a new enclosure is added to the private cloud cluster, its nodes are immediately available for new, incoming tasks, as well as spillover from the existing system. The Seagate Backup and Recovery Private Cloud scales up to 1PB in two racks of Tier-1 storage or 2PB in one rack of Tier-2 storage.

Easy management. IT staff productivity is improved and management simplified, as all backup jobs point to a single, fully qualified domain name. This eliminates the cumbersome tasks associated with assigning each client's backup job to a backend physical vault. In addition, built-in clustering enables the addition of storage capacity with no production downtime. Architectural flexibility enables easy management of heterogeneous environments to protect virtually all platforms, including Microsoft Windows, SharePoint, Exchange and SQL Server; Linux (RedHat and SUSE), Solaris, IBM AIX and IBM iSeries; hypervisors including VMware and Hyper-V; and applications such as SharePoint, Exchange, and SQL, and Oracle databases.

A relentless focus on resiliency. High availability and resiliency are built into all layers of the Seagate Backup and Recovery Private Cloud. Within each Seagate Private Cloud enclosure, high availability is ensured with two compute nodes with failover capabilities, while disk capacity is set aside for rapid storage rebuild in the event of disk failure. Additionally, there is redundant networking in the hardware and failover intelligence built into the software layer. Therefore, if a node goes down due to a hardware failure or due to being overloaded with backup/restore requests, new tasks will automatically failover to another node without user intervention. Backup data can also be replicated between Backup and Recovery Private Clouds in geographically redundant sites, thereby providing site-level resiliency.

Seagate secure. Seagate Backup and Recovery Private Cloud security is reliable, rock solid and ready for all types of workloads. Seagate uses government-grade, end-to-end, AES 256-bit encryption for security, meaning no one but the user with the right encryption key can access the data.

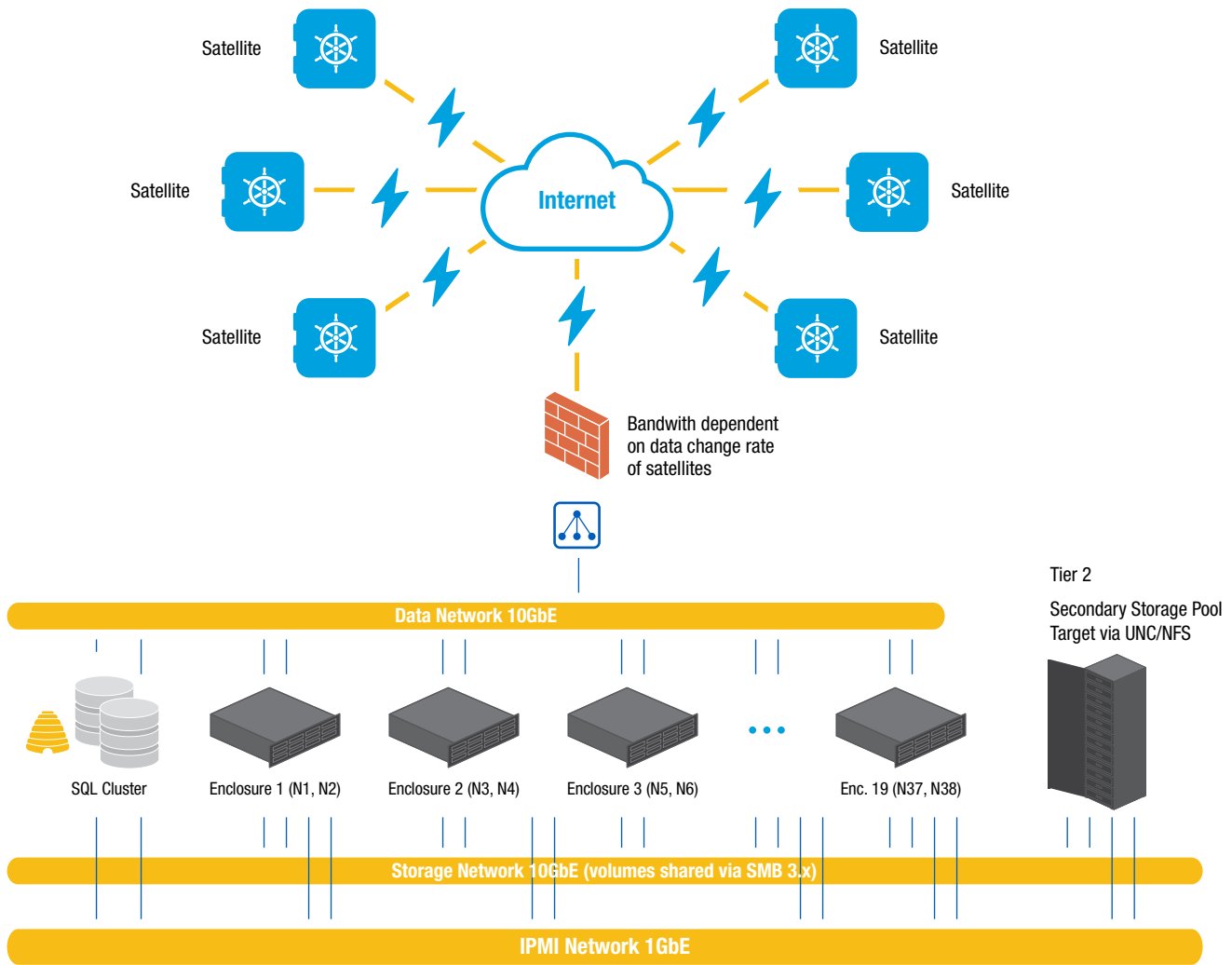
Multi-tenancy made easy. Seagate Backup and Recovery Private Cloud enables SPs to provide clients with a robust private cloud solution on a shared system. As a result, SPs are capable of aligning their capital expenditures with existing requirements with the assurance that as needs grow, incremental capacity can be seamlessly added. Capacity upgrades can be completed with no application intervention. Additionally, all nodes of the cluster can be supported through a single interface.



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How It Works



Existing Features:

- Policy-based setup of backup jobs

The experience of setting up backup jobs from the agents works the same way as it does with the current generation of Seagate Agents. The user creates the backup task through the Seagate Management Center, leveraging intelligent policies to do so extremely efficiently. To specify the destination of a backup task, the backup administrator simply needs to enter the virtual IP/URL of the vault cluster instead of the IP/URL of a physical machine within the cluster.

- Restore

The restore user experience is identical to the current generation of Seagate Backup and Recovery Software. Once the user configures the restore options and kicks off the restore, the nodes directly attached to the storage are notified to take action on the data. If those nodes are too busy handling existing tasks, a different node automatically reaches across the storage network to read the safeset and execute the restore.



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Added Benefits:

- **Load balancing**

If an agent sends a backup request to the vault, it is first intercepted by the network balancer, which assigns it to one of the nodes using the standard network load balancing techniques that are inherent to the load balancer of choice. The assigned node then assesses the incoming backup request:

- If it's from an agent that is already assigned to a node, then the task is assigned to that node.
- If the node that the agent was already assigned to is not available, the task is assigned to the next available node.
- If the request is for a newly registered agent, then it is assigned to any available node.

- **Failover**

If an agent is assigned to Node N1 in Enclosure 1, all the tasks associated with that agent are sent to N1. If there is a situation in which N1 and N2 are unable to process an incoming task, any other node can take over the responsibility of processing. For example, Node N5 in Enclosure 3 can take over the responsibility of processing a restore and can reach out to the storage in Enclosure 1 over the 10GigE storage network to execute the task.

- **Adding new nodes to the cluster**

When a new enclosure is added to the cluster, the nodes are immediately available for new incoming tasks assignments, as well as spillover from existing enclosures whose storage is filling up. For tasks whose safesets spill over to the new node, the existing node still serves out the old safesets for restore.

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