Veritas NetBackup Media Server Deduplication (MSDP) in the Cloud

VERITAS

Revision B

1. Introduction

Veritas continues to provide the deduplication options that let you deduplicate data everywhere, as close to the source of data as you require.

Deduplication everywhere provides the following benefits:

- Reduce the amount of data that is stored.
- Reduce backup bandwidth
- Reduce the amount of data that needs to be sent
- Reduce backup windows
- Reduce infrastructure

As customers begin the transformation of moving their data centers into the cloud or into hybrid cloud environments, deduplication becomes more important than ever. NetBackup will now support customers that require deduplication to help them realize the cost savings that are commonly associated with a cloud centric environment.

The best opportunity for performance that meets your objectives is to deduplicate your data as close to its source as possible. The amount of data that must be sent over the Internet to the cloud as well as the data stored in the cloud is reduced, saving both time and costs. The following scenarios describe just some of the use cases for deduplication in the cloud:

- Protect your IaaS environments by backing up workloads in the cloud with a NetBackup Media Server running MSDP in the cloud environment. This will allow you to reduce the amount of traffic that is transmitted over the Internet by backing up your clients directly in the cloud. Leveraging deduplication to minimize the infrastructure required to protect these clients as well as taking advantage of all the features that you get with MSDP will allow you to minimize costs as well as minimize the backup window of your cloud clients.
- Use NetBackup Client Direct deduplication (*client-side deduplication*). The on premises client itself deduplicates each backup and then sends only the changed data segments over the Internet directly to the storage server. This will allow you to backup your on premises clients directly to the cloud while minimizing the data transfer over the Internet.
- A Master Server in the cloud for Disaster Recovery. Back up your clients in your local data center then use NetBackup Auto Image Replication (A.I.R.) to replicate images of critical workloads to a cloud domain so that your critical data is always available.
- Use NetBackup Accelerator, which also provides an opportunity for improved performance to and in the cloud. The client uses change detection techniques and the client's current file system to identify the changes that occurred since the last backup. The client sends only the changed data to the storage server in a more efficient backup stream. The storage server combines the changed data segments with the rest of the client's data that is stored in previous backups so that you get all the benefits of a full backup without the overhead, storage, or transmission cost of running a traditional full backup.

For detailed information about NetBackup deduplication please refer to the NetBackup Dedupe Guide.

2.   NetBackup requirements

The NetBackup master server and the NetBackup media server that hosts the deduplication storage server must be at the following release levels:

- NetBackup 7.6.0.4 and later
- NetBackup 7.6.x and later

3.   MSDP server requirements

The CPU and memory of the cloud host instance must have enough capability for deduplication and for storage management.

The MSDP server minimum requirements table shows the minimum requirements for MSDP servers. NetBackup deduplication servers are always NetBackup media servers.

Processors for deduplication should have a high clock rate and high floating point performance. Furthermore, high throughput per core is desirable. Each backup stream uses a separate core.

Table 3-3   MSDP server minimum requirements

Component	Storage server	Load balancing server
CPU	Veritas recommends at least a 2.2-GHz clock rate. A 64-bit processor is required. At least four cores are required. Veritas recommends eight cores. For 64 TBs of storage, Intel x86-64 architecture requires eight cores.	Veritas recommends at least a 2.2-GHz clock rate. A 64-bit processor is required. At least two cores are required. Depending on throughput requirements, more cores may be helpful.
RAM	4 GBs for 4 TBs of storage up to 32 GBs for 64 TBs of storage.	4 GBs.
Operating system	The operating system must be a supported 64-bit operating system. See the operating system compatibility list for your NetBackup release on the website. http://www.netbackup.com/compatibility The cloud vendor of choice must also support the operating system.	The operating system must be a supported 64-bit operating system. See the operating system compatibility list for your NetBackup release on the following website. http://www.netbackup.com/compatibility The cloud vendor of choice must also support the operating system.

4. MSDP storage requirements

Veritas requires the use of **block storage** for MSDP storage pools in a cloud environment. Veritas recommends that you store the data and the deduplication database on a separate cloud volume. For performance improvements, neither should be stored on the storage server's system disk.   Veritas also recommends a minimum of 3000 IOPs per volume. The number of IOPs per volume is one of several factors that can have a direct impact on the performance achieved in the environment.

5. Network requirements

The network bandwidth between your premises and the cloud storage instance that hosts the MSDP storage server should conform to the following criteria:

- A maximum 0.1-millisecond latency per round trip.
- Enough bandwidth to satisfy your throughput objectives.
- Veritas recommends a 10 GB network instance in the cloud environment
- Veritas requires a static IP address

6. Provisioning the cloud host instance

Consult your cloud vendor's documentation for information about how to configure an instance on which to install the NetBackup media server software.

See the following Veritas knowledgebase article on running NetBackup in a virtual environment for more information: http://www.veritas.com/docs/TECH127089

7. Installing the NetBackup media server software

You must install the NetBackup media server software on your cloud instance host. See the *NetBackup Installation Guide* for your release of NetBackup:

http://www.veritas.com/docs/DOC5332

8. Configuring the deduplication storage server

After you install the media server software, configure the deduplication storage server. Also configure disk pools, storage units, storage lifecycle policies, backup policies, and anything else that is required.

See the *NetBackup Deduplication Guide* for your release of NetBackup:

http://www.veritas.com/docs/DOC5332

9. Record of Revision

The following describe the revisions of this document:

Revision	Description	Date
A	Original publishing	April 20, 2015
B	Rebranded from Veritas to Veritas. No content changes.	October 18, 2016