Using Arcserve Backup-R17 product with Amazon Web Services (AWS) Storage Gateway-VTL

1. **Section-1**: Using Arcserve Backup-R17 product with Amazon Web Services (AWS) Storage Gateway-VTL.
2. **Section-2**: Workarounds when using Device configuration for VTL.

**SECTION-1**

Arcserve Backup R17 supports virtual tape libraries, including the Amazon Web Services (AWS) Gateway Virtual Tape Library (Gateway-VTL & STK-L700). This document describes using Arcserve backup R17 product with the AWS Gateway-VTL and STK-L700.

**Gateway–Virtual Tape Library (Gateway-VTL)**

Gateway-VTL offers a durable, cost-effective solution to archive your data in the AWS cloud. The VTL interface it provides lets you leverage your existing tape-based backup application infrastructure to store data on virtual tape cartridges that you create on your gateway-VTL. Each gateway-VTL is preconfigured with a media changer and tape drives that are available to your existing client backup applications, such as iSCSI devices. You add tape cartridges based on your need to archive your data.

**Managing the Upload Buffer and Cache Storage**

When managing your VTL’s Upload Buffer and Cache Storage, you need to be aware of several factors. For example, the size of the Upload Buffer and Cache Storage, rate of incoming data written to the VTL, and the rate of outgoing data uploaded to AWS. If the backup application writes data at a fast rate to your VTL, and if network throughput is not sufficient for the VTL to upload data to AWS, your upload buffer is eventually filled with data waiting to be uploaded to AWS. If your cache storage is filled up with dirty data (that is, data that has not been uploaded to AWS), then application write operations performed to your virtual tape are blocked and the backup operations fails with an error that may not clearly reflect the root cause of the failure.

For more information, see: [http://docs.aws.amazon.com/storagegateway/latest/userguide/GettingStartedTrySetupStep2-vtl.html](http://docs.aws.amazon.com/storagegateway/latest/userguide/GettingStartedTrySetupStep2-vtl.html)
Supported Hypervisors and Host Requirements

You can choose to run AWS Storage Gateway either on-premises as a virtual machine (VM) appliance, or in AWS as an Amazon Elastic Compute Cloud (Amazon EC2) instance.

For information about how to deploy a gateway on Amazon EC2, see:

http://docs.aws.amazon.com/storagegateway/latest/userguide/ec2-gateway-common.html

Storage Requirements:

In addition to the 75 GB disk space for the VM, you also need additional disks for the gateway.

- For gateway-cached volume configuration, you need storage for the local cache and an upload buffer.
- For gateway-stored volume configuration, you need storage for your entire dataset and an upload buffer.
- For gateway-VTL configuration, you need storage for the local cache and an upload buffer.

Hardware Requirements:

When deploying your gateway on-premises, ensure that the underlying hardware on which you are deploying the gateway VM is able to dedicate the following resources:

- Four or eight virtual processors assigned to the VM.
- 7.5 GB of RAM assigned to the VM.
- 75 GB of disk space for installation of VM image and system data.
Working with VTL Devices

Your gateway-VTL setup provides SCSI devices that you select while activating your gateway. For medium changers, AWS Storage Gateway works with the following SCSI devices:

- AWS-Gateway-VTL—This device is provided with the gateway.
- STK-L700—This device emulation is provided with the gateway.

For tape drives, AWS Storage Gateway works with the following:

IBM-ULT3680-TD5—This device emulation is provided with the gateway.

Configuring Storage Gateway-VTL available for Arcserve backup R17

1. Go to ISCSI initiator and type the IP address of the target, and then click Quick Connect.
2. Activate all the available devices in the discovery portal.
3. Go to Arcserve backup manager-> Administration->Server Admin and restart the “Arcserve Tape Engine service”
4. Go to Administration->Device, and scan devices. Now, you are successfully configured.
5. Mount magazine.
VTL (AWS-Gateway-VTL/STK-L700) is ready to use with Arcserve backup-R17.

### To select a different medium changer type after gateway activation

1. Stop any related jobs that are running in Arcserve backup.
2. Stop the Tape Engine services in Arcserve backup.
3. From the Windows server, open the iSCSI initiator properties window.
4. Choose the Targets tab to display the discovered targets.
5. From the Discovered targets pane, select the medium changer that you want to change, click Disconnect, and then click OK.
6. From the Navigation pane of the AWS Storage Gateway console, select the gateway-VTL for which you want to change the medium changer.

7. Click the VTL Devices tab, and then select the medium changer in the Tape Device ID column.

8. Click the Details tab, and then select the Configure Device Type link in the VTL Device Type row.

9. From the Configure Device Type page, click the Device Type box, select a medium changer, and then click Save.

10. Go to the iSCSI initiator and connect all the available targets with respect to the medium changer.

11. Go to Arcserve backup manager-> Administration->Server Admin, and start the “Arcserve Tape Engine service”

12. Go to Administration->Device.
   
   Now, you have successfully configured the new medium changer.
**Existing behaviours for AWS Gateway-VTL & STK L700:**

**A) How to make tapes available in Arcserve backup which are created in AWS VTL Gateways**
1) After creating tapes in AWS Gateway VTL, tapes are listed in I/E Slots with respect to Arcserve Backup – R17.
2) To start using tapes, import tapes from I/E Slots to regular slots.
   Now, tapes are available in regular slots and ready for jobs.

**B) How to manage data restore from tapes which are exported.**
Tapes which are exported to I/E slots are moved to Virtual Tape Shelf (VTS) in AWS Console.
At this case tapes are not listed in Arcserve backup Import/Export window.
1) You can retrieve virtual tapes from your Virtual Tape Shelf using the AWS Management Console.
2) Virtual tapes retrieved from your Virtual Tape Shelf take about 24 hours to be available and are automatically loaded into your Virtual Tape Library.
   Now tapes are listed in Import/Export window of Arcserve backup.
3) Perform a regular import to regular slots and restore the data.
   **Note:** Tapes which are retrieved from VTS are not used for next backup.

For more details related to AWS Storage Gateway: [https://aws.amazon.com/storagegateway/faqs/](https://aws.amazon.com/storagegateway/faqs/)
Section-2

Work arounds:

Method-1: Customer uses the Device configuration to Remove/Add drives from the Library and wants to switch to new medium changer using ISCSI initiator.

1) Configure ISCSI initiator with Medium changer. For example: AWS Gateway-VTL
2) Customer used Device configuration->Tape Library to Remove/Add Drives.
3) When the drives are removed from the library using Device configuration CHANGER_CFG key is generated with MapDrivesWithTape=2
4) Now, stop the Tape Engine services and remove all the targets from ISCSI initiator (Restarted the tape engine).
5) If customer wants to change the medium changer, Switch to new medium changer: STK-L700 using ISCSI initiator
6) Manually delete the Tape Engine key from the Regedit, and try to restart the tape engine
   Now, VTL is displayed in the Arcserve Backup device with the new medium changer.

Method-2: Customer uses the Device configuration to Remove/Add drives from the Library and wants to switch to the new medium changer using ISCSI initiator.

1) Configure ISCSI initiator with Medium changer. For example: AWS Gateway-VTL.
2) Customer uses Device configuration->Tape Library to Remove/Add Drives.
3) When the drives are removed from the library using Device configuration CHANGER_CFG key is generated with MapDrivesWithTape=2.
4) Stop the Tape Engine services and remove all the targets from ISCSI initiator (Restarted the tape engine).
5) Manually change value as mentioned: MapDrivesWithTape=0.
7) Restart the tape engine service,
   You are able to configure the new medium changer.