

Arcserve® Unified Data Protection Cloud Hybrid Secured by Sophos

User Guide

Version 1.2

arcserve®

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With Arcserve Support:

- You can get in direct touch with the same library of information that is shared internally by our Arcserve Support experts. This site provides you with access to our knowledge base (KB) documents. From here you can easily search for and find the product-related KB articles which contain field-tested solutions for many top issues and common problems.
- You can use our Live Chat link to instantly launch a real-time conversation between you and the Arcserve Support team. With Live Chat, you can get immediate answers to your concerns and questions, while still maintaining access to the product.
- You can participate in the Arcserve Global User Community to ask and answer questions, share tips and tricks, discuss best practices, and participate in conversations with your peers.
- You can open a support ticket. By opening a support ticket online, you can expect a callback from one of our experts in the product area you are inquiring about.
- You can access other helpful resources appropriate for your Arcserve product.

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Chapter 1: Understanding Arcserve UDP Cloud Hybrid

This document provides information about setting up, accessing, and using Cloud Hybrid.

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Introduction

Arcserve UDP Cloud Hybrid is a cloud computing service that empowers your organization to complete your data protection needs using a seamless integrated Cloud backup and Disaster Recovery (DR). Cloud Hybrid is a business continuity solution that ensures the offsite availability of your critical systems and data.

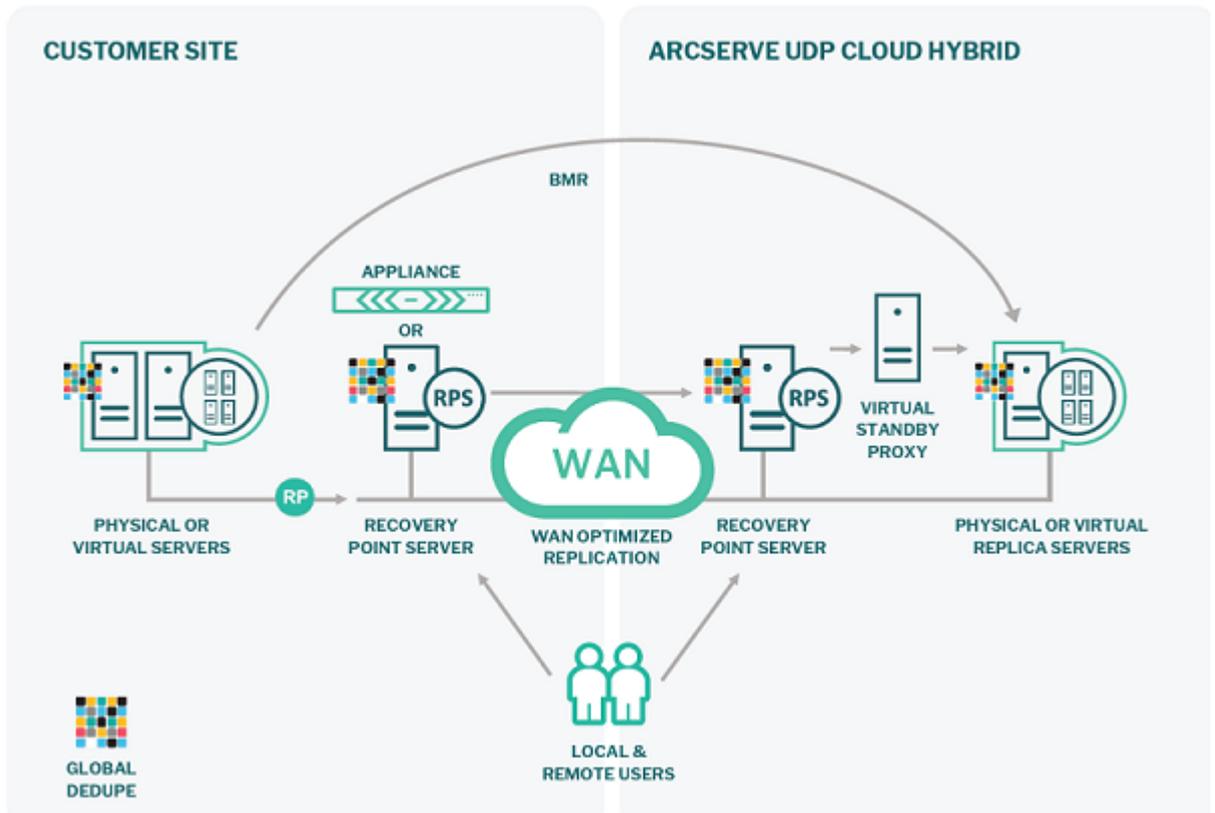
Offered as a service extension to Arcserve UDP platform, Cloud Hybrid leverages global deduplication, encryption, compression, and WAN-optimized replication for complete security and efficiency of your data protection.

With seamless integration, connect the On-premise Recovery Point Server (RPS) or Arcserve UDP Appliance to the Cloud RPS where the data is automatically replicated to manage the data in Cloud Hybrid.

Cloud Hybrid is available in the following service types:

- **Backup as a Service (BaaS):** Cloud Hybrid automatically replicates your backup images from the On-premise Recovery Point Server (RPS) to a corresponding RPS in the cloud (disk to disk to cloud). You can manage the entire backup process from the Arcserve UDP Console specifying the backup source, destination, and retention.

For more information, see [Using Cloud Hybrid as a Backup Service](#).



Arcserve UDP Cloud Hybrid allows you replicate data from one RPS to another and manually replicate the data from Cloud Hybrid.

For more information, see the following:

- [Replicate from RPS to RPS](#)
- [Manual Replication from Cloud Hybrid](#)

Features

Some of the key features available in Arcserve UDP Cloud Hybrid are listed below.

- **Replicate to Cloud Hybrid:** Using Arcserve UDP, you can replicate the backup sessions from On-premise Recovery Point Server to Cloud Hybrid. This process ensures that an additional copy of recovery points is available if the original recovery points are merged or accidentally deleted.

For more information, see [How to Replicate Data to the Cloud Hybrid Recovery Point Server](#).

- **Download file/folder from Cloud Hybrid:** You can download file/folder from the Cloud Hybrid replicated sessions of Windows file systems.

The backup types supported are as follows:

- Windows Agent-based backup
- Host-based agentless backup for Windows virtual machine
- UNC path

In a DRaaS environment, you can download file/folder from the Cloud Hybrid replicated sessions of Linux file systems.

For more information, see [How to Download Files and Folders from Cloud Hybrid](#).

- **Assured Recovery:** To verify accessibility and assured recovery of the data, create an assured recovery plan. The assured recovery plan is based on the backup/replication plan. This recovery task adds an assured recovery task to an existing backup or replication plan that consists of a source, test settings, schedule, and advanced settings. You can also run the Assured Recovery job manually.

For more information, see [How to Create an Assured Recovery Plan](#).

- **Reporting in Cloud Hybrid:**

- ♦ **RPO Reporting:** Recovery Point Objective (RPO) report is the compliance report that displays how the recovery points are distributed in the backup environment. In case of a disaster, the report helps assess the oldest and latest point in time that the node can return to.

For more information, see [RPO Reports](#).

- ◆ **RTO Reporting:** Recovery Time Objective (RTO) report is the compliance report that displays if the defined recovery time objective is met for all the executed recovery type of jobs.

For more information, see [RTO Reports](#).

- **Using Virtual Standby in Cloud Hybrid:** Virtual Standby converts the recovery points to virtual machine formats on specified cloud and prepares a snapshot to easily recover your data when needed. This feature is capable to provide high availability and ensures that the virtual machine can take over immediately when the source machine fails.

For more information, see [How to Create a Virtual Standby Plan](#).

- **Using Instant VM in Cloud Hybrid:** Instant virtual machine (Instant VM) helps you run the backup session inside the virtual machine without any prior conversion and create a virtual machine in the hypervisor. The Instant virtual machine provides instant access to the data and applications available in the Arcserve UDP backup sessions. Instant VM eliminates the downtime for restore or conversion of the backup session to a physical or virtual machine.

For more information, see [How to Create and Manage an Instant Virtual Machine on Hyper-V and VMware ESX Servers](#).

What Do You Get with Cloud Hybrid?

With Cloud Hybrid, you will get the following:

- Arcserve UDP Console/RPS server.
- URL to access the Arcserve UDP Console.
- Username and password to log into the Arcserve UDP Console available in Cloud Hybrid. The same credentials are applicable to authenticate when you add the **Replicate to a remotely-managed RPS** task in the On-premise Arcserve UDP Console.

Important! The deduplication datastore in Cloud Hybrid has a randomly generated encryption password by default. You must modify the encryption password in the first Cloud Hybrid login as Arcserve cannot restore the default password. We recommend that you keep the newly created password safe as you need the password later to perform tasks such as importing the datastore and running a consistency check on the deduplication datastore. You can modify the newly created password later from datastore setting if the datastore is not deleted from Cloud Hybrid.

- A Hyper-V node if the optional Cloud Hybrid Compute subscription is purchased.
- A pre-configured Linux backup server that runs on Hyper-V.

Prerequisites to Access Cloud Hybrid

Before accessing Cloud Hybrid, verify the following prerequisites:

- You have an Arcserve UDP software or Appliance.
- You have an active maintenance contract for the on-premises Arcserve UDP software or appliance.
- You have received an email from the Arcserve Support containing the following details to access Cloud Hybrid:
 - ◆ URL to the Arcserve UDP Console
 - ◆ Host name (Node name)
 - ◆ Username and Password for Cloud Hybrid
- If the optional Cloud Hybrid Compute subscription is purchased, the following details are provided:
 - ◆ Password for root account of Linux backup server and Point to Site VPN access (same as the Cloud Hybrid password)
 - ◆ Unique configuration files for the Point to Site VPN

Backward Compatibility Support Policy

The following table lists the supported versions of Arcserve UDP for Cloud Hybrid Replication with 6.5 Update 4:

On-Premise Version	Replication supported to Cloud Hybrid (Arcserve UDP 6.5 Update 4)	Manual Reverse Replicate from Cloud Hybrid (Arcserve UDP 6.5 Update 4) to On-Premise	Requirements for Manual Reverse Replicate from Cloud Hybrid (Arcserve UDP 6.5 Update 4) to On-Premise
Arcserve UDP 7.0 Update 2	Yes	Yes	Yes
Arcserve UDP 7.0 Update 1	Yes	Yes	Apply patch P00001738
Arcserve UDP 7.0	Yes	Yes	Apply patch P00001738
Arcserve UDP 6.5 Update 4	Yes	Yes	-
Arcserve UDP 6.5 Update 3	Yes	Yes	-
Arcserve UDP 6.5 Update 2	Yes	Yes	-
Arcserve UDP 6.5 Update 1	Yes	Yes	-
Arcserve UDP 6.5	Yes	Yes	-
Arcserve UDP 6.0 (All Updates)	No	No	-

The following table lists the supported versions of Arcserve UDP for Cloud Hybrid Replication with 7.0:

On-Premise Version	Replication supported to Cloud Hybrid (Arcserve UDP 7.0)	Manual Reverse Replicate from Cloud Hybrid (Arcserve UDP 7.0) to On-Premise	Requirements for Replication supported to Cloud Hybrid (Arcserve UDP 7.0)
Arcserve UDP 7.0 Update 2	Yes	Yes	-
Arcserve UDP 7.0 Update 1	Yes	Yes	-

Arcserve UDP 7.0	Yes	Yes	-
Arcserve UDP 6.5 Update 4	Yes	Yes	Apply patch P00001738
Arcserve UDP 6.5 Update 3	Yes	No	Upgrade to 6.5 Update 4 and then apply patch P00001738
Arcserve UDP 6.5 Update 2	Yes	No	
Arcserve UDP 6.5 Update 1	Yes	No	
Arcserve UDP 6.5	Yes	No	
Arcserve UDP 6.0 (All Updates)	No	No	-

Important: Verify if the version of Arcserve UDP Console is similar to or higher than the version of Cloud Hybrid. For example, if the version of Cloud Hybrid is 7.0 but the Console has version 6.5, an error message appears when you create plan or modify existing plan to add or modify **Replicate to a remotely-managed RPS task** on On-Premise. The message displays: *The version of Console is lower, please upgrade your console and try again.*

To save the plan, apply Patch [P00001738](#) on the On-Premise Console for v6.5 Update 4.

The following table lists the supported versions of Arcserve UDP for Cloud Hybrid Replication with 7.0 Update 1:

On-Premise Version	Replication supported to Cloud Hybrid (Arcserve UDP 7.0 Update 1)	Manual Reverse Replicate from Cloud Hybrid (Arcserve UDP 7.0 Update 1) to On-Premise	Requirements for Replication supported to Cloud Hybrid (Arcserve UDP 7.0 Update 1)
Arcserve UDP 7.0 Update 2	Yes	Yes	-
Arcserve UDP 7.0 Update 1	Yes	Yes	-
Arcserve UDP 7.0	Yes	Yes	-
Arcserve UDP 6.5 Update 4	Yes	Yes	Apply patch P00001738
Arcserve UDP 6.5 Update 3	Yes	No	Upgrade to 6.5 Update 4 and then apply patch P00001738
Arcserve UDP 6.5 Update 2	Yes	No	
Arcserve UDP 6.5 Update 1	Yes	No	
Arcserve UDP 6.5	Yes	No	

Arcserve UDP 6.0 (All Updates)	No	No	-
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Important: Verify if the version of Arcserve UDP Console is similar to or higher than the version of Cloud Hybrid. For example, if the version of Cloud Hybrid is 7.0 Update 1 but the Console has version 6.5, an error message appears when you create plan or modify existing plan to add or modify **Replicate to a remotely-managed RPS** task on On-Premise. The message displays: *The version of Console is lower, please upgrade your console and try again.*

To save the plan, apply Patch [P00001738](#) on the On-Premise Console for v6.5 Update 4.

The following table lists the supported versions of Arcserve UDP for Cloud Hybrid Replication with 7.0 Update 2:

On-Premise Version	Replication supported to Cloud Hybrid (Arcserve UDP 7.0 Update 2)	Manual Reverse Replicate from Cloud Hybrid (Arcserve UDP 7.0 Update 2) to On-Premise	Requirements for Replication supported to Cloud Hybrid (Arcserve UDP 7.0 Update 2)
Arcserve UDP 7.0 Update 2	Yes	Yes	-
Arcserve UDP 7.0 Update 1	No	No	-
Arcserve UDP 7.0	No	No	-
Arcserve UDP 6.5 Update 4	No	No	-
Arcserve UDP 6.5 Update 3	No	No	-
Arcserve UDP 6.5 Update 2	No	No	
Arcserve UDP 6.5 Update 1	No	No	
Arcserve UDP 6.5	No	No	
Arcserve UDP 6.0 (All Updates)	No	No	-

Important: Verify if the version of Arcserve UDP Console is similar to or higher the version of Cloud Hybrid. The Cloud Hybrid instances with Arcserve UDP versions 7.0 update 2 do not support backward compatible operations. Upgrade your On-premise instance immediately.

The following table lists the supported versions of Arcserve UDP for Cloud Hybrid Replication with 8.0:

On-Premise Version	Replication supported to Cloud	Manual Reverse	Requirements for Rep-
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	Hybrid (Arcserve UDP 8.0)	Replicate from Cloud Hybrid (Arcserve UDP 8.0) to On-Premise	lication supported to Cloud Hybrid (Arcserve UDP 7.0 Update 2)
Arcserve UDP 8.0	Yes	Yes	-
Arcserve UDP 7.0 Update 2	Yes	Yes	-
Arcserve UDP 7.0 Update 1	No	No	-
Arcserve UDP 7.0	No	No	-
Arcserve UDP 6.5 Update 4	No	No	-
Arcserve UDP 6.5 Update 3	No	No	-
Arcserve UDP 6.5 Update 2	No	No	
Arcserve UDP 6.5 Update 1	No	No	
Arcserve UDP 6.5	No	No	
Arcserve UDP 6.0 (All Updates)	No	No	-

Important: The Cloud Hybrid instances with Arcserve UDP versions 7.0 update 2 and above do not support backward compatible operations. Upgrade your On-premises instance immediately.

Chapter 2: Using Cloud Hybrid as a Backup Service

Arcserve UDP Cloud Hybrid (BaaS) allows you perform the following functions:

- Replicate the backup images from the On-premise Recovery Point Server (RPS) to the corresponding RPS in the Cloud Hybrid.
- Restore and download the files/folders from Cloud Hybrid RPS to On-premise RPS.

This section contains the following topics:

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Download/Recover Files and Folders from Cloud Hybrid	23
How to Perform Assured Recovery using Instant Virtual Disk	27

Replicate Data to the Cloud Hybrid Recovery Point Server

This section contains the following topics:

How to Replicate the Protected Windows Node Data using Shared Plan

You can replicate the backup data to another recovery point server located in Cloud Hybrid managed from a different Arcserve UDP Console.

Create a new plan and move the nodes later into the replicated Cloud Hybrid plan.

To replicate the protected Windows node data using shared plan, follow these steps:

1. Log into the Arcserve UDP Console available in the Cloud Hybrid using the credentials you have received through email.
2. Create or modify an Arcserve UDP plan on your local Arcserve UDP Appliance and add the **Replicate to a remotely-managed RPS** task after adding the Agent or Agentless Backup task.
3. In the **Destination** tab of the **Replicate to a remotely-managed RPS** task, use the information you have received through email to add the remote console, user name, and password.

Port: 8015

Protocol: HTTPS

Note: The remote console located in Cloud Hybrid validates these credentials.

4. Select **Enable Proxy** if your network uses an Internet proxy and configure to your network specifications.

Note: This information may vary and is similar to configuring a browser to access the Internet from the local network.

5. Click **Connect** to validate the connection to the RPS server in Cloud Hybrid.
6. From the Plan drop-down menu, select the Replication plan from the Cloud Hybrid RPS server.

Note: The selected plan is the Share Plan from the Cloud Hybrid RPS server for your company.

7. Click **Save**. The data is replicated after the next backup.

By default, node replication begins after the backup is completed and the recovery points from the nodes are replicated to the Cloud Hybrid RPS server. To modify the schedule, you can add a [Replication schedule](#).

How to Replicate the Protected Linux Node Data using Shared Plan

Arcserve UDP allows you create a plan and store your Linux backup sessions to a recovery point server. Also, Arcserve UDP allows the replication of Linux recovery points to another RPS located in Cloud Hybrid.

To replicate the protected Linux node data using shared plan, follow these steps:

1. Log into the Arcserve UDP Console available in the Cloud Hybrid using the credentials you have received through email.
2. Create or modify an Arcserve UDP plan on your local Arcserve UDP Appliance and add the **Replicate to a remotely-managed RPS** task after adding the Agent or Agentless Backup task.
3. In the **Destination** tab of the **Replicate to a remotely-managed RPS** task, use the information you have received through email to add the remote console, user name, and password.

Port: 8015

Protocol: HTTPS

Note: These credentials are validated on the remote console located in Cloud Hybrid.

4. Select **Enable Proxy** if your network uses an Internet proxy and configure to your network specifications.

Note: This information may vary and is similar to configuring a browser to access the Internet from the local network.

5. Click **Connect** to validate the connection to the RPS server in Cloud Hybrid.
6. From the Plan drop-down menu, select the Replication plan from the Cloud Hybrid RPS server.

Note: The selected plan is the Share Plan from the Cloud Hybrid RPS server for your company.

7. Click **Save**. The data is replicated after the next backup.

By default, node replication begins after the backup completes and the recovery points from the nodes are replicated to the Cloud Hybrid RPS server. To modify the schedule, you can add a [Replication schedule](#).

Download/Recover Files and Folders from Cloud Hybrid

You can download the data from Cloud Hybrid in the Arcserve UDP Windows/Linux Agent browser.

This section contains the following topics:

How to download Files and Folders from Cloud Hybrid Using Windows File Systems

Cloud Hybrid allows you download the files and folders using Windows File Systems.

To download files/folders from Cloud Hybrid using Windows file systems, follow these steps:

1. Open the Cloud Hybrid through the Windows file system browser.
2. From the **Destinations** menu available in the left pane, select the **Recovery Point Servers** option.
3. Select the recovery point server that you want to download the file/folder from.
4. Double-click the required recover point server.
The data store list appears.
5. Right-click the specific data store, and then click **Browse Recovery Points**.
The **Summary** page of the data store appears, displaying the node(s) protected based on the plans assigned to the specific node.
6. Double-click the required plan, and then select the required node.
7. Right-click the specific plan, and then click **Restore**.
The **Restore** wizard opens for the selected node.
8. Click the **Browse Recovery Points** option.
The **Browse Recovery Points** dialog opens.
9. Select the recovery point (date and time) for the backup image that you need to download the file/folder from.
10. Expand the volume to browse the file/folder.
Note: You need to input the session password if prompted.
11. Click the download icon.
Note: The file is downloaded as original file and folder is downloaded as a zip file.

The selected file/folder for Windows file system is downloaded successfully.

How to Recover Files and Folders from Cloud Hybrid

Arcserve allows you restore data from Cloud Hybrid to a mounted recovery point created on your local Arcserve UDP Console using an SFTP client.

To recover files and folders from Cloud Hybrid, follow these Steps:

1. Perform the following steps to connect to the Arcserve UDP Console server SFTP client, such as FileZilla:
 - a. Create a new site to connect to the Arcserve UDP Console server SFTP client, such as FileZilla.
 - b. Specify the Arcserve UDP Console server name, user name, and password provided in your Welcome email.
Note: Specify the default port number - 37037.
 - c. Click **Connect**.
2. Perform the following steps to mount a recovery point:
 - a. Minimize the SFTP client.
 - b. Open the Cloud Hybrid.
 - c. From the **Destinations** menu available in the left pane, select the **Recovery Point Servers** option.
 - d. Select the required recovery point server to recover the data.
 - e. Double-click the required recovery point server.
The data store list appears.
 - f. Right-click the specific data store, and then click **Browse Recovery Points**.
The **Summary** page of the data store appears, displaying the protected nodes based on the plans assigned to the specific node.
 - g. Double-click the required plan, and then select the required node.
 - h. Right-click the selected node, and then click **Restore**.
The **Restore** wizard appears for the selected node.
 - i. Close the **Restore** dialog, and then select **Mount Recovery Point** from the **Tasks** pane.
The information about data store and node is displayed.
 - j. Select the calendar date for the backup image that you want to mount.

- k. Select the recovery point that you want to mount.
- l. Locate the volume or drive that you want to mount, and then click **Mount**.

Note: You can mount the drive to volume Z.

- m. Specify the encryption password, and then click **OK**.

The selected volume is mounted and displayed in the list of Mounted Volumes on the **Mount Recovery Point** dialog.

3. Perform the following steps to recover files and folders from Cloud Hybrid using the recovery point mounted on volume Z:
 - a. Open the SFTP client and select the site you have created to connect to the mounted recovery point.
 - b. To recover the files or folders from Cloud Hybrid, select them and drag to the mounted recovery point.

The files and folders are recovered from Cloud Hybrid.

How to Perform Assured Recovery using Instant Virtual Disk

To perform Assured Recovery task using Instant Virtual disk, follow these steps:

1. Log into the Arcserve UDP Console available in Cloud Hybrid and create an Assured Recovery task.
2. From the **resources** tab, navigate to **Nodes, All Nodes**, and then select the node for the Assured Recovery task to set the backup password.

Note: You must set the backup password for Virtual Standby and Restore tasks to ensure the conversion of replicated recovery points. The backup password provided is same as the session password defined in the plan used to backup the On-premise source nodes.

3. Right-click the node, and then select **Set Backup Passwords** from the displayed options.

The **Set Backup Passwords for Node XXX** dialog appears.

Password	Confirm Password	Comment	Create Time
*****	*****		7/16/2018 7:58:33 PM

4. Add backup passwords, and then click **Save**.
5. From the **resources** tab, navigate to **Plans**, and then select **All Plans**.
6. Edit the Replication plan to add Task 2 as the Assured Recovery task.

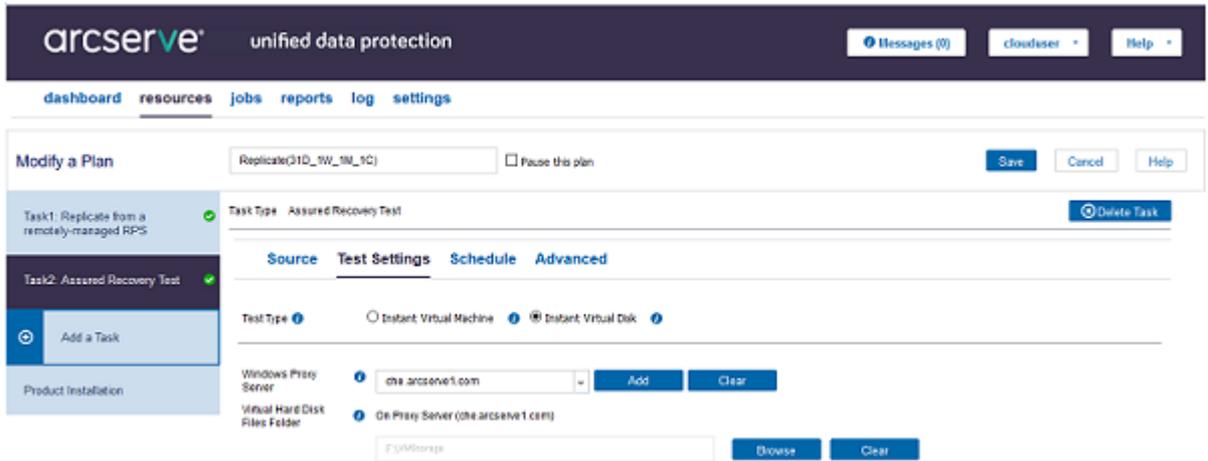
Note: You can add multiple backup passwords.

7. Specify the Source and select the types of Recovery Points required for Assured Recovery test.

Note: You can select the backup types or the latest recovery points.

8. Navigate to the **Test Settings** tab.
9. Specify the Task Setting for Test Type as Instant Virtual Disk, and then specify the following details:
 - ◆ **Windows Proxy Server:** Enter the FQDN of Cloud Hybrid
 - ◆ **Browse the Virtual Hard Disk Files Folder:** <drive letter>:\VMStorage

Note: If the above mentioned path is not available, create the VMStorage folder manually in any of the available drives.



10. Specify the **Schedule** settings required, and then click **Save**.

Note: Custom command in **Advanced** settings is not supported as Arcserve cannot access the proxy server.

The modifications are saved successfully, and the Assured Recovery task is automatically deployed. After the replication job is performed, the Assured Recovery jobs are performed automatically and are controlled using the schedule settings.

For more information, see the following:

[Performing Assured Recovery Test Manually for a Node](#)

[Performing Assured Recovery Test Manually for a Plan](#)

Chapter 3: Using Cloud Hybrid as a Disaster Recovery Service

Important! To use Cloud Hybrid Compute Service, you need to have a backup available in the Cloud Hybrid RPS already. For more information, see [How to Replicate Data to the Cloud Hybrid Recovery Point Server](#).

This section contains the following topics:

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Run Disaster Recovery Systems in Cloud Hybrid Using Virtual Standby	31
Run Disaster Recovery Tests in Cloud Hybrid Using Instant VM	39
Automate Disaster Recovery Tests in Cloud Hybrid Using Assured Recovery	61
Connect to the Disaster Recovery System in Cloud Hybrid	68

How to Download Files and Folders from Cloud Hybrid Using Linux File Systems

Cloud Hybrid allows you download the files and folders from Linux File Systems.

Note: For Cloud Hybrid BaaS, the Linux file restore is possible from Cloud Hybrid through [reverse replication](#).

To download files and folders from Cloud Hybrid, follow these steps:

1. Open the Arcserve UDP Agent for Linux web interface (<https://<your-cloud-hybrid-FQDN>:8018>) in a browser.
2. Click **Restore** from the **Wizard** menu, and then select **Mount Recovery Point**.
The **Restore Wizard – Mount Recovery Point** dialog opens.
3. Select the data store and node from the drop-down menu, and then click **OK**.
4. Select the recovery point (date and time) for the backup image.
5. Select **WebDAV** option from the **Share Recovery Point Using** drop-down menu.
6. Set username/password and submit the mount job.
7. Open the URL and download the file.

Your download URL will be *https://<your-cloudhybrid-FQDN>:8018/share/<username for mount>/*

The selected file/folder for Linux file system is downloaded successfully.

Run Disaster Recovery Systems in Cloud Hybrid Using Virtual Standby

This section contains the following topics:

How to Use the Hyper-V Server in Disaster Recovery System

Due to the same server configuration available for Hyper-V server and Arcserve UDP server, the following considerations help you create the virtual machines for the Hyper-V server without affecting the Arcserve UDP server:

- Use the **F:\VMStorage** folder to store the virtual machines as the remaining drives are reserved for operating system and Cloud Hybrid. The default virtual machine path is set to **F:\VMStorage**.
- Use **Arcserve_Private_Cloud** network that helps the virtual machine to get the IP address from DHCP.
- You need to reserve memory for Arcserve UDP data store usage as the system memory is consumed for running the virtual machines. To monitor the system memory usage, navigate to the Data Store page.

How to Recover Data in the Cloud Hybrid Using Virtual Standby

Arcserve allows you power on the standby virtual machines running in Cloud Hybrid using Virtual Standby task.

Note: For more information about Hypervisor, contact [Arcserve support](#).

To recover data in the Cloud Hybrid using virtual standby, follow these steps:

1. Log into the Arcserve UDP console available in the Cloud Hybrid to set up your Virtual Standby task using the credentials you have received through email.
2. From the **resources** tab, navigate to **Nodes, All Nodes**, and then select the node for the Assured Recovery task to set the backup password.

Note: You must set the backup password for Virtual Standby and Restore tasks to ensure the conversion of replicated recovery points. The backup password provided is same as the session password defined in the plan used to backup the On-premise source nodes.

3. Right-click the node, and then select **Set Backup Passwords**.

The **Set Backup Passwords for Node XXX** dialog appears.

Password	Confirm Password	Comment	Create Time
*****	*****		7/16/2018 7:58:33 PM

4. Add one or more backup passwords, and then click **Save**.
5. From the **resources** tab, navigate to **Plans**, and then select **All Plans**.
6. Edit the Replication plan to add Task 2 as the virtual standby.

7. In the **Virtualization Server** tab, enter the following information, and then click **Connect**:

Virtualization Type: Hyper-V

Hyper-V Host Name: Enter the Cloud Hybrid FQDN/IP address

Username: Enter the Cloud Hybrid username

Password: Enter the Cloud Hybrid password

Protocol: HTTPS

Port: 8014

The screenshot shows the 'Modify a Plan' configuration page. On the left, there is a sidebar with 'Task1: Replicate from a remotely-managed RPS' (checked), 'Task2: Virtual Standby' (checked and selected), 'Add a Task', and 'Product Installation'. The main area shows 'Task Type' as 'Virtual Standby'. Below this are tabs for 'Source', 'Virtualization Server' (selected), 'Virtual Machine', and 'Advanced'. The 'Virtualization Server' tab contains the following fields:

- Virtualization Type: Hyper-V (dropdown)
- Hyper-V Host Name: che-di.arcsolve1.com
- Username: clouduser
- Password: masked with dots
- Protocol: HTTP (radio), HTTPS (radio, selected)
- Port: 8014

 A blue 'Connect' button is located at the bottom of the form.

8. In the **Virtual Machine** tab, enter the following information:
 - a. Specify appropriate CPU count and memory required for the virtual standby VM.

Note: Specify the CPU count and Memory allocation based on the Cloud Hybrid Compute subscription purchased.

- b. You must specify the following path for the virtual standby VM on Hyper-V:

F:\VMStorage

Note: Do not uncheck the All virtual disks share the same path option as the above-mentioned path is used for all the virtual disks.

- c. To specify networks, select **Network Adapter** from the **Adapter Type** drop-down menu and **Arcserve_Private_Cloud** from the **Connected to** drop-down menu to connect to the network.

Modify a Plan Replicate Pause this plan

Task1: Replicate from a remotely-managed RPS ✔

Task2: Virtual Standby ✔

+ Add a Task

Product Installation

Task Type Virtual Standby

Source Virtualization Server Virtual Machine Advanced

Basic Settings

VM Name Prefix

Recovery Point Snapshots (1-24)

CPU Count (1-8)

Memory 512MB 32863MB MB

Path

All virtual disks share the same path.

Browse

Networks

Specify the quantity and type of network adapters that you want to connect to the standby virtual machine; and specify how many.

Same number of network adapters as source at last backup

+ -

Adapter	Adapter Type	Connected to
Adapter1	Network Adapter	Arcserve_Private_Cloud

! The customized network configuration setting specified for each node overrides the custom network setting specified in plan.

9. Right-click the replication plan, and then select **Pause** or **Resume** from the displayed options to start the recovery point conversion for all the nodes attached to the Hypervisor on the recovery node.

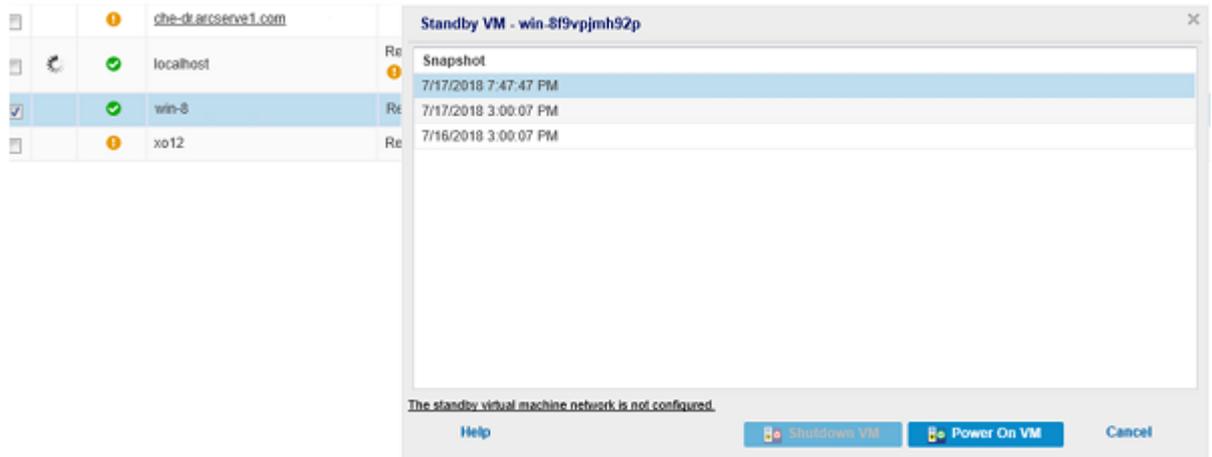
<input checked="" type="checkbox"/>	✔	win-01	Replicate	Finished	7/17/2
<input type="checkbox"/>	!	xo12	Replicate		7/15/2

- Update
- Delete
- Export
- Modify Plan
- Specify Hypervisor
- Virtual Standby ▶
- Standby VM
- Standby VM Network Configuration
- Set Backup Passwords
- Restore
- Create an Instant VM
- Run Assured Recovery Test Now

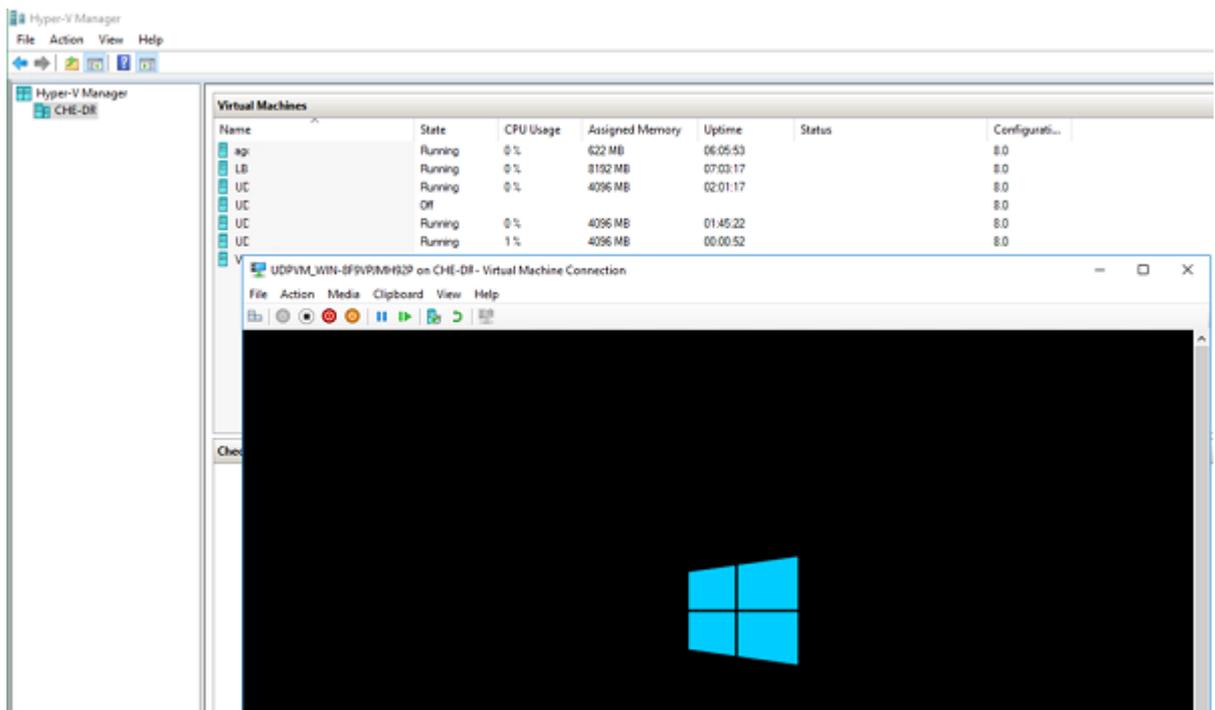
- Resume
- Pause

10. After the Cloud Hybrid Virtual Standby (Task 2) completes converting the recovery points to virtual machines, start or stop the Cloud Hybrid Virtual

Standby VM from the Virtual Standby menu placed on the left pane of the Arcserve UDP Console and configure the virtual machine network on the Virtual Standby User Interface available in the Cloud Hybrid.



11. Click **Power On VM**.



The Virtual Standby VM is now up and running.

Protecting Production Virtual Standby VM Running in Cloud Hybrid

Cloud Hybrid allows you protect the production Virtual Standby machine running in Cloud Hybrid.

To protect the production virtual standby VM running in Cloud Hybrid, follow these steps:

1. Log into the Arcserve UDP Console available in the Cloud Hybrid.
2. Specify the IP address for the Hypervisor provided in your Welcome email to add or discover the Virtual Standby VMs or nodes.
3. Use **Task 1** to create a new plan (for example, Cloud Backup plan) using an Agentless Backup.
Note: To avoid inadvertent recovery points, make sure to remove the production node from the local job.
4. Add the nodes from the Hypervisor.
5. Use the RPS data store in Cloud Hybrid as the destination.
6. Review the **Schedule** tab and other settings for the backup job, and then click **Save**.

The Production Virtual Standby machine is protected successfully.

Recovering Production Virtual Standby VM Running in the Cloud Hybrid to a Local Server

You can replicate the required recovery points in the Cloud Hybrid to your On-premises RPS and then proceed with the restore from the latest/closest state with all the modifications present.

To fail back the production virtual standby VM running in Cloud Hybrid to a On-premises server, follow these steps:

1. Perform a backup of the Virtual Standby VM to ensure data integrity.
Note: We recommend that you shut down the Virtual Standby VM till the local node is recovered.
2. Add the **Replicate task to a remotely-managed RPS** task to replicate your backup data to the On-premise RPS.
3. Perform BMR (Bare Metal Recovery) to recover the VM.
4. Add the local server back to the production backup job.

The Virtual Standby VM is now recovered on your local server.

Run Disaster Recovery Tests in Cloud Hybrid Using Instant VM

This section contains the following topics:

How to Add Linux Backup Server in Cloud Hybrid

To add Linux backup server in Cloud Hybrid, follow these steps:

1. Log into the Arcserve UDP Console, click the **resources** tab.
2. From the left pane, navigate to **Nodes**, and then select **All Nodes**.
The list of nodes appears on the center pane.

3. Click **Add Nodes**.

The **Add Nodes to Arcserve UDP Console** dialog appears.

4. From the **Add nodes by** drop-down menu, select **Adding Linux Backup Server Node**.

The screenshot shows the 'Add Nodes to Arcserve UDP Console' dialog box. The 'Add nodes by' dropdown menu is set to 'Add Linux Backup Server Node'. The form contains the following fields:

- Node Name/IP Address: 10.10.255.255
- Username: root
- Password: [masked]
- Port: 8018
- Protocol: HTTP HTTPS
- Add Description: [empty]

Below the form, there is a link for [Linux Backup Server](#). A table on the right side of the dialog is empty, with columns for Node Name, VM Name, and Hypervisor. The text 'You have not added any node to the list.' is displayed in the table area. At the bottom of the dialog, there are buttons for 'Add to List', 'Remove', 'Help', 'Save', and 'Cancel'.

5. Enter the following Linux backup server node details, and then click **Add to list**:

Node Name/IP Address: Public IP of Cloud Hybrid

Port: 8018

Protocol: HTTPS

The node is added to the right pane.

6. (Optional) To remove the added node, select the node in the right pane, and then click **Remove**.
7. Select the nodes to add, and then click **Save**.
8. Navigate to **Nodes**, and then select **All Nodes** to view the added node.

The nodes are added successfully.

How to Create Cloud Hybrid Instant Virtual Machine

Instant virtual machine (Instant VM) creates a virtual machine in the Hypervisor and runs the backup session inside the virtual machine without any prior conversion.

Advantages of Instant virtual machine:

- Provides immediate access to data and applications available in the Arcserve UDP backup sessions.
- Eliminates the downtime associated with a traditional restore or conversion of the backup session to a physical or virtual machine.

You can create an Instant VM from the following backup sessions on the RPS server in Cloud Hybrid:

- Agent-based Windows backup
- Agent-based Linux backup
- Host-based agentless backup

To create an Instant VM, follow these steps:

1. [Open the Instant VM wizard in the Cloud Hybrid](#)
2. [Configure an Instant VM using the Instant VM Wizard for Windows System](#)
3. [Configure an Instant VM using the Instant VM Wizard for Linux System](#)
4. [Create the Instant VM](#)

Open the Instant VM Wizard in Cloud Hybrid

You can configure and create an Instant VM using the Instant VM wizard in Cloud Hybrid.

This section contains the following topics:

Opening the Instant VM Wizard Using Node Management

You can open the Instant VM wizard using the nodes available in the Cloud Hybrid.

To open the Instant VM wizard using node management, follow these steps:

1. Open the Wizard from the RPS Console Node management view in Cloud Hybrid.
2. From the **resources** tab, navigate to **Nodes**, and then select **All Nodes**.
All the nodes are displayed on the center pane.
3. Right-click a node and from the displayed options select **Create an Instant VM**.

Note: The **Create an Instant VM** option works only when the node is associated with at least one plan.

The Instant VM wizard opens.

Opening the Instant VM Wizard Using Destination Management

You can open the Instant VM wizard using the destinations available in Cloud Hybrid.

To open the Instant VM wizard using destination management, follow these steps:

1. Open the Wizard from the RPS Console Destination management view in Cloud Hybrid.
2. Navigate to **Destinations: Recovery Point Server**.
3. From the **resources** tab, navigate to **Destinations**, and then select **Recovery Point Servers**.

Previously added data stores are displayed in the center pane.

4. Click the required data store.

If you have already backed up data to the RPS, all the source nodes are listed in the pane.

5. Right-click a node, and then select **Create an Instant VM**.

The Instant VM wizard opens.

Configure an Instant VM using the Instant VM Wizard for Windows System

You can configure the Instant VM using the Instant VM wizard by entering the details before creating an Instant VM.

To configure an Instant VM using the Instant VM wizard for Windows system, follow these steps:

1. Select a Recovery Point

The Console automatically recognizes the location of the recovery point and pre-selects the Location Type, Recovery Point Server in Cloud Hybrid, and Data Store.

Create an Instant VM (win-8)

Select a Recovery Point (Step 1 of 4)

Browse the recovery points from a location that is used by this node.

Location Type: Data Store on RPS

Recovery Point Server: che-dt.arcserve1.com

Data Store: arcstore01

Select a recovery point to start the VM.

Date	Session Name	Time	Assured Recovery	Backup Type	Backup Schedule
Latest					
7/18/2018	S0000000078	7/18/2018 3:00:07 PM	✔	Incremental	Daily
Today					
7/18/2018	S0000000078	7/18/2018 3:00:07 PM	✔	Incremental	Daily
Yesterday					
Last 7 Days					
Last 30 Days					
Older than 30 Days					

Expand the Date list, select the required recovery point from the list, and then click **Next**.

The **VM Location** page opens.

2. Select a VM Location

Specify the location of the virtual machine where you want to create the Instant VM. You can specify Microsoft Hyper-V virtual machine in Cloud Hybrid.

Follow these steps:

- a. Select Hyper-V as the Hypervisor Type, and then click **Add**.

The **Specify the VM Destination** dialog opens.

- b. In **Specify the VM Destination** dialog, specify the IP address and credentials of Hyper-V server provided in your Welcome email, and then click **OK** to close the **Specify the VM Destination** dialog.

Create an Instant VM (win-8)

VM Location (Step 2 of 4)

Specify a location on VMware vSphere or Microsoft Hyper-V to host the instant VM.

Hypervisor Type: Microsoft Hyper-V

Hyper-V Server/Cluster: che-d1.arcserve1.com [Add] [Refresh]

Select a location from the following list.

Name	Type
che-d1.arcserve1.com	Hyper-V Server

[Help] [Previous] [Next] [Cancel]

- c. Click **Next**.

The **Recovery Server** page opens.

3. Select a Recovery Server

The recovery server hosts the core module of the Instant VM. The default recovery server is the Hyper-V provided to you in the Cloud Hybrid.

For Linux backup sessions, the recovery server is the Linux Backup Server provided to you in the Arcserve Business Continuity Cloud.

Create an Instant VM (win-8)

Recovery Server (Step 3 of 4)

Hyper-V server che-dr.arcserve1.com is automatically selected as Recovery Server. Verify that Recovery Server meets the below prerequisites.

- x64 Windows 2008 R2 and above versions.
- Agent should be installed and managed by the current console.

Click **Next**. The Instant VM Details page opens.

4. Specify the Instant Virtual Machine Details

Follow these steps:

- a. Specify the name and description of the Instant VM.
- b. Specify the folder location of the Instant VM on the recovery server.
You must specify the following path for the Hyper-V disks location:

F:\VMStorage

Create an Instant VM (win-8)

Virtual Machine Settings (Step 4 of 4)

Configure virtual machine hardware and guest operation system settings.

VM Name:

Description:

VM Files Folder ?: On Recovery Server (che-dr.arcserve1.com)
 Browse

CPU Count:

Memory Size: 512 MB 32863 MB MB (Availability: 12269 MB)

Network Adapters + Add an Adapter | + Update DNS

Virtual Network	Type	IP Address	Actions
-----------------	------	------------	---------

! Do not connect the virtual machine and source machine to the same network, if source machine is active. That may cause unexpected problems due to the host name conflict.

Advance

Monitor free disk space of VM Files Folder capacity
 Low disk space warning when free space of VM Files Folder capacity is lesser than %

Change Host Name

Help Previous Finish Cancel

- c. Specify the following Instant VM settings:
 - ◆ CPU Count - specifies the number of CPU required in the Instant VM.
 - ◆ Memory Size - specifies the size of memory required in the Instant VM.

Note: Specify the CPU count and Memory allocation based on the Cloud Hybrid Compute subscription purchased.

- d. To add a network adapter, click **Add an Adapter**.

The **Add Network Adapter** dialog opens.

Add Network Adapter

You can add a virtual network adapter with source or custom TCP/IP settings.

Virtual Network

Arcserve_Private_Cloud

Adapter Type

Network Adapter

TCP/IP Settings

Source: (Automatic)

+ Add an Address | Remove | ↑ ↓

Address

IP: Automatic

Gateway: Automatic

DNS: Automatic

WINS: Automatic

Help OK Cancel

- e. To specify networks, select **Arcserve_Private_Cloud** from the **Virtual Network** drop-down menu and **Network Adapter** from the **Adapter**

Type drop-down menu to connect IVM to the network, and then click **OK**.

- f. We recommend that you select the **Monitor free disk space of VM Files Folder capacity** check box.
- g. (Optional) Modify the Instant Virtual Machine hostname.

Now, you are ready to [submit](#) the job and create the Instant VM.

Configure an Instant VM using the Instant VM Wizard for Linux System

You can configure the Instant VM using the Instant VM wizard by entering the details before creating an Instant VM.

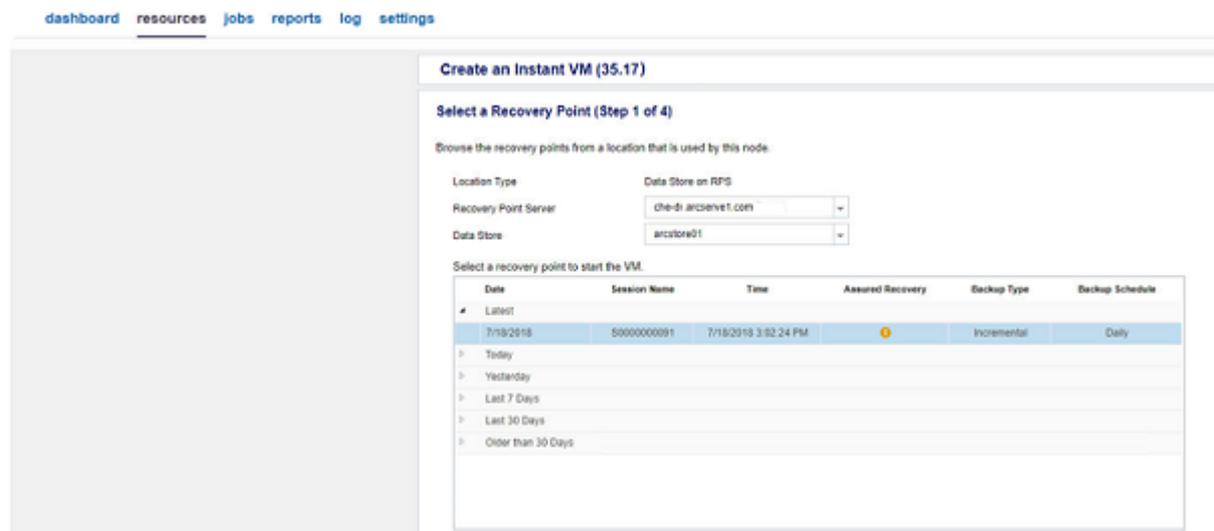
To configure an Instant VM using the Instant VM wizard for Linux system, follow these steps:

1. Add a Linux Backup Server

For more information, see [How to Add Linux Backup Server in Cloud Hybrid](#).

2. Select a Recovery Point

The Console automatically recognizes the location of the recovery point and pre-selects the Location Type, Recovery Point Server in Cloud Hybrid, and Data Store.



Expand the Date list, select the required recovery point from the list, and then click **Next**.

Note: If the backup session is encrypted, a password prompt appears.

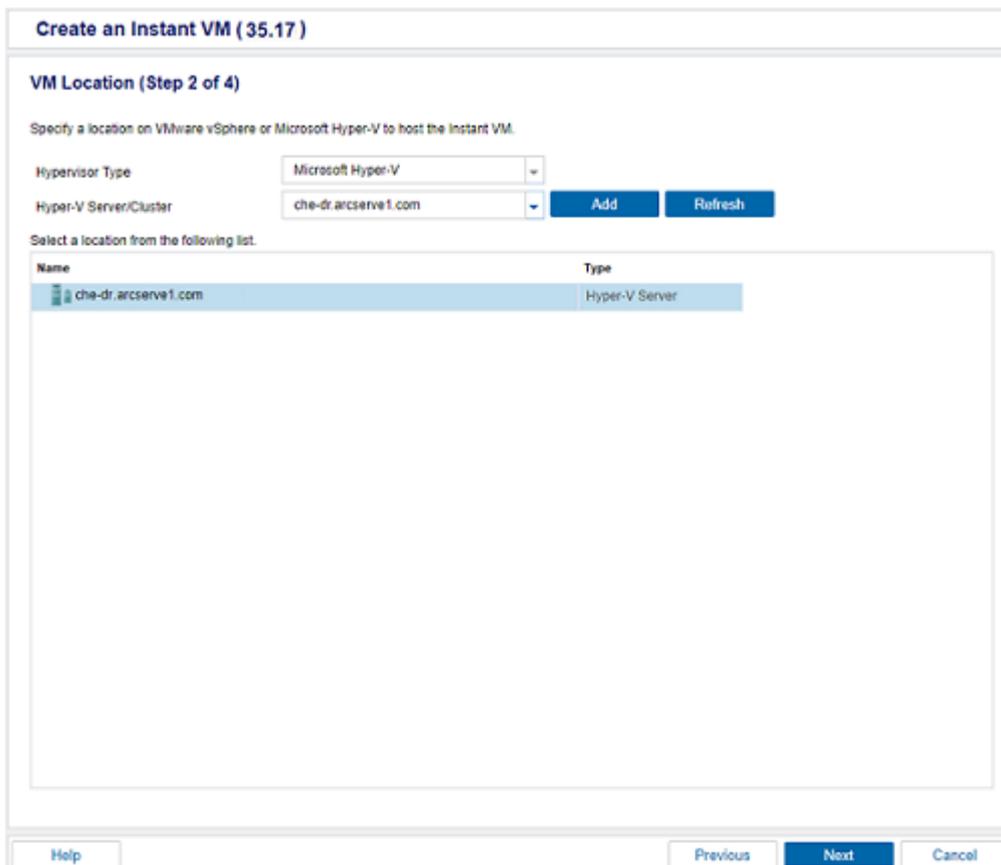
The **VM Location** page opens.

3. Select a VM Location

Specify the location of the virtual machine where you want to create the Instant VM. You can specify Microsoft Hyper-V virtual machine in Cloud Hybrid.

Follow these steps:

- a. Select Hyper-V as the Hypervisor Type, and then click **Add** button.
The **Specify the VM Destination** dialog opens.
- b. In **Specify the VM Destination** dialog, specify the IP address and credentials provided in your Welcome email for Hyper-V server, and then click **OK** to close the **Specify the VM Destination** dialog.



- c. Click **Next**.
The **Recovery Server** page opens.

4. Select a Recovery Server

The recovery server hosts the core module of the Instant VM. The default recovery server is the Hyper-V provided to you in Cloud Hybrid.

For Linux backup sessions, the recovery server is the Linux Backup Server provided to you in the Arcserve Business Continuity Cloud.

Create an Instant VM (35.17)

Recovery Server (Step 3 of 4)

Specify a Linux Backup Server to run the Instant Virtual Machine.

Select a Linux Backup Server from the node list.

Node Name	Plan	Products	OS
<input checked="" type="checkbox"/> 10.10.255.255			Debian GNU/Linux 9.5

Page 1 of 1 | Displaying 1 - 1 of 1

Help Previous **Next** Cancel

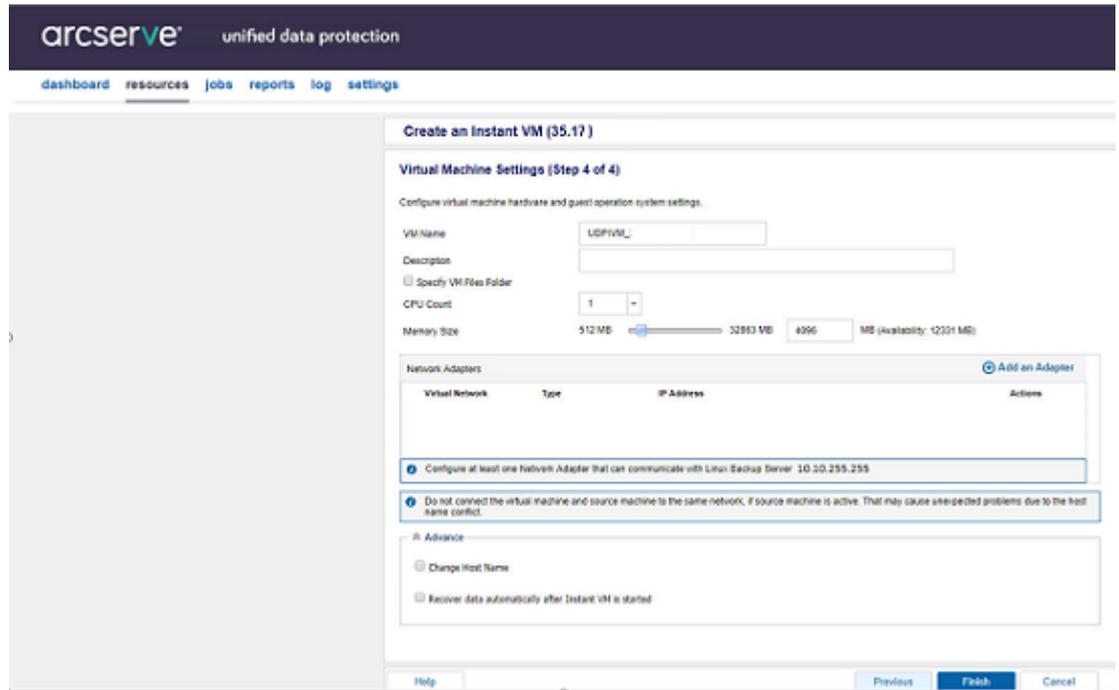
Click **Next**. The **Instant VM Details** page opens.

5. Specify the Instant Virtual Machine Details

Follow these steps:

- Specify the name and description of the Instant VM.
- If the **Specify VM Files Folder** is selected, then specify the following path:

F:\VMStorage



c. Specify the following Instant VM settings:

- ◆ CPU Count - specifies the number of CPU required in the Instant VM.
- ◆ Memory Size - specifies the size of memory required in the Instant VM.

Note: Specify the CPU count and Memory allocation based on the Cloud Hybrid Compute subscription purchased.

d. To add a network adapter, click **Add an Adapter**.

The **Add Network Adapter** dialog opens.

Add Network Adapter

You can add a virtual network adapter with source or custom TCP/IP settings.

Virtual Network

Arcserve_Private_Cloud

Adapter Type

Network Adapter

TCP/IP Settings

Source: (Automatic)

+ Add an Address | Remove | ↑ ↓

Address

IP: Automatic

Gateway: Automatic

DNS: Automatic

WINS: Automatic

Help OK Cancel

- e. To specify networks, select **Arcserve_Private_Cloud** from the **Virtual Network** drop-down menu and **Network Adapter** from the **Adapter Type** drop-down menu to connect IVM to the network, and then click **OK**.
- f. (Optional) Modify the Instant Virtual Machine hostname.

- g. For host-based backup, we recommend that you select the **Recover data automatically after Instant VM is restarted** to convert the Instant VM to an independent VM.

Now, you are ready to [submit](#) the job and create the Instant VM.

Note: The **Resume auto recovery** option for Linux Instant VM is applicable only for host-based backup.

Create an Instant VM

When the configuration is complete, you can submit the created job in the previous step to create the Instant VM. After the job is complete, you can view the Instant VM at **resources**, **Infrastructure**, and **Instant Virtual Machine**.

To create an Instant VM, follow these steps:

1. To submit the created job, click **Create VM**.

The Create VM dialog opens.

2. Select one of the following options:

Boot Now

Submits a job to create the Instant VM. After the VM is created, it automatically starts the VM.

Boot Later

Creates an Instant VM. You must manually start the VM. You can start the VM after the Instant VM job is complete.

Cancel

The **Create VM** dialog is closed without creating a VM and automatically redirects to the Create VM page.

The Instant VM job is created successfully.

Manage Cloud Hybrid Instant Virtual Machine

You can manage the Instant VM from Cloud Hybrid. You can power-on or power-off and delete an Instant VM.

Note: Cloud Hybrid displays only the Instant VM that is created from the recovery points managed from the selected Site.

This section contains the following topics:

Start or Stop an Instant Virtual Machine

You can start or stop an Instant VM when created. The start or stop button appears according to the status of the VM.

To start or stop an Instant Virtual Machine, follow these steps:

1. From the Arcserve UDP Console, click the **resources** tab.
2. From the left pane, navigate to **Infrastructures**, and then click **Instant Virtual Machines**.
3. Select the required virtual machine from the center pane, and then click **Actions**.
4. Select **Power on** or **Power Off** according to the status of the virtual machine.

The virtual machine successfully starts or stops.

Delete an Instant Virtual Machine

You can remove any Instant VM.

To delete an Instant Virtual Machine, follow these steps:

1. From the Arcserve UDP Console, click the **resources** tab.
2. From the left pane, navigate to **Infrastructures**, and then click **Instant Virtual Machines**.
3. Select the virtual machine from the center pane, and then click **Actions**.
4. Click **Delete**.
A confirmation dialog opens.
5. Click **OK**.

The virtual machine is successfully deleted.

Automate Disaster Recovery Tests in Cloud Hybrid Using Assured Recovery

This section contains the following topics:

How to Perform Assured Recovery of the Backup Data

To verify accessibility and assured recovery of the data, create an assured recovery plan. The plan for assured recovery is based on the backup/replication plan.

To perform an assured recovery of the backup data, follow these steps:

1. Log into the Arcserve UDP Console available in Cloud Hybrid and create an Assured Recovery task.
2. From the **resources** tab, navigate to **Nodes, All Nodes**, and then select the node for the Assured Recovery task to set the backup password.

Note: You must set the backup password for Virtual Standby and Restore tasks to ensure the conversion of replicated recovery points. The backup password provided is same as the session password defined in the plan used to backup the on-premise source nodes.

3. Right-click the node and select **Set Backup Passwords** from the displayed options.

The **Set Backup Passwords for Node XXX** dialog appears.

Password	Confirm Password	Comment	Create Time
*****	*****		7/16/2018 7:58:33 PM

4. Add backup passwords, and then click **Save**.
5. From the **resources** tab, navigate to **Plans**, and then select **All Plans**.
6. Edit the Replication plan to add Task 2 as the Assured Recovery task.

Note: You can add multiple backup passwords.
7. Specify the Source, and then select the types of Recovery Points required for Assured Recovery test.

Note: You can select the backup types or the latest recovery points.

8. Navigate to the **Test Settings** tab.
9. Specify the Task Setting for Test Type as **Instant Virtual Machine** and the Hyper-V IP address received from Arcserve support when configuring the Hyper-V.

Note: The **Gateway Settings** option is applicable only for Linux nodes where you must select the **Use DHCP settings for Instant Virtual Machine Gateway** check box.

The screenshot displays the 'Modify a Plan' configuration interface for an Assured Recovery Test. The plan name is 'Replicate(SD_1W_1M_1C)' and there is a 'Pause this plan' checkbox. The left sidebar shows a task list with 'Task3: Assured Recovery Test' selected. The main area is divided into tabs: 'Source', 'Test Settings' (active), 'Schedule', and 'Advanced'. Under 'Test Settings', the 'Test Type' is set to 'Instant Virtual Machine'. The 'Hypervisor' section shows 'Microsoft Hyper-V' as the type and 'che-dr-arcserve1.com' as the server. The 'Proxy Server' section includes a 'Windows Proxy Server' and a 'Linux Proxy Server', both pointing to 'che-dr-arcserve1.com'. The 'Gateway Settings' section has 'Use DHCP settings for Instant virtual Machine Gateway' checked, with fields for IP Address, Mask, Default Gateway, and Virtual Network (set to 'Private'). The 'VM Settings' section includes 'VM Name Prefix' (UDPARVM_), 'VM Files Folder' (F:\VMStorage), 'CPU Count' (4), 'Memory Size' (512 MB), and 'Network Settings' (checked for 'Connect Assured Recovery VM to network').

10. Specify the following details for the Assured Recovery VM Settings, Schedule, and Advanced Settings, and then click **Save**:
 - a. Specify appropriate CPU count and memory required for the Assured Recovery VM.

Note: Specify the CPU count and Memory allocation based on the Cloud Hybrid Compute subscription purchased.

- b. Specify the folder location of the Assured Recovery VM on the Hyper-V server. You must specify the following path for the Hyper-V disks location:

F:\VMStorage

- c. To specify networks, select **Network Adapter** from the *Adapter Type* drop-down menu and **Arcserve_Private_Cloud** from the *Connect Assured Recovery VM to* drop-down menu for network connectivity.

The modifications are saved successfully, and the Assured Recovery task is automatically deployed. After the replication job is performed, the Assured Recovery jobs are performed automatically and are controlled using the schedule settings.

How to Run the Assured Recovery Test Job Manually

Arcserve UDP allows you perform manual Assured Recovery test for the nodes and plans besides the scheduled tests.

Notes:

- If the Assured Recovery task is configured after the MSP Replication task for agent-based and host-based Linux machines, the ad-hoc assured recovery job fails to trigger and displays exception. However, you can manually run the scheduled assured recovery job.
- If the Assured Recovery task is configured after the MSP Replication task, the scheduled ad-hoc assured recovery job is not supported for the host-based agentless Linux machine when having a session password.

This section contains the following topics:

Performing Assured Recovery Test Manually for a Node

Important! If the Assured Recovery task is configured after the MSP Replication task, the scheduled ad-hoc assured recovery job for the Linux machine is not supported.

You can perform assured recovery test manually for a node.

To perform an assured recovery test manually for a node, follow these steps:

1. From the Arcserve UDP Console, click the **resources** tab.
2. From the left pane, navigate to **Nodes**, and then select **All Nodes**.
3. From the center pane, select the nodes having an Assured Recovery plan assigned, and then click **Actions**.
4. From the options displayed, click **Run Assured Recovery Test Now**.

The **Assured Recovery** dialog opens.

5. Select an Assured Recovery task and a recovery point, and then click **OK**.

The Assured Recovery test is performed successfully for a node.

Performing Assured Recovery Test Manually for a Plan

You can perform assured recovery test manually for a plan.

To perform an assured recovery test manually for a plan, follow these steps:

1. From the Arcserve UDP Console, click the **resources** tab.
2. From the left pane, navigate to **Plans**, and then select **All Plans**.
3. From the center pane, select the nodes having an Assured Recovery plan assigned, and then click **Actions**.
4. From the options displayed, click **Run Assured Recovery Test Now**.
The **Assured Recovery** dialog opens.
5. Select an Assured Recovery task and a recovery point, and then click **OK**.

The Assured Recovery test is performed successfully for a plan.

Connect to the Disaster Recovery System in Cloud Hybrid

This section contains the following topics:

How to Use Network Configurations in Disaster Recovery System

Access the running virtual machines and use as part of a scheduled disaster recovery test or use as part of a production network.

Note: To use test network configuration options to Cloud Hybrid, contact [Arcserve Support](#).

Connect the running virtual machine using Point to Site VPN Configuration.

Point to Site VPN Configuration:

A *Point to Site* connection enables a secure virtual private network (VPN) connection between a single client machine and the virtual private data center in Cloud Hybrid. Such a connection enables an end user located at any place to establish a secure private connection to the recovered environment in the cloud.

Note: A separate connection is needed if an end user requires access to systems that were still available in the On-premises environment. The On-premises systems fail to communicate with the recovered systems in the cloud through the “Point to Site” connection.

To use network configurations in disaster recovery system, follow these steps:

1. Download and install the OpenVPN client from the [link](#).
2. Get the VPN configuration files and password from the Welcome email you have received as part of the onboarding process.
3. Copy the VPN configuration file content to the following path:
`<c:\program files\openvpn\config>`
4. Open the *OpenVPN* Console, right-click the tray icon, and then click **Connect**.
5. Enter the login password.

The IP address is assigned automatically in the range from *192.168.x.242* to *192.168.x.254*. The Subnet Mask is *255.255.255.240*.

Note: In the IP address range mentioned above, *x* is the last octet of the public IP address of the Cloud instance. To get the public IP address, ping FQDN (Fully Qualified Domain Name) of the Cloud instance.

How to Connect to Hyper-V Server in the Disaster Recovery System

Arcserve UDP Cloud Hybrid allows the Hyper-V role available in Arcserve UDP server run Virtual Standby, Instant VM, and Assured Recovery tasks of replicated sessions. You can install the Hyper-V Manager on the local system and connect the Hyper-V server available in Cloud Hybrid using Point-to-Site VPN or Site-to-Site VPN to monitor and manage the recovered virtual machines.

Note: The Cloud Hybrid Hyper-V Server has Windows 2016 OS. We recommend you that use a virtual machine that has Windows 2016 or Windows 10 (Professional or Enterprise edition) installed to connect to the Cloud Hybrid Hyper-V Server.

To connect to Hyper-V server in the disaster recovery system, follow these steps:

1. Open notepad as an administrator.
2. Open the path C:\Windows\System32\drivers\etc\hosts, and then add the following command:

```
<internal_server_ip> < ch*****.arcserve1.com >
```

3. From the client machine, open PowerShell as an administrator.
4. Add the Hyper-V feature based on the installed operating system using the following command:

For Windows 2016:

```
Add-WindowsFeature Hyper-V-Tools, Hyper-V-PowerShell
```

For Windows 10:

```
Enable-WindowsOptionalFeature -Online -FeatureName "Microsoft-Hyper-V-Tools-All"
```

5. Enable the Windows PowerShell remoting using the following command:
- ```
enable-psremoting
```
6. Enable Credential Security Support Provider (CredSSP) authentication on a client or on a server machine using the following command:

```
enable-wsmancredssp -role client -delegatecomputer "ch*****.arcserve1.com"
```

7. Add the Cloud Hybrid user using the following command:

```
cmdkey /add:"< ch*****.arcserve1.com >" /user:clouduser /pass
```

8. Follow the prompt to enter the password of Cloud Hybrid user that you have received in the Welcome email.
9. Set the configuration for Windows Remote Management using the following command:

```
winrm set winrm/config/client '@{TrustedHosts="<hostname.arcserve1.com>"}
```

10. Launch the **Local Group Policy Editor** tab using the following command:

Launch gpedit.msc

11. Navigate to Computer Configuration, Administrative Templates, System, Credentials Delegation, and then double-click the **Allow delegating fresh credentials with NTLM-only server authentication** option.

The **Allow delegating fresh credentials with NTLM-only server authentication** tab appears.

12. Select the **Enabled** option.
13. Click **Show** from the Options tab.

The **Show Contents** tab appears.

14. Enter the following command in the **Value** tab:

```
wsman/< ch*****.arcserve1.com>
```

15. Open the Hyper-V Manager.
16. Select the **Connect as another user** check box, and then connect to the server (ch\*\*\*\*\*.arcserve1.com) using the following credentials:

*Username:* < ch\*\*\*\*\*.arcserve1.com >\clouduser

*Password:* <Cloud user password>

**Note:** Do not modify the default LBS and VPN settings for the VMs.

The VMs available in the Cloud Hybrid are displayed.

The Hyper-V server in the Disaster Recovery system is connected successfully.

## How to Access DRaaS Instance using a Site to Site VPN

If you are a customer with a DRaaS subscription, fill up the [form](#) with the help of your network team and contact Arcserve Support to initiate the setting up of site to site VPN process.

**Note:** Currently, Arcserve DRaaS VPN solution has issues working with Watchguard Firewalls. To set up a site-to-site VPN with the Arcserve DRaaS solution, use another Firewall solution.

Arcserve may require the assistance of your Network Administrators to perform this action.

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## Chapter 4: How to Perform Reverse Replication

Using this feature, you can replicate data (recovery point) from Cloud, MSP, or Remotely Managed RPS to local UDP or on-premises RPS server. To retrieve your replicated data back to the local UDP or the on-premises server from a recovery point server that is managed from a different Arcserve UDP Console such as Cloud, MSP, or remotely managed RPS, you need to perform reverse replication. In reverse replication, the data gets replicated from a destination data store (on the destination Console) to a source data store (on the source Console).

This section contains the following topics:

---

## Review the Prerequisites

Review the following prerequisites before replicating data:

- Review the [Compatibility Matrix](#) that provides the supported operating systems, databases, and browsers.

### Administrator—Destination Console

- Verify that you have installed Arcserve UDP on the destination server.
- Verify that you have full privileges to create Windows user accounts on the destination server.
- Verify that you have enabled the **Allow the retrieval of recovery points** check box in the Advanced settings during the Replicate from a remotely-managed RPS plan creation.

**Note:** If you do not enable the **Allow the retrieval of recovery points** check box and initiate the Reverse Replication job for Remote Console, you are prompted to enable the Allow retrieval remote flag for Reverse Replication.

### Administrator—Source UDP Console

- Verify that you have installed Arcserve UDP on the source server.
- Verify that you have at least completed one full backup on a data store.

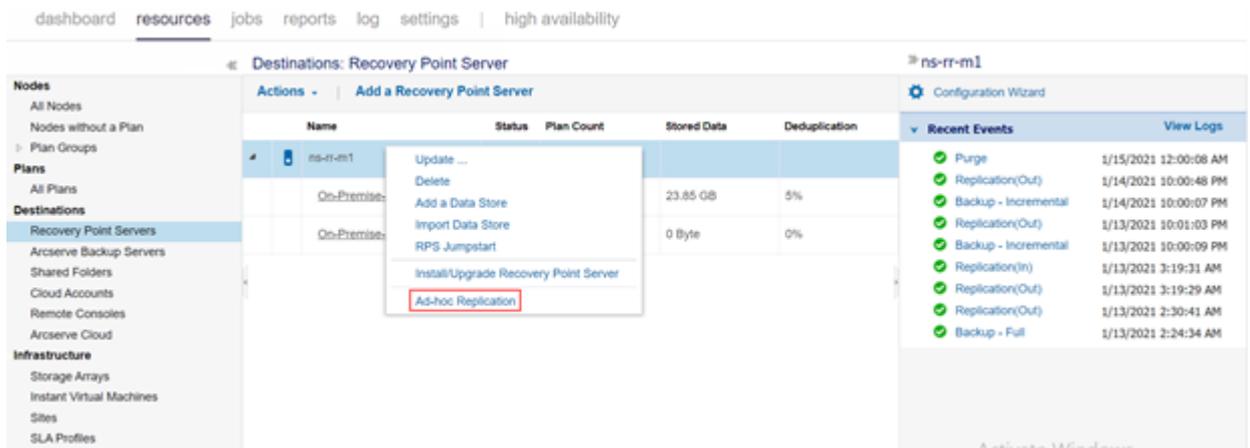
## Perform Ad-hoc Replication

This section explains about how to initiate Ad-hoc replication.

**Note:** Before performing the Ad-hoc replication, make sure the forward replication is executed successfully. To verify whether the forward replication is successful, see [Verify the Data is Replicated](#).

**Follow these steps:**

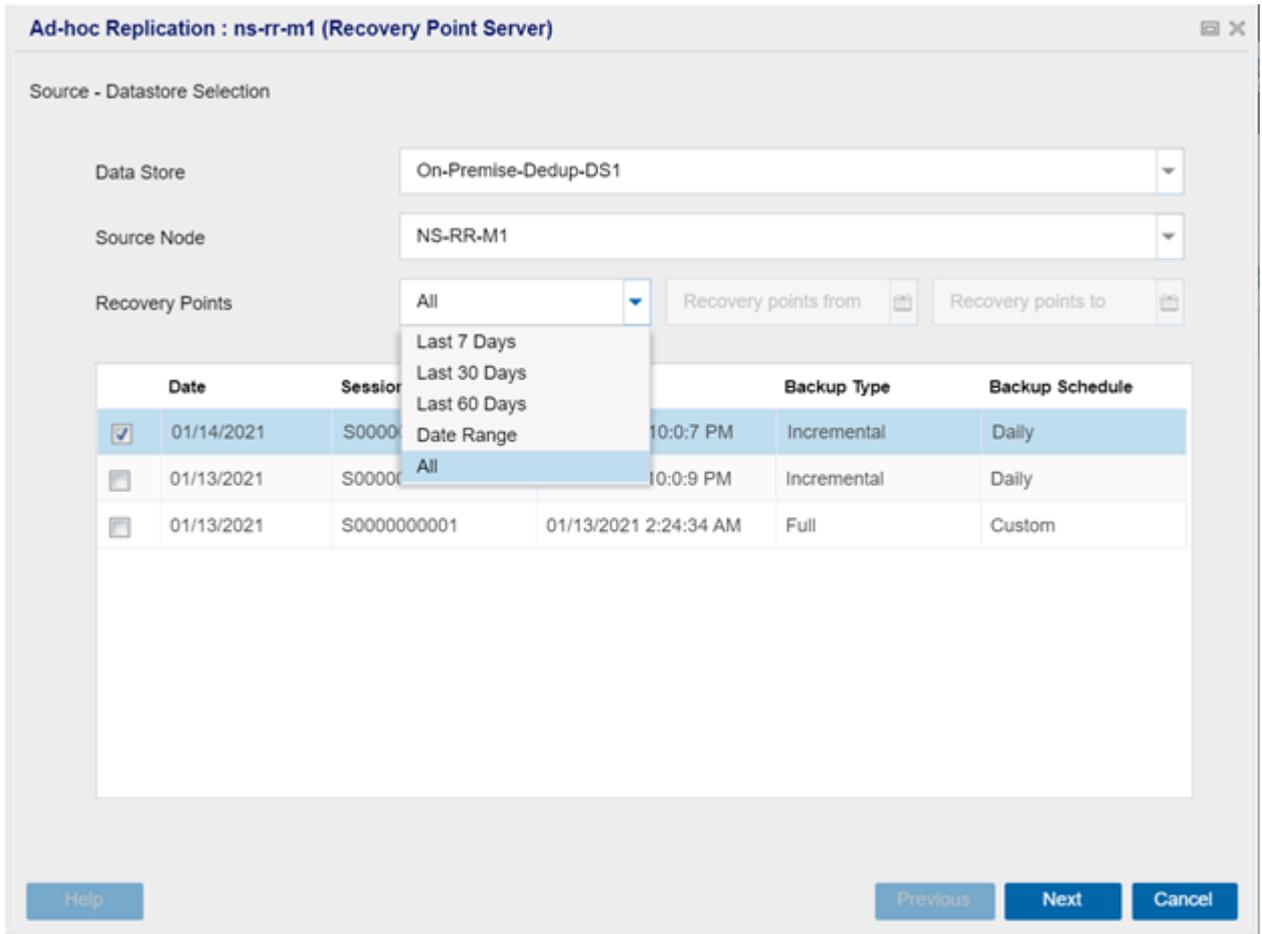
1. From the Console, click the **resources** tab.
2. From the left pane, navigate to **Destinations > Recovery Point Servers**.  
The list of recovery point servers appears in the center pane.
3. Right-click the recovery point server, and then select **Ad-hoc Replication**.



Wait until you get connected to the recovery point server.

The Ad-hoc Replication : xx-xx-xx (Recovery Point Server) dialog opens.

4. On the Source - Datastore Selection page, do the following:



- Data Store – Select the source data store from the drop-down list.
- Source Node – Select the source node from the drop-down list.
- Recovery Points – Do one of the following:
  - ♦ If you want all the recovery points you backed up to display, select **All** from the drop-down list.
  - ♦ If you want the recovery points to display for a specific duration, select one of the following from the drop-down list:
    - ♦ Last 7 days
    - ♦ Last 30 days
    - ♦ Last 60 days
    - ♦ Date Range

**Note:** If you selected the **Date Range**, set the date on **Recovery points from** and **Recovery point to** fields.

All the associated recovery points between the specified duration are displayed.

- From the table, click the checkboxes to select one or more recovery points.
5. Click **Next**.
  6. On the Destination page, do the following:

**Ad-hoc Replication : ns-rr-m1 (Recovery Point Server)**

Source - Datastore Selection

Data Store: On-Premise-Dedup-DS1

Source Node: NS-RR-M1

Recovery Points: All

|                                     | Date       | Session     |                       | Backup Type | Backup Schedule |
|-------------------------------------|------------|-------------|-----------------------|-------------|-----------------|
| <input checked="" type="checkbox"/> | 01/14/2021 | S0000       | 10:0:7 PM             | Incremental | Daily           |
| <input type="checkbox"/>            | 01/13/2021 | S0000       | 10:0:9 PM             | Incremental | Daily           |
| <input type="checkbox"/>            | 01/13/2021 | S0000000001 | 01/13/2021 2:24:34 AM | Full        | Custom          |

Buttons: Help, Previous, Next, Cancel

- Recovery Point Server – Select the destination recovery point server from the drop-down list.
- Data Store – Select the destination data store from the drop-down list.
- Target node name – Type a target node name of your choice.
- Recovery point retention – Delete the recovery points in one of the following ways:
  - ♦ To delete recovery points manually, select **Manually delete** option.
  - ♦ If you want the recovery points to get deleted automatically, select the **Delete Recovery point(s)** on option, and then specify

the date. All the recovery points corresponding to that date get deleted automatically.

7. Click **Next**.
8. On the Advanced Configuration page, do the following:

**Ad-hoc Replication : ns-rr-m1 (Recovery Point Server)**

Destination

Recovery Point Server: ns-rr-m1

Data Store: On-Premise-Dedup-DS2

Target node name: RR\_

**Recovery point retention**

Manually Delete

Delete Recovery point(s) on: 1/16/2021

Calendar: January 2021

| S  | M  | T  | W  | T  | F  | S  |
|----|----|----|----|----|----|----|
| 27 | 28 | 29 | 30 | 31 | 1  | 2  |
| 3  | 4  | 5  | 6  | 7  | 8  | 9  |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 1  | 2  | 3  | 4  | 5  | 6  |

Buttons: Help, Previous, Next, Cancel

- For Alerts Configuration

### Enable Email Alerts

Lets you enable email alerts. You can configure email settings and specify the types of alerts that you want to receive in an email. When you select the **Note: Please make sure to configure email setting on 'Email and Alert Configuration' tab.** check box, the following option is enabled for your selection:

### Job Alerts

Lets you select the type of job alert emails that you want to receive.

- ♦ If you want to receive email alerts for Ad-hoc replication failure or crash, select the **Ad-hoc Replication, failure/crash** check box.

**Note:** This email alert is sent with a high importance. The email alerts that have a high importance level setting display a visual indicator of an exclamation point in their Inbox.

- ♦ If you want to receive email alerts for Ad-hoc replication success, select the **Ad-hoc Replication, Success** check box.

- For Retries on Ad-hoc Replication Job Failure

When the Ad-hoc Replication job fails, do the following:

#### **Start Retry**

Lets you specify the time (in minutes) to restart the replication job after the job fails. For example, if you specify 10 minutes, then the replication job restarts after 10 minutes of its failure.

**Limit:** 1 to 60

#### **Retry**

Lets you specify the number of retries that you want to perform if the replication job fails. The replication job runs until the job is successful, or until the limit is reached. After the number of retries is over, the replication job runs only at the next scheduled time.

**Limit:** 1 to 99

9. Click **Finish**.

**Note:** If you want to change the settings of the previous screens, click **Previous**, and then change the setting as needed.

The Information dialog box appears and displays the *Ad-hoc Replication Job Submitted Successfully!* message.

10. Click **OK** to close the Information dialog box.

The Ad-hoc replication is performed successfully.

## Monitor the Status of Ad-hoc Replication

### Source Administrator

After Ad-hoc replication is successful, you can monitor the status of the Ad-hoc replication job.

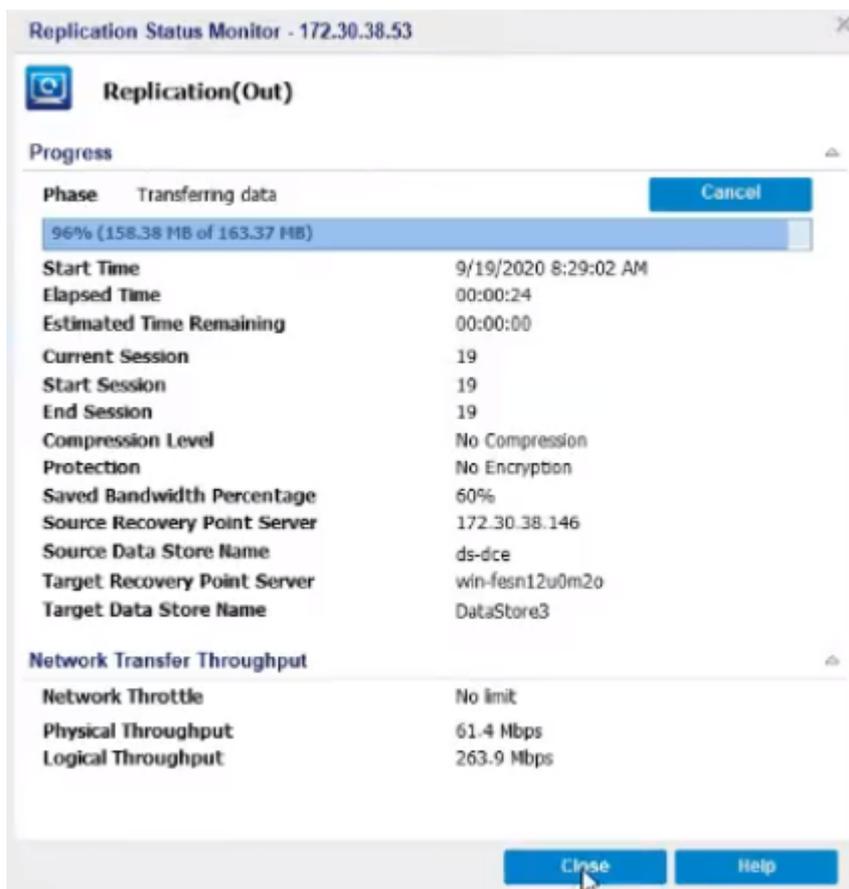
#### Follow these steps:

1. Navigate to **jobs > Jobs in Progress**.

The Replication(Out) and Replication(In) jobs that are in progress appear in the center pane.

2. To monitor the status of a specific job, click **Details** next to the Progress bar corresponding to that job.

The Replication Status Monitor – xx.xx.xx.xx dialog appears.



3. Wait until the data transfer is 100%, and then click **Close**.

You have successfully monitored the status of Ad-hoc replication.

## Verify whether the Ad-hoc Replication is Successful

### Source Administrator

After data is replicated, you can verify whether Ad-hoc replication is successful.

#### Follow these steps:

1. On the Source Console, navigate to **jobs > Jobs Successfully Completed**.  
A list of jobs that are completed appear in the center pane.
2. Click the finished reverse replication job. The right pane refreshes.
3. Under Job Details, click the **View Logs** hyperlink.
4. Verify that the replication of data is successful.

You have successfully verified the Ad-hoc replication.

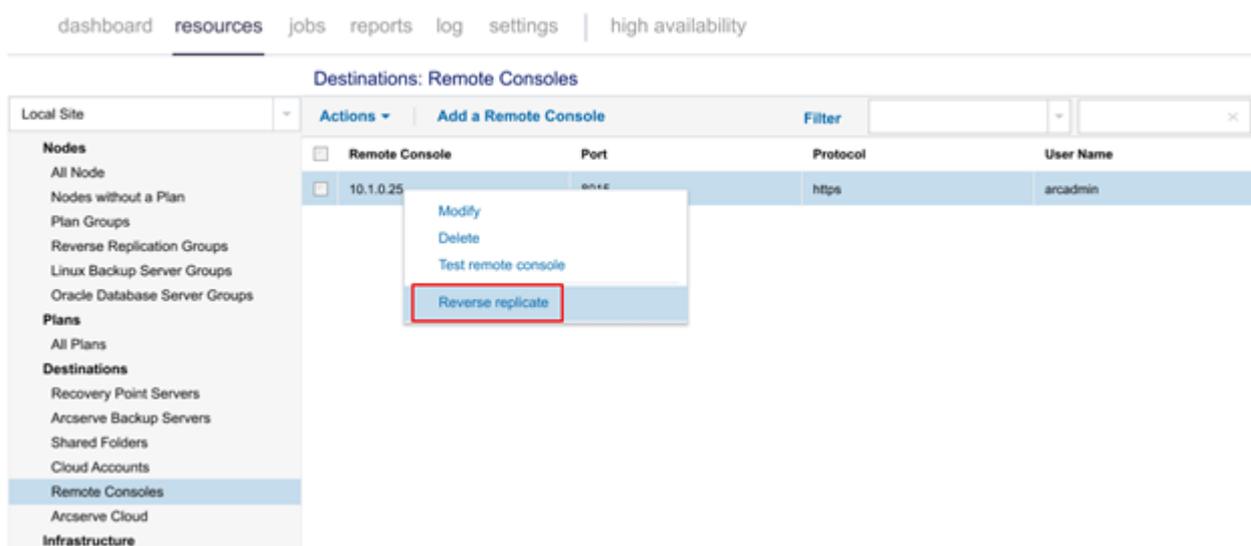
## Perform Reverse Replication from Remote Console to On-Premises RPS Server

This section explains about how to perform reverse replication from Remote Console to local UDP or on-premises RPS server.

**Note:** Before performing the reverse replication, make sure the [forward replication](#) is executed successfully. To verify whether the forward replication is successful, see [Verify the Data is Replicated](#).

### Follow these steps:

1. From the Console, click the **resources** tab.
2. From the left pane, navigate to **Destinations > Remote Consoles**.  
The list of remote consoles appears in the center pane.
3. Right-click the remote console, and then select **Reverse replicate**.



Wait until you get connected to the remote console.

The Reverse Replicate: xxx.xx.xx.xxx (Remote Console) dialog opens.

4. On the Source - Datastore Selection page, do the following:

Reverse replicate : 172.30.55.49 (Remote console)

**Source - Datastore selection**

Recovery point server: 172.34.45.11

Datastore: MysysDrive

Source node: ArcSrv node

Recovery points: All

Recovery points from: [ ] Recovery points to: [ ]

| <input type="checkbox"/> Date      | Session name |                      | Backup type | Backup schedule |
|------------------------------------|--------------|----------------------|-------------|-----------------|
| <input type="checkbox"/> 5/5/2020  | S0000000012  |                      | Incremental | Custom          |
| <input type="checkbox"/> 5/5/2020  | S0000000012  |                      | Incremental | Custom          |
| <input type="checkbox"/> 5/19/2020 | S0000000012  |                      | Incremental | Custom          |
| <input type="checkbox"/> 6/12/2020 | S0000000012  | 3/30/2020 5:30:19 AM | Incremental | Custom          |
| <input type="checkbox"/> 5/5/2020  | S0000000012  | 3/30/2020 5:30:19 AM | Incremental | Custom          |
| <input type="checkbox"/> 5/5/2020  | S0000000012  | 3/30/2020 5:30:19 AM | Incremental | Custom          |
| <input type="checkbox"/> 5/19/2020 | S0000000012  | 3/30/2020 5:30:19 AM | Incremental | Custom          |
| <input type="checkbox"/> 6/12/2020 | S0000000012  | 3/30/2020 5:30:19 AM | Incremental | Custom          |
| <input type="checkbox"/> 5/5/2020  | S0000000012  | 3/30/2020 5:30:19 AM | Incremental | Custom          |
| <input type="checkbox"/> 5/5/2020  | S0000000012  | 3/30/2020 5:30:19 AM | Incremental | Custom          |

Help Next Cancel

- Recovery point server – Select the source recovery point server from the drop-down list.
- Datastore – Select the source datastore from the drop-down list.
- Source node – Select the source node from the drop-down list.
- Recovery points – Do one of the following:
  - ♦ If you want all the recovery points you backed up to display, select **All** from the drop-down list.
  - ♦ If you want the recovery points to display for a specific duration, select one of the following from the drop-down list:
    - Last 7 days
    - Last 30 days
    - Last 60 days
    - Date Range

**Note:** If you selected the **Date Range**, set the date on **Recovery points from** and **Recovery point to** fields.

All the associated recovery points between the specified duration are displayed.

- From the table, click the checkboxes to select one or more recovery points.

5. Click **Next**.

6. On the Destination page, do the following:

Reverse replicate : 172.30.55.49 (Remote console)

**Destination**

Recovery point server: 172.30.55.50

Data store: Datastore

Target node name: RR\_10.1.0.25

**Recovery point retention**

Manually delete

Delete Recovery point(s) on

Help Previous Next Cancel

- Recovery point server – Select the destination recovery point server from the drop-down list.
- Data store – Select the destination data store from the drop-down list.
- Target node name – Type a target node name of your choice.
- Recovery Point Retention – Delete the recovery points in one of the following ways:
  - ♦ To delete recovery points manually, select **Manually delete** option.
  - ♦ If you want the recovery points to get deleted automatically, select the **Delete Recovery point(s) on** option, and then specify

the date. All the recovery points corresponding to that date get deleted automatically.

7. Click **Next**.
8. On the Advanced Configuration page, do the following:

- For Alerts Configuration

#### Enable Email Alerts

Lets you enable email alerts. You can configure email settings and specify the types of alerts that you want to receive in an email. When you select the **Note: Please make sure to configure email setting on 'Email and Alert Configuration' tab**. check box, the following option is enabled for your selection:

#### Job Alerts

Lets you select the type of job alert emails that you want to receive.

- ♦ If you want to receive email alerts for reverse replication failure or crash, select the **Reverse Replication, failure/crash** check box.

**Note:** This email alert is sent with a high importance. The email alerts that have a high importance level setting display a visual indicator of an exclamation point in their Inbox.

- ♦ If you want to receive email alerts for reverse replication success, select the **Reverse Replication, Success** check box.

- For Retries on Reverse Replication Job Failure

When the reverse replication job fails, do the following:

#### **Start Retry**

Lets you specify the time (in minutes) to restart the replication job after the job fails. For example, if you specify 10 minutes, then the replication job restarts after 10 minutes of its failure.

**Limit:** 1 to 60

#### **Retry**

Lets you specify the number of retries that you want to perform if the replication job fails. The replication job runs until the job is successful, or until the limit is reached. After the number of retries is over, the replication job runs only at the next scheduled time.

**Limit:** 1 to 99

9. Click **Finish**.

**Note:** If you want to change the settings of the previous screens, click **Previous**, and then change the setting as needed.

The Information dialog box appears, which displays the *Reverse Replication Job Submitted Successfully!* message.

10. Click **OK** to close the Information dialog box.

Reverse replication is completed from Remote Console to local UDP or on-premises server successfully.

## Monitor the Status of Reverse Replication

### Source Administrator

After reverse replication is successful, you can monitor the status of the reverse replication job.

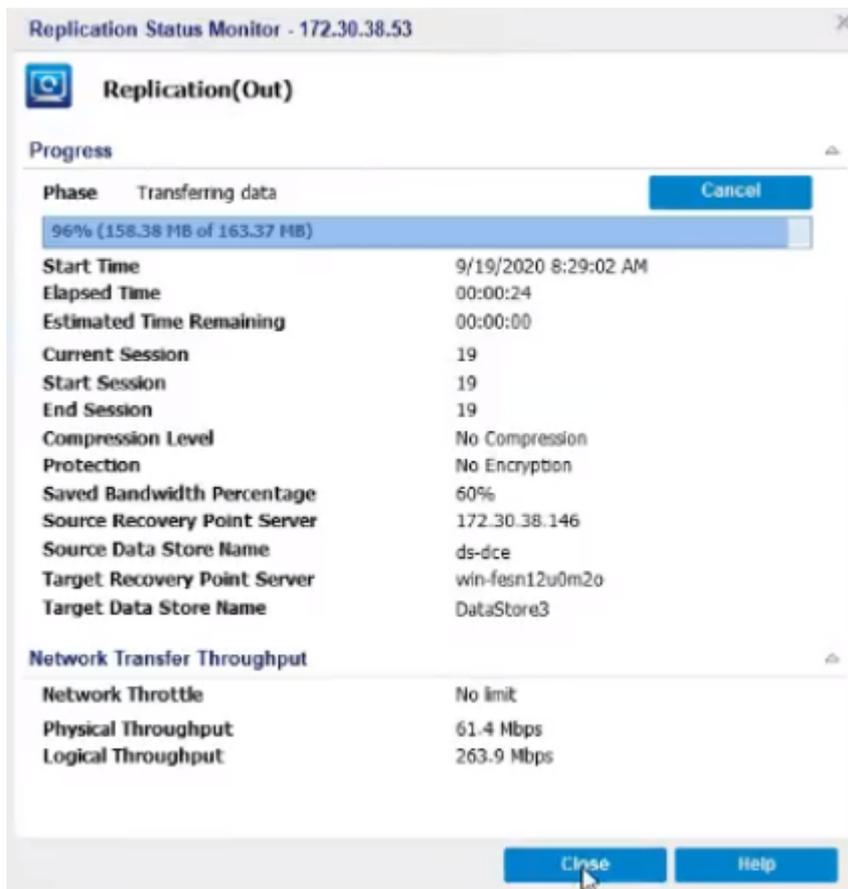
#### Follow these steps:

1. Navigate to **jobs > Jobs in Progress**.

The Replication(Out) and Replication(In) jobs that are in progress appear in the center pane.

2. To monitor the status of a specific job, click **Details** next to the Progress bar corresponding to that job.

The Replication Status Monitor – xx.xx.xx.xx dialog appears.



3. Wait until the data transfer is 100%, and then click **Close**.

You have successfully monitored the status of reverse replication.

## Verify whether the Reverse Replication is Successful

### Source Administrator

After data is replicated, you can verify whether reverse replication is successful.

#### Follow these steps:

1. On the Source Console, navigate to **jobs > Jobs Successfully Completed**.  
A list of jobs that are completed appear in the center pane.
2. Click the finished reverse replication job. The right pane refreshes.
3. Under Job Details, click the **View Logs** hyperlink.
4. Verify that the replication of data is successful.

You have successfully verified the reverse replication of data from Remote Console to local UDP or on-premises RPS server.