Quick Start Guide

Arcserve® Live Migration

arcserve®

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https://www.arcserve.com/support

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 easily search for and find the product-related KB articles which contain field-tested solutions for many top issues and common problems.

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Contents

Chapter 1: Introduction

Arcserve Live Migration simplifies the process of migrating data, applications and workloads. It allows you to move virtually any type of data or workload to cloud, on-premises or remote locations, such as the edge, with support for virtual, cloud and physical systems. An assured validation of the migrated workload completes the process enabling customers to continue operations without risks of losing data.

You can easily migrate:

From	To
On-premises	Cloud
Cloud	Cloud
Cloud	On-premises
Physical	Physical
Physical	Virtual
Virtual	Virtual

A quick overview of Live Migration is as follows:

- Allows you unlimited use of the Arcserve Live Migration technology powered by Arcserve Continuity Suite.

- Every source that you plan to migrate requires licenses.

- On expiry, new scenarios cannot be created, but existing ones will continue.

- Allows seamless access to the entitled software for a period of 90-days.

- For each license, Live Migration provides technical assistance for two incidents free of cost.

Note: Currently, we do not provide professional services to help you with implementation, deployment, and any other migration services. This guide provides instructions about the migration process. Additionally, you can browse through the information about migration process from the Continuous Availability Bookshelf. You can also contact our Technical support for any assistance regarding migration issues during the 90-day period.

About This Guide

This guide directs you to all of the necessary information for configuring and running Arcserve Live Migration. It describes and provides instructions on how to perform the following procedures:

1. Provision VA on EC2/Azure/Hypervisor VM.

2. Create AWS/Azure account in RHA GUI.

3. Install CS.

4. Run scenario and wait for full sync.

5. Create scenario.

6. Install engine on Source.

7. Perform AR Test (optional).

8. Perform Switchover.

   Important! This guide applies to replication, high availability and assured recovery products.

   This guide focuses on the generic **Full System** replication and high availability solutions, but it also provides information about other application and database servers and high availability solutions.

   For more detailed instructions involving scenarios tailored to specific applications such as Microsoft Exchange or SQL Servers, see the appropriate Operation Guide in the Continuous Availability Bookshelf.

Terminologies

This document uses the following terminologies:

- Arcserve Live Migration is powered by Arcserve Continuity Suite.

- **Appliance:** This is a virtual machine that acts as the Replica server (the Arcserve Continuity Suite Engine should be installed here). If you are using a Hyper-V virtual platform, this field does not apply and is not available (appears dim).

  Notes:

  - If the Master is Windows 2008 or a later version, we recommend using Windows 2008 R2 as the appliance.

  - If you are using Hyper-V as the destination platform, we recommend using Windows 2008 R2 as the appliance.

- **Control Service:** A component that orchestrates, manages, and processes the information flow.

- **Engines:** The Engine is a service that must be running before any scenario can start. It is installed on every server participating in any given scenario such as migration from the Master (source) to Replica (target) hosts.

- **FSHA:** The Full System High Availability feature is an extension to the existing full system scenario type where Arcserve Live Migration enables high availability of an entire Windows or Linux system into a VM running on a Hypervisor.

- **Management Center:** The Management Center consists of three components, none of which requires any manual installation. For more information, see Management Center.

- **Master (Source):** A Window or Linux workload that you want to migrate.

- **PowerShell:** The PowerShell is offered as an alternative if you do not want to manage the replication process using the Manager graphic user interface. It enlarges and facilitates the capabilities of the CLI provided in previous versions, and it supports Continuous Availability operations. For more information, see PowerShell.

- **Replica (Target):** The destination from where your workload runs after migration.

- **Scenario:** A scenario is the basic unit of operation and it consists of a definition set. For more information, see Creating Continuous Availability Scenarios.

- **Switchover:** The cutover to the newly migrated workload from where the operations can begin.

- **Synchronization:** The process of making the set of files to be protected identical on the Master and Replica servers. It is usually necessary to synchronize the Master and Replica as the initial step of a replication scenario. For more information, see How Synchronization Works.

- **Virtual Platform Host:** This is the machine that hosts the Appliance VM acting as Replica server.

Software Compatibility

For more information about compatibility, see the Compatibility Matrix.

Related Documentation

For information related to migration and replication, use this guide along with the following:

- Arcserve Continuous Availability Administration Guide

- Arcserve® Continuous Availability Installation Guide

- Arcserve Continuous Availability for Virtualized Server Environments Operation Guide

To view all Continuity Suite guides, see Arcserve Continuous Availability Bookshelf.

Chapter 2: Live Migration Components

This section contains information about the following components that need to be configured and deployed before migration.

Control Service

Follow these steps:

1. To download Live Migration ISO to a computer where you plan to install Control Service, click here. For more information about the prerequisites for Control Service, see Control Service Installation Considerations.

2. Navigate to the mounted ISO and run the Setup.exe file.
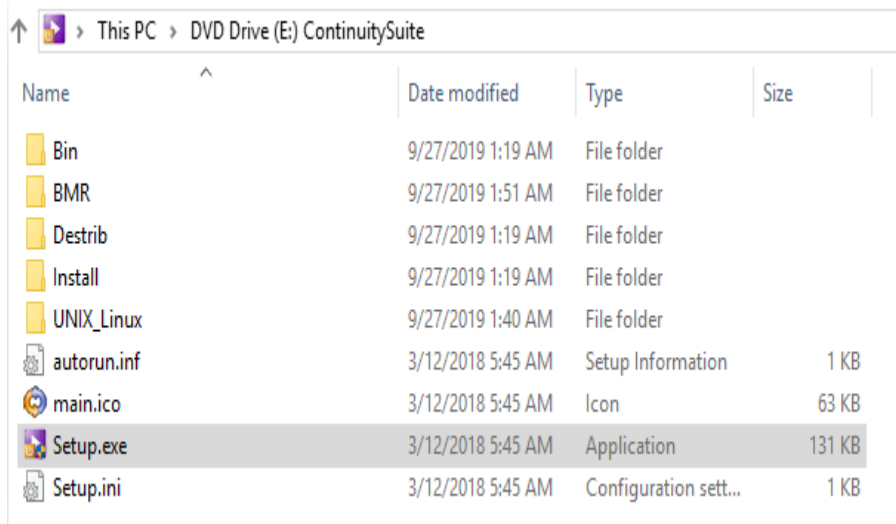
3. In the installation screen, select Install components, and then select Control Service. Follow the instructions of the installation wizard.
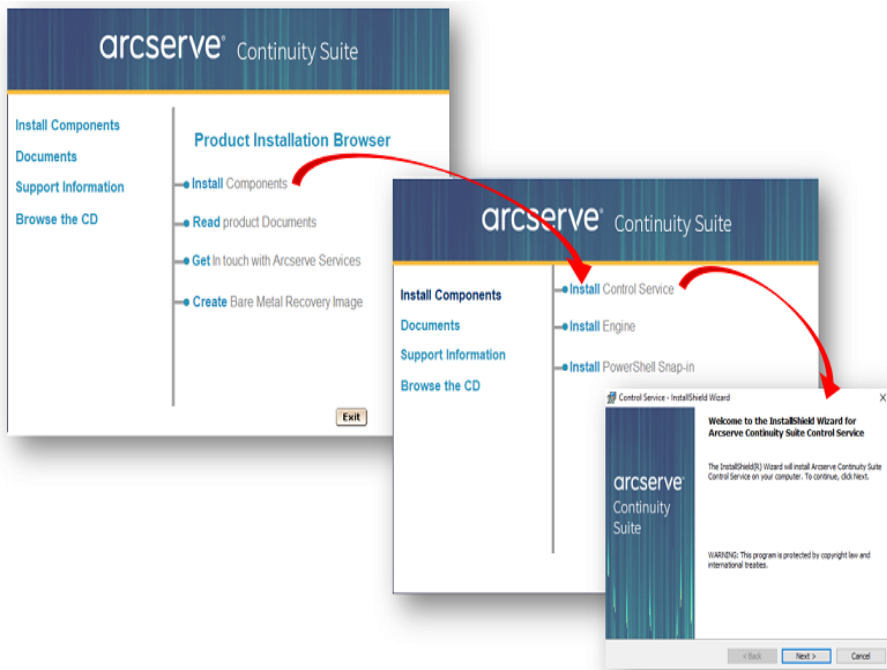
The Control Service component orchestrates the migration process of workloads from master to replica.

Note: We recommend that you install the Control Service on a separate server. You can install Control Service on your local workstation. However, if this workstation is disabled or offline, you cannot monitor or manage your scenarios.

For more information, see Install the Arcserve Continuous Availability Control Service.

Manager

Open the Arcserve Continuity Suite Overview page, and then click the Scenario Management link. For more information, see Install and Open the Management Center and Manager. The system automatically installs the Manager on your local computer. You can open this component from any workstation that has a browser and network connectivity to the Control Service.

Engines

Open the Manager and create a new scenario using the Scenario Creation Wizard. During the scenario creation, the system allows you to install the Engine on the Master and Replica hosts that participate in the migration scenario. The Engine must be installed on each Master and Replica server that participates in the scenario. For more information, see How to Install the Arcserve Continuous Availability Engine.

Migration

This section provides instructions on the Arcserve Live Migration process.

Overview

Arcserve Live Migration automatically synchronizes files, databases, and applications on Windows and Linux systems with a second physical or virtual environment located on-premises, at a remote location, or in the cloud. After synchronization, changes are replicated in real time to ensure the source and target are in sync prior to the migration.

Encryption enables secure data transfers between local systems and remote locations without the need for a VPN, and automated network redirection makes the switchover process seamless with push-button cutover to ensure availability to the new production environment.
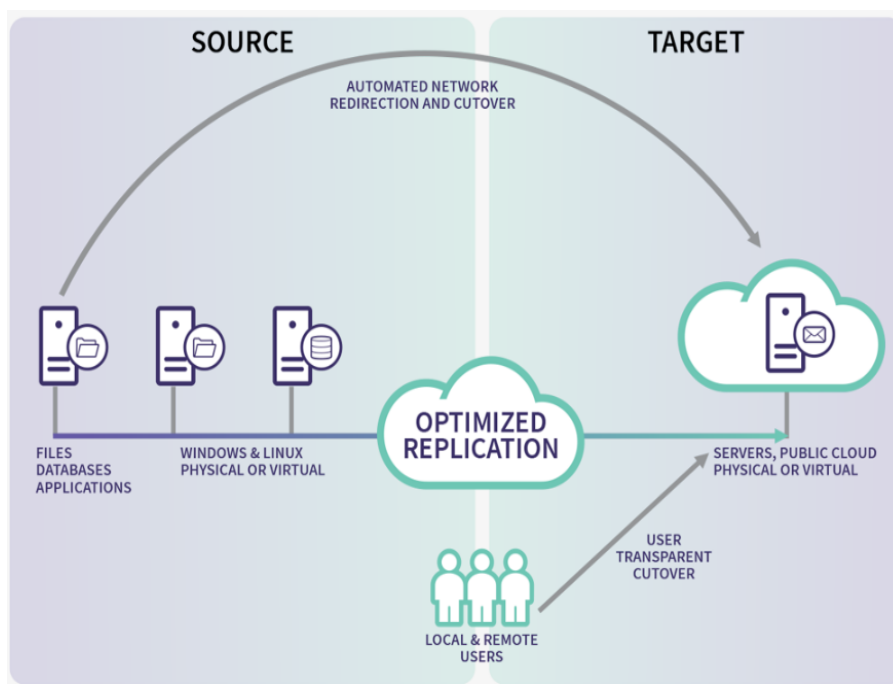
Requirements

Before you migrate, make sure to meet the following requirements:

- Arcserve Live Migration supports both Windows and Linux for Full System scenario. If Master is Windows, then the Virtual Appliance (VA) must be Windows; if Master is Linux, then the VA must be Linux as well.
  For supported Operating Systems and platforms, refer to Compatibility Matrix.

  Note: Before deploying Arcserve Live Migration scenarios, refer to Limitations section in Release Notes.

- For Windows or Linux migration to Azure or AWS, register to the Cloud account with Arcserve Live Migration interface before creating FSHA scenarios. For more information, see How to Manage Cloud Account.

Creating Live Migration Scenarios

Arcserve Live Migration protects servers in the context of user-defined scenarios. A scenario is the basic unit of operation and it consists of a definition set that includes:

- The type of application or database server to be protected.

- The type of data protection solution.

- Special tasks, such as Integrity Testing for Assured Recovery.

- The connection details of the Master and Replica hosts.

- The directories, sub-directories, databases and files that will be replicated and their location on the Master and the Replica.

- Configurable properties of the scenario and the Master and Replica hosts, which affect different settings and operations, such as, synchronization method, replication mode, spool size, report and event handling rules, and more.

- Recovery and Switchover/Failover parameters.

Each scenario defines a replication tree that sets the flow of information from the Master server to any number of designated Replicas. It establishes the data recovery procedure, and, if applicable, the switchover parameters. You can configure, add or remove servers from a scenario and select or modify directories. This enables easy, complete control of the migration process over any network, large or small. Each scenario is saved as an XML file.

Migrating Full System to Virtualization Platforms and Cloud

Arcserve Replication and High Availability supports both Windows and Linux for Full System scenario. If Master is Windows, then the Virtual Appliance (VA) must be Windows. If Master if Linux, then the VA must be Linux as well. For supported Operating Systems and platforms, refer to Arcserve Replication and High Availability 18.0 Compatibility Matrix.

Full system scenarios require three hosts instead of two:

- Master server - is the host that you want to protect. This host can be physical or virtual. For more information about configuring the Master server, see Configuring Master Server.

- Appliance - is a VM where you installed the Arcserve Replication and High Availability Engine. For more information about configuring Appliance, see Configure Virtual Appliance (VA) Server.

- Virtual Platform Host - is the server where the Appliance VM is running. For more information about configuring Virtual Platform Host, see Configure Virtualization Platform and Cloud.

Consider the following when planning Full System scenario:

- **Engine Service Account:** For Windows, Local System account is recommended for Continuity Suite Engine service Log On account for both Master and Replica/VA. You can also use Domain administrator or local administrator account. Make sure that such account has Full Control permission on all protected volumes, spool directories, and virtual disks mount points on Replica/VA, which is Engine <installation dir>\vm by default.

  For Linux, Continuity Suite Engine runs with root account after installation, and cannot be changed.

- **Engine package dependencies on Linux:** Continuity Suite engine installation on Linux requires dependent packages pre-installed, or a proper yum repository is configured. If you want to manually install packages required by Continuity Suite engine, run the following command to get the list of required packages:

  rpm -qpR arcserverha_rhel7_x86_64.rpm

Migrating Full System Scenarios for Hypervisors

The following procedure applies to vCenter, ESX, Hyper-V, XEN, and KVM Full System scenarios.
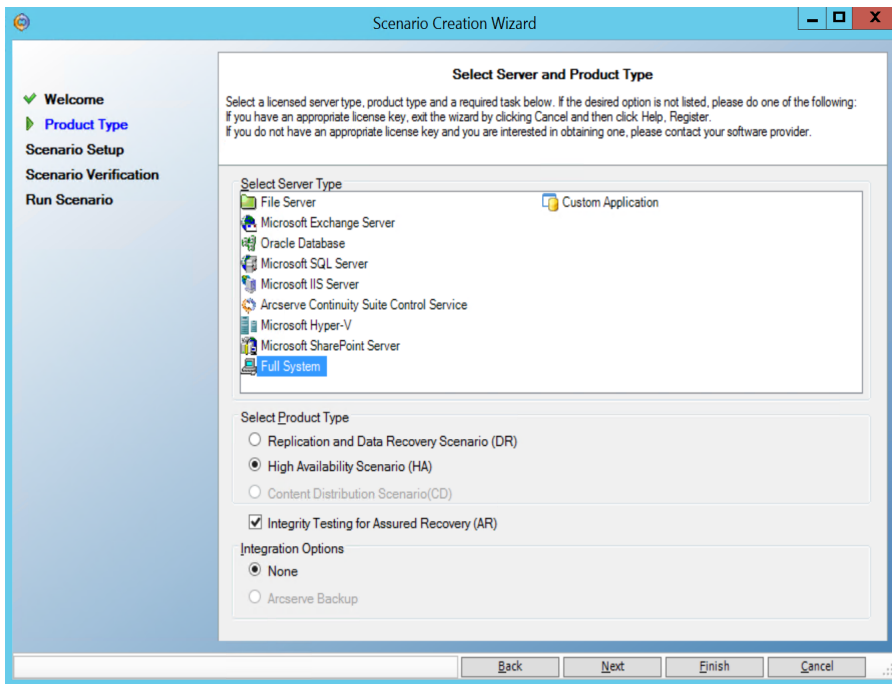
To create full system scenarios for all platforms except Hyper-V, follow these steps:

1. Open the Manager and choose Scenario, **New** or click the **New Scenario** button to launch the wizard.
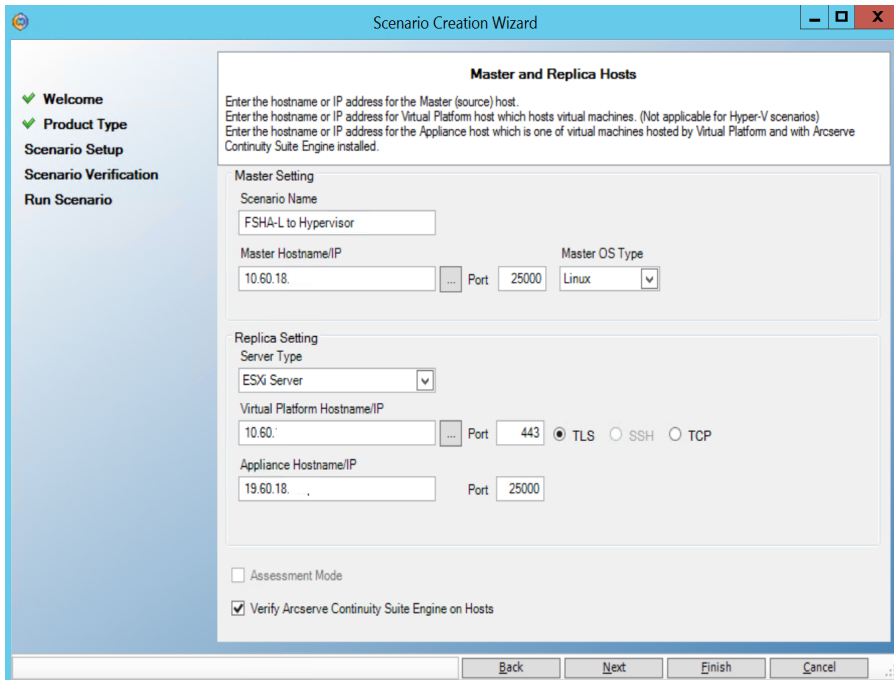
   The Welcome screen opens.

2. Choose **Create a New Scenario**, select a Group from the list, and then click Next.

   The Select Server and Product Type screen opens.

3. Select Full System, choose HA or DR and the desired Tasks on Replica, and then click **Next**.

   The Master and Replica Hosts dialog opens.

4. Enter description in the screen as given below and click **Next** when done:

- **Scenario Name:** Type a Scenario Name. The default value is the scenario type, for example, Full System.

- **Master Hostname/IP and Port:** Specify the physical machine you wish to protect or browse to select one. Enter its port number.

- **Server Type:** Select the virtual platform of the machine that will host the VM, for example, ESX Server.

- **Virtual Platform Hostname/IP and Port:** Specify the physical machine running the virtual machine platform you selected in Server Type or browse to select one. Enter its port number.

- **(Optional) SSL Connection:** Click this option if you wish to specify an SSL port number instead. You may do so for all virtual platform types except Hyper-V.

- **Appliance Hostname/IP and Port:** Specify the virtual machine hostname or IP address of the VM to act as the Replica server in this scenario. If the server type is Hyper-V, this field is not available.

- **Verify Arcserve Continuity Suite Engine on Hosts:** Enable this option to confirm the latest version of the Engine is installed on all servers specified in the scenario.

Enter the appropriate credentials for the specified machines, if prompted.

Wait while verification completes. If desired, you may install the Arcserve Continuity Suite Engine on any server. If errors occur, try resolving them by clicking Verify Again. Contact your security administrator if any RPC Services errors occur.

5. Click **Next** when the Engine is verified on hosts.

   The Volume Setting dialog opens. Arcserve Continuity Suite auto-discovers the volumes on the specified Master server.
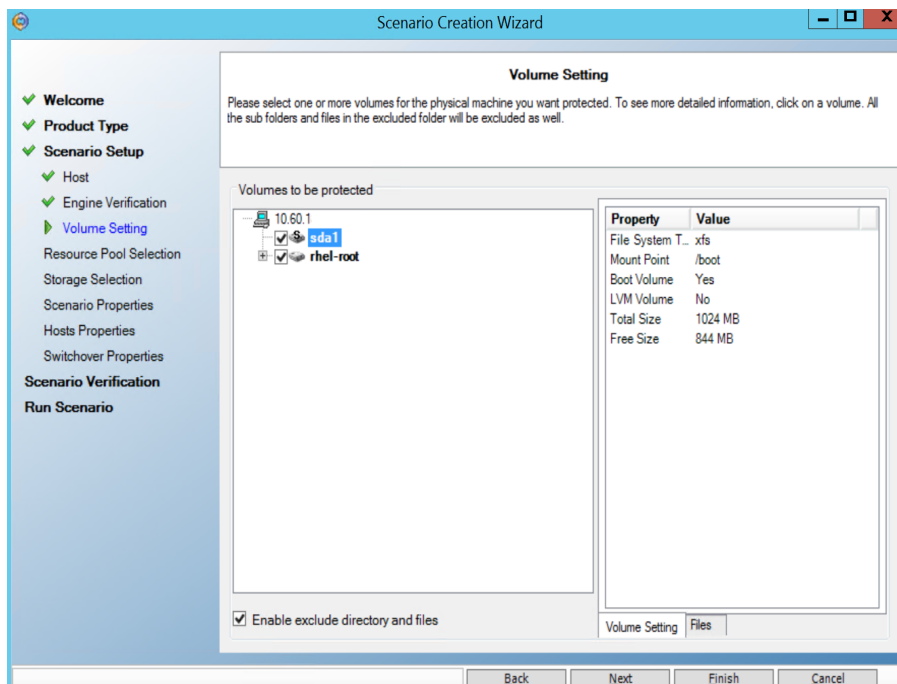
6. Specify the volumes you want to protect. (Optional) Enable the option, Enable Exclude Directory and Files. This option filters pagefile.sys, hiberfil.sys, System Volume Information, Recycler, and Recycled files and folders by default.

7. Click **Next**.

   You may be prompted to enter credentials for the server.

   The Resource Pool Selection screen opens.

8. Click **Next**.

   The Storage Selection screen opens.
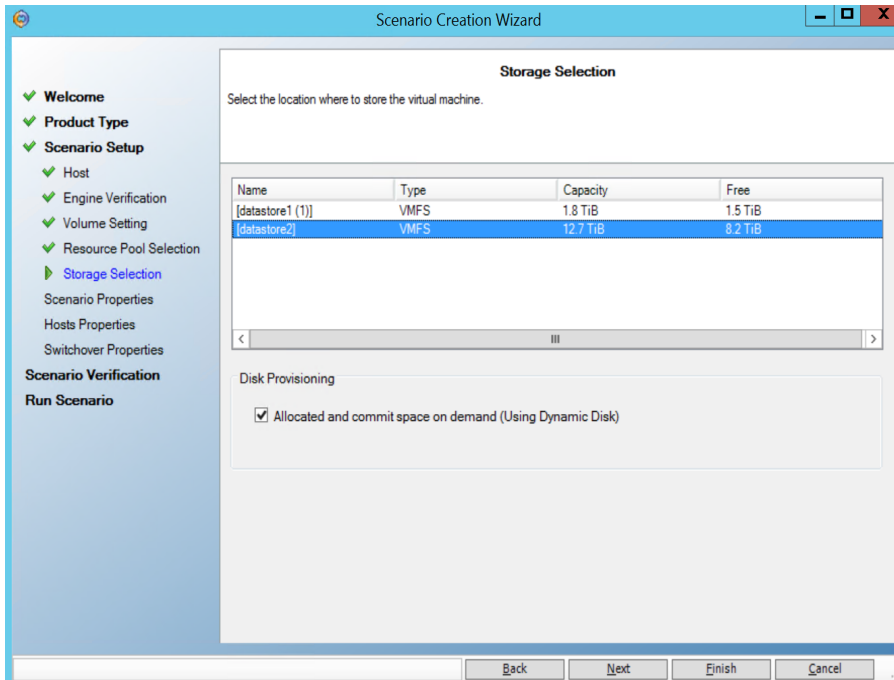
9. Specify where the virtual machine must be stored. Enable the option, Alloc-
    ate and commit space on demand, if desired and click **Next**.

    The Scenario Properties dialog opens.

10. Change properties, as desired and click **Next**. For more information, see the
    Arcserve Continuity Suite Administration Guide.

    The Master and Replica Properties dialog opens.
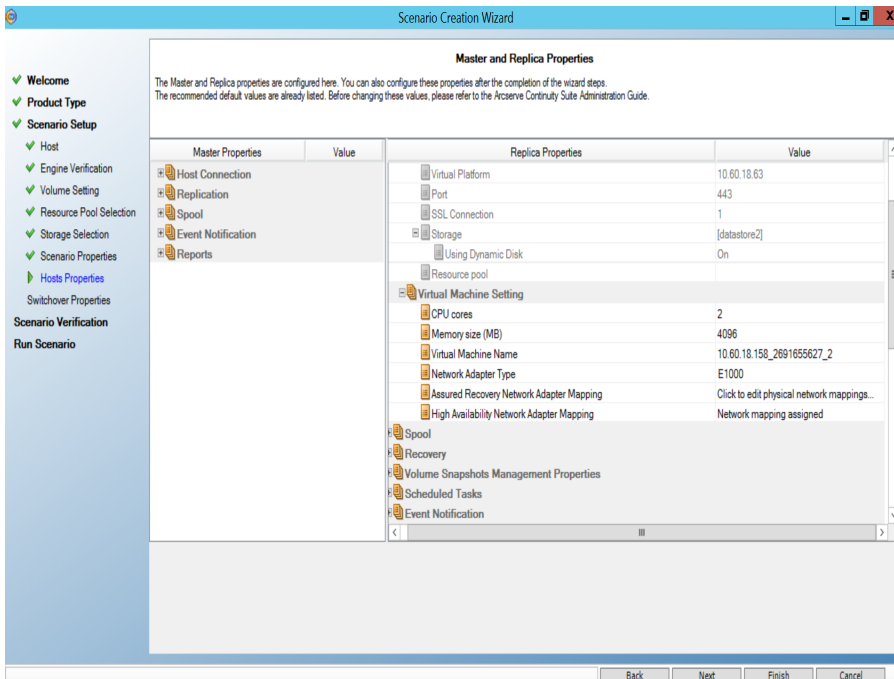
11. Change properties, as desired, and click **Next**.

The following information is acquired:

- ◆ CPU number

- ◆ Memory size on VM

- ◆ Adapter information on the physical Master

- ◆ Network Mapping List

You may also change these settings outside of the scenario creation wizard. For more information, see the Arcserve Continuity Suite Administration Guide.

Wait while Arcserve Continuity Suite retrieves Switchover Properties.

12. When the Switchover Properties dialog opens, expand the Network Traffic Redirection properties. The Network Adapter Mapping dialog opens. On this dialog, modify the physical network mappings.

    Note: If there is only one virtual network adapter in both the Master and Replica servers, they are mapped automatically.

 a. Click the drop-down in the Replica Network Adapter column and choose the adapter you wish to map to the adapter listed in the Master Network Adapter column.
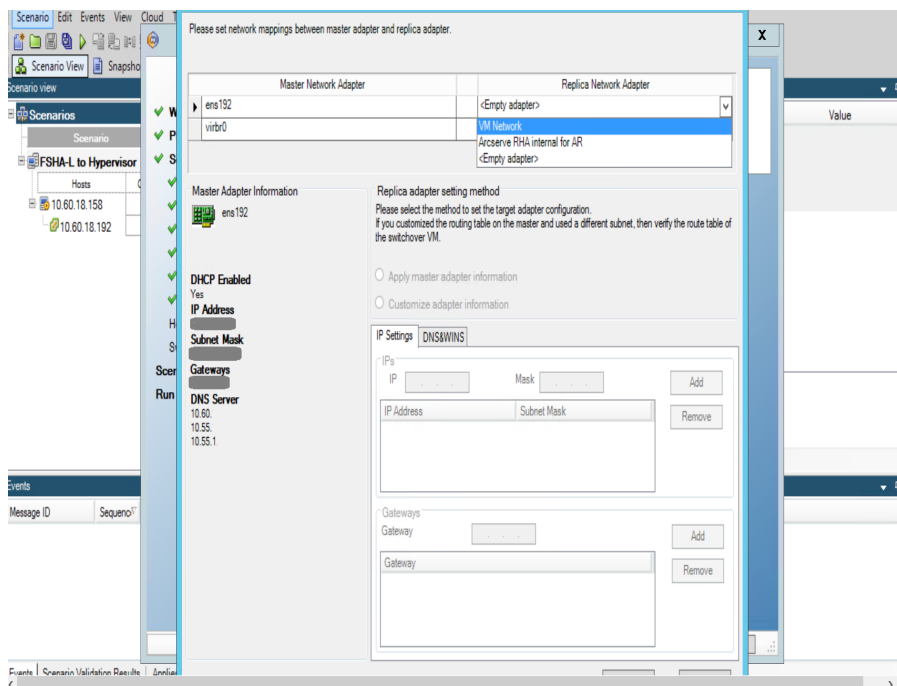
 b. For Replica adapter setting method, do the following:

- ◆ **Apply master adapter information** - (default) Choose this option if the Master Adapter is in DHCP mode.

◆ **Customize adapter information** - Choose this option to enable the IP Settings and DNS&WINS tabs.

◆ **IP Settings** - You can add or remove IP Addresses, Subnet Masks and Gateways.

◆ **DNS & WINS** - You can add or remove DNS IP Addresses, Primary or Secondary WINS.

13. Click **OK** to close the Network Adapter Mappings dialog and click **Next** to continue.

The Switchover Initiation dialog opens.
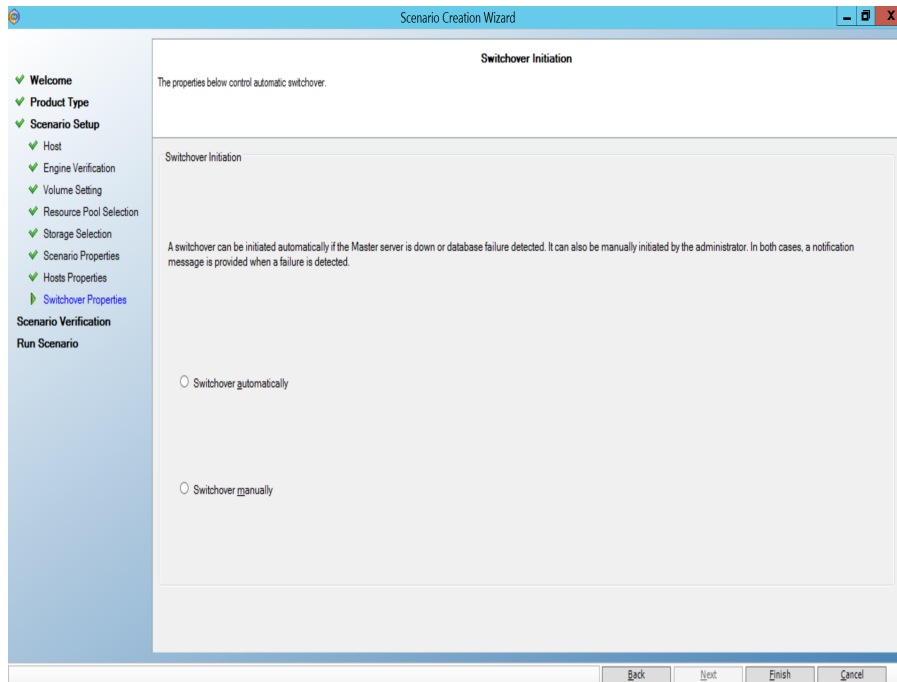
14. Specify if switchover must be started automatically or manually, and then click **Next**. Reverse Replication cannot be specified in this scenario.

Note: If Scenario Verification lists any errors, you must resolve them to continue. If any warnings are listed, you should also resolve them to successfully continue. After making changes, click Retry to repeat verification.

15. The scenario verification runs automatically, and the configurations are now complete.
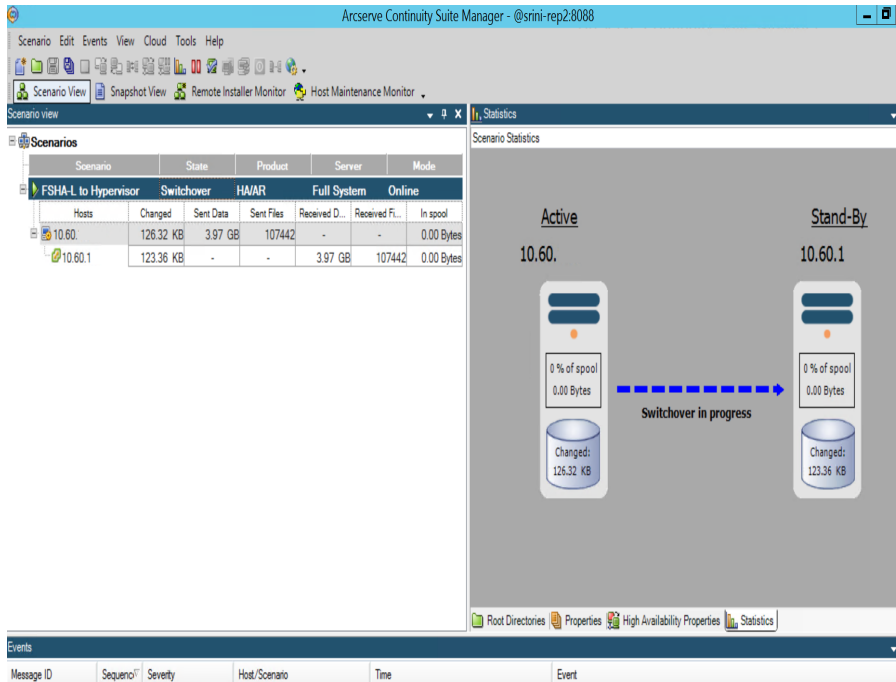
16. Click **Next**.

    The Scenario Run dialog opens.

17. Click **Run Now** if you wish to start synchronization and activate the scenario. For full system scenarios, choose Volume Synchronization. Click **Finish** to save current settings and run the scenario later.
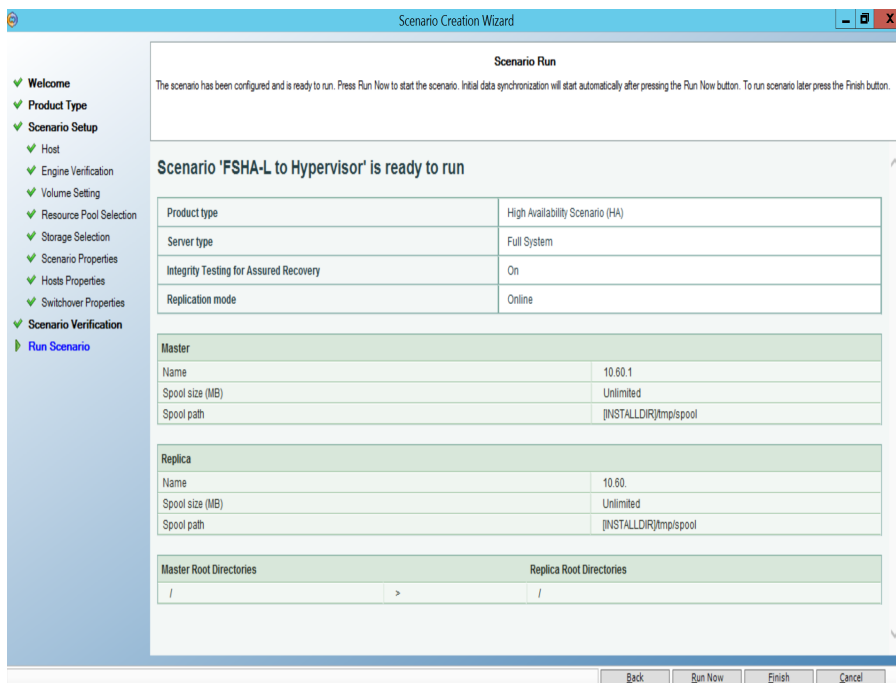
Migrating Windows or Linux FSHA to Azure

This section provides instruction on how to migrate Windows or Linux FSHA to Azure. Before you begin, make sure to register and create an account in Azure. For more information, see Configure Microsoft Azure.

Follow these steps

1. Open the Manager and choose Scenario, New or click the New Scenario button to launch the wizard.

    The Welcome screen opens.

2. Choose Create a New Scenario, select a Group from the list, and then click Next.

    The Select Server and Product Type screen opens.
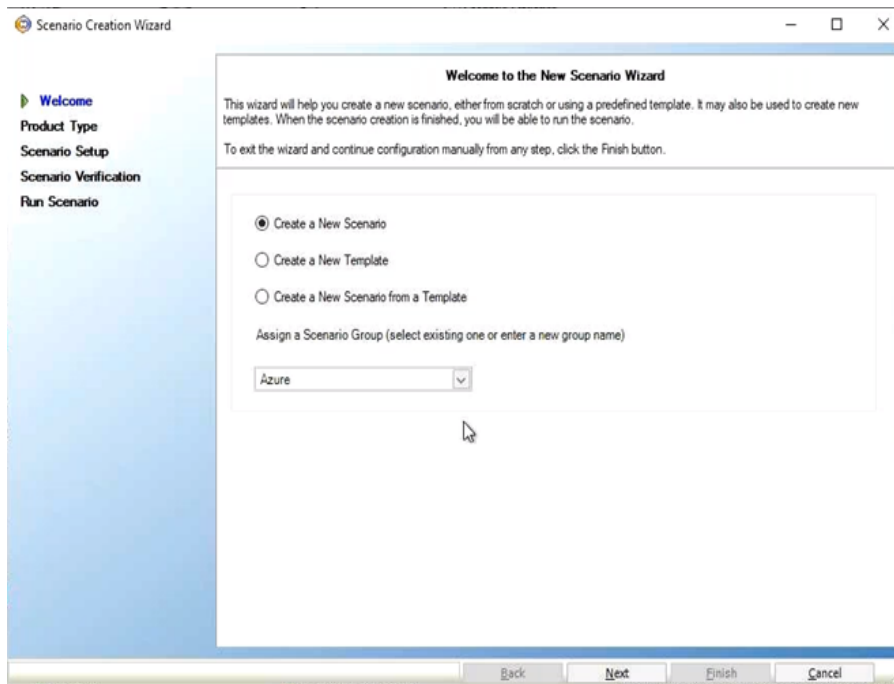
3. Choose Full System, High Availability Scenario (HA) and then click **Next**.

4. (Optional) For Assured Recovery, select **Integrity Testing for Assured Recovery**.

    The Master and Replica Hosts screen opens.
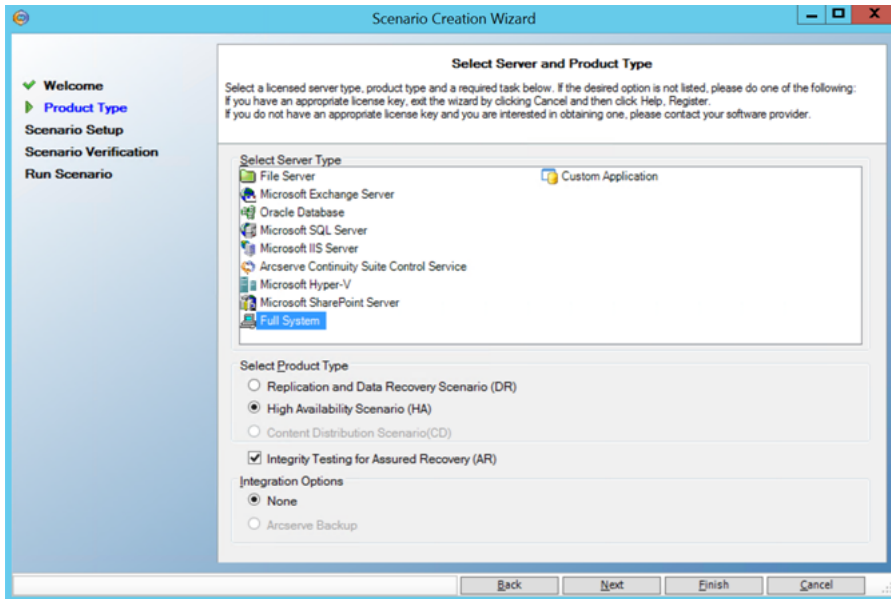
5. Do the following in the Master and Replica Hosts screen:

    a. Type a Scenario Name and enter the Hostname or IP Address and Port number for the Master server.

    b. Specify Windows or Linux as the Master OS Type.

        Note: For Windows, enter IP address or host name of the Windows server to be migrated.

    c. Specify Microsoft Azure as the Replica server.
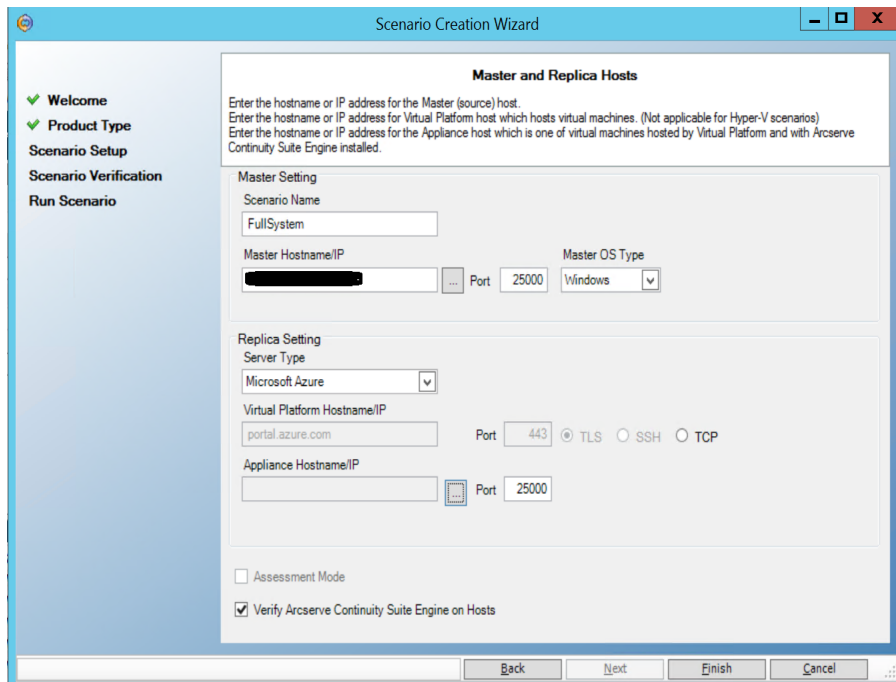
> **Note:** Use the Verify Arcserve Continuity Suite Engine on Hosts to verify the connectivity between Master and Replica. It verifies that the engines are installed on the Master. To skip the verification, clear the checkbox.

d. Specify the Azure replica instance (appliance). Click the [...] button to browse for and select the Azure account and Azure replica instance (appliance).

The Cloud Instance Selection dialog opens.
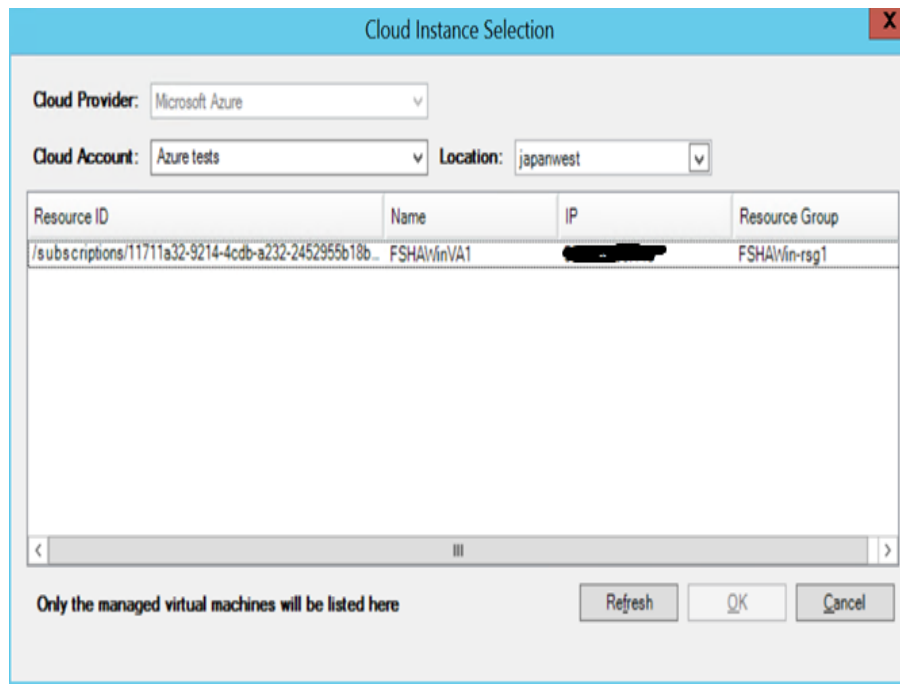
e. Select the Azure account, cloud replica, and region, and then click OK.

6. Wait for Engine Verification to complete and click **Next**. If required, click Install to upgrade the Engine on one or both servers and Verify Again.

The Volume Setting screen opens.

7. Select one or more volumes for the physical machine you want to protect and click **Next**.

The Scenario Properties screen opens.
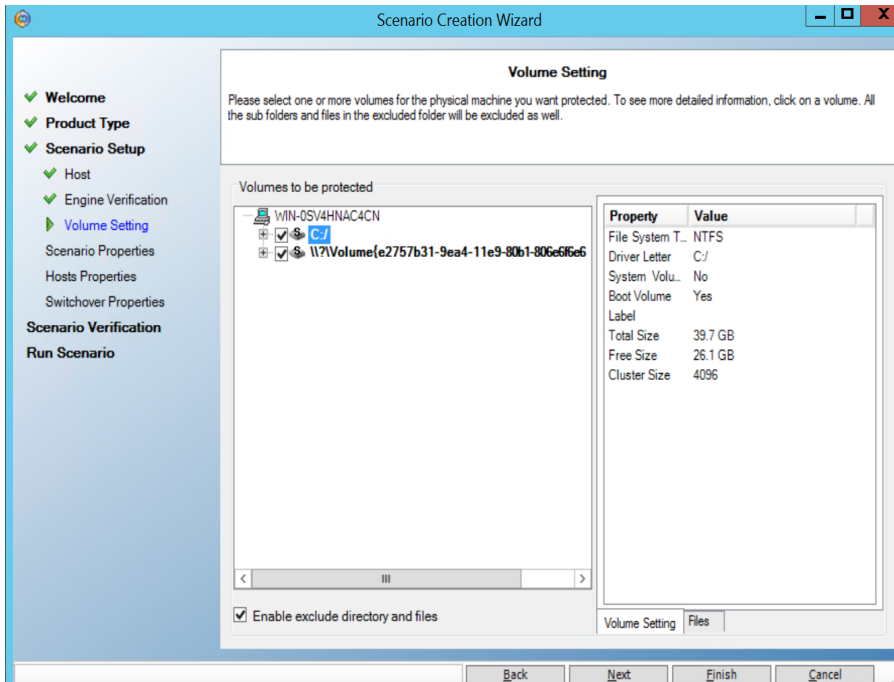
8. Accept the default values or set new values as required and click **Next**.

   Note: Scenario properties control the entire scenario. These properties can also be configured outside of the Wizard. For more information, see Configuring Scenario Properties.

   The Master and Replica Properties screen opens.
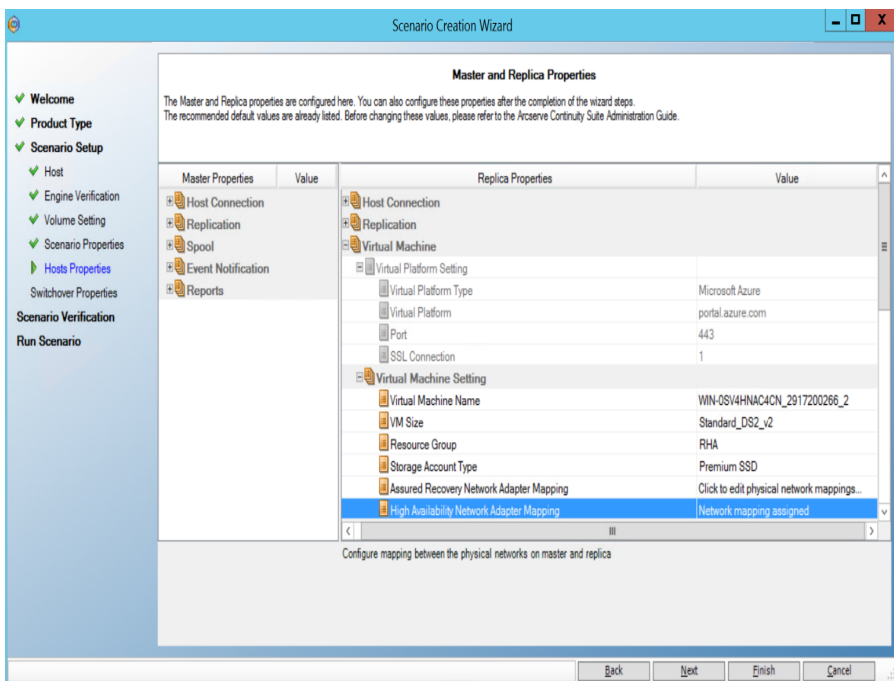
9. In the network mapping dialog launched automatically from Master and Replica properties screen, set the mapping between the Master's NICs and
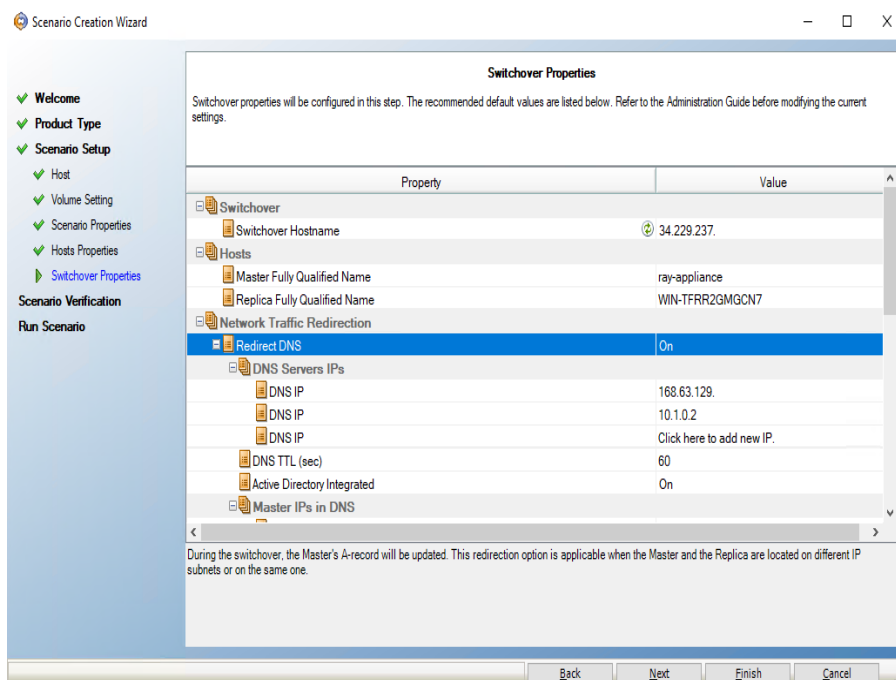
subnets on Microsoft Azure, security groups, and IP addresses and then click **OK** to save and close the network mapping dialog.
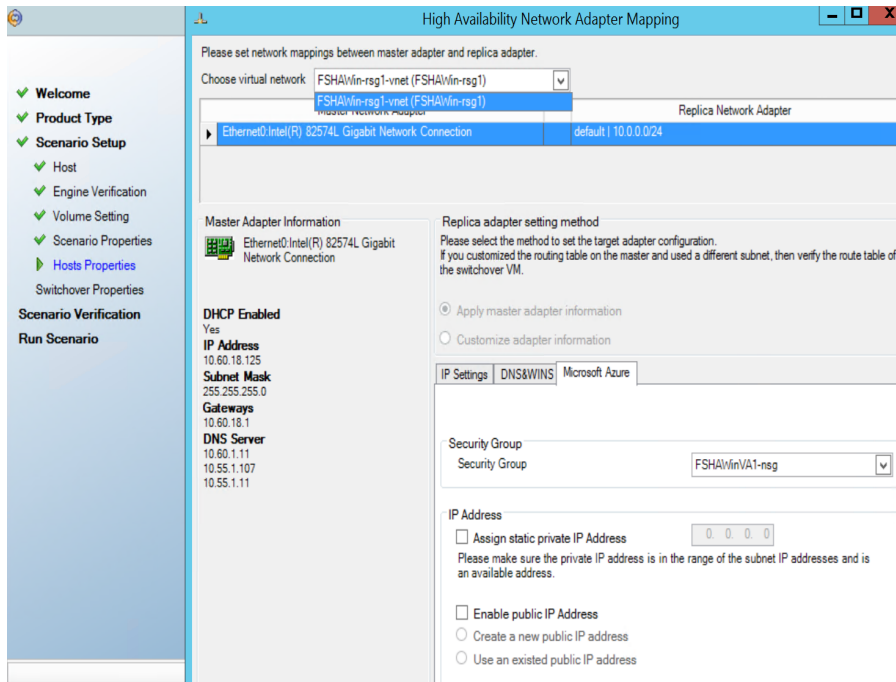
Master and Replica properties apply only to host servers.

10. Accept the default values or modify values and click **Next**.

The Switchover Properties screen opens.

11. Expand the *Switchover* property and enter the Switchover Hostname.

12. Expand the *Hosts* property and enter the Master Fully Qualified Name and Replica Fully Qualified Name.

13. Expand the *Network Traffic Redirection* property and specify redirection options, including Redirect DNS, DNS Servers IPs, and Master IPs in DNS.

    Note: When you set the Redirect DNS option to *Off*, you can also specify a value for the Virtual Machine IPs on Replica server in DNS option. If the Redirect DNS property value is *On*, then the Virtual Machine IPs on Replica server in DNS option will not display in the list.

14. Set the switchover properties and click **OK**.

    The Switchover Initiation screen opens.

15. Specify if switchover must be started automatically or manually, and then click **Next**.

16. The scenario verification runs automatically, and the configurations are now complete.

When the software is readying your cutover, it displays the *Synchronization in progress* message.

When the Azure instance is successfully created, the switchover completes. The Azure instance is now ready for use.

Migrating Linux FSHA to AWS EC2

This section provides instruction on how to migrate Linux workload to AWS EC2.
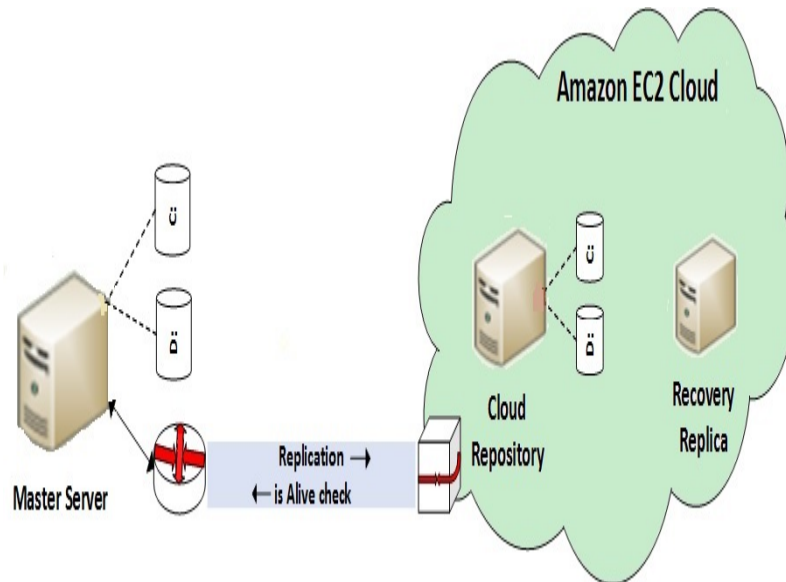
To create a new full system EC2 High Availability Scenario

1. Open the Manager and choose Scenario, New or click the New Scenario button to launch the wizard.

    The Welcome screen opens.

2. Choose Create a New Scenario, select a Group from the list, and then click Next.

    The Select Server and Product Type screen opens.
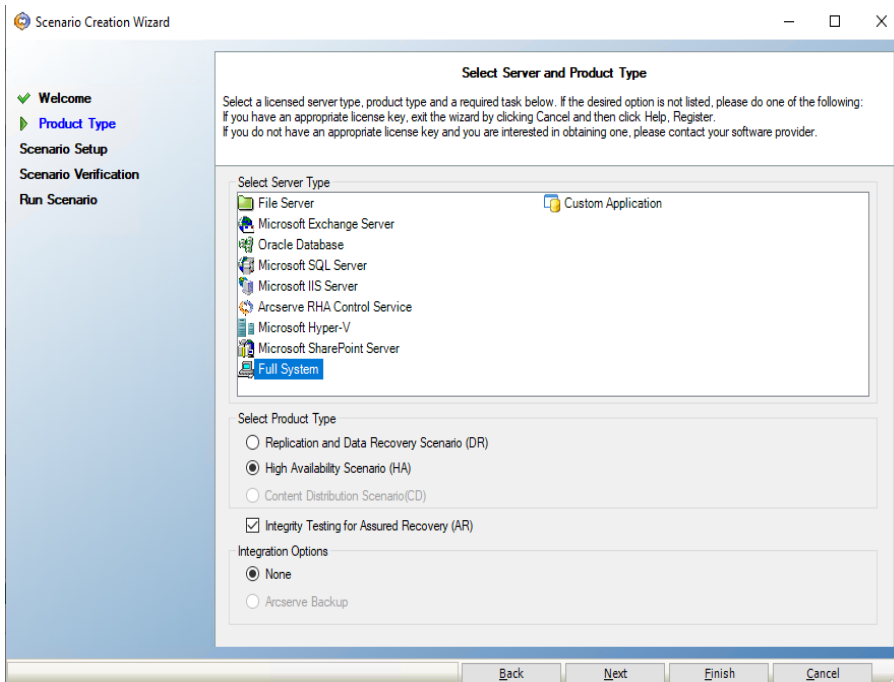
3. Choose Full System, High Availability Scenario (HA) and then click **Next**.

   The Master and Replica Hosts screen opens.
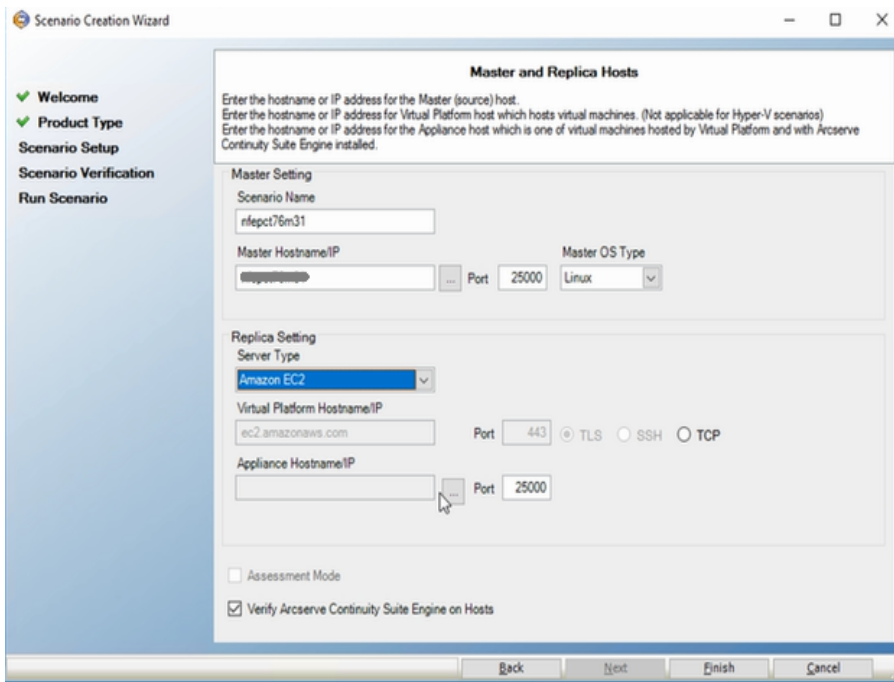
4. Do the following in the Master and Replica Hosts screen:

   a. Type a Scenario Name and enter the Hostname or IP Address and Port number for the Master server.

   b. Specify Linux as the Master OS Type.

c. Specify Amazon EC2 as the Replica server.
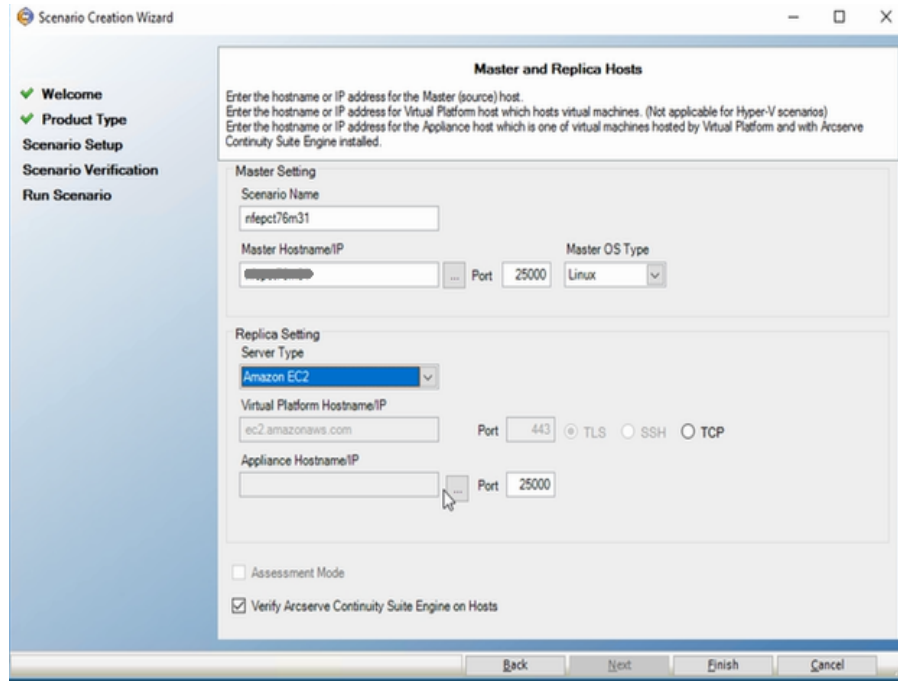
Note: Use the Verify Arcserve Continuity Suite Engine on Hosts to verify the connectivity between Master and Replica. It verifies that the engines are installed on the Master. To skip the verification, clear the checkbox.

d. Specify the EC2 replica instance (appliance). Click the [···] button to browse for and select the AWS account and EC2 replica instance (appliance).

The Cloud Instance Selection dialog opens.
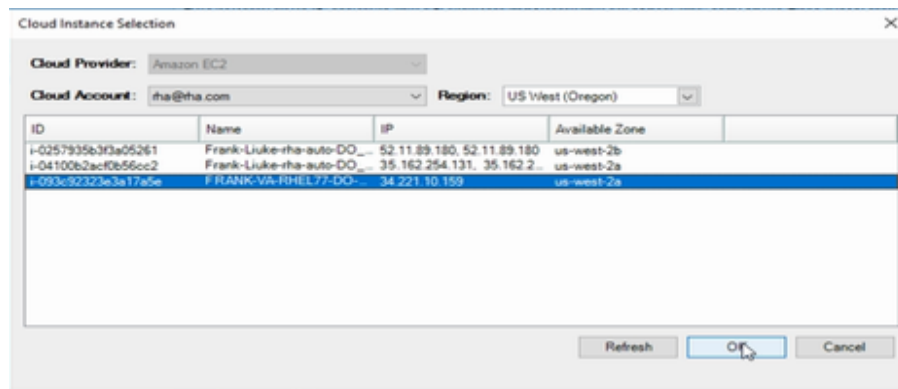
e. Select the AWS account, cloud replica (appliance), and region and click OK.

5. Wait for Engine Verification to complete and click **Next**. If required, click Install to upgrade the Engine on one or both servers and Verify Again.

The Volume Setting screen opens.

6. Select one or more volumes for the physical machine you want to protect and click **Next**.

   The Scenario Properties screen opens.

7. Accept the default values or set new values as required and click **Next**.

   Note: Scenario properties control the entire scenario. These properties can also be configured outside of the Wizard. For more information, see Configuring Scenario Properties.

8. Select one or more volumes for the physical machine you want to protect and click **Next**.

   The Scenario Properties screen opens.

9. Accept the default values or set new values as required and click **Next**.

   Note: Scenario properties control the entire scenario. These properties can also be configured outside of the Wizard. For more information, see Configuring Scenario Properties.

   The Master and Replica Properties screen opens.
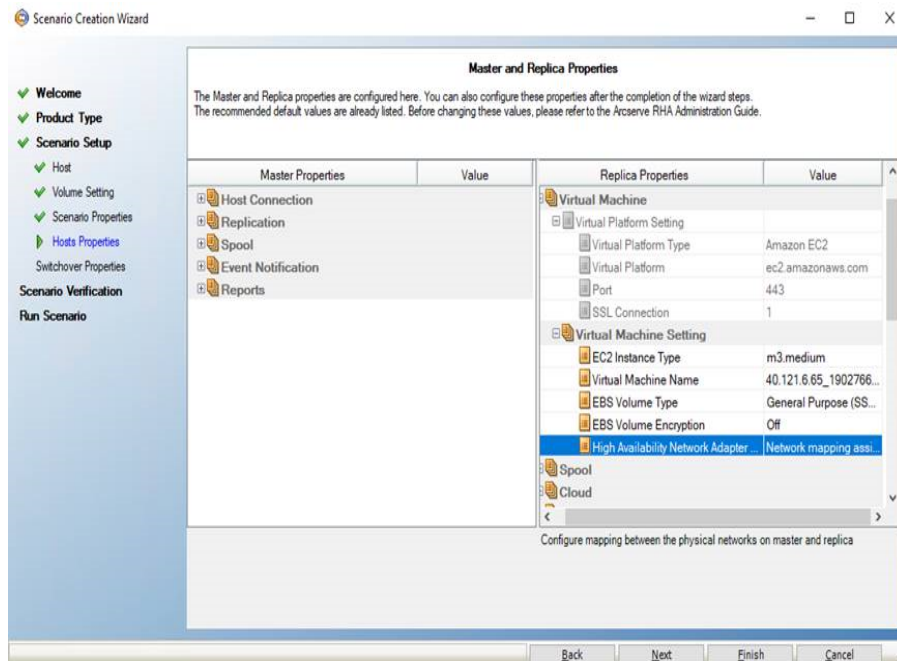
10. In the network mapping dialog launched automatically from Master and Replica properties screen, set the mapping between the Master's NICs and subnets on AWS, security groups, and IP addresses and then click **OK** to save and close the network mapping dialog.
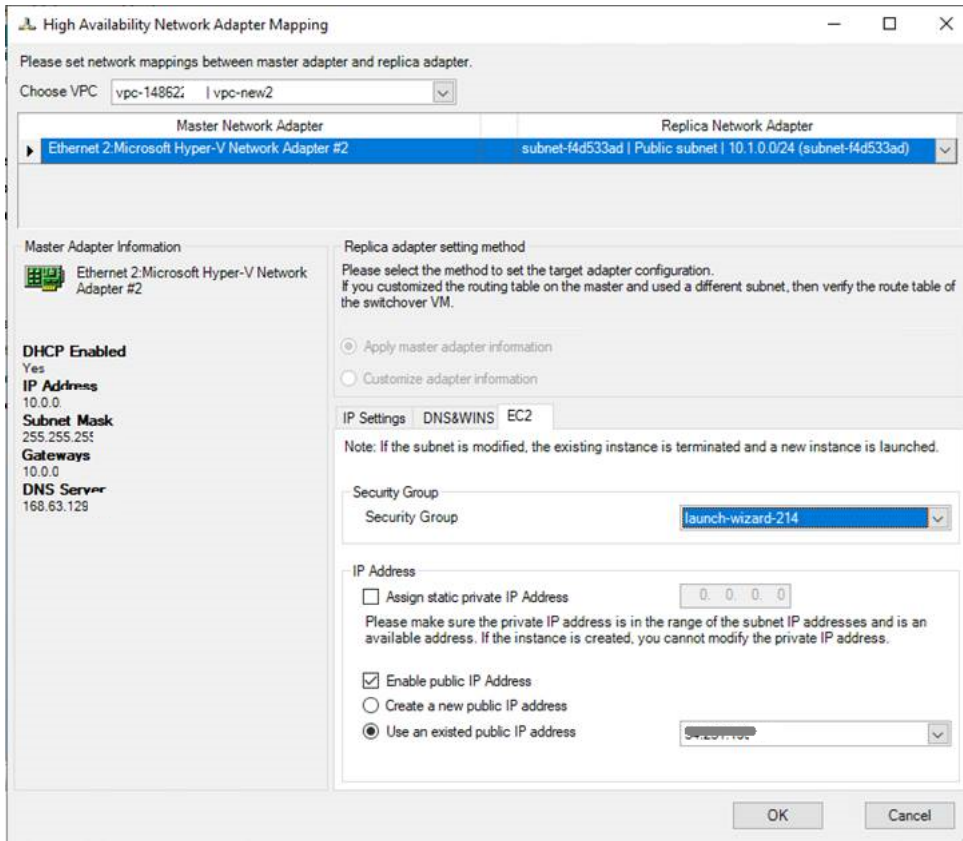
Master and Replica properties apply only to host servers.

11. Accept the default values or modify values and click **Next**.

The Switchover Properties screen opens.
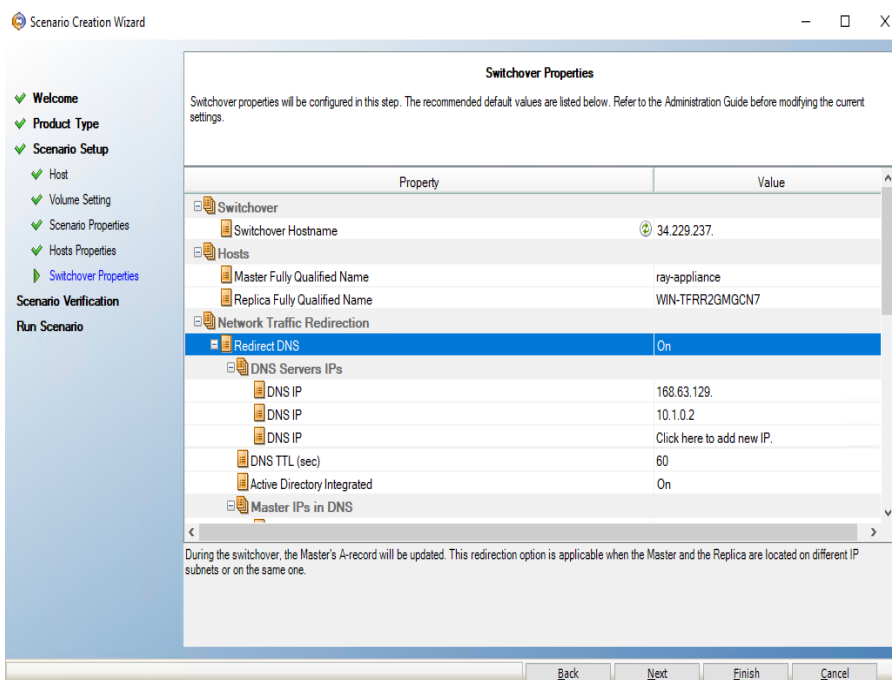
12. Expand the *Switchover* property and enter the Switchover Hostname.

13. Expand the *Hosts* property and enter the Master Fully Qualified Name and Replica Fully Qualified Name.

14. Expand the *Network Traffic Redirection* property and specify redirection options, including Redirect DNS, DNS Servers IPs, and Master IPs in DNS.

    Note: When you set the Redirect DNS option to *Off*, you can also specify a value for the Virtual Machine IPs on Replica server in DNS option. If the Redirect DNS property value is *On*, then the Virtual Machine IPs on Replica server in DNS option will not display in the list.

15. Set the switchover properties and click **OK**.

    The Switchover Initiation screen opens.

16. Specify if switchover must be started automatically or manually, and then click **Next**.
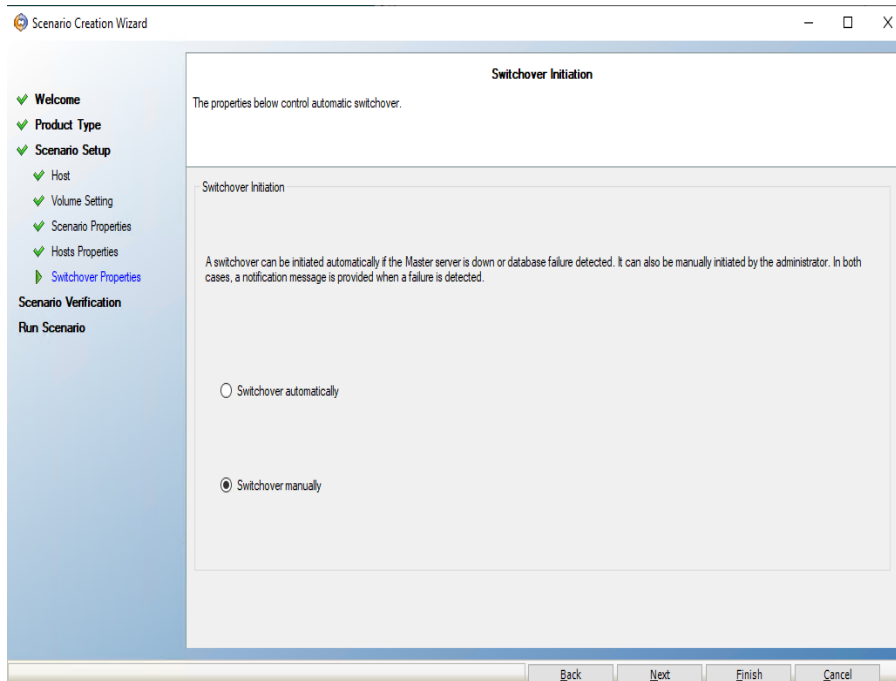
17. Scenario verification is run automatically, and configurations are now complete.

18. Configure NAT. For more information, see Configuring the Continuous Availability NAT Utility for Various Network Setups.
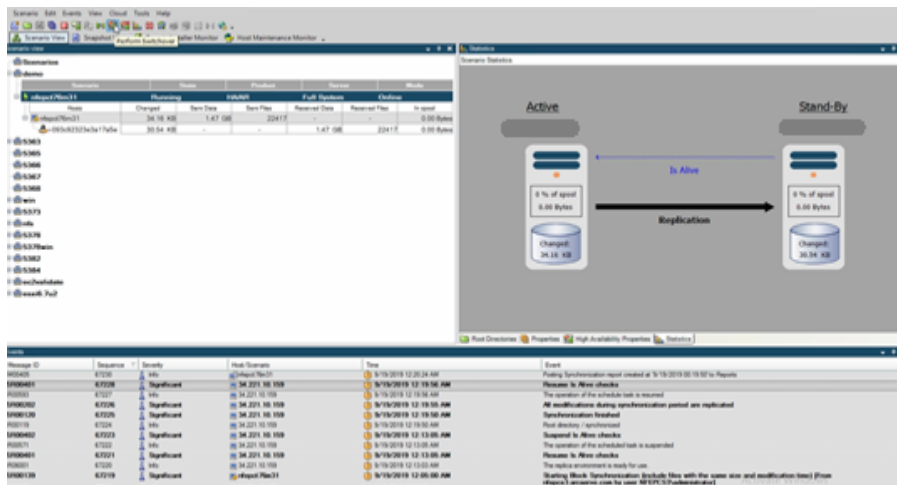
19. Create a New EC2 Data Replication Scenario. For more information, Create a New EC2 Data Replication Scenario.

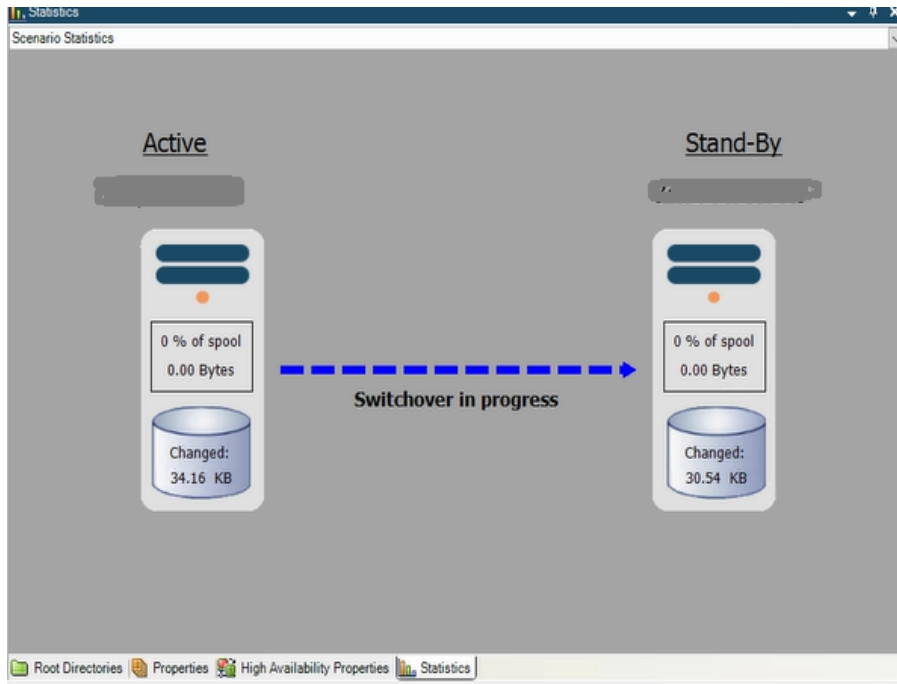20. Run the scenario and monitor events in the management center.
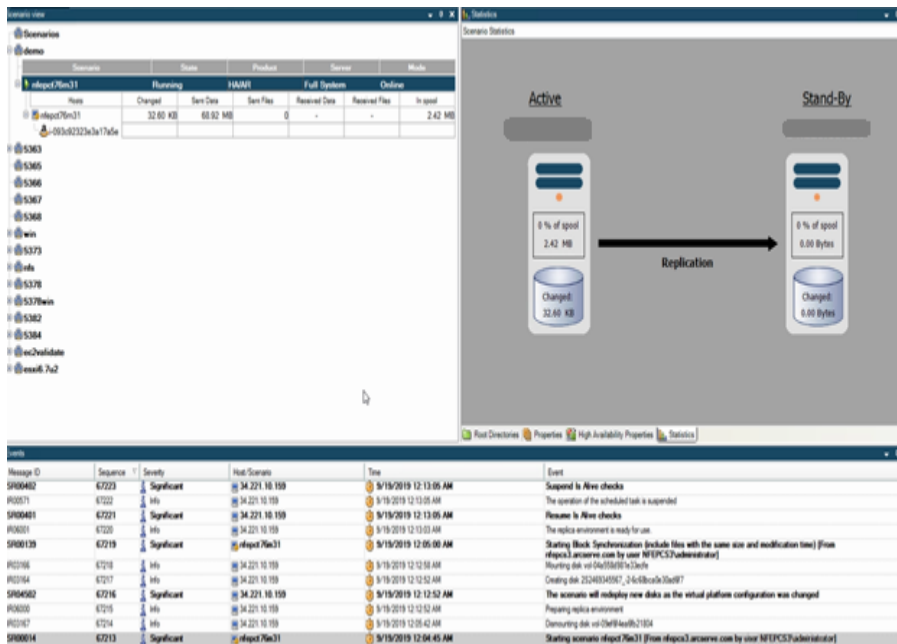
21. After replication of the data, check if the switchover is complete. On successful switchover, the following message is displayed:

    The replica environment is ready for use.

22. When the software is readying your cutover, it displays the "Starting switchover procedure..." message.

When the EC2 instance is successfully created, the switchover completes. The EC2 instance is now ready for use.