

EnsureDR

User Guide

Version 4.17



December 2023

Introduction

EnsureDR is a leader in the area of Business Continuity and specifically, Disaster Recovery. With EnsureDR's state-of-the-art DR Platform, your entire DR site will be invoked automatically, and EnsureDR will run a testing plan on the machines in a secured and encapsulated way – from within the Network bubble. EnsureDR supports a variety of replication/backup vendors, tools, and solutions either in the Cloud or on-prem. It can be adapted to a host of different scenarios – from a workflow perspective, as well as testing perspective (for example – testing specific aspects of a machine).

EnsureDR will verify that the DR site is able to recover and will also provide data and tips – like how to fix issues that were found during the recovery process; so the customer could increase his recoverability using the tool. Once EnsureDR is installed, it can be scheduled to run automatically within the needed time window. The resulting report will provide the customer with the assurance that their recoverability is maintained. EnsureDR is proud to introduce EDRM – the latest product from the EnsureDR software labs.

EDRM is the evolution of the EnsureDR stand-alone application to a scalable, clustered environment that is centrally controlled via an advanced user interface, and capable of showing, managing, and running the entire suite of EnsureDR's jobs and devices.

In this guide, we will take a step-by-step approach to walking you through how to install, use, and most importantly – how to leverage and enjoy EDRM's advanced capabilities!

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Feedback

The EnsureDR team values feedback from our customers because it is important not only for customers but to us as well. It is our mission to listen and incorporate customer input into the build of products and design them based on their needs and suggestions.

Support

In case you have any technical issues or questions, please access the EnsureDR support portal to open a case or send mail to support@ensuredr.com.

Online Documents

For online support, please visit our web pages where you can find more information regarding our platform.

Web site: <https://www.ensuredr.com/>

Documents: <https://www.ensuredr.com/documents/>

Support portal and knowledgebase: <https://support.ensuredr.com/>

About User Guide

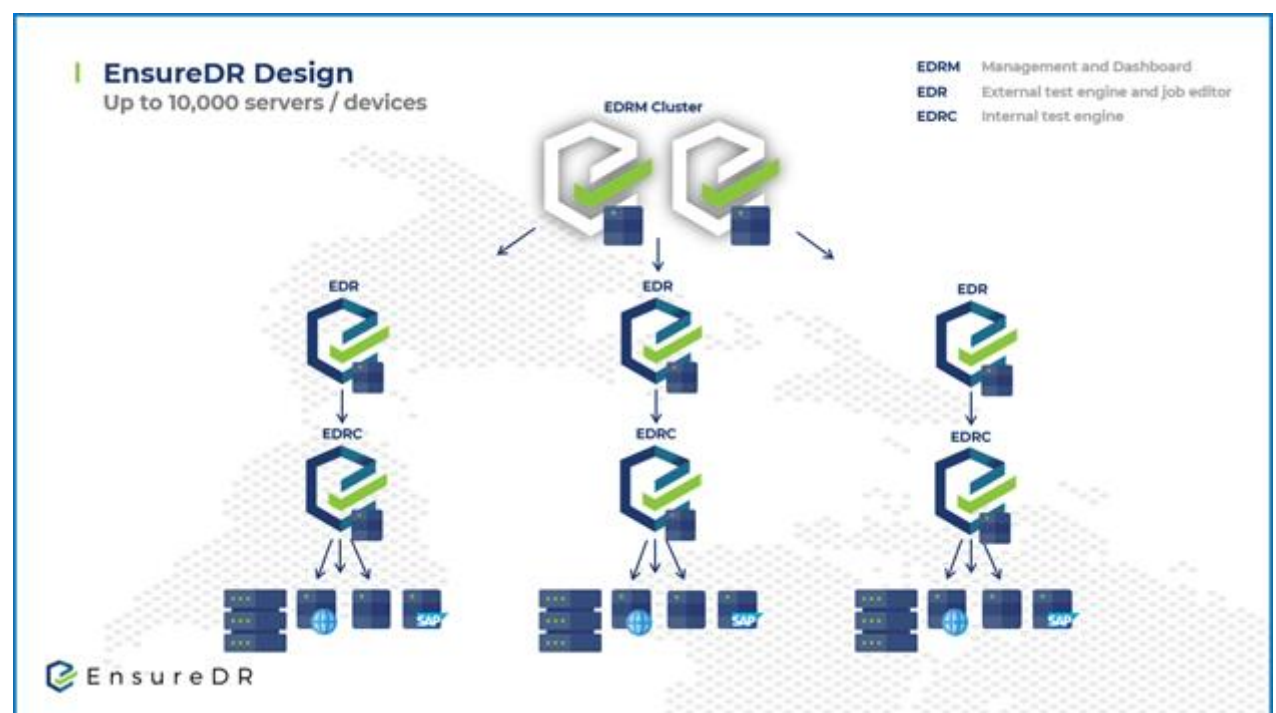
This document provides information about the main features, installation, and use of EnsureDR. The document applies to version 4 and all subsequent versions.

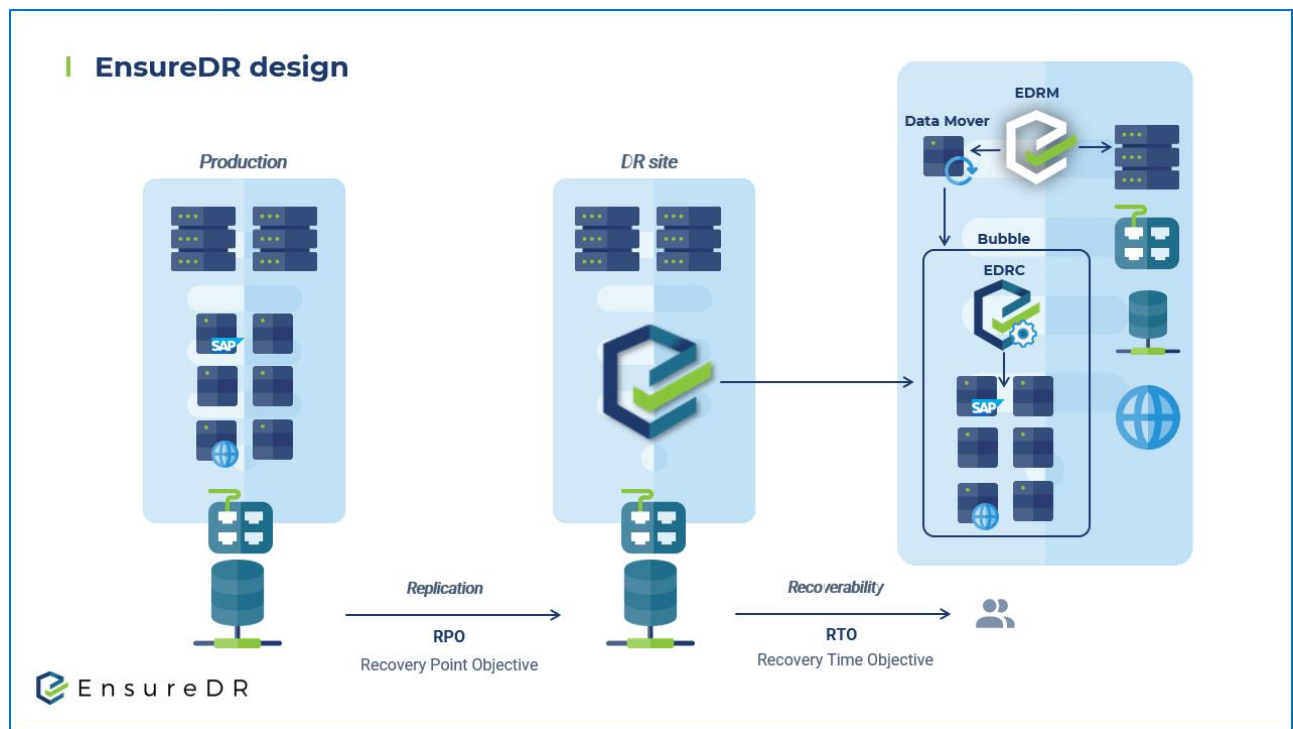
The System Architecture

EDRM was built with scale in mind. As a solution for DR sites of any size, the EDRM system could be installed as a cluster of App servers that can serve dozens of EnsureDR nodes (called EnsureDR Runners). Each of these Runners can then connect to a controller, with access to the network bubble created within the DR, to test the DR devices.

Depending on the complexity and size of the DR site, the appropriate amount of App servers/EDR-Runners will be installed, will need to be determined so that they will be able to perform the task of invoking and testing the entire Disaster Recovery process with fault tolerance and high availability.

Here are two design solutions for EnsureDR depending on the number of servers you plan to test.





EnsureDR Prerequisites

To make EnsureDR works correctly, there are some prerequisites to set up in advance.

Servers	<p>The EDRM/EDR management server with 16 GB RAM, 4 CPUs, disk size 250 GB, and a single NIC</p> <p>The EDRC controller server with 8 GB RAM, 4 CPUs, disk size 50 GB disk, and a single NIC</p> <p>Both servers (EDRM/EDR and EDRC) should be located on the DR location of a testing environment</p> <p>The latest VMware VM tools must be installed on both servers and assigned a static IP</p> <p>Servers must have a single NIC only</p> <p>The correct time zone should be set for both servers</p> <p>Both servers should be joined to a domain</p>
Credentials	Domain account which is the local administrator on both EDRM/EDR and EDRC servers
VMware Credentials	Our best practice is to use a single AD account that has administrator rights inside the VMware environment. In case your company policy doesn't allow you to use the same AD account inside the VMware environment with administrator privilege, you can create a dedicated VMware account from VMware vCenter Web UI
Networking	Bubble network configured on target ESXi host isolated from production environment, if target is cluster and has multiple hosts, physical or VLAN should close connection between them in bubble like VMware DVSWITCH or close VLAN on physical switch with no gateway so VMs can communicate with each other between hosts in a cramped disaster recovery environment
Firewall	<p>For each EDR-Runner to be able to communicate with the EDRM, the outbound side of port 5876 needs to be opened (so EDRM could communicate with it). Each EDR-Runner has the standalone EDR client installed, so it should also be able to communicate (outgoing from the EDR-Runner machine to the relevant machine) with the Replication vendors, the VMware Virtual Center and the machines to be tested in the EDR needed ports (80,135,443,445,1433, LDAP port, and ICMP port).</p> <p>For each EDR-Runner, you need also to be able to outbound communicate with the EDRM DB on port 5432.</p>

	<p>The EDRM machine itself should have inbound rules for 5432, 5876, and 443 for accessing the web application.</p> <p>It is recommended to also open outbound port of 9200 from EDRM to support Cloud Logs gathering – for remote support purposes (this is not mandatory)</p> <p>SMTP port should be open for the reporting from the EDRM server to the local mail server. Usually, the SMTP port number is 25 but can be different. Please ask your mail administrator for the correct port number</p>
Anti-Virus	<p>If you have Anti-Virus running inside the EnsureDR management server, add an exclusion for:</p> <ul style="list-style-type: none"> • API.exe • edr_service.exe • EDRM_E2.exe • EDRMS.exe • EDRRunner.exe • EnsureDR.exe
Reporting mail	SMTP mail service available for the EnsureDR server to send the report via mail such as local exchange or Office365/Gmail
Supported data movers	<ul style="list-style-type: none"> • Azure ASR - on-prem to Azure (Rollup 50) • Carbonite Replication, Double-Take (version 7 – 8.4) • Cohesity (version 6.5) • EMC RecoverPoint for VM (version 5 and above) • NetApp with NFS/ISCSI/Fiber Channel (ONTAP version 9 and above) • Rubrik (version 5.2 and above) • Veeam Replication/Backup (version 11.0) • Veeam SQL only (version 10.0) • VMware SRM. Storage Replication or vSphere Replication (version 5 - 8.3) • Zerto (version 5 - 8) • Zerto Azure to Azure and on-prem to Azure (version 8)
Supported Browser	Google Chrome
UAC	Users Access Control should be disabled on both servers. If you have GPO which sets it back, please remove this EDRM/EDR and EDRM servers from that domain group policy.

EnsureDR Controller Firewall Setup

EnsureDR will use the EnsureDR Controller (EDRC) to conduct an extended test in a bubble/isolated network environment. It is best practice not to use a firewall inside a bubble/isolated network to avoid errors during the testing. However, if your company has a strict rule that all network segments must be configured with a firewall, the following ports must be enabled for the extended test to succeed.

Source	Destination	Port	Type	Notes
EDRC	DNS	53	UDP/TCP	DNS port number
EDRC	Linux VMs	22	TCP/UDP	SSH port
EDRC	Microsoft SQL server	1433	TCP	In case you are testing the SQL server, enable access from EDRC to the SQL server, the default port number for Microsoft SQL is 1433, if you use a different port number, please enter the port you configured inside your SQL server
EDRC	VMs		ICMP	ping for testing networking
EDRC	Windows DCs	389	TCP	LDAP port of recovered domain controller
EDRC	Windows VMs	135	TCP/UDP	RPC port of recovered VM SC command line tool for remote access
VMs	DNS	53	UDP/TCP	DNS port number
VMs	Windows DCs	389	TCP	Accessing LDAP from recovered VMs

Replication/Backup Solution Prerequisites

To avoid any duplicate IPs in your environment please validate that your data mover jobs are properly configured with test networking settings to run inside an isolated/bubble network on the DR site before starting the job from the EDRM.

Cohesity

The following ports need to be enabled on your firewall to successfully run EnsureDR with the Cohesity:

Source	Destination	Port	Type	Notes
EDRM	EDRC	139, 445	TCP/UDP	SMB port
EDRM	ESXi IP addresses	443, 902	TCP	All ESXi hosts that you will use in the testing process
EDRM	helios.cohesity.com	443	TCP	Cohesity Helios
EDRM	Local mail server	25	TCP	Default mail port number; if you configured another, enter the firewall port you configured on your mail server
EDRM	smtp.sendgrid.net	587	TCP	SendGrid Email SMTP server integrated solution, setting is not required if you are using local mail SMTP server
EDRM	source and target Cohesity cluster	443	TCP	Data mover port
EDRM	source and target VMware vCenter	443	TCP	VMware vCenter servers

Commvault

The Commvault PowerShell module must be installed on EDRM server. The following ports need to be enabled on your firewall to successfully run EnsureDR with the Commvault:

Source	Destination	Port	Type	Notes
EDRM	EDRC	139, 445	TCP/UDP	SMB port
EDRM	ESXi IP addresses	443, 902	TCP	All ESXi hosts that you will use in the testing process
EDRM	Local mail server	25	TCP	Default mail port number, if you configured another, enter the firewall port you configured on your mail server
EDRM	smtp.sendgrid.net	587	TCP	SendGrid Email SMTP server integrated solution, setting is not required if you are using local mail SMTP server
EDRM	source and target VMware vCenter	443	TCP	VMware vCenter servers
EDRM	source and target Commvault servers	81,443	TCP	Commvault web service ports

NetApp ONTAP

NetApp ONTAP Export Policies must be created and named “EDR” for SVMs on the DR site before starting the EnsureDR job. In “EDR” Export Policies, add all VMware ESXi hosts that are specified inside the EnsureDR job. The following ports need to be enabled on your firewall to successfully run EnsureDR with NetApp ONTAP:

Source	Destination	Port	Type	Notes
EDRM	EDRC	139, 445	TCP/UDP	SMB port
EDRM	ESXi IP addresses	443, 902	TCP	All ESXi hosts that you will use in the testing process
EDRM	Local mail server	25	TCP	Default mail port number, if you configured another, enter the firewall port you configured on your mail server
EDRM	smtp.sendgrid.net	587	TCP	SendGrid Email SMTP server integrated solution, setting is not required if you are using local mail SMTP server
EDRM	source and target NetApp server	443	TCP	Source and destination NetApp ONTAP
EDRM	source and target VMware vCenter	443	TCP	VMware vCenter servers

Veeam Backup and Replication

Veeam Backup and Replication console must be installed on EDRM server. The following ports need to be enabled on your firewall to successfully run EnsureDR with Veeam Backup and Replication:

Source	Destination	Port	Type	Notes
EDRM	EDRC	139, 445	TCP/UDP	SMB port
EDRM	ESXi IP addresses	443, 902	TCP	All ESXi hosts that you will use in the testing process
EDRM	Local mail server	25	TCP	Default mail port number, if you configured another, enter the firewall port you configured on your mail server
EDRM	smtp.sendgrid.net	587	TCP	SendGrid Email SMTP server integrated solution, setting is not required if you are using local mail SMTP server
EDRM	source and target VMware vCenter	443	TCP	VMware vCenter servers
EDRM	Veeam Backup & Recovery on target site	9392, 9419	TCP	Data mover port
EDRM	Veeam Enterprise Manager	9398	TCP	Data mover port

Veeam SQL

Veeam Backup and Replication console must be installed on the EDRM server. The following ports need to be enabled on your firewall to successfully run EnsureDR with Veeam SQL:

Source	Destination	Port	Type	Notes
EDRM	Local mail server	25	TCP	Default mail port number, if you configured another, enter the firewall port you configured on your mail server
EDRM	smtp.sendgrid.net	587	TCP	SendGrid Email SMTP server integrated solution, setting is not required if you are using local mail SMTP server
EDRM	Veeam Backup & Recovery - SQL destination	1433	TCP	Default SQL port number, if you configured another, enter the firewall port you configured on the target SQL server
EDRM	Veeam Backup & Recovery - SQL repository	9392	TCP	Data mover port

VMware Site Recovery Manager

The following ports need to be enabled on your firewall to successfully run EnsureDR with VMware SRM:

Source	Destination	Port	Type	Notes
EDRM	EDRC	139, 445	TCP/UDP	SMB port
EDRM	ESXi IP addresses	443, 902	TCP	All ESXi hosts that you will use in the testing process
EDRM	Local mail server	25	TCP	Default mail port number, if you configured another, enter the firewall port you configured on your mail server
EDRM	smtp.sendgrid.net	587	TCP	SendGrid Email SMTP server integrated solution, setting is not required if you are using local mail SMTP server
EDRM	source and target VMware SRM	443	TCP	VMware SRM data mover port number
EDRM	source and target VMware vCenter	443	TCP	VMware vCenter servers

Zerto for VMware vSphere

Zerto made a shift in version 10.x, transitioning from the Windows-based ZVM to the Linux-based Zerto Virtual Manager Appliance (ZVMA), which integrates microservices for security and authentication. This transition influenced the development of a new iteration of EnsureDR, capitalizing on the enhanced capabilities introduced in Zerto v10.x.

EnsureDR version 4.16 represents the final release that offers support for Zerto on-premise utilizing Windows Appliance version 9.x. With the release of EnsureDR version 4.17, the only supported Zerto version is 10.x which works in conjunction with the Linux Appliance and utilizes the KeyCloak authorization. Details about creating Client ID and Secret can be found in our knowledge base article [KB50017](#).

The Zerto PowerShell module must be installed on EDRM server. The following ports need to be enabled on your firewall to successfully run EnsureDR with Zerto:

Source	Destination	Port	Type	Notes
EDRM	EDRC	139, 445	TCP/UDP	SMB port
EDRM	ESXi IP addresses	443, 902	TCP	All ESXi hosts that you will use in the testing process
EDRM	Local mail server	25	TCP	Default mail port number, if you configured another, enter the firewall port you configured on your mail server
EDRM	smtp.sendgrid.net	587	TCP	SendGrid Email SMTP server integrated solution, setting is not required if you are using local mail SMTP server
EDRM	source and target VMware vCenter	443	TCP	VMware vCenter servers
EDRM	source and target Zerto server	443/9669	TCP	Data mover port

Zerto for Microsoft Azure

EnsureDR requires the specific configuration to be set up in the Azure Portal for efficient management of the recovery process in Microsoft Azure. Details about these required settings can be found in our knowledge base article [KB50016](#).

The Network Prerequisites

For successful testing, we need to meet some network prerequisites to avoid duplicate IPs in your environment. As explained in the previous chapter, all data movers must be configured to recover servers inside the isolated network for testing purposes. To be able to do that, you need to create an isolated network inside the VMware vSphere environment. This isolated network will allow you to test all your servers inside that isolated network without interfacing with your production network.

Depending on your environment settings we can recognize two cases:

- servers are recovered on a single ESXi host
- servers are recovered on multiple ESXi hosts (cluster solution)

In case you are recovering all servers into a single isolated network on a single host, no other action needs to be performed. In case you are recovering servers on multiple ESXi hosts, you need to establish connectivity between those ESXi hosts in the isolated network by configuring your external switch.

Depending on how many subnets you have inside your VMware vSphere environment, we can recognize two cases:

- servers are recovered into an isolated network without the need for routing capability
- servers are recovered into an isolated network with a need for routing capability

In the case where all of your servers are inside the same subnet, no additional steps need to be performed. If your servers are configured in multiple subnets, you will need to enable routing capabilities between those subnets. Routing could be done with a physical router configured in your environment or by using some

predefined VM appliance/server available on market. Ask your network support team to help you establish routing capabilities between different subnets, whether you restore servers on a single ESXi host or across multiple ESXi hosts (in a cluster).

Active Directory Prerequisites

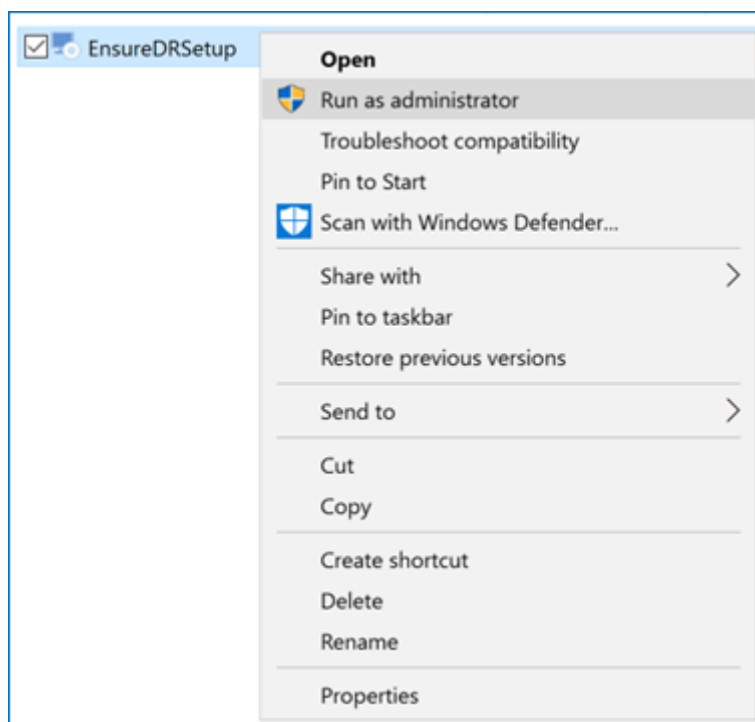
The EDRM solutions have capabilities to do advanced tests inside your isolated network after you recovered servers to the DR site for testing and validation purpose. For successful testing, you will need a Domain Controller available inside an isolated network environment. This Domain Controller will be used from the EDRC server to resolve DNS names and validate credentials.

You can use your data mover to migrate and run the Domain Controller inside the isolated network. Another solution is to use the EnsureDR job to clone the preferred Domain Controller inside the bubble network. If you choose to clone the Domain Controller, it must be located at the DR site, and during the cloning process, the Domain Controller will be shut down to avoid any issues within your production network. Because of that, we suggest having a dedicated Domain Controller on the DR site that EnsureDR will be used inside the EnsureDR job. If this is the case and you choose to use a cloned Domain Controller, this server should be set as the primary DNS on the EDRC server.

The Installation

EDRM Installation

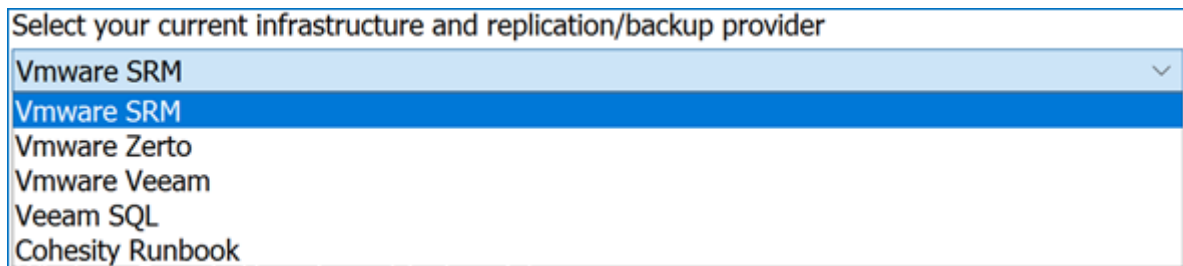
Log on to the EDRM server with the dedicated account you created as described in the prerequisites. Download EnsureDRSetup.exe and run it as an administrator inside the EDRM server.



A welcome screen will appear, click the **Next** button



On the main screen, select your replication provider from the drop-down list.



Enter domain account username and password.

EnsureDR 4.11.14 Setup

Select your platform and user

User needed to run the EnsureDR services

Select your current infrastructure and replication/backup provider

Vmware SRM

Select a user with sufficient privileges in the domain - preferably a domain admin

Windows Domain User, format is domain\user

Windows Domain Password

☐ Show password

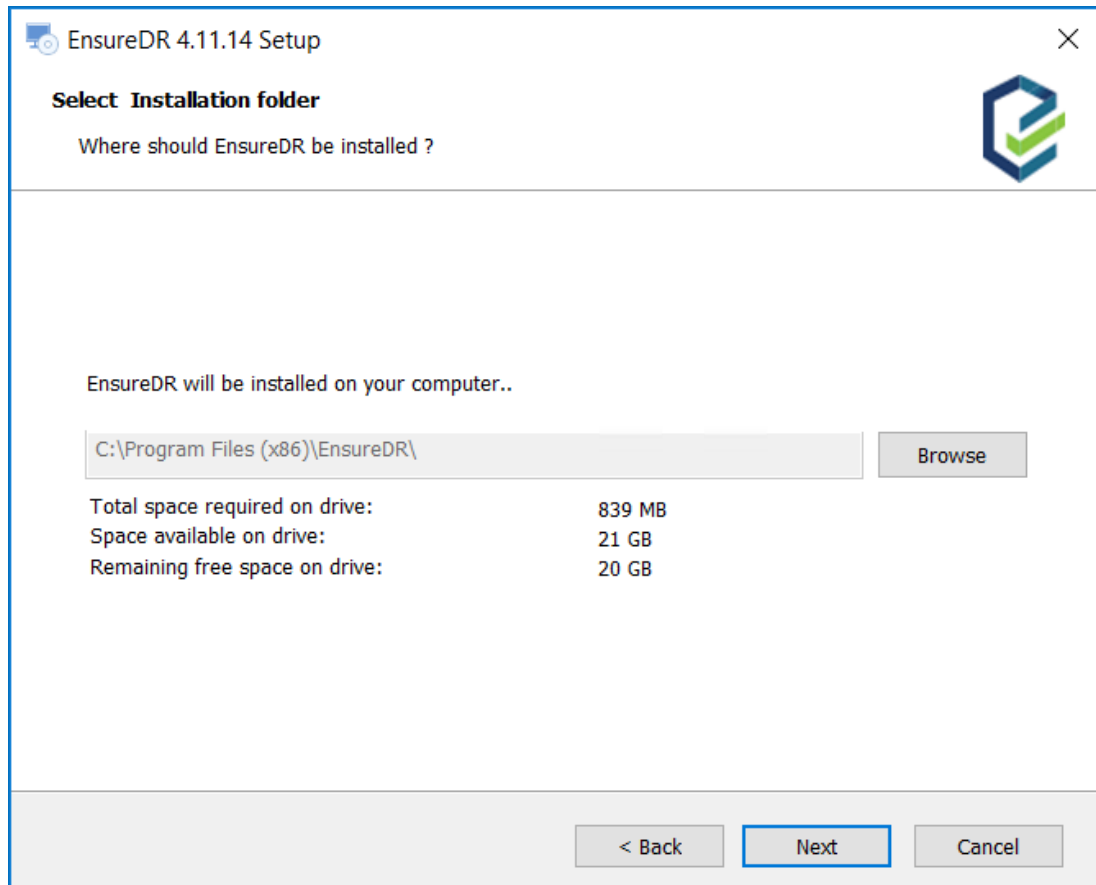
< Back

Next >

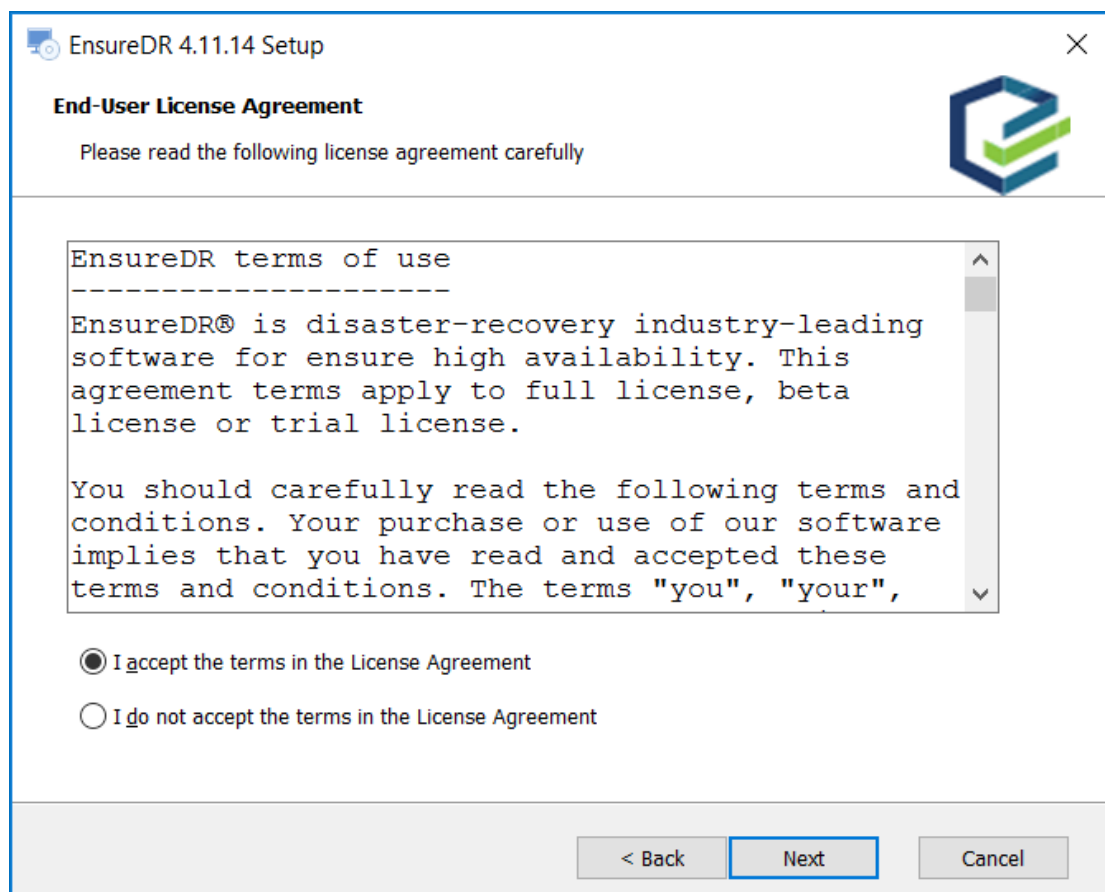
Cancel

NOTE: This domain account must have local administrator rights on the EDRM server and will be used to run the services inside the server.

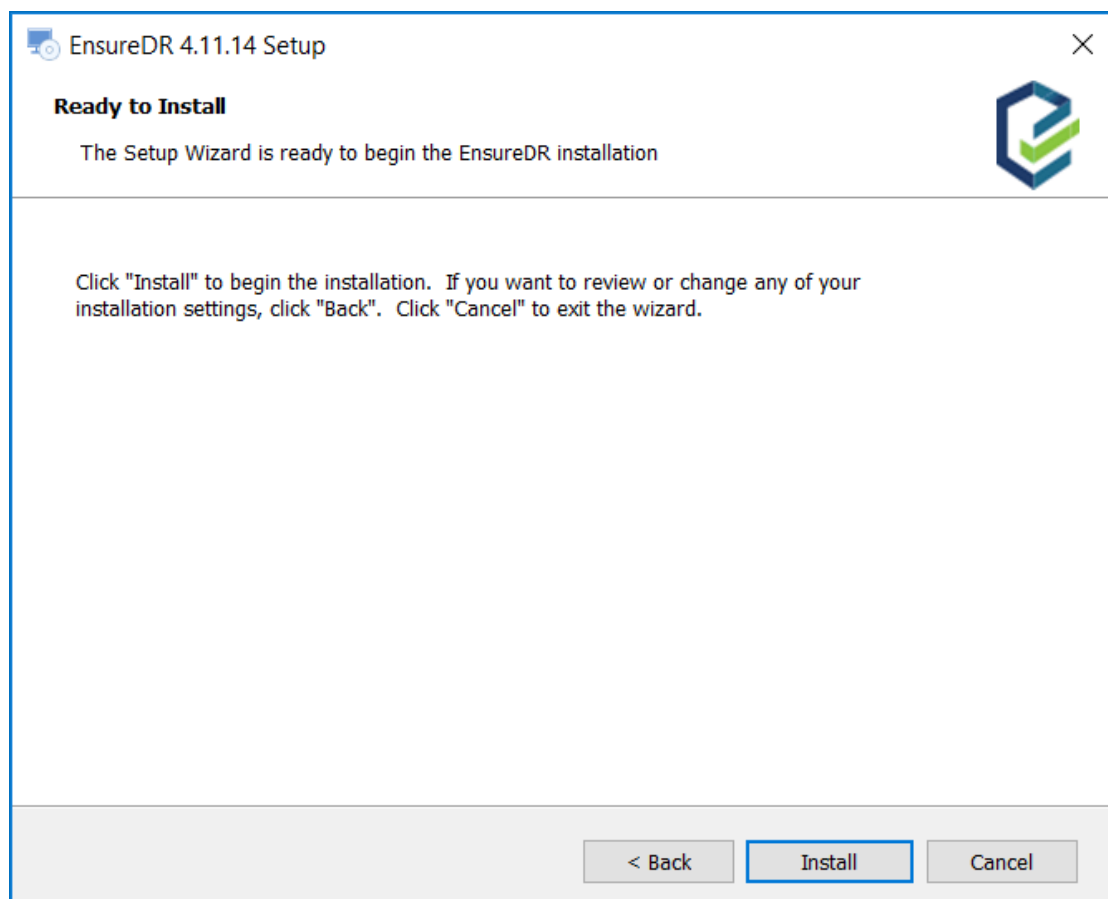
Leave the suggested installation path, then click the **Next** button



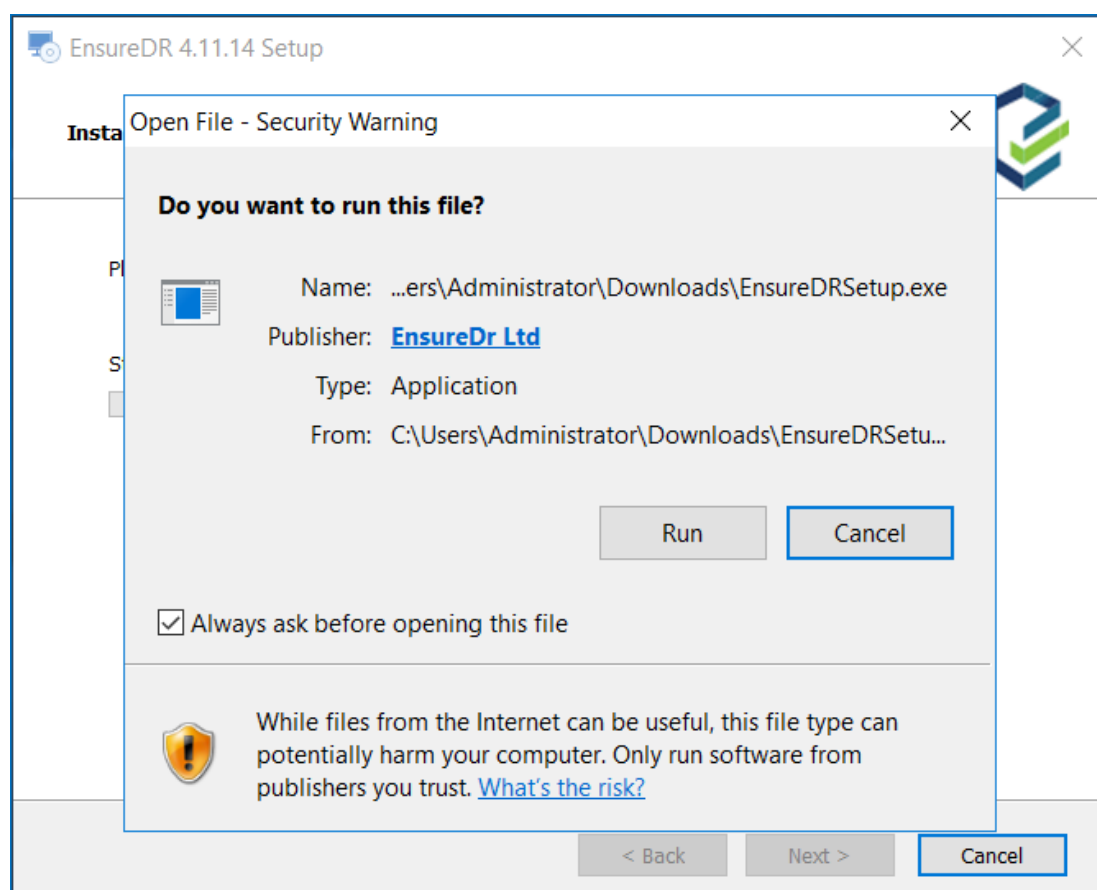
Please review the License Agreement, then click the **Next** button



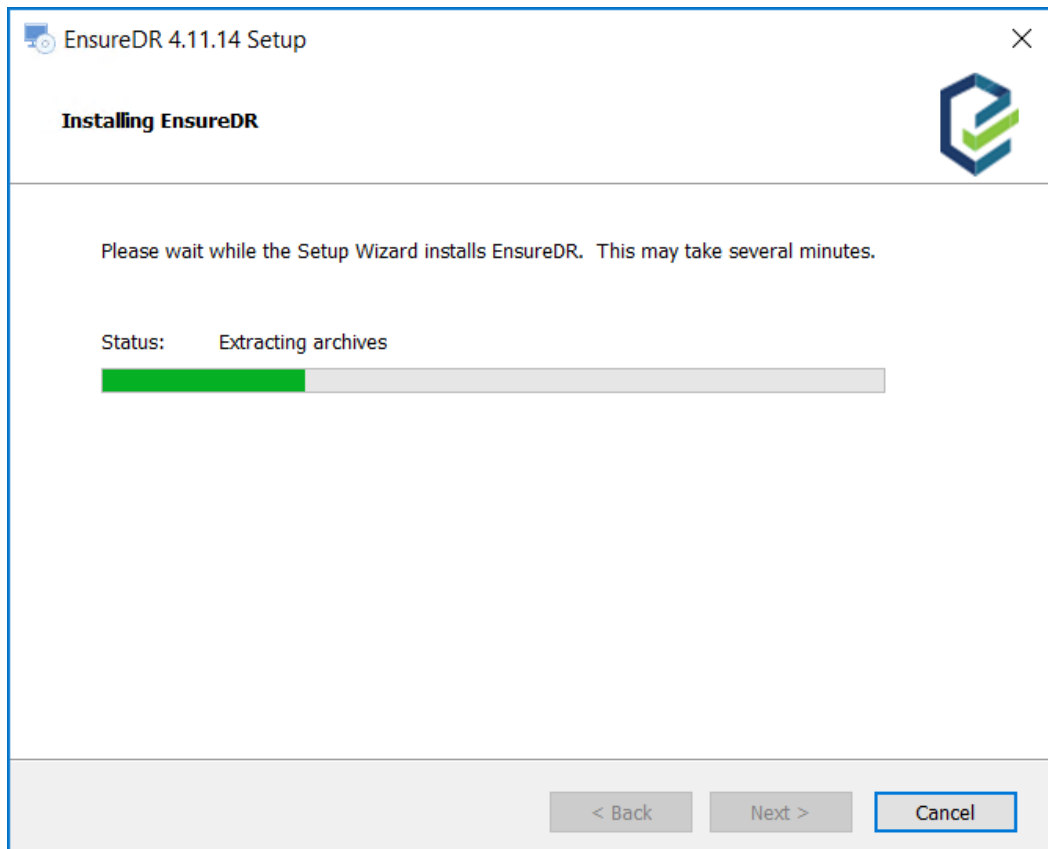
Now click the **Install** button and wait until the installation is finished.



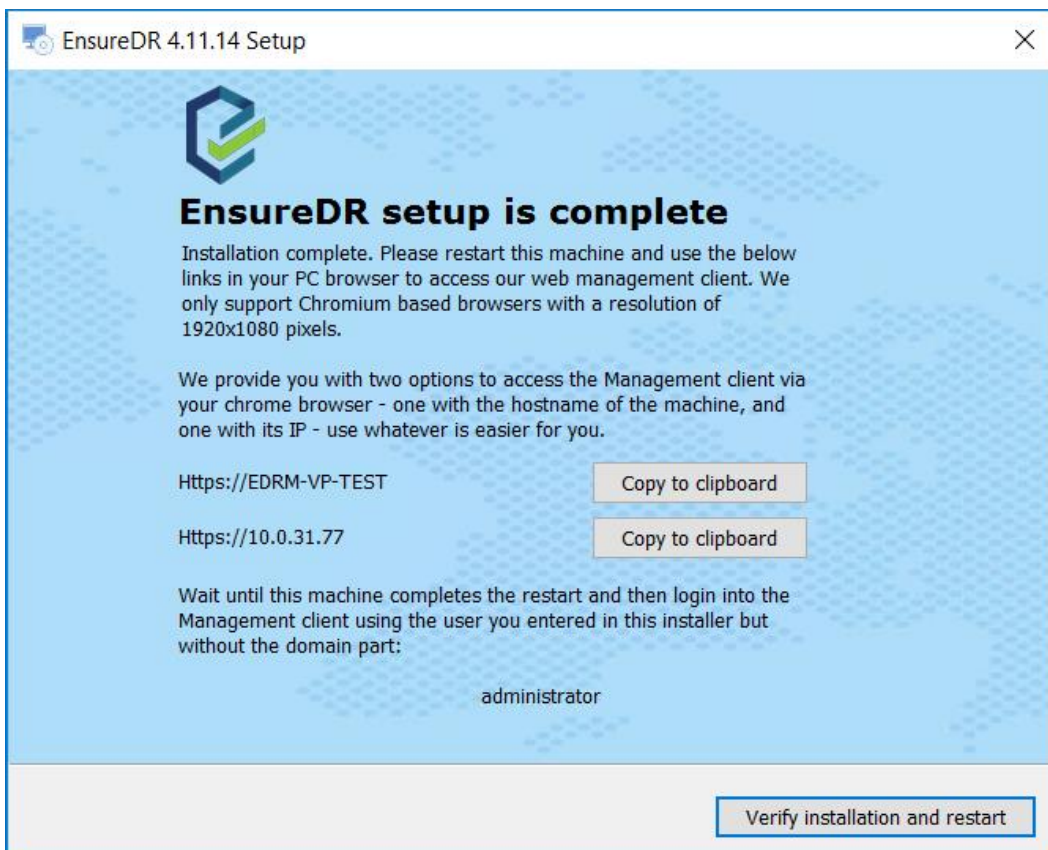
In case of a Windows Security Warning popup, please click the **Run** button



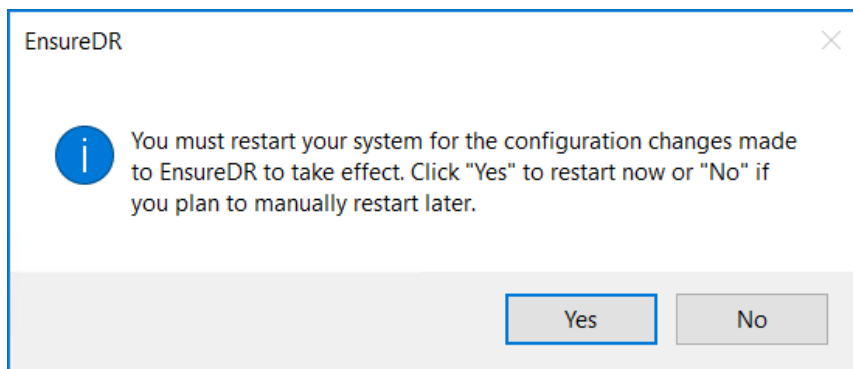
The installation begins and, depending on the environment and components, may take a few minutes to finish the installation.



As the installation ends, you will see the following screen. To save the URL link, select the **Copy to clipboard** button and save the shortcut onto your workstation for future access. Now press the **Verify installation and restart** button to finish the setup process.

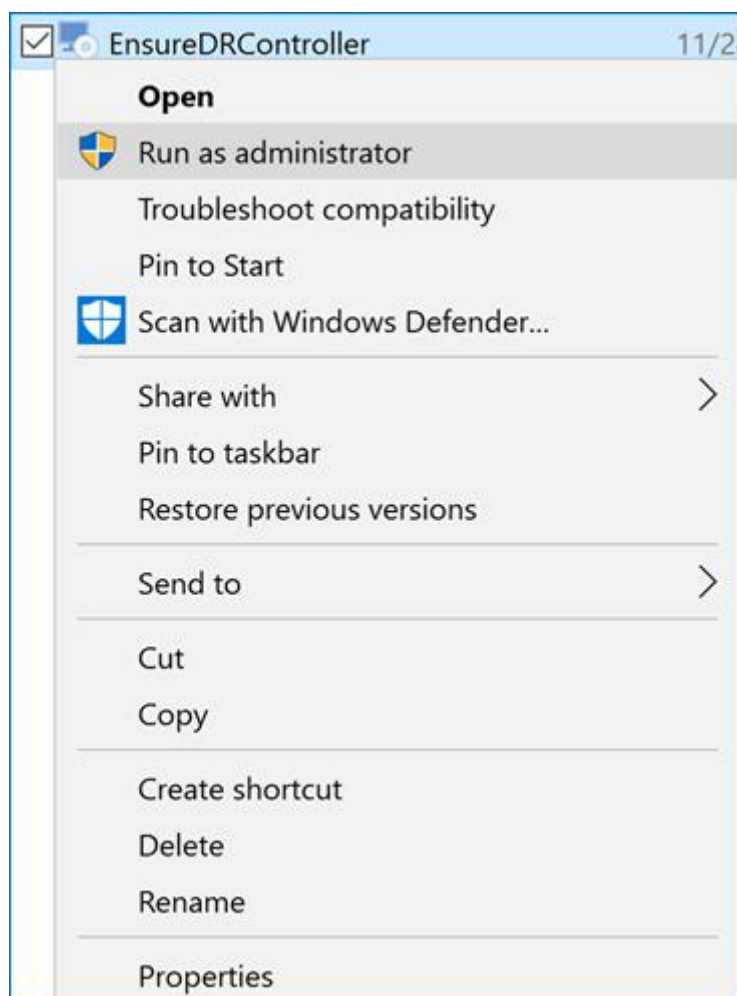


When the following message pops up, please click the **Yes** button to restart the server.



EDRC installation

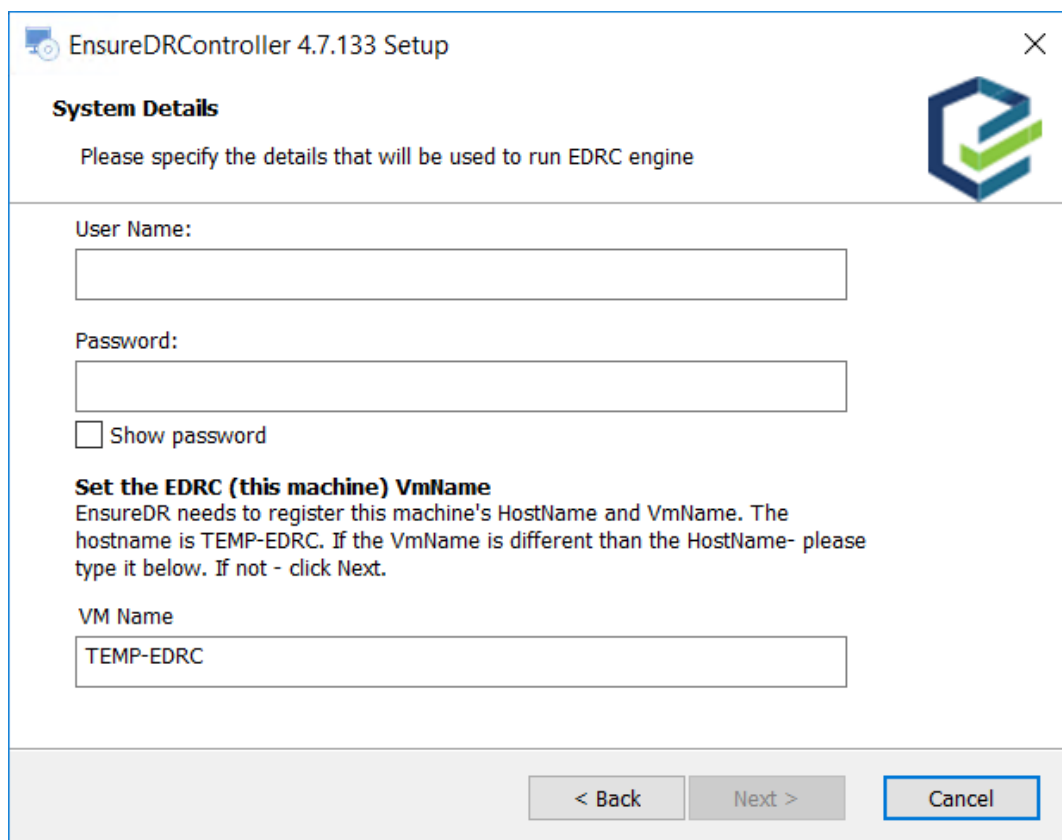
Before continuing the installation, verify that the EDRM server we configured in the previous step is up and running. Log onto the EDRC server with the dedicated account you created as described in the prerequisites. Now, download EnsureDRController.exe and run it as an administrator inside the EDRC server.



A welcome screen will appear, click the **Next** button



On the next screen, enter credentials that have administrator rights on the EDRC server. In case your EDRC server name is different from VMware vCenter, please update the VM name as registered inside the VMware vSphere, Now click the **Next** button.

The image shows the 'EnsureDRController 4.7.133 Setup' window at the 'System Details' step. The title is 'System Details' with a subtitle 'Please specify the details that will be used to run EDRC engine'. There are three input fields: 'User Name:', 'Password:', and 'VM Name'. The 'VM Name' field contains the text 'TEMP-EDRC'. Below the password field is a checkbox labeled 'Show password'. At the bottom right are three buttons: '< Back' (disabled), 'Next >' (disabled), and 'Cancel' (active/highlighted).

System Details

Please specify the details that will be used to run EDRC engine

User Name:

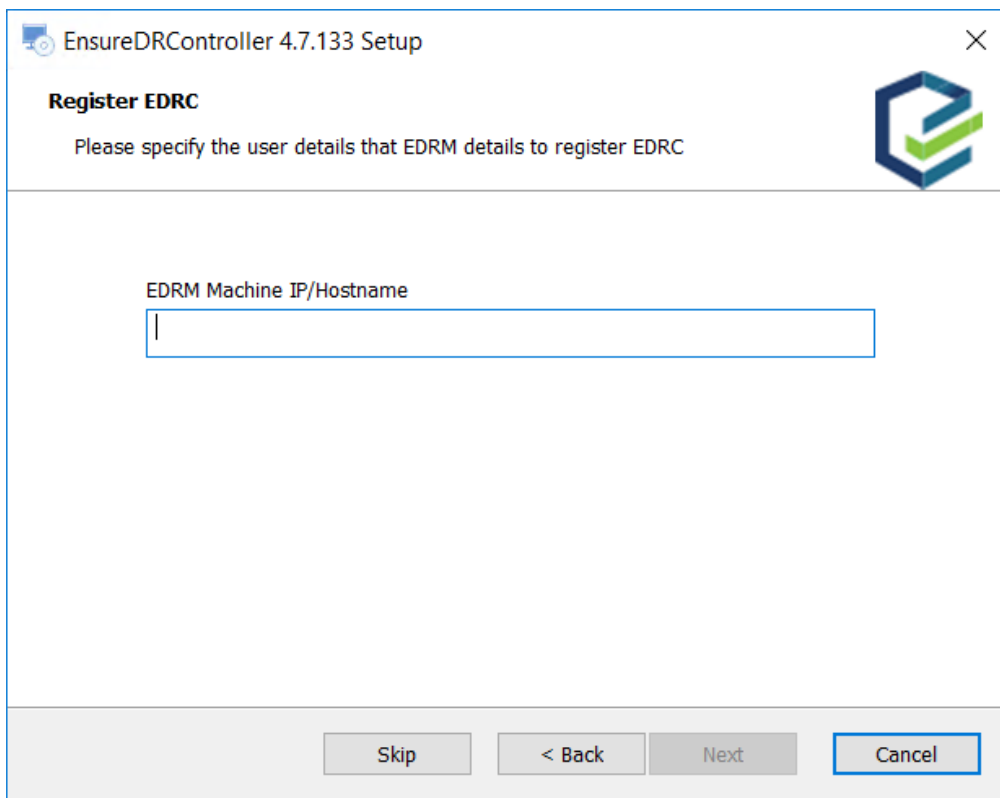
Password:

☐ Show password

Set the EDRC (this machine) VmName
EnsureDR needs to register this machine's HostName and VmName. The hostname is TEMP-EDRC. If the VmName is different than the HostName- please type it below. If not - click Next.

VM Name

Enter the EDRM server name or IP address you set up in the previous task, then click the **Next** button.



The screenshot shows the 'Register EDRC' step of the 'EnsureDRController 4.7.133 Setup' window. The window has a title bar with a close button. Below the title bar is a header section with the title 'Register EDRC' and a subtitle 'Please specify the user details that EDRM details to register EDRC'. To the right of the header is a logo consisting of a blue cube with a green checkmark. The main area contains a text input field labeled 'EDRM Machine IP/Hostname'. At the bottom, there are four buttons: 'Skip', '< Back', 'Next', and 'Cancel'. The 'Next' button is highlighted with a blue border.

EnsureDRController 4.7.133 Setup

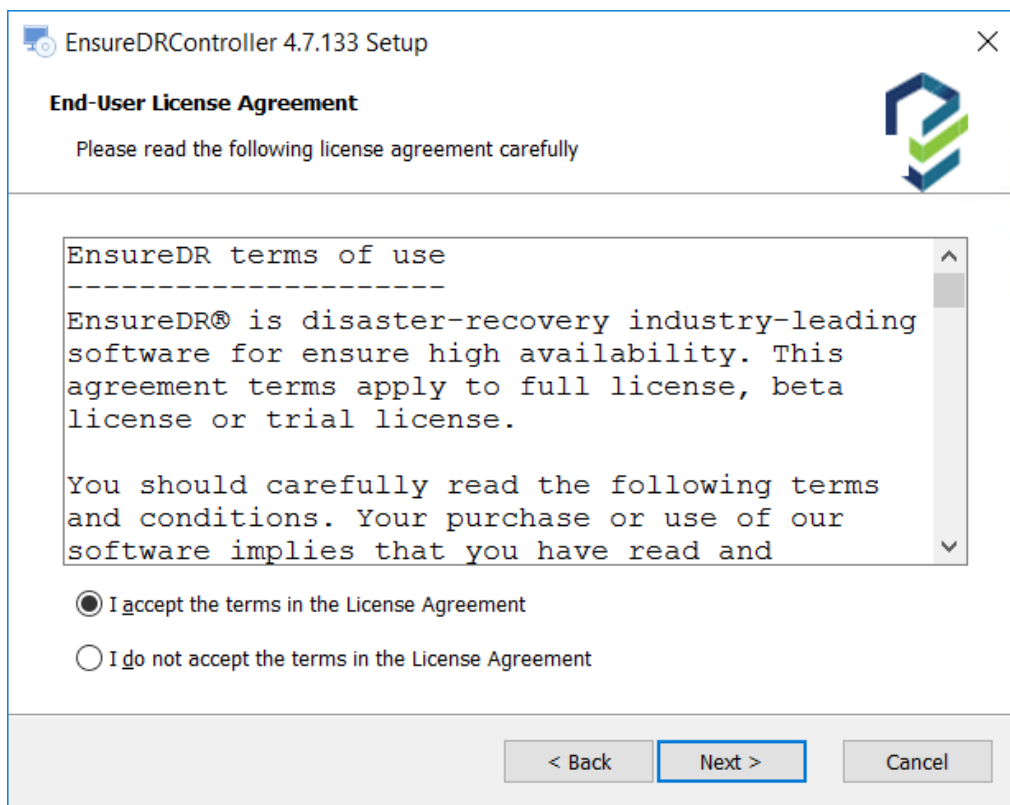
Register EDRC

Please specify the user details that EDRM details to register EDRC

EDRM Machine IP/Hostname

Skip < Back Next Cancel

Please review the License Agreement, then click the **Next** button



The screenshot shows the 'End-User License Agreement' step of the 'EnsureDRController 4.7.133 Setup' window. The window has a title bar with a close button. Below the title bar is a header section with the title 'End-User License Agreement' and a subtitle 'Please read the following license agreement carefully'. To the right of the header is a logo consisting of a blue cube with a green checkmark. The main area contains a text area with the following text: 'EnsureDR terms of use', '-----', 'EnsureDR® is disaster-recovery industry-leading software for ensure high availability. This agreement terms apply to full license, beta license or trial license.', 'You should carefully read the following terms and conditions. Your purchase or use of our software implies that you have read and'. Below the text area are two radio buttons: 'I accept the terms in the License Agreement' (selected) and 'I do not accept the terms in the License Agreement'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

EnsureDRController 4.7.133 Setup

End-User License Agreement

Please read the following license agreement carefully

EnsureDR terms of use

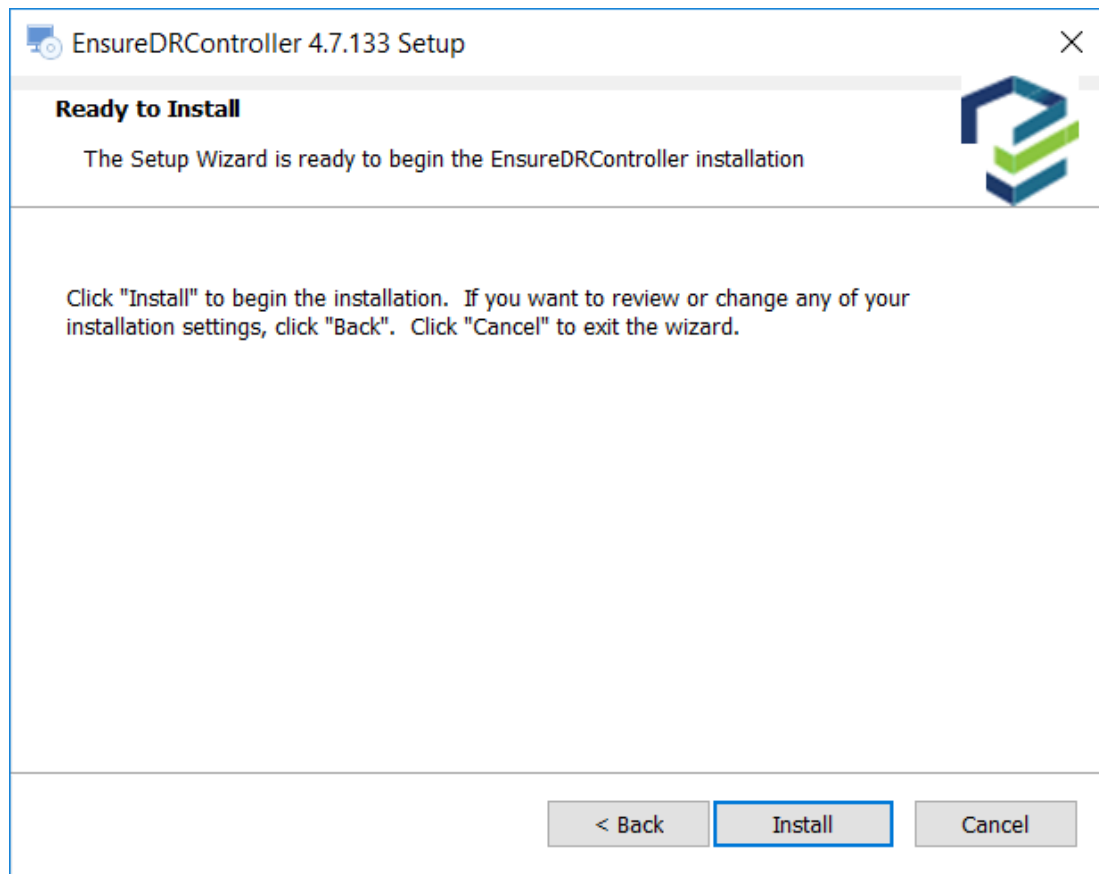
EnsureDR® is disaster-recovery industry-leading software for ensure high availability. This agreement terms apply to full license, beta license or trial license.

You should carefully read the following terms and conditions. Your purchase or use of our software implies that you have read and

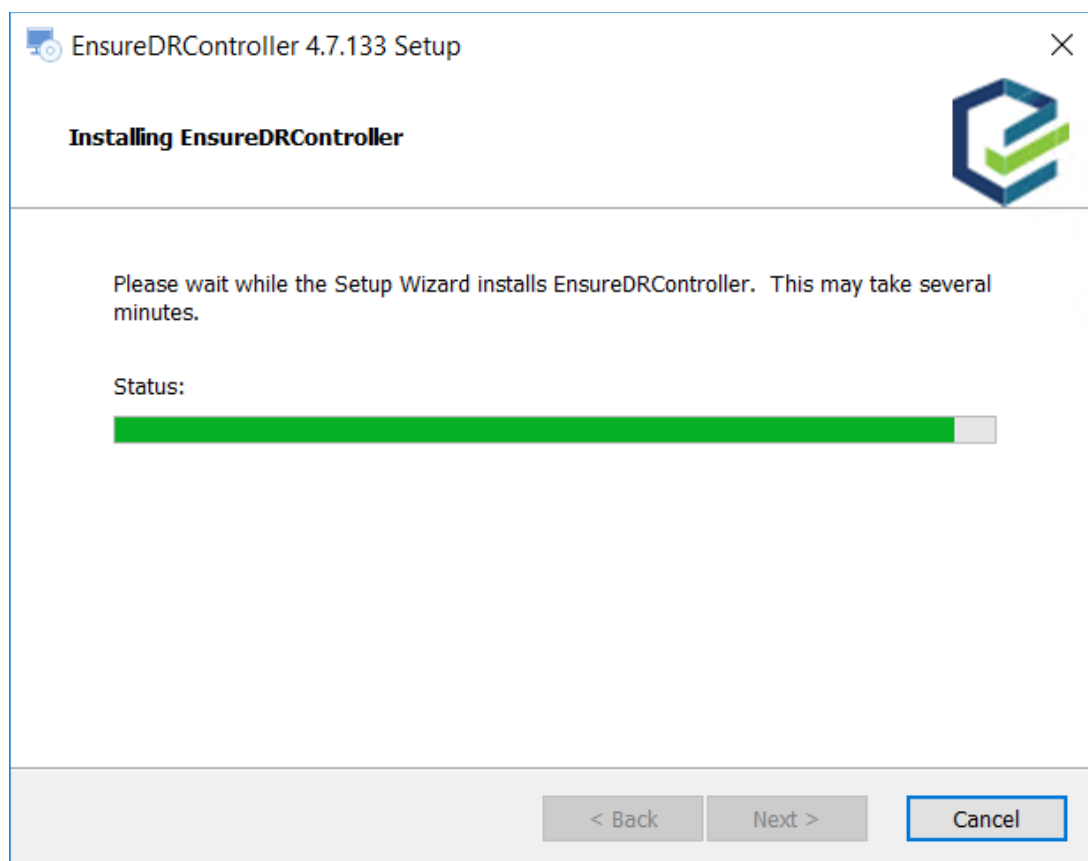
☒ I accept the terms in the License Agreement
☐ I do not accept the terms in the License Agreement

< Back Next > Cancel

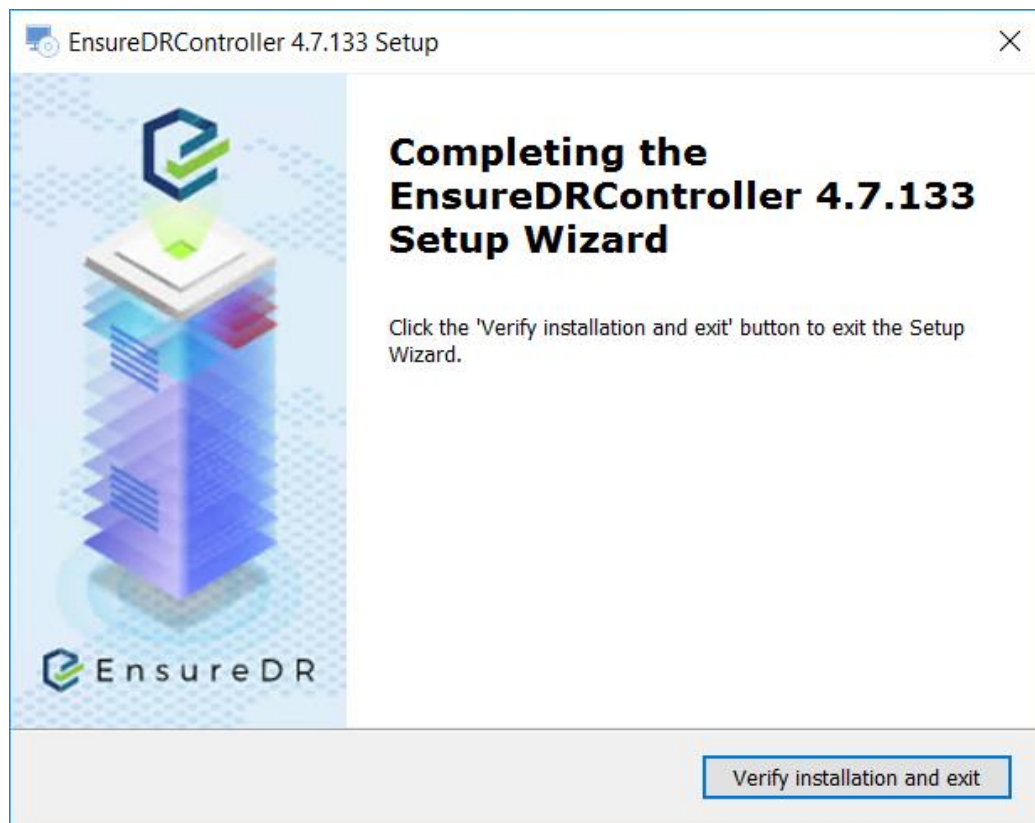
Now click the **Install** button and wait until the installation is finished.



The installation will begin and depending on the environment and specific components, it may take up to a few minutes to finish the installation.



Now press the ***Verify installation and exit*** button to finish the setup process. There is no need to restart the server after the installation is finished.



EnsureDR Manager

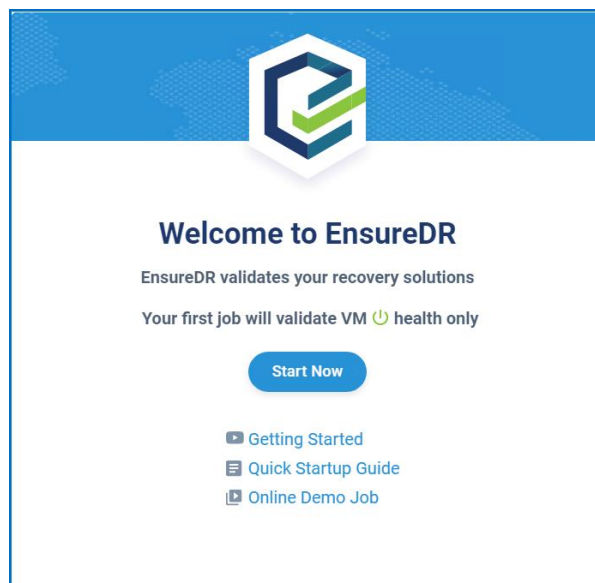
Access the EDRM Web UI

The EDRM solution includes the trial license out of the box. This trial license will be used to create the simple EDRM job with a health test only. This step is mandatory and will be used as proof that all of the data you configured inside the job is validated during the job execution and no other issues are detected in your environment. Only after the job validation process is finished do we recommend moving to the next step with more advanced testing capabilities.

Creating the Basic Job

Now that the EDRM and EDRC servers are installed and configured, we can open the browser and navigate to the https://your_EDRM_server_name.

The welcome screen will pop up, then click on the button **Start Now** to continue



Note: EnsureDR comes with a built-in out of the box trial license for customers to try EnsureDR in their environment or for environmental compatibility tests for new customers with a full license.

The job page is displayed and the trial license is selected. This is the first job available to start and the license cannot be updated with the full one inside this job. The number of servers inside the job is limited to the ten devices and only a health test can be performed. Fill in all fields with data from your environment and EDRM will validate them. If the environment data can be validated, you will be able to click on the **Next** button, otherwise fix any errors that the EDRM detected and marked with red color.

Jobs > Create New Job

Trial License 0/10 Devices Trial Mode Upgrade to full Load Draft ? Administrator

1 Basic Settings 2 Network 3 Devices & Tests 4 Preview & Report Back Next

Test Workflow ?

- Collection
- Failover
- Test
- Cleanup

Platform

* Job Name Zerto_VMware_Job_1

License Key Trial License

* VMware VCenter Source Hostname/IP Type Here

* VMware VCenter Target Hostname/IP Type Here

* VMware VCenter Target Username Type Here

* VMware VCenter Target Password Type Here

Zerto Source Hostname/IP Type Here

Zerto Target Hostname/IP Type Here

Workflow & Test user ?

* Windows Username administrator

Linux Username (optional) Select/ Create New

Linux Password (optional)

Please select advanced option

On the next page, you can see any of the disabled settings that are available only with the full license, click on the **Next** button to continue

EnsureDR Management

localhost/createJob/network?firstRun=1

Jobs > Create New Job

Trial License 0/10 Devices Trial Mode Upgrade to full Load Draft ? Administrator

1 Basic Settings 2 Network 3 Devices & Tests 4 Preview & Report Back Next

Test DR

In case of real crisis, chose the network mapping of your VMs for each source to target.

If there single DR Vlan, choose: Single => Target Vlan name from the list.

If there are multi, use the advance to choose: Vlan mapping, source Vlan to target Vlan.

Network Mapping

Test DR ?

Network Type None

* DR Management Network Select

* DR Bubble Network Select

Additional Network Settings

EnsureDR Server ?

EnsureDR Server (EDR) EDRM-CONVX

EnsureDR Controller (EDRC) Server ?

Server Hostname/IP EDRC Name

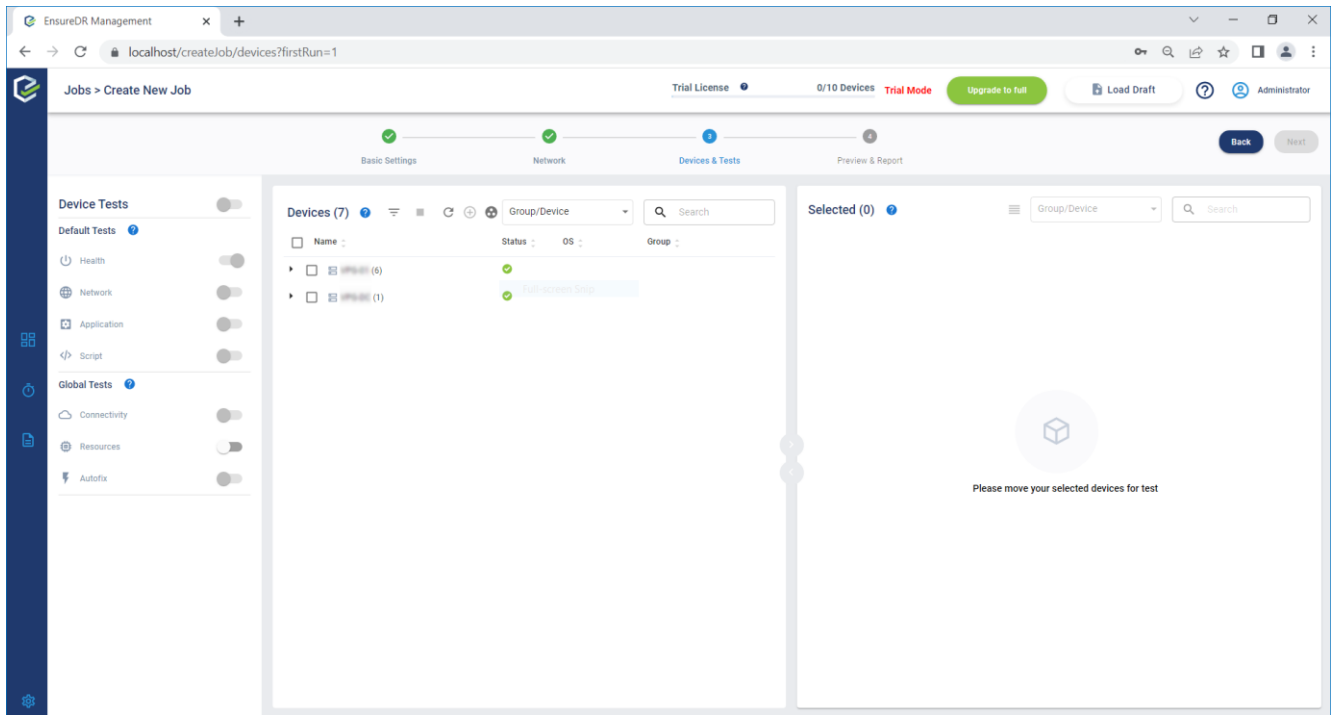
VM Display Name EDRC VM Name

Domain Controller Server ?

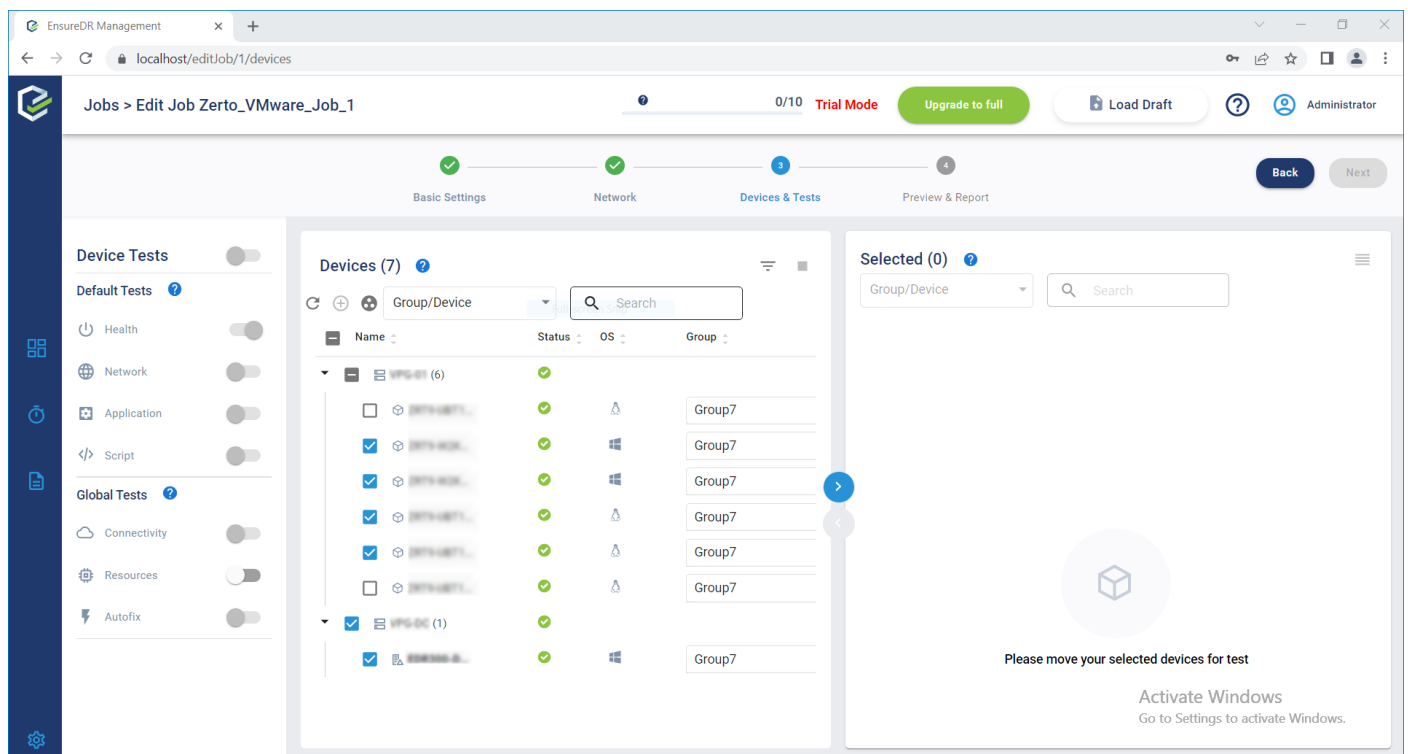
Domain Controller Server I have a Domain Controller inside my replication

Please select advanced option

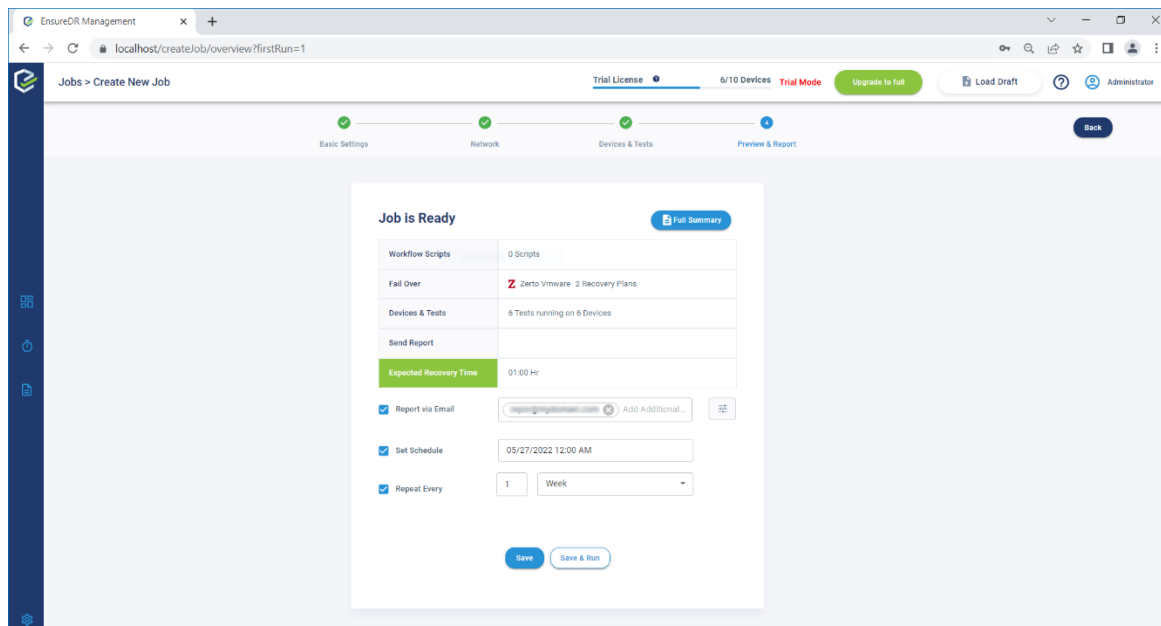
Please wait until the EDRM connects to the data mover and collects all of the groups you have created within it.



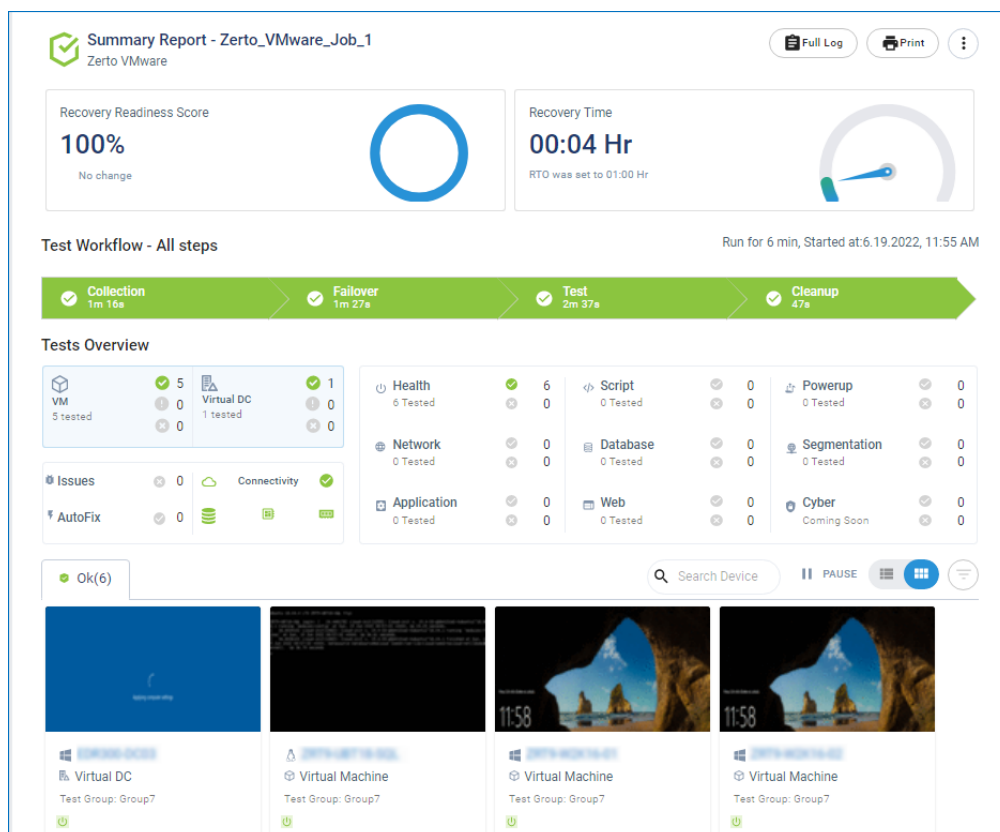
Select the desired group and click on the blue button to move the selected servers from the device list to the job selection list, then click on the **Next** button to continue



On the last page, you can enter an email address that the EDRM will use to send an offline HTML report after the job is finished. You can also set a schedule to run the recurrent job on a weekly basis. Before running the job, please verify that you properly configured your data mover inside the bubble isolated network to avoid duplicate IP. The EDRM will not change or modify any data you configured inside your data mover. The EDRM will only run the job in test mode with settings you configured inside the data mover. Click on the **Save & Run** button to save this basic job and start it.

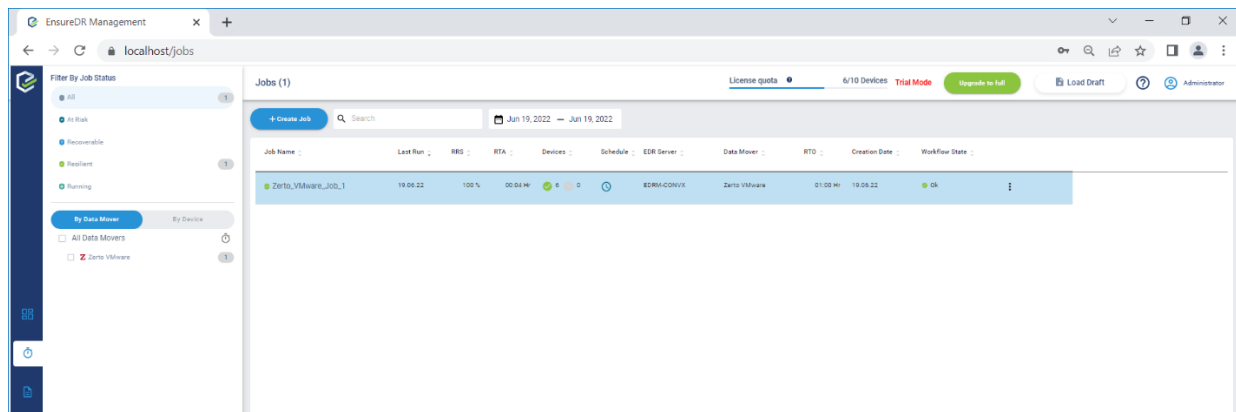


The job was started, now please wait until it is finished. The time needed for a job to be executed thru all steps can vary depending on equipment. This is the first job you created with a trial license, and it only includes a health check, which means that only the Power On status will be checked on the VM in the DR site that your data mover restored. Please wait until the job is finished, then click on the **Full Report** button. In our example, you can see that the health test was successful and inside the report, you can see animated pictures of every server included in the test as proof that the boot process started on all servers.

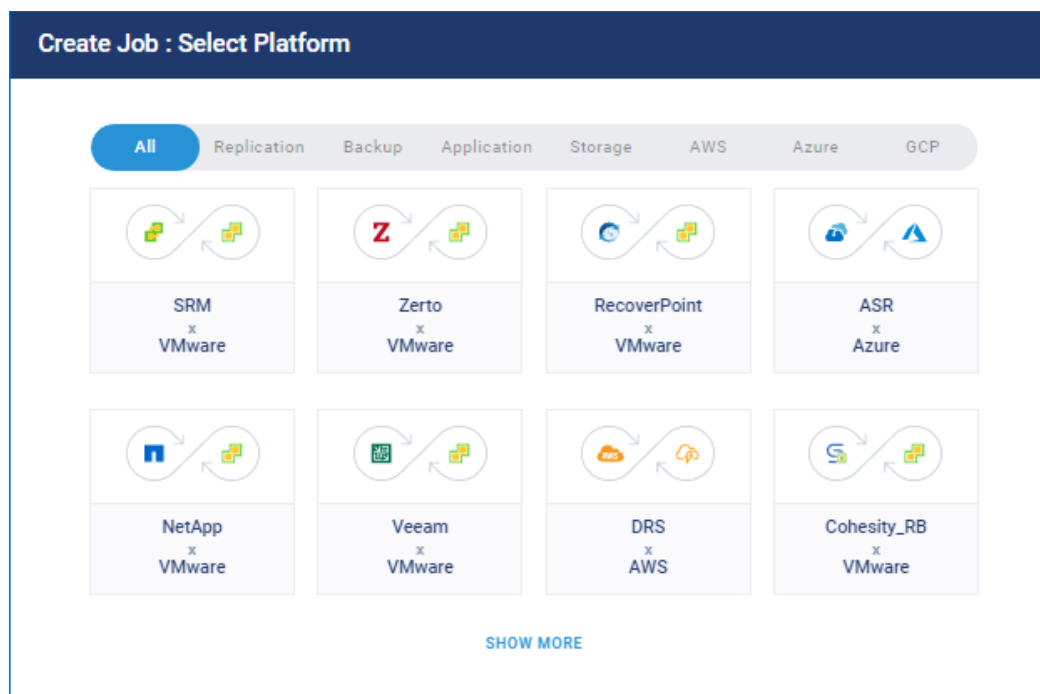


Creating the Advanced Job

You have now created the first job with the trial license, now you can create a new job with a more advanced test. To do that, click on the job icon on a blue background as shown in the following picture:



Now click on the **Create Job** button and select your data mover



On the first page of edit mode, enter the license name and key.

The screenshot shows the 'EnsureDR Management' web interface at the URL 'localhost/createJob/basic?fromPlatform=1'. The page is titled 'Jobs > Create New Job' and shows a progress bar with four steps: 1. Basic Settings (active), 2. Network, 3. Devices & Tests, and 4. Preview & Report. The 'Basic Settings' step contains the following fields:

- Platform:** A dropdown menu with a 'Z' icon and a 'Full-screen Step' button.
- License Name:** A text field with the value 'CompanyName' and a green checkmark.
- License Key:** A text field with a masked value '*****' and a green checkmark.
- Platform (List):** A list of platforms with expand/collapse icons:
 - Infrastructure: 10.0.0.101 -> 10.0.0.101
 - Data Mover: 10.0.0.104 -> 10.0.0.104
- Workflow & Test user:** A list of users with expand/collapse icons:
 - * Windows Username: administrator
 - * Linux Username: root

On the left, there is a 'Test Workflow' section with a list of steps: Collection, Failover, Test, and Cleanup, each with a toggle switch. The 'Test' step is currently selected. On the right, there is a large empty box with a 'Please select advanced option' message.

All other data needed for the job will be taken from your first job you created with the trial license. If the license key is valid, you can click the **Next** button to continue

This screenshot is identical to the one above, showing the 'EnsureDR Management' web interface at the URL 'localhost/createJob/basic?fromPlatform=1'. The page is titled 'Jobs > Create New Job' and shows a progress bar with four steps: 1. Basic Settings (active), 2. Network, 3. Devices & Tests, and 4. Preview & Report. The 'Basic Settings' step contains the following fields:

- Platform:** A dropdown menu with a 'Z' icon and a 'Full-screen Step' button.
- License Name:** A text field with the value 'CompanyName' and a green checkmark.
- License Key:** A text field with a masked value '*****' and a green checkmark.
- Platform (List):** A list of platforms with expand/collapse icons:
 - Infrastructure: 10.0.0.101 -> 10.0.0.101
 - Data Mover: 10.0.0.104 -> 10.0.0.104
- Workflow & Test user:** A list of users with expand/collapse icons:
 - * Windows Username: administrator
 - * Linux Username: root

On the left, there is a 'Test Workflow' section with a list of steps: Collection, Failover, Test, and Cleanup, each with a toggle switch. The 'Test' step is currently selected. On the right, there is a large empty box with a 'Please select advanced option' message.

In the next step, we need to configure the management and isolated network on the DR site where you installed the EDRC server. Select "Network Type" as "Single", select the production network and bubble network that will be used by the EDRC server. During the EDRC installation, the server will register its name and address within the EDRM server. If the server is not preselected in a form, you will have the option to add it manually. Add the EnsureDR Controller (EDRC) VM name and hostname, if the validation is successful, you can move on to configuring the Domain Controller. You can choose between two possible options:

- Put the Domain Controller inside your data mover group
- Clone the Domain Controller

In case you configured your data mover to replicate the Domain Controller to the DR site, leave the default option and click the **Next** button.

The screenshot shows the 'EnsureDR Management' web interface. The top navigation bar includes 'Jobs > Create New Job', 'MyLicense', '0/100 Devices', 'Trial Mode', 'Upgrade to full', 'Load Draft', and 'Administrator'. The main area is divided into four steps: Basic Settings, Network (selected), Devices & Tests, and Preview & Report. The 'Network Mapping' section includes a 'Test DR' dropdown set to 'Single' and a 'networks' dropdown set to 'VM Network - DR Bubble'. Below this, the 'Additional Network Settings' section has three dropdowns: 'EnsureDR Server' (set to 'EnsureDR Server (EDR)'), 'EnsureDR Controller (EDRC) Server' (set to 'EDRC Server'), and 'Domain Controller Server' (set to 'I have a Domain Controller inside my replication'). A large empty box on the right is labeled 'Please select advanced option'.

In case you are not replicating the Domain Controller inside your data mover, choose the Domain Controller which exists on the DR site by clicking on the server name from the drop-down list. The warning message will pop up:

Missing Details of Domain Controller

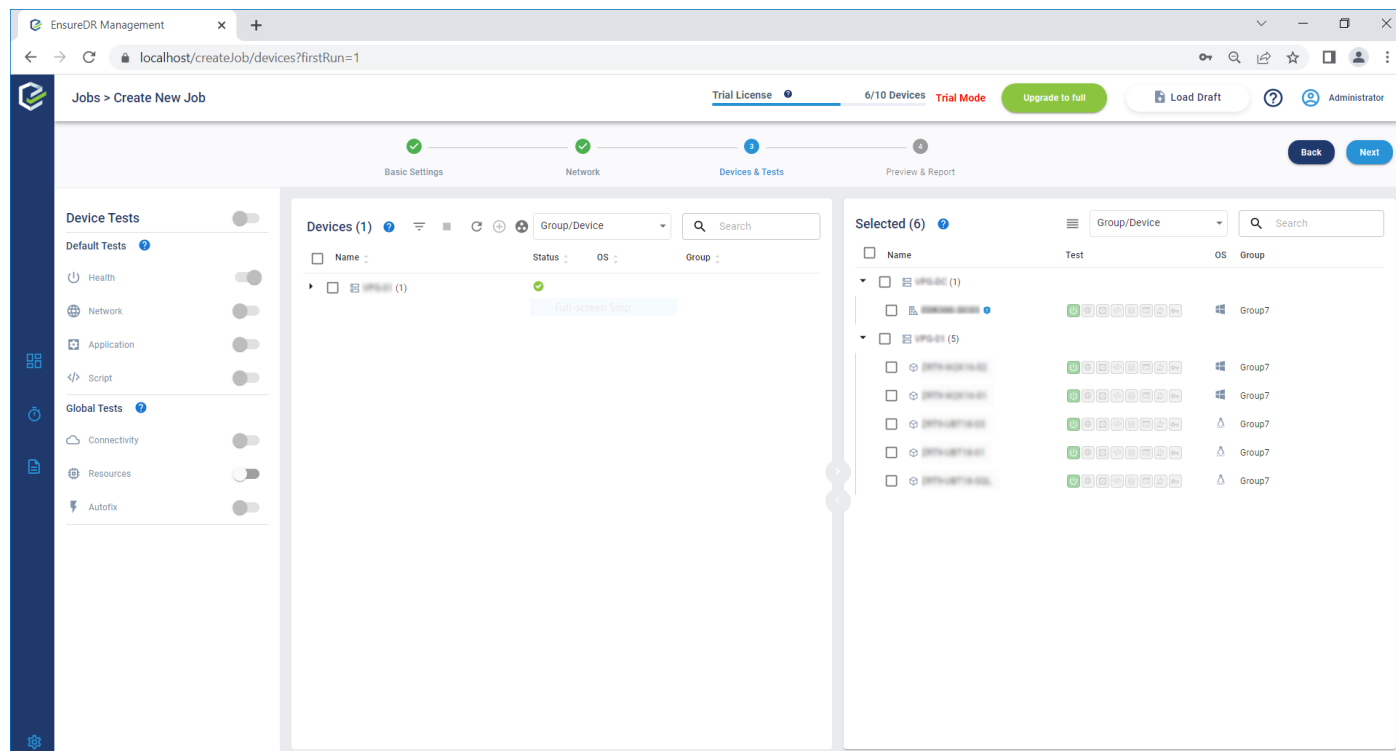
You have selected to use the Domain Controller Clone feature of EnsureDR. Please fill all the details of your Domain Controller of choice in the form on the right side, then click 'Apply'. Once you get a Green toast confirming the Domain Controller is valid- you can click Next and move on to the next step

Ok

In the right panel, fill in the requested data and then click the **Apply** button. If you choose to clone the server on the DR site during the job execution process, the EDRM will shut down the domain controller before creating a clone to avoid any issues inside your active directory during the test process. The domain controller will be in a shutdown state until the job is finished and the cloned domain controller is deleted. Only after that, the EDRM will Power On the domain controller. Because of this, our best practice is to have more than one domain controller inside the DR site to be more resilient during the cloning and testing process.

The screenshot shows the 'EnsureDR Management' web interface with the 'Domain Controller Clone' section selected. The 'Domain Controller Clone Advanced Settings' panel is open, showing fields for 'DC Configuration' (Server Hostname/IP), 'Domain Controller Authentication' (Domain Name, Username, Password), 'Host Server (ESX) Settings' (Host Server Source Name/IP, Host Server Target Name/IP, Target Host Server Username, Target Host Server Password), and 'Additional Domain Controller Settings' (Target Data Store, Target Vlan). The 'Network Mapping' section on the left is also visible, with the 'Domain Controller Server' dropdown set to 'Domain Controller Server'.

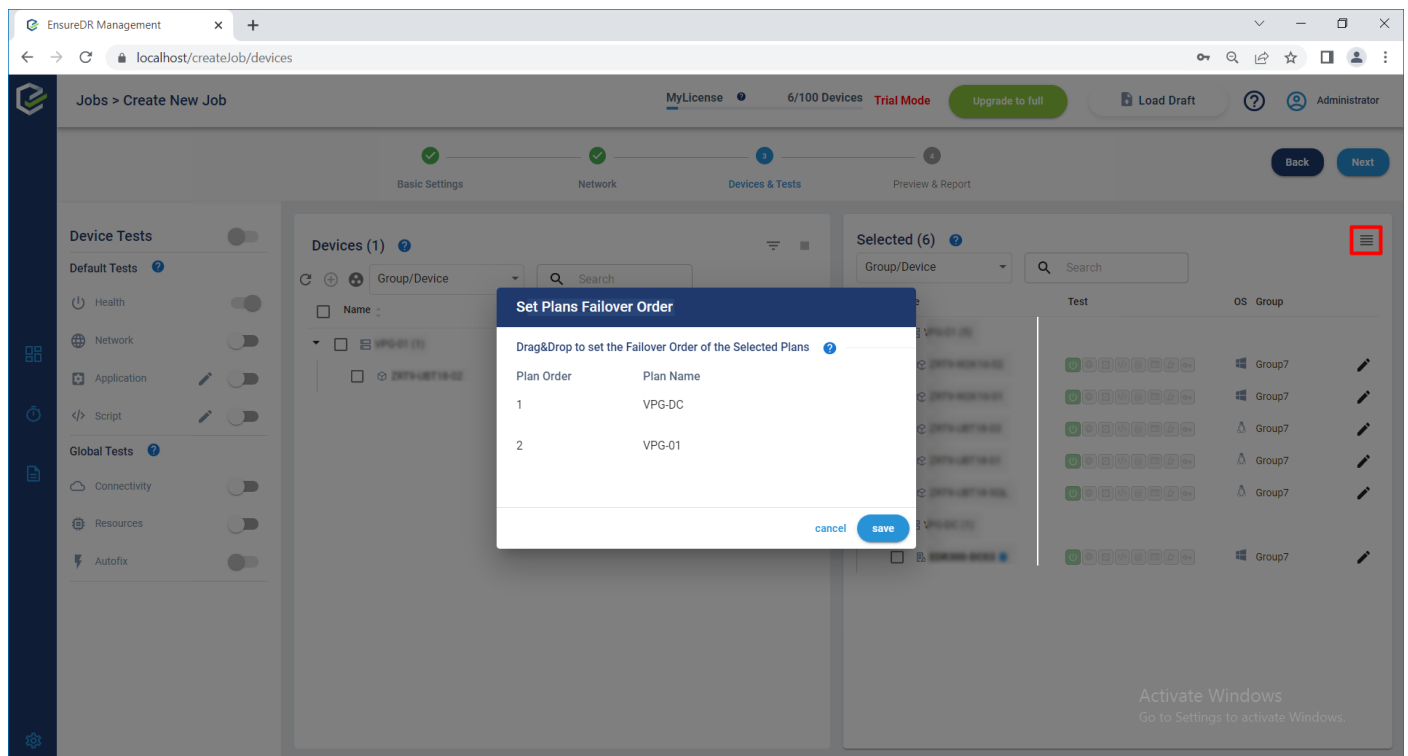
Click on the **Next** button to continue to the next step. Wait until the EDRM fetches data from your data mover, then select the desired group you want to test, and click on the blue icon in a middle to move selected devices to the selection panel.



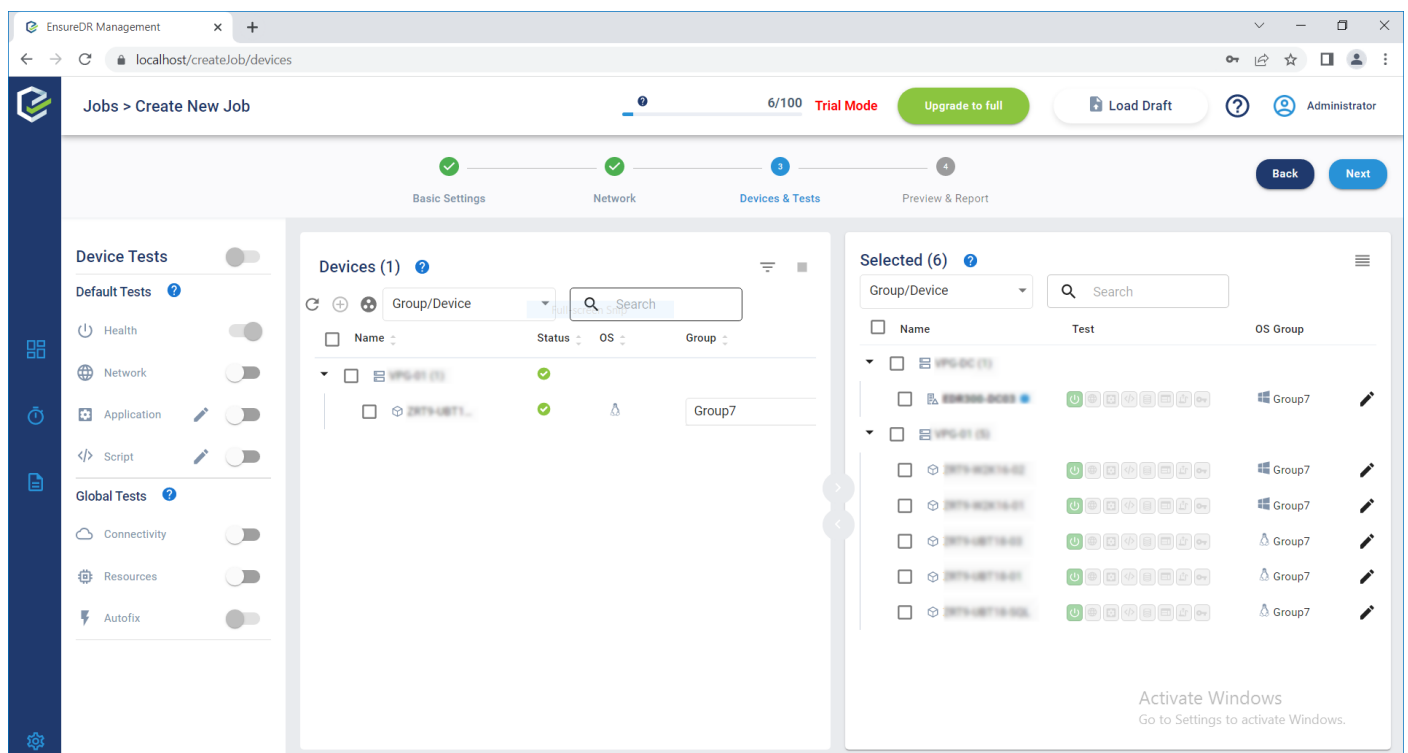
In the Device Test panel, you will see the list of the preselected tests that will be applied to all selected devices. Each server, by default, will be tested on four grounds:

- health test
- network test
- application test
- script test

Before continuing to the last step, please check that your Domain Controller is in the first group that will failover inside the test isolated bubble network. This is a mandatory step that will enable you to successfully test all other servers that rely on a domain controller. Click on the red marked option to open **Set Plans Failover Order** window. If the group that contains Domain Controller is not first on the list, please click and hold the mouse button on the desired group, then drag it on top of the panel. Now your group that contains the Domain Controller is first in plans order. Click the **Save** button.



Now that all of the settings are configured, click on the **Next** button.



In case a warning message pops up, it will probably be caused because you selected the group that doesn't include the Domain Controller. Because the Domain Controller is mandatory for the test to succeed, review your groups and make sure that you included at least one Domain Controller. If you are testing a Linux server that does not rely on a Domain Controller, click the Yes button to continue.

DC Validation Confirmation

We have identified that no Domain Controller was selected in your job - Without a DC, Advanced tests you have selected for your job will fail. Are you sure you want to proceed?

NoYes

On the last page, you can enter an email address that the EDRM will use to send an offline HTML report after the job is finished. EnsureDR will use our external SMTP server. If this server is not connected to the internet or port 25 is blocked, you can set your internal STMP with the **setting** button to the right. You can set the scheduler to run the recurrent job on a weekly basis. Click the **Save & Run** button to execute the job you created.

Note: Only one EnsureDR job can run on the same EDR server. You can either use multiple EDR servers or set different schedules for each job.

EnsureDR Management

localhost/createJob/overview

Jobs > Create New Job

6/100 Trial Mode Upgrade to full

Load Draft ? Administrator

Back

Basic Settings Network Devices & Tests Preview & Report

Job is Ready

Full Summary

Workflow Scripts	0 Scripts
Fail Over	Z Zerto VMware 2 Recovery Plans
Devices & Tests	6 Tests running on 6 Devices
Send Report	
Expected Recovery Time	01:00 Hr

☒ Report via Email

...

Add Additiona...

☒ Set Schedule

05/27/2022 02:00 AM

☒ Repeat Every

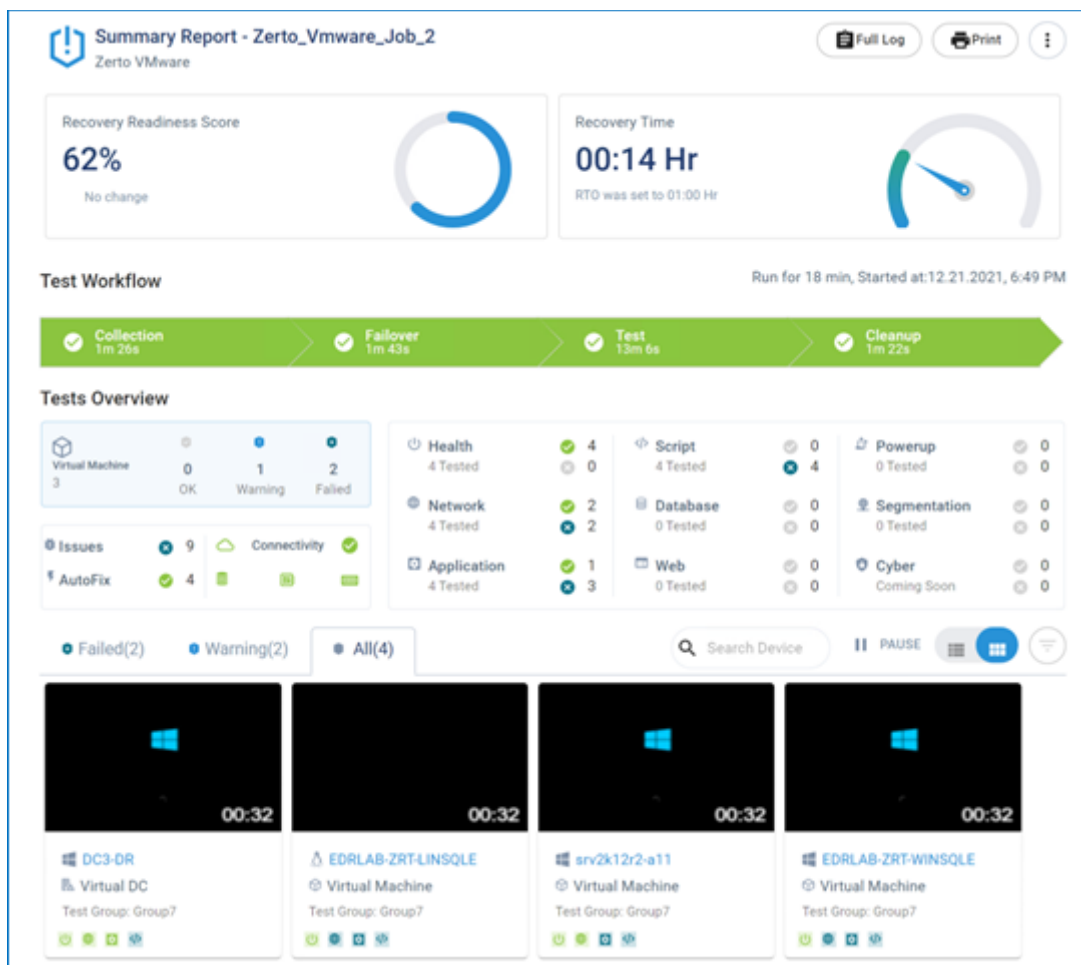
1 Week

Save

Save & Run

Activate Windows
Go to Settings to activate Windows.

Wait until the job is finished and a report is created. Click on the **Full Report** button to get details regarding tests that are performed within the job, review the test results. In case of issues found within the report, take steps to fix the issues that the EDRM reported as unsuccessful during the testing process. In the report, you can investigate if a test failed and get more info within the logs by pressing the **Full Log** button.



EnsureDR LIVE Failover Prerequisites

The LIVE Failover process should be performed only in two cases:

- Production site is not available
- Testing required by your internal company's rules

Regardless of the reason for performing a LIVE Failover, you must be aware of how it will influence your environment. EnsureDR is an orchestrator for your data mover, so you need to know how the data mover you are using is configured and how your data mover will perform during the LIVE Failover process. EnsureDR doesn't have an influence on your data mover configuration during the LIVE Failover process, EnsureDR will just instruct your data mover to run a LIVE Failover process. You should only run the LIVE Failover process if you are fully aware of the consequences of using LIVE Failover option from your data mover. For more information about running the LIVE Failover process, please consult your data mover support documentation or open a ticket at the data mover site.

EnsureDR LIVE Failover

If you run into a situation where the production site is unavailable and you need to conduct business from the DR site, EnsureDR can help you automate the entire process by running LIVE Failover on the DR site. Depending on your data mover solution there are two possible cases:

- Restore process based on VM level (NetApp, etc.)
- Restore process based on a group of servers define in Recovery Plan (VMware SRM), VPG (Zerto), etc.

For VM based level restore process, EnsureDR will recover only servers that are specified inside the EDR job. You should be aware that your backup/replication solution data mover may have more servers defined inside the backup/replication job, but this does not influence the restore process triggered by EnsureDR. Because of that, our best practice is to put all servers inside the EDR job so in case of a disaster, all can be restored during a LIVE Failover process on the DR site.

For the restore process based on the groups defined in your data mover, all servers included in those groups will be restored regardless of whether you selected all servers in the EnsureDR job or not. For this reason, we recommend that you create multiple groups so that your less critical servers are the last to recover. Servers such as domain controllers, databases, and application servers must be put in groups that are restored first.

EnsureDR Prerequisites

To be able to run the LIVE Failover process inside EnsureDR on the DR site you need to meet some prerequisites:

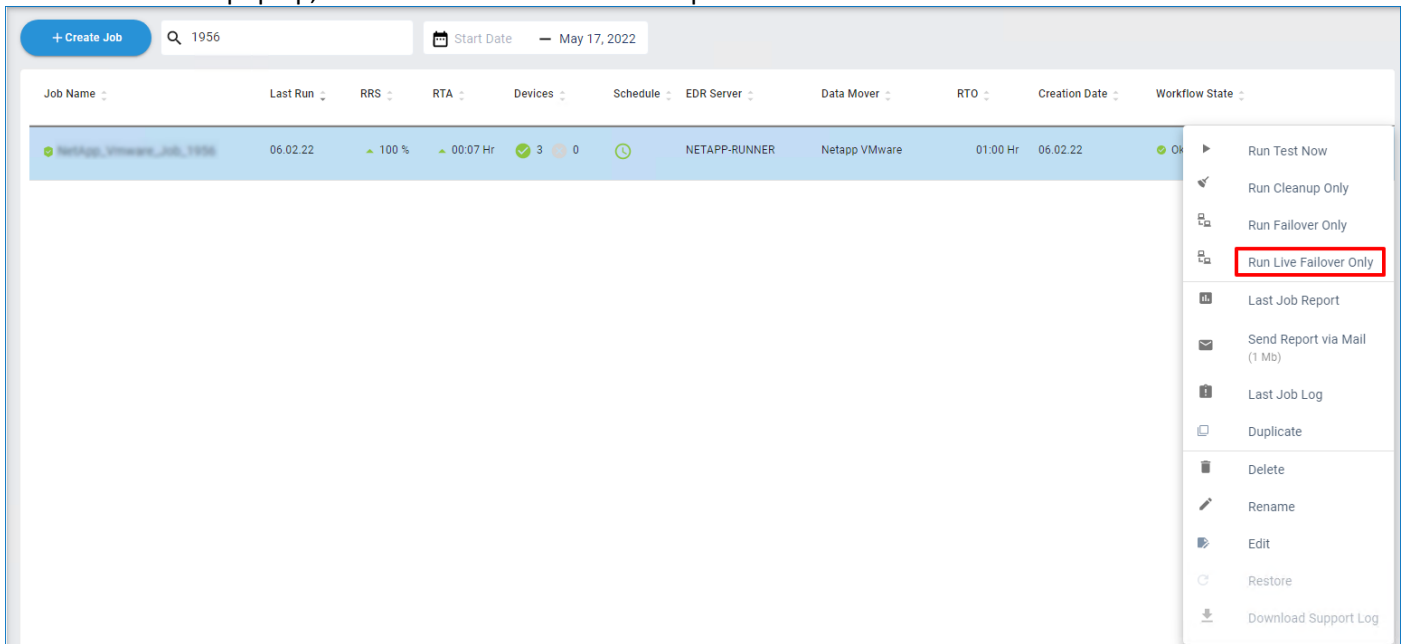
- EDRM server must be installed and configured on the DR site before the disaster happens
- EDR job must be configured and tested in the DR site at least once to validate the restore process in a bubble environment before running the LIVE Failover process

The following data movers have by default enabled LIVE Failover option:

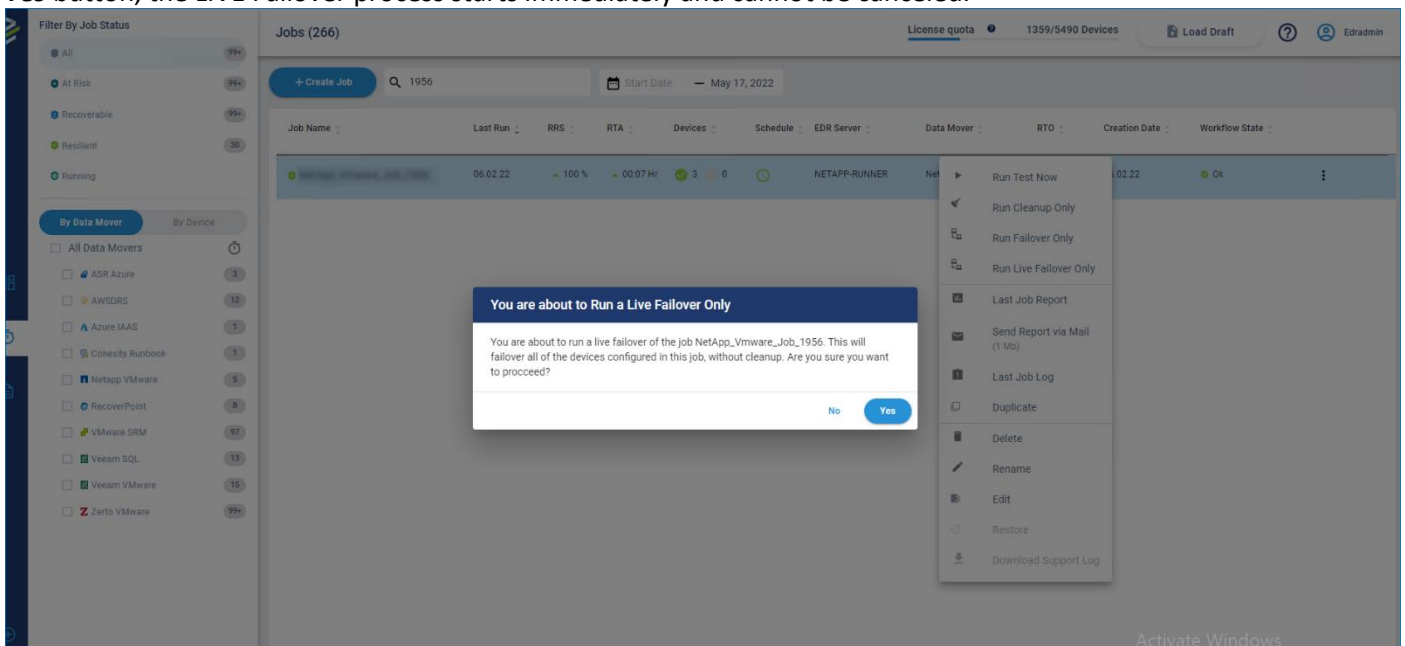
- NetApp
- VMware SRM
- Zerto

Running the LIVE Failover

Navigate to your EDRM server Web UI and select the job that you created in the previous step. Right-click on the job and the menu will pop up, choose the **Run Live Failover** option



A warning message will pop up. When you confirm that you want to run the LIVE Failover process by clicking on the **Yes** button, the LIVE Failover process starts immediately and cannot be canceled.



LIVE Failover process is started, wait until Collection, Failover, and Test steps are finished.

Jobs (266) License quota 1362/5490 Devices Load Draft Edradmin

+ Create Job Search Start Date May 17, 2022

Job Name	Last Run	RRS	RTA	Devices
NetApp_Vmware_Job_1978	17.05.22	68 %	00:09 Hr	0 7
NetApp_Vmware_Job_1980	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1981	07.05.22	50 %	00:00	0 7
NetApp_Vmware_Job_1982	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1983	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1984	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1985	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1986	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1987	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1988	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1989	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1990	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1991	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1992	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1993	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1994	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1995	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1996	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1997	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1998	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1999	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_2000	07.05.22	51 %	00:00	0 7

Summary Report - NetApp_Vmware_Job_1978

Netapp VMware | Job Started at 05/17/2022 14:53:26 - Running...

Recovery Readiness Score: 0% No change

Recovery Time: 00:00 RTO was set to 00:00

Test Workflow - Failover and test only

Scanning servers

Collection 0 m Failover 0 m Test 0 m Cleanup 0 m

Tests Overview

Issues	Health	Script	Powerup
0 Tested	0 Tested	0 Tested	0 Tested

AutoFix	Network	Database	Segmentation
0 Tested	0 Tested	0 Tested	0 Tested

Connectivity	Application	Web	Cyber
0 Tested	0 Tested	0 Tested	Coming Soon

LIVE Failover process is finished, all VMs will start on the DR site and the cleanup step will not be performed.

Jobs (266) License quota 1362/5490 Devices Load Draft Edradmin

+ Create Job Search Start Date May 17, 2022

Job Name	Last Run	RRS	RTA	Devices
NetApp_Vmware_Job_1978	17.05.22	68 %	00:22 Hr	0 6
NetApp_Vmware_Job_1980	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1981	07.05.22	50 %	00:00	0 7
NetApp_Vmware_Job_1982	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1983	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1984	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1985	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1986	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1987	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1988	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1989	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1990	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1991	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1992	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1993	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1994	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1995	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1996	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1997	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1998	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_1999	07.05.22	51 %	00:00	0 7
NetApp_Vmware_Job_2000	07.05.22	51 %	00:00	0 7

Summary Report - NetApp_Vmware_Job_1978

Netapp VMware | Job Started at 05/17/2022 14:53:26 - Running...

Recovery Readiness Score: 68% No change

Recovery Time: 00:22 Hr RTO was set to 01:00 Hr

Test Workflow - Failover and test only

Run for 22 min, Started at: 5.17.2022, 2:53 PM

Collection 43s Failover 1m 48s Test 20m 27s Cleanup 0 m

Tests Overview

Issues	Health	Script	Powerup
9 Tested	6 Tested	6 Tested	0 Tested

AutoFix	Network	Database	Segmentation
6 Tested	6 Tested	0 Tested	0 Tested

Connectivity	Application	Web	Cyber
0 Tested	0 Tested	0 Tested	Coming Soon

Device Boot Preview

PAUSE

lab100-netapp-c... lab100-netapp-u... lab100-netapp-c... lab100-netapp-c...

By checking inside VMware vCenter we can confirm that NFS volume is mounted and VMs defined inside the EDR job are registered and powered on.

vmvSphere ClientMenu

VC200-EDR-LAB01-Linux

Virtual Machines

Virtual Machines

VM Templates in Folders

Name	State	Status	Provisioned Space	Used Space	Host CPU	Host Mem
edr100-vmware-cs-4-02_2024_Test	Powered On	Normal	16 GB	3.48 GB	36 MHz	285 MB
edr100-vmware-cs-4-03_2024_Test	Powered On	Normal	16 GB	3.44 GB	36 MHz	284 MB
edr100-vmware-cs-4-04_2024_Test	Powered Off	Normal	16.46 GB	3.46 GB	0 Hz	0 B
edr100-vmware-cs-4-05_2024_Test	Powered On	Normal	16 GB	13.22 GB	0 Hz	617 MB
edr100-vmware-cs-4-06_2024_Test	Powered On	Normal	16 GB	10.44 GB	0 Hz	614 MB
edr100-vmware-cs-4-07_2024_Test	Powered On	Normal	16 GB	13.11 GB	0 Hz	617 MB

Important notes regarding LIVE Failover

NetApp

- In case your production site is not available, your servers will be recovered with the last recovery point available on the DR site
- Only the servers selected inside the EDR job will be recovered on the DR site regardless of how many servers you have on that NetApp Volume
- NetApp replication will be broken so NFS volume on DR site will be in state "Relationship state - Broken Off"
- A new junction path will be created on the NetApp DR site
- NetApp NFS Data Volume will be presented and registries as datastore inside vCenter on the DR site
- VMs that are defined in the job will be registered inside vCenter on the DR site
- VMs will be powered on and connect to the production network
- The cleanup step will not be executed because Live Failover is executed

VMware SRM

- In case your production site is not available, your servers will be recovered with the last recovery point available on the DR site
- All servers defined in VMware SRM Recovery Plan will be recovered on the DR site regardless of which servers you added to the EnsureDR job
- During LIVE Failover process errors can be visible in VMware SRM console since the production site is not available
- All VMs that are defined in Recovery Plan will be registered inside vCenter on the DR site
- All VMs that are defined in Recovery Plan will be powered on and connect to the production network
- The cleanup step will not be executed because Live Failover is executed

Zerto

- In case your production site is not available, your servers will be recovered with the last recovery point available on the DR site
- All servers defined in Zerto VPG will be recovered on the DR site regardless of which servers you added to the EnsureDR job
- All VMs that are defined in Zerto VPG will be registered inside vCenter on the DR site
- All VMs that are defined in Zerto VPG will be powered on and connect to the production network
- The cleanup step will not be executed because Live Failover is executed
- After the Zerto recovered all VM from the selected VPG, the user needs to approve or decline changes by clicking on the Commit or Rollback button inside the Zerto console

Failover end...  