RECOVERPOINT/SE 4.1 QUICK START INSTALLATION GUIDE

A step-by-step walkthrough of the RecoverPoint/SE installation process

EMC RECOVERPOINT FAMILY

Abstract

This RecoverPoint/SE 4.1 Quick Start Installation Guide ensures that RecoverPoint/SE users have all of the information that they need to perform a RecoverPoint/Se installation and configure their RecoverPoint/SE environments in one place. Use the RecoverPoint/SE Installation Quick Start Installation Guide as a standalone guide or as a companion to the RecoverPoint/SE Quick Start Installation Poster.

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EMC RecoverPoint/SE 4.1 Quick Start Installation Guide

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Preface

As part of an effort to improve and enhance the performance and capabilities of its product line, EMC from time to time releases revisions of its hardware and software. Therefore, some functions described in this guide may not be supported by all revisions of the software or hardware currently in use. For the most up-to-date information on product features, refer to your product release notes.

If a product does not function properly or does not function as described in this document, please contact your EMC representative.

Note This document was accurate as of the time of publication. However, as information is added, new versions of this document may be released to the EMC online support website. Check the website to ensure that you are using the latest version of this document.

Purpose

This document describes how to install, configure, and get started replicating with RecoverPoint/SE.

Audience

This document is intended for internal EMC personnel, partners, and customers.

Related documents

The following publications provide additional information:

- EMC RecoverPoint 4.1 Release Notes
- EMC RecoverPoint Installation and Deployment Guide
- EMC RecoverPoint 4.1 Administrator's Guide
- EMC RecoverPoint 4.1 CLI Reference Guide
- EMC RecoverPoint Deploying with VNX/CLARiiON Arrays and Splitter Technical Notes
- EMC RecoverPoint vRPA Technical Notes



Chapter 1 Welcome to RecoverPoint/SE

Welcome to the RecoverPoint/SE Quick Start Installation Guide.

This book will guide you, step by step, through the process of installing, configuring, and deploying your RecoverPoint/SE system.

By the end of this guide, RecoverPoint/SE will be installed, fully functional, and ready to replicate your applications' data volumes.

In RecoverPoint/SE, changes to your application data are stored in your production volumes, and simultaneously replicated locally and/or remotely, by your RecoverPoint Appliances, whether physical or virtual.

In the case of a disaster at the production site, RecoverPoint enables users to restore their application data from ANY previous point-in-time, using the replicated copy.

RecoverPoint/SE offers bi-directional replication between two VNX series or CLARiiON arrays with no distance limitation, while guaranteeing data consistency.

The RecoverPoint/SE Quick Start Installation Poster is part of the RecoverPoint/SE Installation Kit, and may be used alongside this guide. The poster describes the end-to-end process of installing and configuring RecoverPoint/SE.

Now let's get started!



Chapter 2 Before You Begin

In this chapter, you will learn what you must do to prepare for a successful deployment of RecoverPoint/SE.

- You must be familiar with all network and storage systems in your environment, or have access to the resources and personnel in your organization that have that knowledge. In a two-site installation, this includes not only the local systems, but those at the remote site as well.
- If you are a new EMC customer, register for the EMC Online Support site, at: <u>support.emc.com</u>

To register for the EMC Online Support site:

- a. At <u>support.emc.com</u>, click **Register Here**.
- **b.** Follow the online registration steps, making sure to fill in all required fields, including your business email address.
- c. When you receive a return email confirmation of your registration, use the access authorization and additional information in that email to complete your registration and log in for the first time to the site.
- The RecoverPoint/SE Installation Kit contains the software and documentation you will need for installation.

To download the kit from EMC Online Support (<u>http://support.emc.com</u>), click **Support by Product**, and type "RecoverPoint SE" in the Find a Product search field. On the RecoverPoint SE page, the kit is located in the Recommended Resources section.

The Installation Kit contains the following software:

- RecoverPoint Splitter Enabler
- RecoverPoint Deployment Manager

It also contains the following documents:

- RecoverPoint/SE Quick Start Installation Guide
- RecoverPoint/SE Quick Start Installation Poster
- RecoverPoint VNX/CLARiiON Splitter Activation Procedure
- RecoverPoint Post Deployment Form
- To complete the licensing process, you will need the LAC emails, which are sent to you upon approval of your sales order.

The licensing process is presented in Chapter 10, on page 87. You can perform the entire licensing process at that point; that is, after you have already created and connected your RPA clusters. Alternatively, you can do



Before You Begin

the first parts of the process now (as presented on pages 87–91), and complete the rest when you reach Chapter 10.

• During the installation you will be required to provide infrastructure-related information. To ensure that the installation can proceed smoothly, collect the relevant infrastructure data in the IP & SAN Setup Details Templates (Appendix A), prior to beginning installation.

Note: It is *critical* to the success of your installation that you complete this template now, prior to proceeding to the next chapter.

• You will also need the following:

For physical RPAs:

- Two Ethernet cables per RPA (one for LAN and one for WAN)
- At least four available dedicated storage ports on the storage array.
- A dedicated resource pool mapped to each RPA cluster for automatic repository volume provisioning.
- Fibre Channel cables:
 - Two cables per RPA, in dual fabric topology.
 - Four cables per RPA, in direct attach topology.

These topologies are described in Chapter 5.

For virtual RPAs:

- Four Ethernet cables per ESX server (LAN, WAN, iSCSI1, iSCSI2).
- At least four available dedicated iSCSI ports on the storage array.
- In planning your RecoverPoint/SE deployment, be aware that ports and LUNs that are used for RecoverPoint replication cannot be used also by other replication products, such as MirrorView.
- To carry out the installation, you will need a dedicated computer running Windows, which we will refer to as your workstation.

Java[™] 7 (update 13 or higher), 32-bit, must be installed on this workstation. It is highly recommended to have the latest Java 7 update installed.

Later on, during the actual RecoverPoint/SE installation, you will use this workstation to run the Deployment Manager RecoverPoint/SE Installer wizard.

• If network security configurations—such as firewalls or access lists—are defined in your environment, ensure that your workstation can communicate with the management (LAN) networks for the RPAs at both sites.

If you are unable to achieve full communication from the workstation to *both* sites, you may also perform the deployment independently at each site.

• For installation, you must ensure that ports 21, 22, 8081, and 8082 (all TCP) are open on your workstation.

To enable log retrieval from the array-based splitter, ensure also that TCP port 443 (https) is open to each storage array.



If you want to check that these ports are indeed open, you can Telnet from a workstation on the network, as follows (from the command line):

telnet IpAddress PortNo

Example:

telnet 10.76.7.35 443

- **Note:** Ensure that Telnet is open on the workstation. When successful, a flashing underscore appears.
- The RecoverPoint VNX/CLARiiON splitter driver (engine) included in the VNX OE or CLARiiON FLARE bundle must be active.

To ensure the splitter driver is active:

a. In the Unisphere management interface for the storage system, right click the storage array, and select **Properties**.



b. Select the Software tab:

Before You Begin

EMC Unisphere	Pool LUN 💌 Search	Advanced 🦉 🍹 🔍
< > All Systems	Alerts	3 Support
All Systems > Dashboard	General SP Cache SP Memory Software Environment	Customize
Systems by Severity	Packages-	Neccase Created
	Name Revision Status	The NTP server [Mar 15, 2012 1:5
	VNX-Block-Operating-Environment 05.31.000.5.008 Active -UnisphereFile - Active	The NTP server [Mar 12, 2012 1:5
	-UnisphereBlock - Active	The NTP server [Mar 9, 2012 1:57
	-Unisphere - Active -RecoverPointSplitter - Active	The NTP server [Mar 6, 2012 1:57
		Server initiator (2 Feb 22, 2012 3:3
		Server initiator (2 Feb 22, 2012 3:3 🗸
		Show All
Overall Capacity - Most Free Space (1 of 1)		[1] 🗸 🔧 🤉
0 500 1000 1500 2000 2500 A1872091	Updates Commit Revert	80 100 120 Free
0 500 1000 1500 2000 2500 Capacity (GB)	QK Apply Cancel Help	80 100 120 (GB)
		East Neir Carles, 2012-03-04 13.37.20
Alerts: 198 🙆 153 Critical Certificates: 1		User: sysadmin Role: Administrator

c. Verify that the status for RecoverPointSplitter is *Active*.

If it is not Active, you must enable it. For instructions, see the *RecoverPoint VNX/CLARiiON Splitter Activation Procedure*, which is included in your RecoverPoint/SE Installation Kit.

When (and only when) you have completed all of the preparations for installation that have been presented in this chapter, you are ready to proceed to the next chapter.



Chapter 3 Unpack RPAs

We now proceed by unpacking the physical RecoverPoint appliances (RPAs).

As you unpack each RecoverPoint appliance, you should verify that each box contains all of the following items:

- An EMC RecoverPoint appliance
- Two server adjustable slide rails
- An EMC bezel
- Two country-specific power cables

In case any item is missing from the box, you should notify EMC Customer Service immediately.

When you have unpacked all of the RPAs, and assured the relevant items are indeed available in each RPA box, you may proceed to the next chapter.



Chapter 4 Rack and Install RPAs

We can now continue by racking the physical RecoverPoint appliances (RPAs).

- 1. You must first decide where you would like to locate and install your RPAs. The location must have the required infrastructure in place, including:
 - LAN connection
 - WAN connection
 - SAN connection
 - Electrical power source

The relevant cabling is required for each infrastructure.

Direct your attention to the rear of the cabinet, and designate where you want to place the RPAs within the cabinet.

It is recommended that you mark the designated mounting locations accordingly for *each* RPA you intend to install in the cabinet.



Figure 1. Designating RPA mounting location at front of cabinet (while standing at rear of cabinet)

- 2. Installing the rails:
 - **a.** Once marked, assure the adjustable rails are retracted (not extended), and align the two bulges at the end of each rail with the previously designated RPA mounting location.
 - **b.** Once aligned push the rail from the back of the cabinet to the front of the cabinet until you hear a clicking sound. This indicates that the front of the rail is secured.





Figure 2. Aligning the adjustable rails

- **c.** Now, secure the secondary clamps on the rear section of the rails to the rear of the cabinet, ensuring that the two ends of the rail are aligned with one another.
- 3. Mounting the RPAs on the rails:
 - **a.** Stand in front of the cabinet, and slide the rails as far out as possible.
 - **b.** Now, mount the RPA in the cabinet, by aligning it with the rail extensions, and pushing the RPA until it clicks into place around the white plastic indicators on the side of each rail.
 - **Note:** Ensure that the designated cabling location (the back of the RPA) is facing the rear of the cabinet.
 - c. Pull out the blue clips from each side of the RPA, and push the RPA all the way forward, until you hear a click, which indicates that the RPA is locked into place.



Rack and Install RPAs



Figure 3. Mounting the RPA in the cabinet

4. All that remains now is to press the bezel into place on the front panel of the RPA.

Once you have successfully racked all of the RPAs, you may proceed to the next chapter.

Chapter 5 Connect RPAs

You will now prepare your environment for the initial configuration of your RPAs.

Make sure that your completed IP & SAN Setup Details Template is handy, and that you have fully familiarized yourself with the designated configuration for your deployment.

RecoverPoint/SE offers several deployment topologies:

- **Dual fabric topology**, in which you must have two fabric switches at each site.
 - In such a topology, each physical RPA must be connected to each fabric through separate ports, to assure redundancy and fault-tolerance.



Figure 4. Dual fabric topology



• **Direct attach topology**, where two ports on each RPA are directly connected to the storage system (to storage processors A and B).



Figure 5. Direct attach topology

Detailed Topology Overview

Dual fabric — In the dual fabric configuration (as shown in Figure 4, on page 17), you must connect the RPA ports to separate fabrics, assuring each fabric has complete visibility of both storage processors in the storage system.

This means that a Fibre Channel port from each SPA and SPB must be connected to each fabric (using a total of four dedicated storage ports).

In most environments where the VNX storage system is already functioning, such connections already exist.

Direct attach — In a direct attach configuration, you must ensure that one RPA port (from each RPA) is directly connected to SPA and another to SPB.

The two additional ports should be used for inter-RPA communication (as shown in Figure 5, on page 18).

Note: With direct attach configuration, replication over Fibre Channel is not supported.



Connecting the RPAs

With this as background, you should now be ready to install the necessary connections, as follows:

- 1. Connect Fibre Channel ports to each RPA:
 - In dual fabric topology, two RPA ports (per RPA).
 - **Note:** For Fibre Channel replication, use all RPA ports that are not already in use by the local cluster for inter-site connectivity (see Figure 4).
 - In direct attach topology, four RPA ports (per RPA).

Note: Fibre Channel replication is not supported.

2. For each RPA, use two Ethernet cables to connect the Management (LAN) interface to eth1 and the WAN interface to eth0.



- 3. Connect each RPA with two country-specific power cables.
- 4. Connect each RPA to a monitor and keyboard or functioning KVM.



5. Power on the RPAs.

You may have to remove the RPA bezel to do so.

6. Once an RPA is fully booted, you should see a login prompt.



If you don't see a login prompt, press **Enter** until you do.

Connect RPAs

To ensure that the RPAs are functioning properly, log in to each RPA with the username **boxmgmt** and password **boxmgmt**.

7. You will be prompted to enter a temporary IP address. If all RPAs are connected to a DHCP configured network, temporary IPs will not be required.

If DHCP is not available on your network, you are required to enter the appropriate RPA (LAN) IP address, subnet mask, and gateway, as recorded in your IP & SAN Setup Details Template.

Note: The IP address you choose now will follow the RPA throughout the deployment process. You must verify that a single cross-site workstation can access all of the IP addresses assigned to the RPAs.

Alternatively, you may choose to perform the installation one site a time, in which case, only single-site connectivity to the workstation is required.



Chapter 6 Deploy RecoverPoint/SE on Physical RPA Cluster

The chapter presents the procedure for deploying physical RPAs in RecoverPoint clusters.

If, instead, you want to deploy virtual RPAs clusters, go to Chapter 8: "Deploy RecoverPoint/SE on Virtual RPA Cluster," on page 53.

By this point, you should have completed all of the tasks necessary to prepare for installation of your RecoverPoint/SE software. The status should be as follows:

- The RecoverPoint splitter is enabled on the array (that is, with status of Active).
- RPAs are mounted on the racks.
- The RPAs have been assigned with temporary IPs (given that DHCP is not available).
- The RPAs and VNX storage processors are fully cabled.
- The IP & SAN Setup Details Template is completed and available.

If you have not completed all of the prerequisites for installation, you should do so now, before continuing.

The RecoverPoint/SE Installer Wizard installs one RPA cluster at a time. Therefore, if you want to deploy a cluster at a second site, you will need to run the wizard a second time.

Note: This cluster is called an "RPA cluster", regardless of whether it contains physical or virtual RPAs. Mixing physical RPAs and virtual RPAs in the same cluster is not allowed.

If you install two clusters, you will then need to run the Connect Cluster Wizard to enable replication and communication between them.

Some notes about the RecoverPoint/SE Installer Wizard:

- To improve system performance, enter values in all fields presented by the wizard.
- Java[™] 7 (update 13 or higher), 32-bit, must be installed on the local workstation, that is, the machine on which you will be running the wizard. It is highly recommended to have the latest Java 7 update installed.
- Whenever you click **Next**, the system automatically saves configuration settings in the configuration file.



Deploy RecoverPoint/SE on Physical RPA Cluster

Once all preparations for installation are complete, extract the files from the RecoverPoint Deployment Manager zip file (which you should find in your RecoverPoint/SE Installation Kit) to a local disk, and then open RecoverPoint_DM.exe.

You are prompted to check for a newer release of Deployment Manager.



If you are using the Deployment Manager from the RecoverPoint/SE Installation Kit that you just downloaded from EMC Online Support, you can be assured that you have the latest release, so click **No**.

You are prompted to choose which RecoverPoint/SE release you plan to install. Select **RecoverPoint 4.0 or later releases**.





The Login screen appears.

Re	coverPoint Deployment	Manager
	Install RecoverPoint/SE	
	Upgrade RecoverPoint/SE	
	Other operations (EMC person	nnel)
	Username:	
	Password:	

Select Install RecoverPoint/SE, and click Login.

The RecoverPoint Deployment Manager Wizard screen appears.

RecoverPoint De	eployment Manager Wizard [Simulator]	×
RecoverPoint I	Deployment Manager Wizard [Simulator]	
Please select the c	Jesired Wizard, Click Next to continue	
•	RecoverPoint/SE Installer Wizard Use this wizard to install a new RecoverPoint/SE cluster.	
•	Connect Cluster Wizard Use this wizard to connect a new cluster to an existing RecoverPoint system.	
	< Back Next > Finish Cancel	

Select RecoverPoint/SE Installer Wizard.

The Prerequisites screen appears.

RecoverPoint/SE Installer Wizard [Simulator]	
Prerequisites Before continuing, ensure the following conditions are	e met on the RecoverPoint cluster.
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. IP and connectivity settings 6. Login credentials 7. Connectivity results 8. EMC Online Support site credentials 9. Update RecoverPoint release 10. Installation Change Management procedur 11. Apply configuration results 12. Storage configuration 13. Apply configuration 14. Summary 	 Before continuing, ensure the following conditions are met. If any of the conditions are not fulfilled, it is recommended to close the wizard, fulfill the conditions, then run the wizard again. RPAs are connected to SAN and Ethernet network RPAs are loaded with the same RecoverPoint/SE ISO image RPAs are set with IP addresses (optional if your environment includes a DHCP server) The computer that the wizard is run from must be able to communicate with the cluster management IP and all of the cluster's RPA management (LAN) networks. Ensure that ports 21, 22, 7225, and 8082 (all TCP) are open on the computer to enable communication with all RPAs. Tip: Telnet to these ports on the computer to ensure they are open. RPAs are either all physical RPAs or all virtual RPAs You do not have these credentials, or the computer that the wizard is run from does not have Internet connectivity, you must have an Installation Change Management XML file available locally to complete the installation. Note: To obtain XML file, you must submit an Upgrade Service Request to EMC Customer Support. If installing physical RPAs: PAs are reck mounted All RPAs must be Gen4 or later To automatically provision the repository volume, dedicate a resource pool and mask it to the RPA custer. If installing virtual RPAs: Vitual RPAs are aceford with iSCSI ports Vitwa arys are pre-configured with iSCSI ports Vitwarays are pre-configured with iSCSI ports Vitwarays are pre-configured with iSCSI ports The vSphere host and the WIX array (ISCSI 16/10G) The vSphere host and the WIX array (ISCSI 16/10G) The vSphere host and the WIX array (ISCSI 16/10G) The vSphere host and the WIX array (ISCSI 16/10G) The vSphere host and the wisting RPA cluster networks (LAN and WAN) Reserved quota is required for vitual systems resources: CPU, memory, disk. A
4	$\overline{\mathbb{V}}$ I have fulfilled the conditions for installing the cluster.
	< Back Next > Finish Cancel

Assuming all of the prerequisites have been completed, select the checkbox, and continue with the installation.



The Configuration file screen appears.

RecoverPoint/SE Installer Wizard [Simulator]		
Configuration file Select the desired installation mode and click 'Next' to co	ntinue.	SE
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. IP and connectivity settings 6. Login credentials 7. Connectivity results 8. EMC Online Support site credentials 9. Update RecoverPoint release 10. Installation Change Management procedures 11. Apply configuration 13. Apply configuration 14. Summary 	Create a new installation configuration file \\vmware-host\Shared Folders\Desktop\RPSE_config.properties Continue an installation from a saved configuration file	Browse
	< Back Next > Finish	Cancel

Select the first option, **Create a new installation configuration file**. Then, specify the path for the file, RPSE_config.properties, as your installation configuration file. It will be used to store the installation settings that you specify during this installation for backup purposes.

The same file should be specified when continuing an installation that was interrupted prior to completion. In that case, select the second option, **Create or continue an installation from a saved configuration file**, and enter the filename there.

Note that the RecoverPoint installation process is performed on one cluster at a time.

When you are done, click Next to display the Environment settings screen

				25
 ✓ 1. Prerequisites ✓ 2. Configuration file ◇ 3. Environment settings ◇ 4. RPA discovery ◇ 5. IP and connectivity settings ◇ 6. Login credentials ◇ 7. Connectivity results ◇ 8. EMC Online Support site credentials 	General Cluster name Number of RPAs Time zone Connectivity	2 (GMT+02:00) Asia/Jerusalem LAN	Mandatory Field	•
 i) Jourd latter of our results i) I. Installatter of Change Management procedures i) I. Apply configuration results i) I. Storage configuration i) I. Apply configuration i) I. Apply configuration i) I. Apply configuration ii) I. Apply configuration iii) I. Apply configuration iiii) I. Apply configuration <l< td=""><td>IP type IP-v4 MTU 1500 Environment Domain name Primary DNS serve Secondary DNS serve Secondary NTP server Secondary NTP server</td><td>r Ver</td><td>• [Pv4 1500</td><td>· · · · · · · · · · · · · · · · · · ·</td></l<>	IP type IP-v4 MTU 1500 Environment Domain name Primary DNS serve Secondary DNS serve Secondary NTP server Secondary NTP server	r Ver	• [Pv4 1500	· · · · · · · · · · · · · · · · · · ·

Deploy RecoverPoint/SE on Physical RPA Cluster

Begin by entering the general parameters that define the cluster:

- Cluster name
- Number of RPAs
- Time zone

Add connectivity settings:

- LAN IP type (IPv4 or IPv6, or both) and MTU
- WAN IP type (IPv4 or IPv6) and MTU
- **Note:** In the remainder of this guide, it is assumed that your LAN and WAN IPs are IPv4.

Finally, enter the following environment parameters, *all of which are optional*:

- Domain name
- Primary and, if available, secondary DNS server
- NTP server or servers
 - **Note:** NTP servers can be defined only in a single site, where the rest of the RPAs are synced with the NTP-defined site.

Once you have completed entering the Environment settings, you are ready to specify the RPA and site IP addresses. Click **Next** to continue.



If your environment includes a DHCP server, and you have not already assigned IP addresses to your RPAs, you can instruct Deployment Manager to auto detect RPAs for which you have not set a temporary IP address. To do so, select the **I want Deployment Manager to discover the RPA IP addresses** option on the RPA Discovery screen. Upon clicking **Discover**, the Deployment Manager discovers the RPAs on your network automatically, based on the IPs assigned by the DHCP sever. Your workstation will use these temporary IP addresses to communicate with the RPAs during installation.

RecoverPoint/SE Installer Wizard [Simulator]	
RPA discovery Define how you want to set the IP addresses of uninstalled	RPAs
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ◆ 4. RPA discovery ◆ 5. IP and connectivity settings ◆ 6. Login credentials ◆ 7. Connectivity results ◆ 8. EMC Online Support site credentials ◆ 9. Update RecoverPoint release ◆ 10. Installation Change Management procedures ◆ 11. Apply configuration results ◆ 12. Storage configuration ◆ 13. Apply configuration ◆ 14. Summary 	RPA IP addresses I have already set IP addresses for the RPAs This option is recommended when one or more of the following is true: You have already set the RPA IP addresses. You revironment does not include a DHCP server. I want Deployment Manager to discover the RPA IP addresses This option is only relevant when RPAs are running releases earlier than 3.5. J. You revironment does not include a DHCP server. I want Deployment Manager to discover the RPA IP addresses This option is only relevant when RPAs are running release 3.5 or later and your environment includes a DHCP server. Discover uninstalled RecoverPoint Appliances (RPAs) I This option saves you from having to manually connect to each RPA and set an IP address. When you click "Discover", you can choose how Deployment Manager will discover the RPA and get their currently set IP addresses. I Discover RPA 1 Select a discovered RPA RPA 2 10.76.10.11 Select a discovered RPA RPA 2 10.76.10.12 Select a discovered RPA PM discovery finished and found 3 uninstalled RPAs. PMA
	< Back Next > Finish Cancel

Alternatively, if you have already assigned the IP addresses to your RPAs, choose the first option, I have already set IP addresses for the RPAs.

✓ 1. Prerequisites	RPA IP addresses
2. Configuration file 2. Environment settings	I have already set IP addresses for the RPAs
 ◇ 4. RPA discovery ◇ 5. IP and connectivity settings ◇ 6. Login credentials 	This option is recommended when one or more of the following is true: 1. You have already set the RPA IP addresses. 2. You are installing RPAs running releases earlier than 3.5. 3. Your environment does not include a DHCP server.
⇒ 7. Connectivity results	○ I want Deployment Manager to discover the RPA IP addresses
S. EMC Online Support site credentials 9. Update RecoverPoint version	This option is only relevant when RPAs are running release 3.5 or later and your environment includes a DHCF server.
 → 10. Opgrade Change Management procedures ⇒ 11. Apply configuration results ⇒ 12. Storage configuration ⇒ 13. Apply configuration 	Discover uninstalled RecoverPoint Appliances (RPAs) This option saves you from having to manually connect to each RPA and set an IP address. When you click "Discover", you can choose how Deployment Manager will discover the RPA and get their
	Piscover RPA 1 10.76.10.11 RPA 2 10.76.10.12

You may now configure the IPs for cluster management and RPAs, and relevant Management (LAN) and WAN subnet and gateway settings.

When you are done, click **Next** to display the IP and connectivity settings screen.



Be advised that the cluster management IP should reside on the same network as the LAN interface for the RPAs (labeled as LAN IPv4).

🔯 RecoverPoint/SE Installer Wizard [Simulator]				
IP and connectivity settings Define the MyCluster cluster IP configurations and the RPA	A IP settings.		SE SE	
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery <i><i>>> IP and connectivity settings</i></i> 	RPA IP addresses and o	connectivity settings LAN IPv4 10.10.10.10		
 ^c 6. Login credentials ^c 7. Connectivity results ^c 8. EMC Online Support site credentials ^c 9. Update RecoverPoint release 	Interface netmask	LAN IPv4 0.0.0.0	WAN IPv4	
10. Installation Change Management procedures 11. Apply configuration results 12. Storage configuration 13. Apply configuration	tallation Change Management procedures ply configuration results rage configuration ply configuration RPA 2 (10.76.10.12) RPA 2 (10.76.10.12)		WAN IPv4 10.10.10.30 10.10.10.50	
🗇 14. Summary	Default gateways	vay(s) used for cluster management over the L	AN network.	
	Additional gateways Gateway	Target netmask	Target subnet	
	Add route		×	
		< Back	Next > Finish Cancel	

The **Cluster management IP** will serve as a floating IP address (also known as a virtual IP address), and will be used to control the Unisphere for RecoverPoint management application GUI.

When you have completed assigning IP settings, continue to the Login credentials screen.

RecoverPoint/SE Installer Wizard [Simulator]		
Login credentials Enter the default RecoverPoint login credentials.	RecoverPoint Iopin credentials	
 ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ◆ 6. Login credentials ◆ 7. Connectivity results ◆ 8. EMC Online Support site credentials ◆ 9. Update RecoverPoint release ◆ 10. Installation Change Management procedures ◆ 11. Apply configuration ⇔ 13. Apply configuration ⇔ 14. Summary 	Username boxmgmt Password ••••••	
	< Back Next > Finish	Cancel

Enter the default password, **boxmgmt**.

Upon clicking **Next**, the system validates connectivity with each of the RPAs in the cluster, and presents the results in the Connectivity results screen.

✓ 1. Prerequisites	RecoverP	oint conn	ectivity results				
2. Configuration file 3. Environment settings	Status	RPA	Cluster name	LAN IP address	Hardware platf	RecoverPoint release	Comment
4. RPA discovery		RPA 1	MyCluster	10.10.10.20	Unknown	N/A	Only Gen4 and later RPAs are
5. IP and connectivity settings		RPA 2	MyCluster	10.10.10.40	Unknown	N/A	Only Gen4 and later RPAs are
✓ 6. Login credentials							
7. Connectivity results 8. EMC Online Support site credentials							
9. Update RecoverPoint release							
10. Installation Change Management procedures							
\Rightarrow 11. Apply configuration results							
12. Storage configuration							
13. Apply configuration							
	Conn	ectivity te	st finished successfu	ılly.			🖓 Reti

If there are connectivity errors, you must correct them, and then click **Retry** to revalidate the connectivity statuses. When the "Connectivity test finished successfully" message is displayed, click **Next** to continue.

The EMC Online Support credentials screen appears.

AC Online Support credentials		2
hter EMC Online Support credentials to access relevant Rec iformation required to complete the installation.	verPoint ISO images to apply to the cluster, and to provide you with the relevant Installation Change Management	SE
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results ✓ 8. RPA iSCSI configuration ✓ 8. 1. Cluster iSCSI settings ✓ 9. EMC Online Support site credentials ✓ 10. Update RecoverPoint release ✓ 11. Installation Change Management procedures ✓ 13. Storage configuration ✓ 13. Storage registration ✓ 13. Storage registration ✓ 13. A Storage connectivity ✓ 13. A Storage iSCSI ports ✓ 13. 4. Apply SCSI configuration results ✓ 13. 6. Repository volume ✓ 14. Apply configuration ✓ 15. Summary 	EMC Online Support site credentials are needed for downloading RecoverPoint Installation Change Managem You must provide credentials or an Installation Change Management file available locally. EMC Online Support login credentials Username sample@testing.emc.com Password evervee Warning: You should only select this option if you do not have Internet connectivity. Use an offline Installation Change Management XML file File name	ent information

Enter EMC Online Support site credentials (username and password) to access relevant RecoverPoint/SE ISO images to apply to the cluster, and to provide you with the relevant Installation Change Management information required to complete the installation.



The Update RecoverPoint release screen appears.

RecoverPoint/SE Installer Wizard [Simulator]	ning on the RPAs.
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. JP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results ✓ 8. RPA iSCSI configuration ✓ 8. 1. Cluster iSCSI settings ✓ 9. EMC Online Support site credentials ♥ 10. Update RecoverPoint release ♥ 11. Installation Change Management procedures ♥ 12. Apply configuration ↔ 13. 1. Storage consectivity ↔ 13. 2. Storage consectivity ↔ 13. 4. Apply SiSCI ports ◇ 13. 4. Apply SiSCI ports ◇ 13. 5. Repaistory volume ◇ 14. Apply configuration ◇ 13. 5. Sumger Size ports ◇ 14. Apply configuration 	 The RPAs you are about to install are running different RecoverPoint releases. To continue, all the RPAs in the cluster must run the same release (ISO image). Select the option to update the same ISO image to all the RPAs. Update options Update with an ISO image available from EMC Online Support site (recommended) Select this option to download an ISO image available from EMC Online Support site (login credentials required) Update with an ISO image available locally Select this option if you have an ISO image on your local machine, a DVD, a USB device, or an FTP server
	< Back Next > Finish Cancel

The message at the top of this screen reports the RecoverPoint release that is currently running on all of the RPAs in your cluster (that is, the ISO image that comes pre-installed), or alternatively notifies you that not all of your RPAs are running the same image. To ensure that all of your RPAs are running the latest image for the current release, select **Update with an ISO image available from EMC Online Support**.

The ISO image download details screen appears.

SO image download details			Co.
Provide EMC Online Support site credentials, choose the desir	red ISO image and	and define where to save it.	SE
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery 	EMC Online Su Username Password	upport site credentials sample@testing.emc.com	
 5. IP and connectivity settings 6. Login credentials 7. Connectivity results 	RecoverPoint ISO image download details Pelare RecoverPoint 4 0 SD2 DI ISO image (864 MR)		
 S. RPA iSCSI configuration S. 1. Cluster iSCSI settings S. 2. RPA iSCSI ports S. 2. RPA iSCSI ports S. D. Update RecoverPoint release 11. Inge settings 11. 1. ISO image download details 11. 1. ISO image download details 11. 2. ISO file information 12. Installation Change Management procedures 13. Upgrade and Apply configuration results 14. Storage configuration 14. Storage conscivity 14. Storage connectivity 14. Storage configuration results 14. Apply ISCSI configuration results 14. Apply SISCI configuration results 14. Apply configuration 15. Apply configuration 16. Summary 	Target folder	\\vmware-host\Shared Folders\Desktop	Browse
		< Back Next > Finish	Cancel

To continue:

- Enter your EMC Online Support credentials.
- Select the RecoverPoint version you wish to download.
- Indicate where you want to save it on your local machine (that is, the machine running Deployment Manager).
- Click Next.

The ISO image downloads to your local machine.

When the download is complete, the ISO file information screen appears.

🔯 RecoverPoint/SE Installer Wizard [Simulator]			- 0 <u>- X</u>	
ISO file information Enter ISO file information to download the ISO file to the RPAs				
I. Prerequisites 2. Configuration file 3. Environment settings 4. PPA discovery	elect a downloa	ad source and enter ISO file name: m local machine		
 ✓ 5. IP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results 	File name	B\rel4.1_d.208\emc\rel4.1_d.208_release_emc_md5_7b8bd990374c67a79fe1bf10b2b688c3.iso	Browse	
 ✓ 8. RPA iSCSI configuration ✓ 8. 1. Cluster iSCSI settings ✓ 8. 2. RPA iSCSI ports 	Copy from I File name A DVD/U	DVD or USB device inserted in the RPAs SB is inserted in all of the RPAs		
 ✓ 9. EMC Online Support site credentials ✓ 10. Update RecoverPoint release ◆ 11. Image settings 	Download from FTP server			
 ⇒ 11. 1. So the information ⇒ 12. Installation Change Management procedures ⇒ 13. Upgrade and Apply configuration results ⇒ 14. Storage configuration 	Server IP Server port	21		
 ⇒ 14. 1. Storage registration ⇒ 14. 2. Storage connectivity ⇒ 14. 3. Storage iSCSI ports 	Username Password			
 ↓ 14. A. Apply iSCSI configuration results ↓ 14. 5. SAN diagnostics ↓ 14. 6. Repository volume 	File location File name			
 ⇒ 15. Apply configuration ⇒ 16. Summary 				
		< Back Next > Finish	Cancel	

Deployment Manager offers several methods for delivering the ISO to the RPAs:

- Upload the ISO directly to the RPAs from the workstation.
- Copy the ISO file to a USB drive or burn it on a DVD, and then simply connect or insert the media into the RPA.
- Upload the ISO file to an FTP site, and have the RPAs download the ISO from the FTP site.



Click **Next**. Regardless of the delivery method, the Installation Change Management procedures screen appears.

RecoverPoint/SE Installer Wizard [Simulator]	Contraction in the second second second	- • ×
Installation Change Management procedures Before continuing, ensure the Installation Change Management	procedures are completed.	se
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results ✓ 8. EMC Online Support site credentials ✓ 9. Update RecoverPoint version ✓ 10. Image settings ✓ 10. In 30 file information ✓ 11. Upgrade Change Management procedures ↔ 12. Upgrade and Apply configuration results ↔ 13. Storage configuration ↔ 13. VIW/CLARION Login credentials ↔ 13. 3. SAN diagnostics ↔ 13. A. Repository volume ↔ 14. Apply configuration < 15. Summary 	③ ? General installation messages ④ ① Encountering a Problem while running Deployment Manager ④ △ Activity, Follow-up ④ ① Restriction with VINX 0532.000.5.006 Installation Change Management procedures ④ ① FLA emc298607.VINX. RecoverPoint: VINX Operating Environment (OE) for Block 0532 is incomsoftware. ④ ① FLA emc298607.VINX. Non-disruptive upgrade (NDU) from VINX 0E 05.31.000.5.20X and later 1 05.32.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.32.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage processor (SP) and the inability of the 05.22.000.5.008 could result in a reboot of a single storage proc	npatible with RecoverPoint Appliance to VNX OF 5.32.000.5.006 or VNX OF te NDU operation to complete,
	Help < Back Next >	<u>Finish</u> Cancel

Based on the ISO image that you have distributed to the RPAs in your cluster, the wizard presents you with a list of general installation messages and Installation Change Management procedures that must be completed before continuing the installation.

Open each procedure. When you have performed the tasks required to complete the procedure, close the procedure, and mark the checkbox. When you have completed all of the procedures, click **Next**.

Deploy RecoverPoint/SE on Physical RPA Cluster

The Apply configurations screen appears.

RecoverPoint/SE Installer Wizard [Simulator] Apply configuration results The results of applying the configuration settings to all RPAs	are shown below.	se ⁻
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results ✓ 8. IPA iSCSI configuration ✓ 8. 1. Cluster iSCSI settings ✓ 8. 2. RPA iSCSI configuration ✓ 8. 1. Cluster iSCSI settings ✓ 9. EMC Online Support site credentials ✓ 10. Update RecoverPoint release ✓ 11. InSol file information ✓ 12. Installation Change Management procedures ✓ 14. Storage configuration ↔ 14. Storage configuration ↔ 14. Apply iSCSI configuration results ↔ 14. Apply iSCSI configuration results ↔ 14. A. Spository volume ↔ 15. Apply configuration ✓ 16. Summary 	File name: rel4.1_d.202_release_emc_md5_1af62a791c523a8abbc8a0f032bdbc07.iso RPA1 Image: Configuration RPA 2 Image: Configuration Image: Configuration Image: Configuration Image: Configuration Image: Configuration Image: Configuration Image: Configuration	
	< Back Next > Finish	Cancel

While uploading the ISO file, the Apply configuration results screen shows the progress of the upload for each RPA.

Deployment Manager notifies you when upgrade and installation of the ISO is completed for all the RPAs in the cluster.

RecoverPoint/SE Installer Wizard [Simulator]		
Apply configuration results The results of applying the configuration settings to all RPAs	are shown below.	SE
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. IP and connectivity settings 4. Clogin credentials 7. Connectivity results 8. RPA iSCSI configuration 8. a. RPA iSCSI ports 9. EMC Online Support site credentials 9. EMC Online Support site credentials 9. EMC Online Support site credentials 9. Intrastructure of the state o	File name: rel4.1_d.202_release_emc_md5_1af62a791c523a8abbc8a0f032bdbc07.iso RPA 1 Upgrading and Installation completed successfully RPA 2 Upgrading and Installation completed successfully	
	< Back Next > Finish	Cancel

You can now progress to the Storage configuration step.



In the storage registration screen, enter the storage processor IP addresses of the array at the RPA cluster you are installing (as recorded on your IP & SAN Setup Details Template), a username and password for the array, and an authentication scope (for LDAP).

RecoverPoint/SE Installer Wizard [Simulator]				
Storage registration				0
Register your VNX/CLARiiON array for RecoverPoint management.				
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results Ø. RPA iSCSI configuration ✓ 8. 1. Cluster iSCSI settings ✓ 9. EMC Online Support site credentials ✓ 10. Update RecoverPoint release ✓ 11. 1. ISO file information ✓ 12. Installation Change Management procedures ✓ 13. Upgrade and Apply configuration results ✓ 14. Storage configuration ✓ 14. 3. Storage iSCSI ports ✓ 14. 3. Storage iSCSI ports ✓ 14. 4. Apply iSCSI configuration results ✓ 14. 5. SAN diagnostics ✓ 14. 5. SAN diagnostics ✓ 15. Apply configuration ✓ 16. Summary 	EMC Unisphere/Navisp IP address of SP-A: IP address of SP-A: Username: Password: Authentication scope:	here login credentials 10.10.10.10 admin •••••• Giobal		
			< Back Next >	<u>Finish</u> Cancel

Based on this information, the system attempts to log in to the VNX/CLARiiON and to validate that:

- The RecoverPoint/SE Installer can communicate with VNX/CLARiiON SP A and SP B.
- The login credentials are correct for SP A and SP B.
- SP A and SP B are not already attached to RecoverPoint/SE cluster.
- IP settings were applied successfully.

Click **Next** when you are done to display the Storage connectivity screen.

The Storage connectivity screen notifies you whether or not all of the RPAs in the RPA cluster are connected to the storage

RecoverPoint/SE Installer Wizard [Simulator]		
Storage connectivity The storage connectivity status is shown below. The conne	ctivity status is relevant to all RPA clusters in the RecoverPoint system.	
The storage connectivity status is shown below. The conne 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. JP and connectivity settings 6. Login credentials 7. Connectivity results 8. RPA iSCSI configuration 8. 1. Cluster iSCSI settings 8. 2. RPA iSCSI ports 9. EMC Online Support site credentials 10. Update RecoverPoint release 11. Image settings 11. 1. ISO file information 12. Installation Change Management procedures 13. Upgrade and Apply configuration results 14. 1. Storage configuration 14. 1. Storage contextivity 14. 1. 3. Storage isoration 14. 3. Storage isoration 14. 4. Apply iSCSI ports 14. 4. Apply iSCSI ports 14. 5. Apply configuration 15. Apply configuration 15. Apply configuration 16. Summary	ctivity status is relevant to all RPA clusters in the RecoverPoint system. Storage connectivity status Storage type: VNX5300 Storage serial number: 123456	Se
	< <u>Back</u> <u>Next ></u> <u>Finish</u>	Cancel

If any errors exist, fix them now and click **Refresh**. When all RPAs are connected to the storage, click **Next**. The specified array is registered for RecoverPoint management.

In a direct attach configuration, no zoning is required, as no fabrics are involved.

With any other topology, however, you are now presented with a choice of several methods for zoning the RPAs with the VNX or CLARiiON storage systems.

Regardless of the zoning method, the following zones must be available on each fabric:

- Port from RPA 1 to a port from each storage processor (SP-A, SP-B)
- Port from RPA 2 to a port from each storage processor (SP-A, SP-B)
- Port from RPA 1 to a port from RPA 2 (for use in inter-RPA communication)

For an example of the required zoning, see page 40.


Deploy RecoverPoint/SE on Physical RPA Cluster

 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery 	Zoning method Automatic The Installer will zor	e the RPAs and the VNX/CLARiiON array	ys automatically (Only Brocade	or Cisco switches).
S. IP and connectivity settings S. IP and connectivity settings Connectivity results I. Insignation in the set of the set o	Semi-automatic The Installer will cre Manual The Installer will inc Direct-attach stor. The installer will ver	ate the necessary zoning scripts, but you icate which ports should be zoned toget ige ify that each RPA is directly connected to	i must apply them yourself (Onl ther, and you must zone them y o SP A and SP B of the VND//CLA	y Brocade and Cisco switches). ourself. RiiON Array.
	Fabrics credentials Fabric A Switch type: Cisco IP: Username: Password:	Mandatory Field Mandatory Field Mandatory Field	Fabric B Switch Type: Cisco IP: Username: Password:	Mandatory Field Mandatory Field Mandatory Field

• Zoning in RecoverPoint/SE may be performed automatically, dependent on your fabric vendor.

If you are using Brocade or Cisco fabrics, you may be able to select the Automatic option. Once you enter all of the Fabric credentials (switch type, IP, username, and password), and click **Next**, the Installer implements the zoning automatically.

- **Note:** In order to use automatic zoning, Telnet connectivity to both Fabrics is mandatory.
- Alternatively, you may choose the semi-automatic option.

To use semi-automatic zoning, you must first enter the switch credentials. Upon entering the switch credentials, the RPA connects to the switch to determine which WWNs are connected, and creates a script that can be used to create the zoning accordingly.

This script is presented onscreen, and can be exported for further use by clicking **Export to Clipboard**.

Deploy RecoverPoint/SE on Physical RPA Cluster



• Finally, you can select the manual zoning option, to perform the zoning yourself.

✓ 1. Prerequisites	RPAs WWNs					
2. Configuration file		D 111 1	AL 1 10000			
3. Environment settings	KPA	Port Number	Node WWW	Port WWN		
✓ 4. RPA discovery	⊿ RPA1	0	0.500124002059-0	0.500124902	-919-0	
✓ 5. IP and connectivity settings		1	0x500124802aa8b8a8	0x5001248028	1860689	
6. Login credentials	4 PDA 2	1	0XJ001240128800080	00001246126	1000039	
 Connectivity results FMC Online Support site and acticle 	a NEAZ	0	0v500124802aa4bbd4	0x5001248022	a4bbd5	
8. Elvic Online Support site credentials		1	0x500124812aa4bbd4	0x500124812a	a4bbd5	
10 Image settings						
10.1. ISO image download details						
⇒ 10. 2. ISO file information						
11. Installation Change Management procedures						
12. Upgrade and Apply configuration results						
13. Storage configuration						
13.1. VNX/CLARiiON Login credentials						
13. 2. VNX/CLARiiON Login status						
♀ 13. 3. Zoning						
13. 3. I. Manual Zoning						
13 5 Repositon volume						
14. Apply configuration						
⇒ 15. Summary						
	VNX/CLARiiON Ar	ray				
	Port Number	Node WWN	Port WWN		SP	
	0	0x500601603ea02787	0x500601613ea	02787	N/A	
	1	0x500601623ea02787	0x500601633ea	02787	N/A	
	2	0x500601643ea02787	0x500601653ea	02787	N/A	
	✓ WWNs retriev	ed successfully.				<i>©</i> В

Deploy RecoverPoint/SE on Physical RPA Cluster

If you choose to perform zoning manually, use the following example for reference.

Zoning E	Example
Fabric A entities:	Fabric B entities:
Starage Dart (SDA).	Starage Devt (SDA).
[pwwii 30:06:01:64:50:60:03:99]	[pwwll 50:06:01:05:50:e0:0a:99]
Storage For (SPD):	
[pwwn 50:06:01:60:50:e0:0a:99]	[pwwn 50:06:01:00:50:e0:0a:39]
[nwwn 50.01.24.82.00.92.4a.86]	$[n_{AAAAA} = 50.01.24.82.01.62.42.86]$
RPA2, Port 2:	RPA2, Port 0:
[pwwn 50:01:24:82:00:89:9a:c2]	[pwwn 50:01:24:82:01:a9:9a:c2]
Zoning	Zoning
<u>201111</u> g	
RPA 1, Port 0 to Storage Port (SPA, SPB):	RPA 1, Port 2 to Storage Port (SPA, SPB):
zone name RP_London_0_0 vsan 25	zone name RP_ London _0_0 vsan 55
[pwwn 50:01:24:82:00:92:4a:86]	[pwwn 50:01:24:82:01:b2:4a:86]
[pwwn 50:06:01:64:3d:e0:0a:99]	[pwwn 50:06:01:65:3d:e0:0a:99]
[pwwn 50:06:01:6c:3d:e0:0a:99]	[pwwn 50:06:01:6d:3d:e0:0a:99]
RPA2, Port 2 to Storage Port (SPA, SPB):	RPA2, Port 0 to Storage Port (SPA, SPB):
zone name RP_ London _1_0 vsan 25	zone name RP_ London _1_0 vsan 55
[pwwn 50:01:24:82:00:89:9a:c2]	[pwwn 50:01:24:82:01:a9:9a:c2]
[pwwn 50:06:01:64:3d:e0:0a:99]	[pwwn 50:06:01:65:3d:e0:0a:99]
[pwwn 50:06:01:6c:3d:e0:0a:99]	[pwwn 50:06:01:6d:3d:e0:0a:99]
RPA 1, Port 0 to RPA2, Port 2:	RPA 1, Port 2 to RPA2, Port 0:
zone name	zone name
RP_London_COMMON_0 vsan 25	RP_London_COMMON_0 vsan 55
[pwwn 50:01:24:82:00:89:9a:c2]	[pwwn 50:01:24:82:01:b2:4a:86]
[pwwn 50:01:24:82:00:92:4a:86]	[pwwn 50:01:24:82:01:a9:9a:c2]



Once you have completed zoning, the SAN diagnostics mechanism informs you whether the components have been successfully identified.

RecoverPoint/SE Installer Wizard [Simulator] SAN diagnostics The results of the SAN diagnostics test are shown below.						SE
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. JP and connectivity settings 6. Login credentials 7. Connectivity results 8. RPA iSCSI configuration 8. RPA iSCSI settings 9. ENC Online Support site credentials 10. Update RecoverPoint release 11. Insage settings 11. I. ISO file information 12. Installation Change Management procedures 13. Upgrade and Apply configuration results 14. 1. Storage conjectivity 14. 2. Storage sconectivity 14. 3. Storage SCS ports 14. 4. Apply iSCSI configuration results 15. Apply configuration 	Severity Severity INFO INFO INFO	RPA RPA1 RPA2	Message ID	Category	Description Only one path detected to RPA. Verify that zon Only one path detected to RPA. Verify that zon	
					< Back Next > Einish	Refresh Cancel

If errors are detected, you can click each error to display additional details about that error. You must correct all SAN discovery errors before proceeding. In addition, it is highly recommended that you resolve all warnings. Click **Refresh** to refresh the list after resolving errors. When all errors are resolved, click **Next**.

Deploy RecoverPoint/SE on Physical RPA Cluster

Before the storage configuration can be applied at this site, a *repository volume* must be designated. The repository volume is responsible for maintaining the configuration information independently for each RecoverPoint cluster; therefore, you must define a repository volume at both sites.

If you select **Automatic**, the Installer displays a list of all resources mapped to the RPA cluster. Select a resource pool to allow RecoverPoint to automatically provision the repository volume upon it. The minimum size of a repository volume automatically provisioned by RecoverPoint is 5.72 GB.

Prerequisites Configuration file Environment settings RPA discovery S.IP and connectivity settings	 Automatic The installer v Manual The installer v 	vill automaticall vill list possible v	y create and config volumes, and you co	ure a repository	volume. e that will be configured as the repository volum
b. Login credentials 7. Connectivity results	Gira	Vendor	Product	Name	LID
3. RPA XSCSI configuration ☑ 8. 1. Cluster iSCSI settings ☑ 8. 2. RPA XSCSI ports ③ 9. EMC Online Support site credentials ☑ 10. Update RecoverPoint release ☑ 11. Image settings ☑ 11. Insign settings ☑ 12. Installation Change Management procedures ☑ 13. Upgrade and Apply configuration results ☑ 14. Storage configuration ☑ 14. 1. Storage configuration ☑ 14. 2. Storage configuration results ☑ 14. 4. Apply XSCI configuration results ☑ 14. 4. Apply XSCI configuration results ☑ 14. 4. Apply XSCI configuration results ☑ 14. 6. Repository volume	4.0GB 4.0GB 5.0GB 5.0GB 6.0GB 8.0GB 9.0GB	EMC EMC EMC EMC EMC EMC EMC EMC	DGC (VNX53 DGC (VNX53 DGC (VNX53 DGC (VNX53 DGC (VNX53 DGC (VNX53 DGC (VNX53	Volume3 Volume6 Volume5 Volume7 Volume7 Volume1	0x-51a46ecbd06b9fbfb902e4a850899f 0x2a7338052f3ae4c495cd4e5e2754562 0x2bb59a72563803b40228f8302a77548 0x-66734c49f9450e471488e75569f1e97 0x4bc653439cfd6ba745c6603567cb258 0x-58f16ef63f5c448bf082bb64a386bc37 0x11018afeb87a11e77dcb4b95d1ba10
15. Apply configuration 16. Summary	L				R

You may also select the **Manual** option to select a volume (i.e. LUN) mapped to the RPA cluster from the list and designate it as the repository volume. In this case the minimum size of the repository volume is 2.86 GB.

In both automatic and manual repository volume provisioning, any capacity beyond the stated minimum capacity is not used. Therefore, best practice is to select resource pools or volumes as close to the minimum size as possible.

Note: Do not change the name of the repository volume after it has been created.

When that process is complete, you are now ready for the Installer to apply the designated configuration (**Apply configuration**) on the RPA cluster and the storage arrays. Click **Next**.



Be aware that the apply storage configuration process may take several minutes. Progress bars indicate that the system is applying settings and completing the installation. Once the progress bars stop, the system will confirm that all components are OK, or that errors are detected. If errors are detected, you can click each error to display additional details about that error.



If you are unable to fix a problem, contact EMC Customer Support.

Deploy RecoverPoint/SE on Physical RPA Cluster

Once the installation process has been successfully completed, click **Next** to display the Summary screen, including a detailed description of all of the newly created entities in the new cluster.

RecoverPoint/SE Installer Wizard [Simulator]	
Summary	
Installation of RecoverPoint/SE is now complete.	
✓ 1. Prerequisites	Cluster MyCluster configuration summary
2. Configuration file	Starrage and the Starrage Course 1
3. Environment settings	storage group name: storage Group 1
4. RPA discovery	
5. IP and connectivity settings	
✓ 6. Login credentials	
7. Connectivity results	
8. RPA iSCSI configuration	
8.1. Cluster iSCSI settings	
8. 2. RPA iSCSI ports	
9. EMC Online Support site credentials	
✓ 10. Update RecoverPoint release	
11. Image settings	
11.1.ISO file information	
12. Installation Change Management procedures	
13. Upgrade and Apply configuration results	
14. Storage configuration	
14. 1. Storage registration	
14. 2. Storage connectivity	
14. 3. Storage iSCSI ports	
14. 4. Apply iSCSI configuration results	
14. 5. SAN diagnostics	
14. 6. Repository volume	You can now start using Unisphere for RecoverPoint at https://10.10.10.10/
15. Apply configuration	(i) Important: If you plan to replicate to remote clusters, you must connect this cluster to the RecoverPoint system
📫 16. Summary	using the 'Connect Cluster Wizard'.
	Seck Next > Finish Cancel
L	

You may now proceed in any of the following ways:

- If you want to create a second cluster of RPAs, repeat the procedure in this chapter.
- If you want to create a second cluster, but with vRPAs, continue with Create vRPAs, on page 45.
- If you want to connect the two clusters that you have already deployed, go to Connect Cluster, on page 79.
- If you want to proceed directly to Unisphere for RecoverPoint—for instance, to configure your RecoverPoint system over one cluster for continuous local replication—click the cluster management IP address at the bottom of the **Summary** screen, and continue to Chapter 10 on page 87.



Chapter 7 Create vRPAs

In this chapter, the procedure for creating a virtual RPA (vRPA) is presented.

Note the following:

- If possible, all vRPAs should be on separate ESX servers. Minimally, vRPAs 1 and 2 must be on separate ESX servers.
- To download the Virtual RPA Open Virtualization Format (OVF) file from EMC Online Support you must have the requisite permission. EMC grants this permission upon your purchase of the vRPAs that you intend to deploy and your acceptance of the EMC End-User Licensing Agreement.
- You can create each vRPA instance individually from an OVF file. Alternatively, you can create multiple vRPAs by cloning or copying an existing vRPA. If you do, however, you must then enter all configuration information for each cloned vRPA, as per the process presented in "Chapter 8: Deploy RecoverPoint/SE on Virtual RPA Cluster," on page 53.

At the vCenter management console, from the File menu, select Deploy OVF Template.





The OVF deployment wizard appears.

🗗 Deploy OVF Template		_ 🗆 ×
Source Select the source location.		
Source OVF-Template Details End User License Agreement Name and Location ⊡ Host / Cluster Resource Pool Disk Format Properties Ready to Complete	Deploy from a file or URL VRPA.ovf 	
Help	<u>≤</u> Back Next≥	Cancel

Specify the vRPA OVF file location.

The vRPA **OVF template details** appear, showing the general properties of this OVF template.

🛃 Deploy OVF Template					_ 🗆 ×
OVF Template Details Verify OVF template details	3.				
Source OVF Template Details End User License Agreement Name and Location Deployment Configuration Host / Cluster Resource Pool Disk Format Properties Ready to Complete	Product: Version: Vendor: Publisher: Download size: Size on disk: Description:	EMC RecoverPoint vRPA 4.0 EMC No certificate present Less than 1 MB Unknown (thin provisioned) 80.0 GB (thick provisioned) EMC RecoverPoint Virtual Appliance			
Help			<u><</u> Back	Next ≥	Cancel





The EMC End-User License Agreement appears. If you accept the terms, click Accept and Next.

The **Name and Location** screen appears.

Deploy OVF Template Name and Location Specify a name and location	n for the deployed template	_ 🗆 X
Source OVF Template Details End User License Agreement Name and Location Deployment Configuration IB Host / Cluster Resource Pool Disk Format Properties Ready to Complete	Name: EMC RecoverPoint vRPA The name can contain up to 80 characters and it must be unique within the inventory folder. Inventory Location: R_VCS Point na Point DC Discovered virtual machine	
Help	<u>≤</u> Back Next≥	Cancel

Enter the name you wish to assign to this vRPA. If you enter the name of an existing vRPA, you will not be permitted to continue deployment.

🛃 Deploy OVF Template		×
Deployment Configuration		
Select a deployment configu	ration.	
Source OVF Template Details End User License Agreement Name and Location	Configuration:	
Deployment Configuration		
Host / Cluster	Resource use:	
Disk Format	CPU=2 Cores, Memory=4GB RAM, Storage=80GB Disk	
Properties		
Ready to Complete		
•		
Help	≤Back Next ≥ Cancel	1

Select the desired configuration profile. The options are as follows:

	2xCPU/4GB	4xCPU/4GB	8xCPU/8GB
virtual CPUs	2	4	8
RAM	4 GB	4 GB	8 GB



Select the desired vSphere host resource pool.

This step is optional because, in the absence of a resource pool, you can choose the vSphere host, which should comply with the minimum resources required by the vRPA.



	_							_
Source	Select	a destination stora	age for the virtua	I machine files:				
End User License Agreement	VM Sto	orage Profile:			<u> </u>			
Name and Location	Nam	ie i	Drive Type	Capacity	Provisioned	Free	Туре	Thin
Deployment Configuration	8	ISCSI_20G	Non-SSD	19.75 GB	920.00 MB	18.85 GB	VMFS5	Supp
Host / Cluster Resource Rool		Local ESX Disk	Non-SSD	662.75 GB	95.35 GB	645.35 GB	VMFS5	Supp
Storage	0	R_vCenter_19	Non-SSD	779.75 GB	79.75 GB	975.00 MB	VMFS5	Supp
Disk Format	0	VRPA	Non-SSD	99.75 GB	81.77 GB	93.46 GB	VMFS5	Supp
Network Mapping								
P Address Allocation								
Properties								
	C C	Disable Storage DRS	S for this virtual n	nachine				
	Selec	Disable Storage DR: it a datastore: ie	S for this virtual n	nachine Capacity Pr	ovisioned	Free	Туре	Thin P
	Select	Disable Storage DR. tt a datastore: te	S for this virtual r	nachine Capacity Pr	ovisioned	Free	Туре	Thin P
	Select Nam	Disable Storage DR. et a datastore: he atbility:	S for this virtual r	nachine Capacity Pr	ovisioned	Free	Туре	Thin P
	Select Nam	Disable Storage DR. t a datastore: ne atibility:	S for this virtual r	nachine Capacity Pr	ovisioned	Free	Туре	Thin P
	Select Name	Disable Storage DR. et a datastore: ne atibility:	S for this virtual r	Capacity Pr	ovisioned	Free	Туре	Thin P

Specify the vRPA **Storage** (datastore) that will be used to host the vRPA virtual machine files. The best practice is to select a high-performance datastore. Do not use a datastore that you intend to replicate with RecoverPoint.

🛃 Deploy OVF Template				<u>_ ×</u>
Disk Format	at to otare the victual disks?			
In which format do you war	It to store the virtual disks?			
Source OVE Template Details	Datastore:	Local ESX Disk		
End User License Agreement	Available space (GB):	545.3		
Name and Location	Available space (ab)	1 01010		
Host / Cluster				
Resource Pool	C Thick Provision Lazy Zero	ped		
Storage Disk Format	C Thick Provision Eager Ze	roed		
Network Mapping	Thin Provision			
IP Address Allocation Properties				
Ready to Complete				
Help			and I a	lunta Consul
				lext > Cancel

Specify the vRPA datastore virtual **Disk Format.** Select *Thin Provision*.

Source DVF Template Details End User License Agreement	Map the networks used in this OVF temp	ate to networks in your inventory	
lame and Location	Source Networks	DestinationNetworks	
eployment Configuration	WAN Network	WAN Network	
lost / Cluster	LAN Network	LAN Network	
tesource Pool	iSCSI1 Network	LAN Network	
Disk Format	iSCSI2 Network	LAN Network	
letwork Mapping		WAN Network	
P Address Allocation		ISCSI NELWORK	
Properties			
Ready to Complete			
	Description:		
	The iSCSI1 Network network		
	,		

Create the **Network Mapping** to map the four required vRPA Ethernet ports (Source Networks) to the available vSphere virtual networks (Destination Networks). Do not select the internal VMware iSCSI network (*iSCSI Network* option).

🛃 Deploy OVF Template			
IP Address Allocation			
Which allocation scheme sh	ould be used to allocate IP addresses?		
Source OVF Template Detais End User License Agreement Name and Location Deployment Conflouration Host / Custer Resource Pool Storage Disk Format Network Mapping IP Address Allocation Properties Ready to Complete	Choose the IP allocation policy to use: Fixed IP addresses are manually configured. No automatic allocation is performed. Transient IP addresses are automatically allocated from the vCenter managed IP network range at power-on, and released at power-off. DHCP A DHCP server is used for IP allocation.		
<u>H</u> elp		≤Back Next ≥	Cancel

Specify the desired **IP address allocation** policy for the vRPA temporary IP, which will later be used to connect to the Deployment Manager.



If you selected the fixed IP policy, enter the required IP **Properties**.

🛃 Deploy O¥F Template		X
Properties		
Customize the software solut	ion for this deployment.	
Source		
OVF Template Details End User License Agreement	Temporary IP	
Name and Location	10 . 76 . 5 . 101	
Storage	Temporary Subnet	
Disk Format	255 255 254 0	
IP Address Allocation		
Properties Ready to Complete		
	Temporary Gateway	
	10 . 76 . 4 . 1	
Help	< Back Next > Cancel	1

The Ready to Complete screen summarizes all your selections.

guration:	Z:\OVF\vRPA-Clean\vRPA.of Less than 1 MB Unknown EMC RecoverPoint vRPA Right_DC 2x CPU / 4GB RAM 10.76.5.90 Beijing (Right) Site Resource Poo Local ESX Disk	1
iguration:	Z:\OVF\vRPA-Clean\vRPA.of Less than 1 MB Unknown EMC RecoverPoint vRPA Right_DC 2x CPU / 4GB RAM 10.76.5.90 Beijing (Right) Site Resource Poo Local ESX Disk	51
guration:	Less than 1 MB Unknown EMC RecoverPoint vRPA Right_DC 2x CPU / 4GB RAM 10.76.5.90 Beijing (Right) Site Resource Poo Local ESX Disk	h
guration:	Unknown EMC RecoverPoint vRPA Right_DC 2x CPU / 4GB RAM 10.76.5.90 Beijing (Right) Site Resource Poo Local ESXDisk	al a
guration:	EMC RecoverPoint vRPA Right_DC 2x CPU / 4GB RAM 10.76.5.90 Beijing (Right) Site Resource Poo Local ESX Disk	si
guration:	Right_DC 2x CPU / 4GB RAM 10.76.5.90 Beijing (Right) Site Resource Poo Local ESXDisk	si
guration:	2x CPU / 4GB RAM 10.76.5.90 Beijing (Right) Site Resource Poo Local ESXDisk	si.
	10.76.5.90 Beijing (Right) Site Resource Poo Local ESX Disk	si.
	Beijing (Right) Site Resource Poo Local ESX Disk	al
	Local ESX Disk	
	Thin Provision	
	"WAN Network" to "WAN Networ	rk"
	"LAN Network" to "LAN Network'	
	"iSCSI1 Network" to "LAN Netwo	ork"
	"iSCSI2 Network" to "LAN Netwo	irk"
	Dhcp, IPv4	
deployment		
	fenloyment	"ISCSII Network" to "LAN Netwo "ISCSI2 Network" to "LAN Netwo Dhcp, IPv4



The **Deploying vRPA** box appears, showing the progress of vRPA creation.

🚰 R_VC5 - vSphere Client						_ 🗆 ×
File Edit View Inventory	Administration Plug-ins	Help				
🖸 🖸 🏠 Home 👂	🔉 🛃 Inventory 🌓 🎁	Hosts and Clusters			🛃 - Search Invento	ry 🔍
রা লা 👳						
R.VCS Dev Infra Ripht_DC Defing (R Peijing (R Peijing (R Peijing (R	10.76.5.90 V Gabino Chat 18% Deploying VRP Deploying VRPA Deploying disk 1 of 1 fro C:\Users\Administrator\	Mware ESXI, 5.1.0, 79973 where ESXI, 5.1.0, 79973 where the second sec	3 Hinar Decource & R R X	ocason Performance (ores Devices Refresh Delet > Status G Ø Normal Disk Ø Normal	e Add Storage Device DGC ISCSI Disk (Local DELL Disk (Events Ak 4 b Rescan All Drive Type Non-SSD Non-SSD
	2 minutes and 22 secon	ds remaining		sr_196 🔶 Alert	DGC Fibre Channel.	Non-SSD
	Close this dialog whe	n completed	Cancel	Normal	DGC Hore Channel	NOR-DDU
	Power M	lanagement				• •
	Software		Datastore De	tails		Properties
	Licensec Time Co DNS and Authent Power M Virtual M	Features nfiguration Routing ication Services lanagement lachine Startup/Shutdown	VRPA Location: Hardware Ac Refresh Stor System Stora Locat defined	/vmfs/volumes/S0e9654b-e2 celeration: Supported age Capabilities age Capability: N/A Sterase Capability: N/A	df7a90-c569-001ec9acb	30c
Recent Tasks			N	lame, Target or Status contai	16: •	Clear ×
Name	Target	Status Details	Initiated by	vCenter Server	Requested Start Ti 🗸	Start Time
Deploy OVF template	P VRPA	16%	Administrator	R_VC5	1/12/2013 8:25:38 PM	1/12/2013 8:25:
Unregister virtual mach	🖆 vRPA	Completed	Administrator	R_VC5	1/12/2013 8:18:14 PM	1/12/2013 8:18:
I						Þ
🔄 Tasks 🞯 Alarms 📃						Administrator

When completed, the vRPA $\ensuremath{\text{Summary}}$ tab shows the vRPA package contents as specified.

Image: Source of the second state o	III D 3 13 13		
¹ PAS </th <th></th> <th></th> <th></th>			
Image: Second Secon	R_VC5 Dev Infra Right_DC Right_DC Right_DC	VRPA	Taste & Events Alarms Console Permissions Maps Storage Ver Resources
Power Ch Power Ch Exit Settings Power Ch Conce to leave White Also leave Power Ch Conce to leave White Also leave Power Ch Power Power Ch Powe	in trans.so in the temp (product Steen in temp (produc	Product: DNC RecoverPoint vIPA Version: 4.0 (4.0) Version: DNC Guest 005: Delain GMU(Inus 6 (of-bit) VM Version: vers. 07 CNU: 2 VCRJ Memory: 4006 MB Memory: 4006 MB ME ME ME ME ME ME ME ME ME ME	Concurred Hold CPUs Concurred Hold Kennoys: Concurred Hold Kennoys: Refresh Storage: Pronsionel Storage: Pronsionel Storage: 2.21 GB Storage: 2.21 GB Storage:
	1 J	Fourie On Fourie On Fourie Con Fourie Four	Proties Compliance:

The new vRPA virtual machine is ready to be powered on. The selected IP policy will be implemented automatically when the vRPA is powered up.



Chapter 8 Deploy RecoverPoint/SE on Virtual RPA Cluster

The chapter presents the procedure for deploying virtual RPAs in RecoverPoint clusters.

By this point, you should have completed all of the tasks necessary to prepare for installation of your RecoverPoint/SE software. The status should be as follows:

- The RecoverPoint splitter is enabled on the array (that is, with status of Active).
- The virtual RPAs have been assigned with temporary IPs (given that DHCP is not available).
- The VNX storage processors are fully cabled.
- VNX arrays are running OE for Block version later than 05.32.000.5.201.
- VNX arrays are pre-configured with iSCSI ports.
- Virtual RPAs have been created, on ESXi 5.0 (or later) servers, using the RecoverPoint OVF file (see Chapter 7: "Create vRPAs," on page 45).
- VMware vCenter Server is 5.0 or later, with at least one registered vSphere 5.0 or later.
- Valid segmented network infrastructure between:
 - The vSphere host and the VNX array (iSCSI 1G/10G)
 - The vSphere host and the existing RPA cluster networks (LAN and WAN)
- Reserved quota for virtual system resources: CPU, memory, disk.
- Four virtual networks: LAN, WAN, iSCSI1, iSCSI2.
- The IP & SAN Setup Details Templates are completed and available.
- Java[™] 7 (update 13 or higher), 32-bit, must be installed on your workstation, that is, the machine on which you will be running the Deployment Manager software. It is highly recommended to have the latest Java 7 update installed.

If you have not completed all of the prerequisites for installation, you should do so now, before continuing.

The RecoverPoint/SE Installer Wizard installs one RPA cluster at a time. Therefore, if you want to deploy a cluster at a second site, run the wizard a second time.



Deploy RecoverPoint/SE on Virtual RPA Cluster

Note: This cluster is called an "RPA cluster", regardless of whether it contains physical or virtual RPAs. Mixing physical RPAs and virtual RPAs in the same cluster is not allowed.

If you install two clusters, you will then need to run the Connect Cluster Wizard to enable replication and communication between them.

Some notes about the RecoverPoint/SE Installer Wizard:

- To improve system performance, enter values in all fields presented by the wizard.
- Java[™] 7 (update 13 or higher), 32-bit, must be installed on the local workstation, that is, the machine on which you will be running the wizard. It is highly recommended to have the latest Java 7 update installed.
- Whenever you click **Next**, the system automatically saves configuration settings in the configuration file.

Once all preparations for installation are complete, extract the files from the RecoverPoint Deployment Manager zip file (which you should find in your RecoverPoint/SE Installation Kit) to a local disk, and then open RecoverPoint_DM.exe.

You are prompted to check for a newer release of Deployment Manager.



If you are using the Deployment Manager from the RecoverPoint/SE Installation Kit that you just downloaded from EMC Online Support, you can be assured that you have the latest release, so click **No**.





You are prompted to choose which RecoverPoint/SE release you plan to install. Select **RecoverPoint 4.0 or later releases**.

The Login screen appears.

Re	coverPoint Deployment I	Manager
	Install RecoverPoint/SE	
	Upgrade RecoverPoint/SE	
	 Other operations (EMC persor 	nnel)
	Username:	
	Password:	

Select Install RecoverPoint/SE, and click Login.

Deploy RecoverPoint/SE on Virtual RPA Cluster

The RecoverPoint Deployment Manager Wizard screen appears.

RecoverPoint De	ployment Manager Wizard [Simulator]	
RecoverPoint [Deployment Manager Wizard [Simulator]	
Please select the d	lesired wizard. Click 'Next' to continue	
	RecoverPoint/SE Installer Wizard	
SE	Use this wizard to install a new RecoverPoint/SE cluster.	
	Connect Cluster Wizard	
	Use this wizard to connect a new cluster to an existing RecoverPoint system.	
	< Back Next > Finish	Cancel

Select RecoverPoint/SE Installer Wizard.



The Prerequisites screen appears.

RecoverPoint/SE Installer Wizard [Simulator]	
Prerequisites Before continuing, ensure the following conditions are	e met on your system.
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. IP and connectivity settings 6. Login credentials 7. Connectivity results 8. EMC Online Support site credentials 9. Update RecoverPoint version 10. Upgrade Change Management procedures 11. Apply configuration results 12. Storage configuration 13. Apply configuration 14. Summary 	 Before continuing, ensure the following conditions are met on your system. If any of the conditions are not fulfilled, it is recommended to close the wizard, fulfill the conditions, then run the wizard again. RPAs are connected to SAN and Ethernet network RPAs are loaded with the same RecoverPoint/SE ISO image RPAs are loaded with the same RecoverPoint/SE ISO image RPAs are set with IP addresses (optional if your environment includes a DHCP server) The computer that the wizard is run from must be able to communicate with the cluster management IP and all of the cluster's RPA management (LAN) networks. Ensure that ports 21, 22, 7225, and 8082 (all TCP) are open on the computer to enable communication with all RPAs. Trp: Telnet to these ports on the computer to ensure they are open. RPAs are either all physical RPAs or all virtual RPAs You have EMC Online Support login credentials. If you do not have these credentials, or the computer that the wizard is run from does not have Internet connectivity, you must have an Installation Change Management XML file available locally to complete the upgrade. If installing physical RPAs: Virtual RPAs are rack mounted All RPAs must be Gend or later If installing virtual RPAs: ViX arrays are running OE for Block version later than 05.32,000.5.201 VIX arrays are running OE for Block version later than 05.32,000.5.201 VIX arrays are running OE for Block version later than 05.32,000.5.201 VIX arrays are not and the VIX array (SCSI J ports VIX arrays are running OE for Block version later than 05.32,000.5.201 VIX arrays are running OE for Block version later than 05.32,000.5.201 VIX arrays are running OE for Block version later than 05.32,000.5.201 VIX arrays are than dthe existing RPA cluster networks (LAN and WAN) Reserved quota for virtual system resources: CPU, memory, disk
	Help Next > Einish Cancel

Assuming all of the prerequisites have been completed, select the checkbox, and continue with the installation.

Deploy RecoverPoint/SE on Virtual RPA Cluster

The Configuration file screen appears.

RecoverPoint/SE Installer Wizard [Simulator] Configuration file Select the desired installation mode and click 'Next' to co	ntinue.	
 ✓ 1. Prerequisites ◆ 2. Configuration file ◆ 3. Environment settings ◆ 4. RPA discovery ◆ 5. IP and connectivity settings ◆ 6. Login credentials ◆ 7. Connectivity results ◆ 8. EMC Online Support site credentials ◆ 9. Update RecoverPoint release ◆ 10. Installation Change Management procedures ◆ 11. Apply configuration results ◆ 12. Storage configuration ◆ 13. Apply configuration ◆ 14. Summary 	Create a new installation configuration file (\vmware-host\Shared Folders\Desktop\RPSE_config.properties Continue an installation from a saved configuration file	Browse
	< Back Next > Finish	Cancel

Select the first option, **Create a new installation configuration file**. Then, specify the path for the file, RPSE_config.properties, as your installation configuration file. It will be used to store the installation settings that you specify during this installation for backup purposes.

The same file should be specified when continuing an installation that was interrupted prior to completion. In that case, select the second option, **Create or continue an installation from a saved configuration file**, and enter the filename there.

Note that the RecoverPoint installation process is performed on one cluster at a time.

When you are done, click Next to display the Environment settings screen.

efine the RecoverPoint cluster settings.		SE
✓ 1. Prerequisites ✓ 2. Configuration file ◇ 3. Environment settings ◇ 4. RPA discovery ◇ 5. IP and connectivity settings ◇ 6. Login credentials ◇ 7. Connectivity results ◇ 8. EMC Online Support site credentials ◇ 9. Update RecoverPoint release ◇ 10. Installation Change Management procedures ◇ 11. Apply configuration results	General Cluster name Mandatory Field Number of RPAs 2 Time zone (GMT+02:00) Asia/Jerusalem Connectivity LAN WAN IP type IPv4 MTU 1500 I500	
 [⊕] 10. Installation Change Management procedures [⊕] 11. Apply configuration results [⊕] 12. Storage configuration [⊕] 13. Apply configuration [⊕] 14. Summary 	Environment Domain name Primary DNS server Secondary DNS server NTP server Secondary NTP servers	



Begin by entering the general parameters that define the cluster:

- Cluster name
- Number of vRPAs
- Time zone

Add connectivity settings:

- LAN IP type (IPv4 or IPv6, or both) and MTU (for which the default value is 1500, and should not be changed)
- WAN IP type (IPv4 or IPv6) and MTU (for which the default value is 1500, and should not be changed)
- **Note:** In the remainder of this guide, the default assumption is that your LAN and WAN IPs use IPv4.

Finally, enter the following environment parameters, *all of which are optional*:

- Domain name
- Primary and, if available, secondary DNS server
- NTP server or servers
 - **Note:** NTP servers can be defined only in a single site, where the rest of the vRPAs are synced with the NTP-defined site.

Once you have completed entering the Environment settings, you are ready to specify the vRPA and site IP addresses. Click **Next** to continue.

Deploy RecoverPoint/SE on Virtual RPA Cluster

If your environment includes a DHCP server, and you have not already assigned IP addresses to your vRPAs, you can instruct Deployment Manager to auto detect vRPAs for which you have not set a temporary IP address. To do so, select the **I want Deployment Manager to discover the RPA IP addresses** option on the RPA Discovery screen. Upon clicking **Discover**, the Deployment Manager discovers the vRPAs on your network automatically, based on the IPs assigned by the DHCP server. Your workstation will use these temporary IP addresses to communicate with the vRPAs during installation.

RecoverPoint/SE Installer Wizard [Simulator]	
RPA discovery Define how you want to set the IP addresses of uninstalled	I RPAs
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ↔ 4. RPA discovery ↔ 5. IP and connectivity settings ↔ 6. Login credentials ↔ 7. Connectivity results ☆ 8. EMC Online Support site credentials ↔ 9. Update RecoverPoint release ↔ 10. Installation Change Management procedures ↔ 11. Apply configuration results ↔ 12. Storage configuration ↔ 13. Apply configuration ↔ 14. Summary 	RPA IP addresses I have already set IP addresses for the RPAs This option is recommended when one or more of the following is true: You are installing RPAs running releases serifier than 3.5. You environment does not include a DHCP server. I want Deployment Manager to discover the RPA IP addresses This option is only relevant when RPAs are running releases 3.5 or later and your environment includes a DHCP server. Discover uninstalled RecoverPoint Appliances (RPAs) I this option saves you from having to manually connect to each RPA and set an IP address. When you click 'Discover', you can choose how Deployment Manager will discover the RPA and get their currently set IP addresses. Image: Discover RPA 1 10.76:10:11 Select a discovered RPA RPA 2 10.76:10:12 Select a discovered RPA WPA discovery finished and found 3 uninstalled RPAs.
	< Back Next > Finish Cancel



Alternatively, if you have already assigned the IP addresses to your vRPAs, choose the first option, I have already set IP addresses for the vRPAs.

✓ 1. Branaquicitar	
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. IP and connectivity settings 6. Login credentials 7. Connectivity results 8. EMC Online Support site credentials 9. Update RecoverPoint version 10. Upgrade Change Management procedures 11. Apply configuration results 12. Storage configuration 13. Apply configuration 14. Summary 	RPA IP addresses This option is recommended when one or more of the following is true:

You may now continue and configure the IPs for cluster management and vRPAs, and relevant Management (LAN) and WAN subnet and gateway settings.

When you are done, click **Next** to display the IP and connectivity settings screen.

Be advised that the cluster management IP should reside on the same network as the LAN interface for the RPAs (labeled as LAN IPv4).

RecoverPoint/SE Installer Wizard [Simulator]	· · · · · · · · · · · · · · · · · · ·		
IP and connectivity settings Define the MyCluster cluster IP configurations and the RPA	A IP settings.		st 🛋
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery <i><i><i><i><i>S. IP and connectivity settings</i></i></i></i></i> 	RPA IP addresses and o	connectivity settings LAN IPv4 10.10.10.10	
 ↔ 6. Login credentials ↔ 7. Connectivity results ↔ 8. EMC Online Supports its credentials ↔ 9. Undate RecoverPoint release 	Interface netmask	LAN IPv4 0.0.0.0	WAN IPv4 0.0.0.0
 Group and the Recover Joint Presses Group and Change Management procedures II. Apply configuration IS. Storage configuration I3. Apply configuration I4. Summary 	RPA 1 (10.76.10.11) RPA 2 (10.76.10.12) Default gateways I The default gatew IPv4 default gateway Additional gateways Gateway	LAN IPv4 10.10.10.20 10.10.10.40 vay(s) used for cluster management over the l 10.10.10.60 Target netmask	WAN IPv4 10.10.30 10.10.10.50 LAN network. Target subnet
		< Back	Next > Finish Cancel

The **Cluster management IP** will serve as a floating IP address (also known as a virtual IP address), and will be used to control the Unisphere for RecoverPoint management application GUI.

When you have completed assigning these IP settings, continue to the Login credentials screen.

RecoverPoint/SE Installer Wizard [Simulator]		
Login credentials Enter the default RecoverPoint login credentials.		se and the second se
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ◆ 6. Login credentials ◆ 7. Connectivity results ◆ 8. EMC Online Support site credentials ◆ 9. Update RecoverPoint release ◆ 10. Installation Change Management procedures ◆ 11. Apply configuration results ◆ 12. Storage configuration ◆ 13. Apply configuration ◆ 14. Summary 	RecoverPoint login credentials Username boxmgmt Password ••••••	
	< Back Next > Finish	Cancel





Enter the default password, **boxmgmt**. Upon clicking **Next**, the system validates connectivity with each of the RPAs in the cluster, and presents the results in the Connectivity results screen.

I. Prerequisites	Recover	oint conn	ectivity results				
 Z. Configuration file 3. Environment settings 	Status	RPA	Cluster name	LAN IP address	Hardware platf	RecoverPoint release	Comment
✓ 4. RPA discovery		RPA 1	MyCluster	10.10.10.20	Unknown	N/A	Only Gen4 and later RPAs are
5. IP and connectivity settings		RPA 2	MyCluster	10.10.10.40	Unknown	N/A	Only Gen4 and later RPAs are
6. Login credentials							
7. Connectivity results							
3. EMC Online Support site credentials							
9. Update RecoverPoint release							
🗇 10. Installation Change Management procedures							
11. Apply configuration results							
12. Storage configuration							
13. Apply configuration							
ill Summary	🛷 Conn	ectivity te	st finished successfu	illy.			(2) B

If there are connectivity errors, you must correct them, and then click **Retry** to revalidate the connectivity statuses. When the "Connectivity test finished successfully" message is displayed, click **Next** to continue.

You must also define the iSCSI settings for your vRPA cluster, in the Cluster iSCSI settings screen, which now appears.

RecoverPoint/SE Installer Wizard [Simulator]			
Cluster iSCSI settings Define the RPA cluster iSCSI settings.			
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results ◆ 8. RPA Giscovery ✓ 8. RPA Giscovery ✓ 9. Environment SCSI settings ✓ 9. Environment SCSI settings ◆ 8. 2. RPA iSCSI ports ◆ 9. EMC Online Support site credentials ◆ 10. Update RecoverPoint release ◆ 11. Installation Change Management procedures ◆ 12. Apply configuration ◆ 13. Storage configuration ◆ 13. Storage iSCSI ports ◇ 13. A Apply iSCSI configuration results ◇ 13. A Storage iSCSI ports ◇ 13. Storage iSCSI ports ◇ 14. Apply configuration ◆ 15. Summary 	Connectivi IP type I MTU I Configure CHAP cred Username Password	ty iSCS11 Pv4 EXAMPLE A State of the RPAs iSCS1 ports EXAMPLE A State of the RPAs iSCS1 ports EXAMPLE A State of the RPAs iSCS1 ports EXAMPLE A State of the RPAs is a state of the RPAs is a state of the result. EXAMPLE A State of the RPAs is a state of the result. EXAMPLE A State of the RPAs is a state of the result. EXAMPLE A State of the r	iSCSI 2 [IPv4 • 1500
		< Back	Next > Finish Cancel

Once again, the default value for MTUs is 1500, and should not be changed. If relevant, select the I want to configure CHAP credentials for the RPAs iSCSI ports checkbox, and modify the CHAP username and password.

Deploy RecoverPoint/SE on Virtual RPA Cluster

When you press **Next**, the RPA iSCSI ports screen appears.

RecoverPoint/SE Installer Wizard [Simulator]				x
Cluster iSCSI settings Define the RPA cluster iSCSI settings.			SE	-2
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. JP and connectivity settings 6. Login credentials 7. Connectivity results 8. RPA ISCSI configuration 8. 1. Cluster ISCSI settings 8. 2. RPA iSCSI ports 9. EMC Online Support site credentials 10. Jobate RecoverPoint release 11. Installation Change Management procedures 13. 2. Storage configuration 13. 1. Storage registration 13. 3. Storage iSCSI ports 13. 4. Apply iSCSI configuration results 13. 3. Storage iSCSI ports 13. 4. Apply iSCSI configuration results 13. 3. Storage iSCSI ports 13. 4. Apply iSCSI configuration results 13. 3. A Apply iSCSI configuration results 13. 4. Apply iSCSI configuration results 13. 5. Storage toron provide the interval of the interval of	Connect IP type MTU CHAP cr Usernam Password	ivity iSCSI 1 IPv4 1500 ure CHAP credentials for the RPAs iSCSI ports redentials redentials d	iSCSI.2 IPv4 1500	
		< Back	Next > Finish Canc	el

As with the WAN and LAN, you must define the RPA IP and gateway settings for the iSCSI networks.

It is strongly recommended to place the iSCSI interface on a different subnet than the LAN and WAN interface, to avoid iSCSI communication errors. Click **Next**.

The RPA iSCSI ports screen appears.

RecoverPoint/SE Installer Wizard [Simulator]			
RPA iSCSI ports Define the cluster iSCSI IP configuration.			
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results ◆ 8. RPA iSCSI configuration ✓ 8. 2. RPA iSCSI configuration ✓ 9. EMC Online Support site credentials ◆ 10. Update RecoverPoint release ◆ 11. Installation Change Management procedures ◆ 12. Apply configuration ✓ 13. 1. Storage configuration ✓ 13. 2. Storage configuration ✓ 13. 4. Apply SCSI configuration results ✓ 13. 5. SAN diagnostics ✓ 13. 5. SAN diagnostics ✓ 13. Surgare spices ✓ 13. Surgare on figuration ✓ 13. 5. SAN diagnostics ✓ 13. Surgare spices ✓ 13. Surgare spices 	RPA iSCSI IP address Interface netmask RPA 1 RPA 2 Default gateways (1) The default gate IPv4 default gateways Gatew Additional gateways Gatew	es iSCSI 1 IPv4 0.0.0.0 iSCSI 1 IPv4 10.10.10.10 10.10.10.30 eway(s) used for cluster management over the L 10.10.10.60 ray Target netmask	iSCSI 2 IPv4 0.0.0 iSCSI 2 IPv4 10.10.10.20 10.10.10.40 AN network. Target subnet
		< Back	Next > Finish Cancel





The current cluster iSCSI IP configurations and RPA iSCSI IP settings are displayed. Enter the iSCSI settings for the new RPAs.

- Interface netmask LAN and WAN, based on IP type (IPv4 or IPv6)
- RPA iSCSI 1 and iSCSI 2 IP addresses of the existing RPAs in the cluster, and the addresses of the new RPAs you are adding to the cluster.
- Default gateway which cannot be modified.
- Additional gateways as defined by Gateway, Target netmask, and Target subnet

Click **Add route** to add additional gateways, and then click **Next**.

The EMC Online Support credentials screen appears.

RecoverPoint/SE Installer Wizard [Simulator]		
EMC Online Support credentials Enter EMC Online Support credentials to access relevant Reco information required to complete the installation.	overPoint ISO images to apply to the cluster, and to provide you with the relevant Installation Change Management	s:
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. IP and connectivity settings 6. Login credentials 7. Connectivity results 8. RPA iSCSI configuration 8. 1. Cluster iSCSI settings 9. EMC Online Support site credentials 10. Update RecoverPoint release 11. Installation Change Management procedures 13. Storage configuration 13. 1. Storage registration 13. 1. Storage registration 13. 4. Apply ISCSI configuration results 13. 4. Apply ISCSI configuration results 13. 5. Storage isconsets 13. 4. Apply ISCSI configuration results 13. 5. AN diagnostics 13. 6. Repository volume 14. Apply configuration 15. Summary 	EMC Online Support site credentials are needed for downloading RecoverPoint Installation Change Managemen You must provide credentials or an Installation Change Management file available locally. EMC Online Support login credentials Username sample@testing.emc.com Password vourning: You should only select this option if you do not have Internet connectivity. Use an offline Installation Change Management XML file File name	Browse
	< Back Next > Finish	Cancel

Deploy RecoverPoint/SE on Virtual RPA Cluster

Enter EMC Online Support site credentials (username and password) to access relevant RecoverPoint/SE ISO images to apply to the cluster, and to provide you with the relevant Installation Change Management information required to complete the installation.

If you are in a "dark site"—that is, where you do not have Internet connectivity—select the **Use an offline Upgrade Change Management XML file** checkbox, and enter the desired filename.

The Update RecoverPoint release screen appears.



The message at the top of this screen reports the RecoverPoint release that is currently running on all of the RPAs in your cluster (that is, the ISO image that comes pre-installed), or alternatively notifies you that not all of your RPAs are running the same image. To ensure that all of your RPAs are running the latest image for the current release, it is recommended that you select **Update with an ISO image available from EMC Online Support**.



The ISO image download details screen appears.

 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings 	EMC Online Su Username s	upport site credentials sample@testing.emc.com	
 4. RPA discovery 5. IP and connectivity settings 	Password •		
✓ 6. Login credentials	Recoverpoint 1	Provincial details	
 Connectivity results 8. RPA iSCSI configuration 	Release	RecoverPoint 4.0 SP2 P1 ISO image (864 MB)	
✓ 8.1. Cluster iSCSI settings	larget folder	(vinware-nost/shared rolders/besktop	Browse
 8. 2. RPA iSCSI ports 9. FMC Online Support site credentials 			
 In the online support site creating is In Update RecoverPoint release 			
⇒ 11. Image settings			
11. 1. ISO image download details			
⇒ 12. Installation Change Management procedures			
13. Upgrade and Apply configuration results			
14. Storage configuration			
14.1. Storage registration			
14. 2. Storage connectivity 14. 3. Storage isCSL ports			
-v 14. 5. Stolage iSest poils			
14. 4. Apply iSCSI configuration results			
⇒ 14. 4. Apply iSCSI configuration results ⇒ 14. 5. SAN diagnostics			
 14. 4. Apply iSCSI configuration results 14. 5. SAN diagnostics 14. 6. Repository volume 			
 14. 4. Apply iSCSI configuration results 14. 5. SAN diagnostics 14. 6. Repository volume 15. Apply configuration 			

To continue:

- Enter your EMC Online Support credentials.
- Select the RecoverPoint version you wish to download.
- Indicate where you want to save it on your local machine (that is, the machine running Deployment Manager).
- Click Next.

The ISO image downloads to your local machine.

Deploy RecoverPoint/SE on Virtual RPA Cluster

When the download is complete, the ISO file information screen appears.

RecoverPoint/SE Installer Wizard [Simulator] ISO file information Enter ISO file information to download the ISO file to the RPAs	
✓ 1. Prerequisites Select a down ✓ 2. Configuration file 3. Environment settings ✓ 3. Environment settings 4. RPA discovery ✓ 5. IP and connectivity settings 5. Login credentials ✓ 7. Connectivity results Copy from ✓ 8. 1. Cluster iSCSI settings 8. 1. Cluster iSCSI settings ✓ 9. EMC Online Support site credentials A DVD ✓ 10. Update RecoverPoint release Download	load source and enter ISO file name: rom local machine B:\rel4.1_d.208\emc\rel4.1_d.208_release_emc_md5_7b8bd990374c67a79fe1bf10b2b688c3.iso Browse n DVD or USB device inserted in the RPAs //USB is inserted in all of the RPAs d from FIP server
 ◆ 11. Image settings ◆ 11. I. ISO file information ◆ 12. Installation Change Management procedures ◆ 13. Upgrade and Apply configuration results ◆ 14. Storage registration ◆ 14. 2. Storage connectivity ◆ 14. 3. Storage registration ◆ 14. 4. Apply SCSI configuration results ◆ 14. 5. SAN diagnostics ◆ 14. 6. Repository volume ◆ 15. Apply configuration ◆ 16. Summary 	t 21
	< Back Next > Finish Cancel

Deployment Manager offers several methods for delivering the ISO to the RPAs:

- Upload the ISO directly to the RPAs from your workstation (that is, the "local machine").
- Copy the ISO file to a USB device or burn it on a DVD, and then simply connect or insert the media into the RPA.
- Upload the ISO file to an FTP site, and have the RPAs download the ISO from the FTP site.

Regardless of the delivery method, the Installation Change Management procedures screen appears.

RecoverPoint/SE Installer Wizard [Simulator]	
Upgrade Change Management procedures	0.
Before continuing, ensure the Upgrade Change Management proc	edures are completed.
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. IP and connectivity settings 6. Login credentials 7. Connectivity results 8. RPA iSCSI configuration 8. 1. Cluster iSCSI settings 9. EMC Online Support site credentials 9. Dupdate RecoverPoint version 11. Image settings 11. IL Ograde Change Management procedures 13. Upgrade and Apply configuration results 14. UNIVCLARION Login credentials 14. UNIVCLARION Login status 14. 3. Storage COSI ports 14. 4. Apply iSCSI configuration results 14. 6. Repository volume 15. Apply configuration 16. Summary 	 Open each procedure, complete the instructions, and select the checkbox. Important: Failure to complete each procedure may cause the upgrade to fail and data to be lost. If a procedure is unclear to you, contact EMC Customer Support for assistance. General upgrade messages O Encountering a Problem while running Deployment Manager O Activity Follow:up Restriction with VNX 05 32 000.5.006 Upgrade Change Management procedures: The mc208607:VNX. RecoverPoint: VNX Operating Environment (OE) for Block 05.32 is incompatible with RecoverPoint Appliance of Software. O ETA emc208607:VNX. Non-disruptive upgrade (NDU) from VNX OF 05.31.000.5.XXX and later to VNX OF 5.32.000.5.006 or VNX OF O Software. O B RecoverPoint: How to access System Setup / BIOS / CMOS for the BPA
<u> </u>	
	Help < gack

Based on the ISO image that you have distributed to the RPAs in your cluster, the wizard presents you with a list of general installation messages and Installation Change Management procedures that must be completed before continuing the installation.

Open each procedure. When you have performed the tasks required to complete the procedure, close the procedure, and mark the checkbox. When you have completed all of the procedures, click **Next**.

The Apply configurations results screen appears.

While uploading the ISO file, the Apply configuration results screen shows the progress of the upload for each RPA.

RecoverPoint/SE Installer Wizard [Simulator]		
Apply configuration results The results of applying the configuration settings to all RPAs and	re shown below.	SE
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. IP and connectivity settings 6. Login credentials 7. Connectivity results 8. RPA iSCSI configuration 8. 1. Cluster iSCSI settings 8. 2. RPA iSCSI ports 9. EMC Online Support site credentials 10. Update RecoverPoint release 11. 1. ISO file information 12. Installation Change Management procedures 13. Upgrade and Apply configuration results 14. Storage configuration 14. 3. Storage iSCSI ports 14. 3. Storage connectivity 14. 3. Storage configuration 14. 3. Storage configuration 14. 3. Storage configuration 14. 3. Storage iSCSI ports 14. 4. Apply iSCSI configuration results 14. 6. Repository volume 15. Apply configuration 16. Summary 	File name: rel4.1_d.202_release_emc_md5_1af62a791c523a8abbc8a0f032bdbc07.iso RPA1 ③ Applying RPA configuration RPA2 ⑤ Applying RPA configuration	
	< Back Next > Finish	Cancel

Deployment Manager notifies you when upgrade and installation of the ISO is completed for all the RPAs in the cluster.

RecoverPoint/SE Installer Wizard [Simulator]		
Apply configuration results The results of applying the configuration settings to all RPAs a	are shown below.	SE
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. IP and connectivity settings 6. Login credentials 7. Connectivity results 8. RPA iSCSI configuration 8. 1. Cluster iSCSI settings 8. 2. RPA iSCSI ports 9. EMC Online Support site credentials 10. Update RecoverPoint release 11. Image settings 11. I. ISO file information 12. Installation Change Management procedures 13. Upgrade and Apply configuration results 14. Storage consectivity 14. Storage registration 14. J. Storage registration 14. J. Storage registration 14. J. Storage registration 14. A. Sply iSCSI configuration results 14. A. Sply iSCSI ports 15. Apply configuration 16. Summary 	File name: rel4.1_d.202_release_emc_md5_1af62a791c523a8abbc8a0f032bdbc07.iso RPA1 Upgrading and Installation completed successfully RPA2 Upgrading and Installation completed successfully	
	< Back Next > Finish	Cancel

You can now progress to the Storage configuration step.



In the storage registration screen, enter the storage processor IP addresses of the array at the RPA cluster you are installing (as recorded on your IP & SAN Setup Details Template), a username and password, and an authentication scope (for LDAP).

RecoverPoint/SE Installer Wizard [Simulator]				
Storage registration Register your VNX/CLARiiON array for RecoverPoint managen	nent.			
✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 8. PA discovery ✓ 5. IP and connectivity settings ✓ 5. IP and connectivity settings ✓ 7. Connectivity results ✓ 8. RPA iSCSI configuration ✓ 8. 1. Cluster iSCSI settings ✓ 9. EMC Online Support site credentials ✓ 9. EMC Online Support site credentials ✓ 9. EMC Online Support site credentials ✓ 11. Insign settings ✓ 11. Liso file information ✓ 12. Istrajatizer Change Management procedures ✓ 13. Upgrade and Apply configuration results 14. I. Storage configuration 14. 2. Storage configuration 14. 2. Storage configuration 14. 3. Storage iSCSI ports 14. 4. Apply iSCSI configuration results 14. 5. SAN diagnostics 14. 6. Repository volume 15. Summary	EMC Unisphere/Navisp IP address of SP-A: IP address of SP-A: Username: Password: Authentication scope:	here login credentials 10.10.10.10 admin admin Global		
			< Back Next >	Einish Cancel

Based on this information, the system attempts to log into the VNX/CLARiiON and validate that:

- The RecoverPoint/SE Installer can communicate with VNX/CLARiiON SP A and SP B.
- The login credentials are correct for SP A and SP B.
- SP A and SP B are not already attached to RecoverPoint/SE cluster.
- IP settings were applied successfully.

Click **Next** when you are done to display the Storage connectivity screen.

The Storage connectivity screen notifies you whether or not all of the RPAs in the RPA cluster are connected to the storage.

RecoverPoint/SE Installer Wizard [Simulator]		
Storage connectivity The storage connectivity status is shown below. The conne	ctivity status is relevant to all RPA clusters in the RecoverPoint system.	SE
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results ✓ 8. RPA iSCSI configuration ✓ 8. 2. RPA iSCSI ports ✓ 8. 2. RPA iSCSI ports ✓ 9. EMC Online Support site credentials ✓ 10. Update RecoverPoint release ✓ 11. Inage settings ✓ 12. Installation Change Management procedures ✓ 13. Upgrade and Apply configuration ✓ 14. 1. Storage connectivity <	Storage connectivity status Storage type: VNX5300 Storage serial number: 123456 VII RPAs are connected to the storage.	Refresh
	< <u>gack</u> <u>Next</u> > <u>Finish</u>	Cancel

If any errors exist, fix them now and click **Refresh**. When all RPAs are connected to the storage, click **Next**. The specified storage is registered for RecoverPoint management.

The Storage iSCSI ports screen appears.

✓ 1. Prerequisites ✓ 2. Configuration file ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. De and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity settings ✓ 8. Connectivity reults ✓ 8. RPA iSCSI configuration ✓ 8. 2. RPA iSCSI ports ✓ 9. EMC Online Support site credentials ✓ 10. Update RecoverPioint release ✓ 11. Insog settings ✓ 11. Insoftie information ✓ 11. Sorage configuration results ✓ 14. 1. Storage configuration ✓ 14. 2. Storage configuration results ✓ 14. 4. Apply ISCSI configuration results ✓ 14. 4. Apply SCSI configuration results ✓ 14. 4. Apply SCSI configuration ✓ 15. Apply configuration ✓ 15. Apply configuration	Storage iSCSI ports Define the storage CHAP and iSCSI IP configurations.		SE
v 10. summary	 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results ✓ 8. RPA iSCSI configuration ✓ 8. 1. Cluster iSCSI settings ✓ 8. 2. RPA iSCSI ports ✓ 9. EMC Online Support site credentials ✓ 10. Update RecoverPoint release ✓ 11. I. ISO file information ✓ 11. J. ISO file information ✓ 11. J. Storage registration ✓ 14. 3. Storage configuration results ✓ 14. 3. Storage constitivity ✓ 14. 3. Storage constitivity ✓ 14. 3. Storage iSCSI ports ✓ 14. 4. Apply iSCSI configuration results ✓ 14. 6. Repository volume ✓ 15. Apply configuration ✓ 15. Apply configuration 	VNX/CLARiiON details Array name MyArray Storage array requires CHAP authentication CHAP credentials Username Password Storage iSCSI IP addresses Number of ports 2 Port 1 IP: 10.10.10.20	




The current storage CHAP and iSCSI IP configurations are displayed. Modify any values you want to change, and press **Next**.

The Apply iSCSI configuration results screen appears.

RecoverPoint/SE Installer Wizard [Simulator]		
Apply configuration results The results of applying the configuration settings to all RPAs a	re shown below.	st=
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. IP and connectivity settings 6. Login credentials 7. Connectivity results 8. RPA iSCS configuration 8. 1. Cluster iSCSI settings 8. 1. Cluster iSCSI settings 9. EMC Online Support site credentials 10. Update RecoverPoint release 11. LiSO file information 12. Installation Change Management procedures 13. Upgrade and Apply configuration results 14. Storage configuration 14. 1. Storage connectivity 14. 3. Storage iSCSI ports 14. 4. Apply ISCSI configuration results 14. 5. SAN diagnostics 14. 4. Apply ISCSI configuration 14. 5. SAN diagnostics 14. 4. Apply configuration 15. Apply configuration 16. Summary 	Results of applying configuration settings: RPA1 O Getting current RPA state RPA2 O Getting current RPA state	
	< <u>Back</u> Next > Einish	Cancel

The results of applying the configuration settings to all RPAs are displayed.

If you receive an error, use the following commands to troubleshoot the problem:

ping -I eth2 <IP address>

ping -I eth2 <IP address>

Where, for example, the IP address may be your iSCSI target, default gateway, etc.

Once installation has completed successfully, click Next.

At this point, the SAN diagnostics mechanism informs you whether the components have been successfully identified.

RecoverPoint/SE Installer Wizard [Simulator] SAN diagnostics The results of the SAN diagnostics test are shown below.					c	se
 1. Prerequisites 2. Configuration file 3. Environment settings 4. RPA discovery 5. J.P and connectivity settings 6. Login credentials 7. Connectivity results 8. RPA iSCSI configuration 8. RPA iSCSI configuration 8. 2. RPA iSCSI ports 9. EMC Online Support site credentials 10. Update RecoverPoint release 11. Insg e settings 11. J. ISO file information 12. Installation Change Management procedures 13. Upgrade and Apply configuration results 14. Storage connectivity 14. 3. Storage iSCI ports 14. 4. Apply iSCSI configuration results 14. 4. S. Repository volume 15. Apply configuration 15. Apply configuration 16. Summary 	Severity it INFO it INFO it INFO	RPA RPA1 RPA2	Message ID	Category	Description Only one path detected to RPA. Verify that zon Only one path detected to RPA. Verify that zon	Refresh
					< Back Next > Finish	Cancel

If errors are detected, you can click each error to display additional details about that error. You must correct all SAN discovery errors before proceeding. In addition, it is highly recommended that you resolve all warnings. Click **Refresh** to refresh the list after resolving errors. When all errors are resolved, click **Next**.



Before the storage configuration can be applied at this site, a *repository volume* must be designated.

 	1. Prerequisites	Automatic					
 A. RPA discovery J. P and connectivity settings G. Login credentials T. Connectivity results B. L. Cluster iSCSI configuration B. 1. Cluster iSCSI settings B. L. RPA iSCSI ports B. EMC Online Support site credentials D. Update RecoverPoint release D. Update RecoverPoint release D. Update RecoverPoint release D. Installation Change Management procedures J. I. Storage configuration I.1. Insig settings J. I. Storage configuration I.1. Asply configuration I.1. Apply configuration I	3. Environment settings	The installer v	vill automaticall	y create and config	ure a repository	volume.	
 S. IP and connectivity settings S. IP and connectivity settings S. Login credentials Y. Connectivity results S. RPA iSCSI configuration S. 1. Cluster iSCSI settings S. 2. A PA iSCSI ports S. MC Online Support site credentials Update Recoverpoint release I1. I. Iso file information I1. I. Storage configuration results A. Storage configuration I4. 1. Storage configuration I4. 4. Apply iSCSI configuration results I4. 5. Storage configuration I4. 4. Apply iSCSI configuration results I4. 5. Apply configuration I5. Apply configuration 	4. RPA discovery	🗇 Manual					
✓ 1. Login credentials ✓ 7. Connectivity results ✓ 8. RPA ISCSI configuration ✓ 9. EMC Online Support site credentials ✓ 9. EMC Online Support site credentials ✓ 10. Update RecoverPoint release ✓ 11. Unsage settings ✓ 11. Insage settings ✓ 12. Installation Change Management procedures ✓ 13. Storage configuration ✓ 14. Storage configuration ✓ 14. Storage configuration ✓ 14. Apply SISI configuration results ✓ 14. Apply configuration ✓ 14. Apply configuration ✓ 14. Apply configuration ✓ 15. Apply configuration ✓ 15. Apply configuration ✓ 15. Apply configuration	5. IP and connectivity settings	The installer will list possible volumes, and you can select the one that will be configured as the repository volume.					
✓ 7. Connectivity results Ø. R.PA/SCSI configuration Ø. R.PA/SCSI configuration 4.068 Ø. R.PA/SCSI configuration 4.068 Ø. 8. 2. RPA /SCSI ports Volume3 0x-51a46ecbd06b9fbfb902e4a850899f Ø. 8. 2. RPA /SCSI ports Volume3 0x-51a46ecbd06b9fbfb902e4a850899f Ø. B.MC Online Support site credentials DGC (VNX53 Volume6 0x2ab59a7253803b402268302a7754c Ø. 10. Update RecoverPoint release 5.068 EMC DGC (VNX53 Volume6 0x2ab59a7253803b402268302a7754c Ø. 11. Inage settings Volume4 Dx-6678d4c9f94459c471488fc756901c4 6.068 EMC DGC (VNX53 Volume7 0x4bc53339c46ba745c603567c4258 Ø.11. Inage settings Volume4 Dx-5816ef6375c448bf082bb64a386bc3 9.068 EMC DGC (VNX53 Volume4 0x-5816ef6375c448bf082bb64a386bc3 9.068 EMC DGC (VNX53 Volume4 0x-5816ef6375c448bf082bb64a386bc3 9.068 EMC DGC (VNX53 Volume4 0x-1018afeb87a11e77dcb4b95d1ba10 ✓ 14. Storage configuration Volume4 0x-5816ef6375c448bf082bb64a38bc3 ✓ 14. Storage configuration resu	6. Login credentials	Volumes inf	ormation				
Ø. RPA iSCSI configuration Ø. 8. J. Cluster iSCSI settings Ø. 8. J. Cluster iSCSI settings Ø. 8. J. Cluster iSCSI settings Ø. 8. J. RPA iSCSI ports Ø. 8. L. RPA iSCSI ports Ø. 9. EMC Online Support site credentials J. 10. Update RecoverPoint release J. 11. Unage settings I1. 11. ISO file information I1. 11. JSO file information I1. J. Installation Change Management procedures I3. Upgrade and Apply configuration results I4. Storage configuration I4. 1. Storage configuration I4. 1. Storage configuration I4. 3. Storage iSCSI ports I4. 5. SAN diagnostics I4. 4. Apply iSCSI configuration results I3. Lays experison I4. 5. SAN diagnostics I4. 5. SAN diagnostics I3. A poly configuration I4. 5. Apply configuration I4. 5. Apply configuration I5. Apply configuration	7. Connectivity results	Size	Vendor	Product	Name	UID	
✓ 8.1. Cluster iSCSI ports ✓ 0.66 EMC DGC (VNX53 Volume6 Vo2a738052F3ae4de5c4f45c2754546 ✓ 9. EMC Online Support site credentials ✓ 0.0 pdate RecoverPoint release ✓ 0.0 pdate RecoverPoint release ✓ 0.0 GG (VNX53 Volume5 0x-6678d-9794450e471488fe756914e ✓ 11. Inage settings ≤ 0.0 GG (VNX53 Volume5 0x-6678d-9794450e471488fe756914e ✓ 11. Inage settings ≤ 0.0 GG (VNX53 Volume5 0x-6678d-9794450e471488fe756914e ✓ 11. Inage settings ≤ 0.0 GG (VNX53 Volume5 0x-6678d-9794450e471488fe756914e ✓ 11. Inage settings ≤ 0.0 GG (VNX53 Volume5 0x-6678d-9794450e471488fe756914e ✓ 12. Installation Change Management procedures ≥ 0.0 GG (VNX53 Volume4 0x-58f16ef63f5c-448bf082b64a386bc3 9.0 GB EMC DGC (VNX53 Volume4 0x-1018afeb87a11e77dcb4b95d1ba10 ✓ 14. Storage registration ✓ 14. A. Apply iSCSI configuration results ✓ ✓ ✓ ✓ 14. A. Apply iSCSI configuration results ✓ ✓ ✓ ✓ ✓ ✓ 14. A. Apply isCSI configuration results ✓ ✓ ✓ ✓ ✓ ✓ ✓ 15. Apply configur	8. RPA iSCSI configuration	4.0GB	EMC	DGC (VNX53	Volume3	0x-51a46ecbd06b9fbfb902e4a850899f	
✓ 8.2. RPA iSCS ports ✓ 9. EMC Online Support site credentials ✓ 10. Update RecoverPoint release ✓ 11. Image settings ✓ 12. Installation Change Management procedures ✓ 13. Upgrade and Apply configuration results ✓ 14. Storage configuration ✓ 14. 1. Storage iSCSI ports ✓ 14. 4. Apply iSCSI configuration results ✓ 14. Apply iSCSI configuration ✓ 14. A. Sproage iSCSI ports ✓ 15. Apply configuration	8.1. Cluster iSCSI settings	4.0GB	EMC	DGC (VNX53	Volume6	0x2a7338052f3ae9c495cd4e5e27545462	
9. BUC Online Support site credentials 5.0GB EMC DIC Update RecoverPoint release 9. 10. Update RecoverPoint release 5.0GB EMC DGC (VNX53 Volume5 0x-6678d-994450e471438fe73690ft e3 9.10. Update RecoverPoint release 5.0GB EMC DGC (VNX53 Volume5 0x-6678d-994450e471438fe73690ft e3 9.11. Insign settings 8.0GB EMC DGC (VNX53 Volume4 0x-58f16ef6375c448hf082b643386bc3 12. Installation Change Management procedures 9.0GB DGC (VNX53 Volume4 0x-58f16ef6375c448hf082b643386bc3 9.13. Upgrade and Apply configuration results 14. 1. Storage configuration 0x1018afeb87a11e77dcb4b95d1ba10 14. 1. Storage consectivity 14. 3. Storage iSCI configuration results vi 14. 3. Storage iSCI configuration results vi 14. A. Apply Signostics vi 14. A. Apply conf	✓ 8. 2. RPA iSCSI ports	5.0GB	EMC	DGC (VNX53	Volume2	0x2bb59a72563803b40228f8302a7754d8	
 20. Update RecoverPoint release 21. Diagase settings 21. Linage settings 21. Li	9. EMC Online Support site credentials	5.0GB	EMC	DGC (VNX53	Volume5	0x-6678dc9f94450e471d88fe75690f1e97	
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15. Storage configuration 14. 1. Storage registration 14. 1. Storage is connectivity 14. 3. Storage is Construction 14. 4. Apply is CSI configuration results 14. 4. Apply is CSI configuration results 14. 4. Repository volume 15. Apply configuration	12. Installation Change Management procedures	5.000	LINC	000 (11000	Volumer	0.110100/000/0110//00000000000000000000	
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☑ 14.5.5K diagnostics ➡ 14.6. Repository volume ➡ 15. Apply configuration	14.4. Apply iSCSI configuration results						
	✓ 14.5. SAN diagnostics						
15. Apply configuration	⇒ 14. 6. Repository volume						
	15. Apply configuration						
⇒ 16. Summary	16. Summary						
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1							

The repository volume is responsible for maintaining the configuration information independently for each RecoverPoint cluster; therefore, you must define a repository volume at both sites.

If you select **Automatic**, the Installer displays a list of all resource mapped to the RPA cluster. Select a resource pool to allow RecoverPoint to automatically provision the repository volume upon it. The minimum size of a repository volume that is automatically provisioned by RecoverPoint is 5.72 GB.

You may also select the **Manual** option to select a volume (i.e. LUN) mapped to the RPA cluster from the list and designate it as the repository volume. The minimum size of a repository volume that is manually provisioned is 2.86 GB.

In both automatic and manual repository volume provisioning, any capacity beyond the stated minimum capacity is not used. Therefore, best practice is to select resource pools or volumes as close to the minimum size as possible.

Note: Do not change the name of the repository volume after it has been created.

When that process is complete, you are now ready for the Installer to apply the designated configuration (**Apply configuration**) on the RPA cluster and the storage. Click **Next**.

Be aware that the apply storage configuration process may take several minutes. Progress bars indicate that the system is applying settings and completing the installation. Once the progress bars stop, the system will confirm that all components are OK, or that errors are detected. If errors are detected, you can click each error to display additional details about that error.

RecoverPoint/SE Installer Wizard [Simulator]		
Apply storage configuration Results of the apply storage configuration.		SE
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results ✓ 8. RPA iSCSI configuration ✓ 8. 1. Cluster iSCSI settings ✓ 9. EMC Online Support site credentials ✓ 10. Update RecoverPoint release ✓ 11. 1. ISO file information ✓ 12. Installation Change Management procedures ✓ 13. Upgrade and Apply configuration results ✓ 14. 1. Storage configuration ✓ 14. 1. Storage construivity ✓ 14. 3. Storage (SCSI ports ✓ 14. 4. Apply ISCSI configuration results ✓ 14. 4. Apply ISCSI configuration results ✓ 14. 5. Storage (SCSI ports ✓ 14. 5. Storage construivity ✓ 14. 5. Storage construition results ✓ 14. 5. Apply configuration results ✓ 15. Apply configuration ✓ 16. Summary 	Status of applying the storage configuration : Apply Results ✓ Configuring VNX/CLARiiON array Done ✓ Configuring RPAs Done ♥ Finishing the installation (2/2) Waiting for RPAs to come up after reboot	Retry
	< <u>B</u> ack <u>N</u> ext > <u>F</u> inish	Cancel

If you are unable to fix a problem, contact EMC Customer Support.

Once the installation process has been successfully completed, click **Next** to display the Summary screen, including a detailed description of all of the newly created entities in the new cluster.



RecoverPoint/SE Installer Wizard [Simulator]	
Summary Installation of RecoverPoint/SE is now complete.	
 ✓ 1. Prerequisites ✓ 2. Configuration file ✓ 3. Environment settings ✓ 4. RPA discovery ✓ 5. IP and connectivity settings ✓ 6. Login credentials ✓ 7. Connectivity results ✓ 8. RPA iSCSI configuration ✓ 8. 1. Cluster iSCSI settings ✓ 8. 2. RPA iSCSI ports ✓ 9. EMC Online Support site credentials ✓ 10. Update RecoverPoint release ✓ 11. Insage settings ✓ 12. Installation Change Management procedures ✓ 13. Upgrade and Apply configuration results ✓ 14. 1. Storage configuration ✓ 14. 1. Storage registration ✓ 14. 3. Storage connectivity ✓ 14. 3. Storage is ports ✓ 14. 5. SAN diagnostics ✓ 14. 6. Spointory volume ✓ 15. Apply configuration ✓ 16. Summary 	Cluster MyCluster configuration summary Storage group name: Storage Group 1 You can now start using Unisphere for RecoverPoint at <a href="https://iui.ou.ou.ou.ou.ou.ou.ou.ou.ou.ou.ou.ou.ou.</th>
	< Back Next > Einish Cancel

You may now proceed in any of the following ways:

- If you want to create a second cluster of vRPAs, return to "Create vRPAs," on page 45.
- If you want to create a second cluster, but with RPAs, go to "Deploy RecoverPoint/SE on Physical RPA Cluster," on page 21.
- If you want to connect the two clusters that you have already deployed, continue with "Connect Cluster," on page 79
- If you want to proceed directly to Unisphere for—for instance, to configure your RecoverPoint system over one cluster, for continuous local replication— click the cluster-management IP address at the bottom of the Summary window.

Chapter 9 Connect Cluster

This chapter explains how to connect RPA clusters from a single management point using the Connect Cluster Wizard that is in EMC RecoverPoint Deployment Manager 2.0 SP1.

Launch the Deployment Manager by opening the **RecoverPoint_DM.exe** application file.



If you just finished creating your RPAs clusters, click **No** when prompted to check for a newer release of Deployment Manager.

If you want to download a newer release of Deployment Manager, click **Yes**, and follow the subsequent instructions until you have successfully downloaded the new release.



Connect Cluster

Select **RecoverPoint 4.0 or later releases** in the next screen.



The Login screen appears.

	Depi	byment m	anager
Install R	lecoverP	oint/SE	
Upgrad	e Recove	erPoint/SE	
Other o	peration	s (EMC personne	al)
sername			
assword			
sername assword			

Select Install RecoverPoint/SE, and click Login.



The RecoverPoint Deployment Manager Wizard screen appears.

RecoverPoint De	ployment Manager Wizard [Simulator]	
RecoverPoint [Deployment Manager Wizard [Simulator]	
Please select the d	lesired wizard. Click 'Next' to continue	
	RecoverPoint/SE Installer Wizard	
SE	Use this wizard to install a new RecoverPoint/SE cluster	
	Connect Cluster Wizard	
	Use this wizard to connect a new cluster to an existing RecoverPoint system.	
	< Back Next > Finish	Cancel

Select Connect Cluster Wizard, and click Next.

The Select connection step appears.

 3. New cluster login credentials 4. Connect now or later 5. Existing cluster login credentials 6. Cluster connection settings 7. Summary 	Prepare new cluster for connection to an existing RecoverPoint system. This step must be done prior to connecting the new cluster. Connect new cluster to an existing system Connect new cluster to an existing RecoverPoint system. This step can only be done after having prepared the new cluster for connection.
--	---

The main steps in connecting clusters are:

- Prepare new cluster for connection.
- Connect new cluster to an existing system.

When connecting a two-cluster RecoverPoint/SE system, you will prepare one of the clusters for connection, and then connect it to the other cluster, which will serve as the "existing system".

Connect Cluster

When you choose to prepare the new cluster for connection, the Preparation prerequisites screen appears.



When all of the prerequisites have been completed, select the checkbox, and click **Next** to continue.



The New cluster login credentials screen appears.

Connect Cluster Wizard [Simulator]		
New cluster login credentials Enter a cluster management IP address or an	RPA IP address and RecoverPoint login credentials of the new cluster.	
 ✓ 1. Select connection step ✓ 2. Preparation prerequisites ↔ 3. New cluster login credentials ↔ 4. Connect now or later ↔ 5. Existing cluster login credentials ↔ 6. Cluster connection settings ↔ 7. Summary 	Cluster management (LAN) IP address 10.10.10.10 RecoverPoint installation credentials Username boxmgmt Password •••••••	
	< Back Next > Finish	Cancel

Enter the cluster management IP address (or an IP address of any RPA) of the new cluster, and the RecoverPoint login credentials.

For username **boxmgmt**, the default password is **boxmgmt**.

Connect Cluster

After logging in to the new cluster, the Connect now or later screen appears.

Connect Cluster Wizard [Simulator]	
Connect now or later Determine whether you want to connect to t	he new cluster to an existing RecoverPoint system now or at a later time.
 ✓ 1. Select connection step ✓ 2. Preparation prerequisites ✓ 3. New cluster login credentials 	The new cluster is ready to be connected
→ 4. Connect now or later →	Select the desired action
5. Existing cluster login credentials	Onnect the new cluster to an existing RecoverPoint system
 6. Cluster connection settings 7. Summary 	Select this option if the work station running Deployment Manager is able to communicate with the existing RecoverPoint system.
	Connect the new cluster at a later time
	Select this option if the work station running Deployment Manager is unable to communicate with the existing RecoverPoint system, or you do not want to connect the new cluster now.
	 Copy the information below and use it when connecting the new cluster to the existing RecoverPoint system. Important: Do not install a license in, or modify the settings of, the new cluster before connecting it to the existing system. RPA WAN IP address 10.10.10.13
	< Back Next > Finish Cancel

Select **Connect the new cluster to an existing RecoverPoint system**. In this case, the "existing system" is the cluster at the other site, so your local machine must be able to communicate with that cluster.



The Existing cluster login credentials screen appears.

Connect Cluster Wizard [Simulator]		
Existing cluster login credentials Enter a cluster management IP address or an I to connect. Image: Select connection step Image: Select connection step <t< th=""><th>Cluster management (LAN) IP address 10.10.10.10 RecoverPoint installation credentials</th><th>want</th></t<>	Cluster management (LAN) IP address 10.10.10.10 RecoverPoint installation credentials	want
 ◆ 5. Existing cluster login credentials ◆ 6. Cluster connection settings ◆ 7. Summary 	Username boxmgmt Password ••••••	
	< Back Next > Finish	Cancel

Enter the cluster management IP address (or an IP address of any RPA) of the second cluster; that is, the cluster to which you want to connect.

The Cluster connection settings screen appears.

Connect Cluster Wizard [Simulator]			
Cluster connection settings Define the connection between the new clus	ter and the cluster to which you	want to connect.	
 ✓ 1. Select connection step ✓ 2. Preparation prerequisites ✓ 3. New cluster login credentials ✓ 4. Connect now or later ✓ 5. Existing cluster login credentials ↔ 6. Cluster connection settings ↔ 7. Additional cluster connections ↔ 8. Summary 	 To ensure correct networgateway, if necessary. Additional gateway Gateway 	rk connectivity between RPA clus Target netmask	sters, add an additional Target subnet
		Back Next >	Finish Cancel

To define the connection between the new cluster and the cluster to which you want to connect:

Connect Cluster

• When connecting two clusters made up of physical RPAs, set the desired connection type, **IP** or **Fibre Channel**.

The Fibre Channel connection is only an option when connecting two physical RPA clusters. When connecting a cluster of vRPAs, the connection is always IP (and, hence, this selection box does not appear).

• If you select **IP**, and if the gateway specified during cluster installation is not suitable for connectivity between clusters in this environment, you can add an additional WAN gateway (gateway IP, target netmask, and target subnet).

When complete, click **Next**. The clusters are connected, creating a *RecoverPoint system*.

After that, the Summary screen appears.

Connect Cluster Wizard [Simulator] Summary Connection of RPA clusters is now complete	
 I. Select connection step 2. Preparation prerequisites 3. New cluster login credentials 4. Connect now or later 5. Existing cluster login credentials 6. Cluster connection settings 7. Additional cluster connections 8. Summary 	You have successfully connected the new cluster to the RecoverPoint system.
	< Back Next > Finish Cancel

You are now ready to install your RecoverPoint/SE licenses, enable support, and register RecoverPoint as presented in the next chapter.



Chapter 10 License and Register System, and Enable Support

This process includes the following major steps:

- 1. Access your entitlements, from your LAC emails.
- 2. Activate those entitlements, from EMC Online Support.
- **3.** From the Getting Started screen of the Unisphere for RecoverPoint management GUI:
 - a. Install your license files in RecoverPoint.
 - b. Enable support.
 - c. Register your RecoverPoint system.

As soon as your sales order is approved, a LAC email is automatically sent to the email addresses provided during order entry. The LAC email contains the LAC (*License Authorization Code*) issued to you, validating your purchase and your entitlement(s). If you have multiple purchases on more than one sales order, you may receive multiple LAC letters.

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Subject: EMC License Authorization, LAC# PROWNCV0BC4PG6KKV90G, PO# xxxx-xxxxx-xx,	5O# xxxxxxx	
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Thank you for choosing EMC software. Your EMC Software License Authorization Code (LAC) keys to activate your software. Please protect your LAC like you would any other license key Activating Your Click here activate your en 2. You will be prompt to log int, when use 3. Follow the on-screen instructions. Downloading Your Software 1. Click here or copy and paste the following URL (https://support.emc.com/downloads/) intt 2. You will be prompted to log into EMC's Online Download Service Center (New users should 3. Enter the product name in the search field to find the software you wish to download. License Authentication CodeProduct # Title	is Q08WYT761 to prevent any er3.aspx?LAC= s). a web browse follow the new	TWJBTRTW383L. You must redeem this L yone from improperly activating your soft =PROWNCVOBC4PG6KKV90G) into a web er to download your software. w member registration steps).
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Detail Line Owner Ossing EMC software. Your EMC Software License Authorization Code (LAC) Keys to activate your software. Please protect your LAC like you would any other license key Activating You Click here 1. Click here Click here activate your of thoog mr. there assesses Uld follow the new member registration step 2. You will be prome to torg mr. there asses Uld follow the new member registration step 3. Follow the on-screen instructions. Downloading Your Software 1. Click here or copy and paste the following URL (https://support.emc.com/downloads/) intt You will be prompted to log into EMC's Online Download Service Center (New users should 3. Enter the product name in the search field to find the software you wish to download. License Authentication CodeProduct # Title PROWNCV0BC4PG6KKV90G 456-104-585 RP/EX REM REG CAP 1TB VMAX10 =CA PROWNCV0BC4PG6KKV90G 456-104-618 RP/SE LOC FOR LPS V75, V76-IC	is Q08WYT761 to prevent any er3.aspx?LAC= s). a web browse follow the new Quantity 40 1	TWJBTRTW383L. You must redeem this L yone from improperly activating your soft =PROWNCV0BC4PG6KKV90G) into a web er to download your software. w member registration steps).
Detail End Submit Cost, Thank you for choosing EMC software. Your EMC Software License Authorization Code (LAC) keys to activate your software. Please protect your LAC like you would any other license key Activating You Click here 1. Click here Click here activate your of thoosing EMC software. (https://powerlinklicensing.emc.com/transactivate your end paste the following URL (https://support.emc.com/downloads/) into the new member registration step 3. Follow the on-screen instructions. Downloading Your Software 1. Click here or copy and paste the following URL (https://support.emc.com/downloads/) into the software you wish to download. 3. Enter the product name in the search field to find the software you wish to download. License Authentication Code Product # Title PROWNCV0BC4PG6KKV90G 456-104-585 RP/EX REM REG CAP 1TB VMAX10 = CA PROWNCV0BC4PG6KKV90G 456-104-613 RP/SE LOC FOR LPS V75, V76=LC	is Q08WYT761 to prevent any er3.aspx?LAC= s). a web browse follow the new Quantity 40 1	TWJBTRTW383L. You must redeem this L yone from improperly activating your soft =PR0WNCV0BC4PG6KKV90G) into a web er to download your software. w member registration steps).
Detail Line Owner Ossing EMC software. Your EMC Software License Authorization Code (LAC) keys to activate your software. Please protect your LAC like you would any other license key Activating Your Software. Please protect your LAC like you would any other license key Activating Your Software. Please protect your LAC like you would any other license key Activating Your Software. Please protect your LAC like you would any other license key Activating Your Software I. Click here activate your en constructions. Downloading Your Software 1. Click here or copy and paste the following URL (https://support.emc.com/downloads/) into to your would any other license should a the prompted to log into EMC's Online Download Service Center (New users should as Enter the product name in the search field to find the software you wish to download. License Authentication Code Product # Title PROWNCV0BC4PG6KKV90G 456-104-618 RP/SE LOC FOR LPS V75,V76-IC PROWNCV0BC4PG6KKV90G 456-104-623 RP/SE REM FOR RPS V75,V76-IC PROWNCV0BC4PG6KKV90G 456-104-621 RP/SE FOR P/EX LOC UG V75,V76,CX960 = EC	is Q08WYT761 to prevent any er3.aspx?LAC= s). a web browse follow the new Quantity 40 1 1	TWJBTRTW383L. You must redeem this L yone from improperly activating your soft =PROWNCV0BC4PG6KKV90G) into a wet er to download your software. w member registration steps).



License and Register System, and Enable Support

Start the licensing process by accessing your entitlements. For each LAC, click the "Click here" link in the LAC email to automatically access the Powerlink licensing area of EMC Online Support, and display all entitlements associated with the LAC.

If you can't find your LAC email(s), contact EMC Worldwide Licensing Support at: https://powerlinklicensing.emc.com/poeticWeb/session/license_request_emc.jsp

You must now activate your entitlements.

Log in to EMC Online Support. The Search Entitlements to Activate screen is displayed.

Search Entitlements to Act	ivate			
Return	1		_	
Enter your LAC to find your Entitlements or selv LAC: 4RHVV2QJMT7CJGJRE %Parent Company: EMC 0132062283; 17	Your LAC is automa	tically entered	e, and then click Activate	
Showing: 1-6 of 6 Start Activation Process Select All	Clear All		1.7 M	
RecoverPoint RF	oduct ID 456-xxx-001	EMC	1	Total
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This the first screen of a five-screen wizard that guides you step-by-step, through the process of turning your LACs into license files, thereby activating your entitlements.

The link in the LAC email pre-populates the LAC field and searches for all entitlements associated with the specified LAC. All relevant entitlements are displayed.

In the Search Entitlements to Activate screen, select ONE entitlement to activate. Each entitlement must be selected and activated separately. There can be multiple RecoverPoint models listed under each entitlement.



Then, click Start Activation Process. The Search Machines box is displayed.

ome	Entitlements	Activation	Reports	Admin	Help	Log out			
Searc	n Entitlemer	nts to Activate	e 🔘						
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nter your LA	C to find your Entit	lements or select Sea	arch Entitlements	to perform an o	pen search.	Check the check box next to each e	ntitlement you want to activate, and then	click Activate	
Parent Con	-Action and	cinies .							
wing: 1-6 of	Which single	machine do you w	ant to use for a	civation? Lices	nses can b	e activated to one machine per tr	ans action.		
wing: 1-6 of C: 4RHVV coverPoi	Which single If your system	machine do you w n is not displayed, y	ou can add a n	ew machine. C	nses can b Click here fi	e activated to one machine per fr or additional Search Tips	ans action		Tota
owing: 1-6 of C: 4RHVV coverPoin 1C	Which single If your system %indicates v %Machine na	machine do you w n is not displayed, y vildcard search ame:	ant to use for a	ew machine. (nses can b Click here f	e activated to one machine per tr or additional Search Tips	ans action		Total
owing: 1-6 of C: 4RHVV coverPoin 1C	Which single If your system %Indicates v %Machine na %Lockin	machine do you w n is not displayed, y vildcard search ame: g ID:	ant to use for av	ew machine. (Dick here f	e activated to one machine per fr	ans action.		Tota
owing: 1-6 of C: 4RHVV coverPoir 1C	Which single If your system %indicates v %Machine na %Lockin Search Ma	machine do you w n is not displayed, y vildcard search ams: g ID: chines Cancel	ant to use for a ou can add a n	ew machine. (e advated to one machine per tr or additional Soarch Tips	ns action .		Tot
c: 4RHVV coverPoin 4C	Which single If your system %Machine no %Lockin Search Ma Showing 1.1	machine do you w h is not displayed, y vildcard search ame: g ID: chines Cancel	ant to use for an ou can add a n (Advanced S Add a Ma	ew machine. (search) chine	Click here for Add	a chyated to one machine per tr or additional Soarch Tipo d a Machine	ns action .		To

In the Search Machines box, click Add a Machine.

The Add Machine box is displayed.

Add Machine 🥝	×						
A Machine Name is a user-defined machine, server or other name that is used to group licenses. It does not have to be a physical machine. It is assigned by the customer during software activation, and must be unique for each parent company (e.g., machine12345 or dept/r/Zlicenses) and can be changed at any time.							
*Machine name: RP-APM00120701240							
Save Cancel							

A machine name, like a folder, is used to group items together logically. A unique machine name must be specified for each entitlement. It is best practice to relate the machine name to the Locking ID, which, for RecoverPoint/SE, is an array serial number. Therefore, the machine name should be RP-APM00120701240 if APM00120701240 is the array serial number used for the Locking ID.

In the Add Machine box, enter a new machine name, and click Save.

In the Register screen, verify the machine name, and click Next.

License and Register System, and Enable Support

The Activate screen appears.



In the Activate screen, for each licensed array, enter the array serial number in the VNX Serial Number field. This is the Locking ID, that is, the ID to which each license is enforced. To display instructions for finding your array serial numbers, click the Locking ID help link.

EMC² Powerlink Licensing Home Log Out Help Contact Licensing Support Site Feedback Activate Entitlements Search Register Activate Confirm Enter additional emails Cancel Activation < Back Finish Summary Here is a summary of this activation transaction 3 entitlement(s) will be activated on machine "TestSPA1234" as a result of this t EMC, 171 SOUTH STREET, Hopkinton, , 017482208 United States Additional Email Options To send additional certificates to specified email addresses, enter t Do not email certificate to registered user Email to Language: U.S. English v Email Comments: Notes for this transaction You can add notes concerning this transaction Notes Internal Notes

Click **Next**. The Confirm screen appears.

In the Confirm screen, enter the email addresses of the recipients of the license file in the Email to field of the Additional Email Options section, and click **Finish**.



The Complete screen appears.

ENIC Powerlink	Licensing			Home Log Out Help	Contact Licensing Support Site Feedba
Home Entitlements Ac	tivation Reports	Admin Help	Log out		
Activate Entitlements	•	\sim			
Return to search Entitlement Dashb Search	oard Machine Day	>	Activate	Confirm	Complete
÷	anse t			2	<u>A</u>
The activation process is completed. To	is the lice the line	cs below.			
The certificate is being sent aut the certificate is being sent aut	ad the nered user.				
Machine Name	Activation	Information			
RP-APMO	Activati Certificates	on date: Jan 4, 2012 sent to: etetr_ertert@emc.c	com		
Save to File RP EX Local 3	& Remote for VNX 5100	Key ####################################		##### # EMC License File # Activation Date:	Jan 04, 2012 11:21:46 AM # Activated By: CREMENT SPA_ITRUNCATEDI View key
ouright 2002 2011 EMC Comparati	on All Diable Deconvol 1	Norman Dation 1 Male 1 F	Fandback FAOe		

In the Complete screen, click **Save to File** to download the license file and save the file locally. The resulting license file has a *.lic extension and is in plain text format (can be opened in any text editor).

Repeat this procedure for each entitlement in each LAC email or sales order. Start at the Search Entitlements to Activate screen, on page 88. Once you are done, you should be ready to install your license file(s) in RecoverPoint and enable support.

After you have turned all of your entitlements into license files, physically transfer the license file(s) to the computer from which you will be running Unisphere for RecoverPoint, so you can install them in the RecoverPoint system in the next step.

To begin installing the license files in your RecoverPoint system, enter the cluster management IP address in a browser (or click the cluster management IP link in the Installer wizard). The Unisphere for RecoverPoint management application begins loading.



When the loading process is complete, a login screen prompts you for your username and password.

License and Register System, and Enable Support

	EMC ²
Version 4.1.0 Unisphe	re for RecoverPoint
User	admin
Password	****
	Login Help
© 2014	EMC Corporation. All Rights Reserved

Enter username **admin** and password **admin**.

The first time you access Unisphere for RecoverPoint, the Getting Started Wizard is invoked, and the Welcome screen appears.



To start protecting your data, in the Welcome screen, click **Next Add Licenses** to go on to the "Add Licenses screen".



Getting Started Wizard								
	2 Add Licens	ses						0
1 Welcome	Туре 1	RPA Cluster	Array Seri	Replication	Capacity	Capacity U	Expiration	Y 📞 🕩
2 Add Licenses								
3 Enable Support								
4 Register RecoverPoint								
	•			11111			J	Þ
	Add	lemove					Unfilt	ered: 0 items
			< Back to We	elcome Page Next E	nable Support >			Close

The Add Licenses screen allows you to install your RecoverPoint license(s) and display your license information.

For each license file, click **Add** to display the Add License dialog box.

Add License		(?) ×
	Bro	wse 🍾
	ОК	Close

Click **Browse**, and select a license file. Then, click **OK** to add the license file to the RecoverPoint system.

After installing your licenses, click **Next Enable Support** to go to the Enable Support screen.

Gett	ing Started Wizard		
		3 Enable Support	3
1	Welcome	Settings Enable System Reports and Alerts System reports only	Fransfer Method FTPS ESRS ESRS
2	Add Licenses	System reports and system alerts Options Encrypt	ESRS Gateway Configuration ESRS gateway IP address: SMTP
3	Enable Support	Compress	- SMTP Configuration
4	Register RecoverPoint	Test Connectivity Apply Cancel	Sender address:
		Enter the SMTP server address < Back to Add Licenses <p>Next Registree</p>	er RecoverPoint > Close

The Enable Support screen allows you to configure the RecoverPoint system reports mechanism (SyR) and provide one-way communication between a RecoverPoint installation and the EMC System Reports database (ESRS).

- 1. Ensure that the **Enable System Reports and Alerts** checkbox is selected, and the radio button is set to System reports and system alerts.
- 2. Ensure that the **Compression** and **Encryption** checkboxes are selected.
- **3.** Define the transfer method.
 - a. In the Transfer Method section, ensure the SMTP radio button is selected.
 - **b.** In the **SMTP server address** field, specify the IP address or DNS name of your dedicated SMTP server, in IPv4 or IPv6 format.
 - c. In the Sender email field, specify the email address from which the system notifications will be sent.

After enabling support, click **Test Connectivity**. In the **Test Connectivity** dialog box, enter the email address to which EMC Customer Support can send a verification email.

Test Connectivity	×
Verification email recipient:	
	OK Cancel

The connectivity test, if successful, opens a service request containing call home event number 30999 and sends an email to the specified verification email address from EMC Customer Support to verify that the system reports mechanism (SyR) has been successfully configured.

Gen	ting Started Wizard					
		4 Register RecoverPoint			a	0
1	Welcome				Y 🔩	<u>}</u>
			1	New York	London .	-
		Account ID				
		Activity Type		N/A	N/A	
2	Add Liconsos	Business (Company) Name		N/A	N/A	
~	Add Electises	Connect Home Method		N/A	N/A	-
		Connect In Method (Hardware)		N/A	N/A	-
		Connect In Method (Software)		N/A	N/A	
		Hardware Serial Number (RPA 1)		SiteUID(0x6f)_KBox1550e8400-e29b-41d	SiteUID(0xde)_KBox1550e8400-e29b-41d4-a716	
3	Enable Support	Hardware Serial Number (RPA 2)		SiteUID(0x6f)_KBox2550e8400-e29b-41d	SiteUID(0xde)_KBox2550e8400-e29b-41d4-a716	
		Hardware Serial Number (RPA 3)		SiteUID(0x6f)_KBox3550e8400-e29b-41d	SiteUID(0xde)_KBox3550e8400-e29b-41d4-a716	
		Hardware Serial Number (RPA 4)		SiteUID(0x6f)_KBox4550e8400-e29b-41d	SiteUID(0xde)_KBox4550e8400-e29b-41d4-a716	
		Hardware Serial Number (RPA 5)		SiteUID(0x6f)_KBox5550e8400-e29b-41d	SiteUID(0xde)_KBox5550e8400-e29b-41d4-a716	
4	Register RecoverDaint	Hardware Serial Number (RPA 6)		SiteUID(0x6f)_KBox6550e8400-e29b-41d	SiteUID(0xde)_KBox6550e8400-e29b-41d4-a716	
4	Register Recoverpoint	Hardware Serial Number (RPA 7)		SiteUID(0x6f)_KBox7550e8400-e29b-41d	SiteUID(0xde)_KBox7550e8400-e29b-41d4-a716	
		Hardware Serial Number (RPA 8)		SiteUID(0x6f)_KBox8550e8400-e29b-41d	SiteUID(0xde)_KBox8550e8400-e29b-41d4-a716	•
		Update Form Send Form			Unfiltered: 22 item	
				< Back to Enable Support Next >	Close	

Click **Next Register RecoverPoint** to open the Register RecoverPoint screen.



In the Register RecoverPoint screen, click **Update Form** to display the **Update Post-Deployment Form Details** dialog box.

Update Post-Deployment Form Details	🥑 X
RPA Cluster:	New York
Activity Type:	New Installation
Site (Party) ID:	
Business (Company) Name:	
Location:	
Upgrade/Installation Performing Resource:	~
Sales Order Number:	
VCE:	
Connect Home Method:	~
Connect In Method (Software):	✓
Connect In Method (Hardware):	♥
	OK Apply Close

In the **Update Post-Deployment Form Details** dialog box, select the relevant RPA cluster from the RPA Cluster drop-down, and update the information. Note the following:

- In the VCE field, indicate if this RecoverPoint implementation is operating within a VCE (Vblock) environment.
 VCE = VMware+Cisco+EMC
- It is recommended to enable Connect Home and Connect In. ESRS is the preferred method for both.

Click **Apply** to commit the changes to the post-deployment form without closing the dialog box, or click **OK** to commit the changes to the post-deployment form and close the dialog box.

If the connectivity test in the **Enable Support** screen did not complete successfully, and/or you do not have SyR connectivity (for example, because you are in a dark site), register your RecoverPoint system by email. To do so:

- **1.** Export the post-deployment form to a CSV file.
 - **a.** Click the **Export** button at the top-right corner of the RecoverPoint registration screen to display the **Export** wizard.

Export				×
1 Select Options				
Data will be exported in Com	ma-separated value	format (*.csv).		
Ontions to customize exc	ort:			
Include table headers				
Export only selected rows				
	< Back	Next >	Download	Cancel

- **b.** In the **Export** wizard, select the desired export options and click **Next**. Then click **Download** to download the file to your computer, select a location on your computer to store the file, and click **Save**.
- c. Open the exported file; Open MS Excel. Open the *.csv file from the location you selected in the previous step. The Excel Text Import Wizard is displayed to help you set the import options. In the Excel dialog box, select Delimited, and click Next. In the Delimiters field, select Comma, and click Next. Click Finish.
- 2. Fill out the form.
- 3. Email the form to the Install Base group at MGT_Team_IBG@emc.com.

If the connectivity test in the **Enable Support** screen completed successfully, click **Send Form** to transmit the post-deployment form electronically to the EMC Install Base group. The **Send Form** dialog box is displayed.

Send Form	3 ×
Contact email (for verification):	
	OK Cancel

Enter the email address of the person at your company who is in charge of RecoverPoint maintenance and operation.

A service request is opened, which causes an email to be sent from EMC Customer Support to the specified verification email address, to verify that your registration details were updated successfully in the EMC Install Base.

When you are done, click **Close** to close the Getting Started Wizard.

A dialog box queries whether or not you would like to display the Getting Started Wizard in subsequent RecoverPoint launches.



Getting Started Wizard	×
Are you sure you want to exit without applying your changes Do not display the Getting Started Wizard again.	5?
Yes	No

Note: It is not recommended to select the checkbox in the pop-up until you have completed the tasks of adding your licenses and enabling RecoverPoint support.

You are now ready to configure your replication environment.

Chapter 11 Configure Replication Environment

In this section we will demonstrate how to create a basic RecoverPoint replication configuration in Unisphere for RecoverPoint.

Log in to Unisphere for RecoverPoint (if you don't already have it open) with the default username and password: **admin**.

	EMC ²
Version 4.1.0 Unisphe	re for RecoverPoint
User	admin
Password	****
© 201	Login Help 4 EMC Corporation. All Rights Reserved

In Unisphere for RecoverPoint, data protection is guided by wizards, and performed through the Protection menu.



We will now create a RecoverPoint *consistency group*.



Configure Replication Environment

A consistency group is a logical entity used to configure protection policies, and set RPO and RTO policies according to a list of specific resource allocations and prioritizations.

Each consistency group in RecoverPoint/SE includes a production copy, together with a local copy or a remote replica copy, or both.

The parallel volumes assigned to each copy (one volume per copy) are grouped together in what is called a *replication set*, which is a logical unit on which the consistency group is built. A single consistency group can contain many replication sets.

In addition, each copy of a consistency group contains a journal. The precise function of the journal changes, according to whether it belongs to a production or replica copy. In all cases, however, the journal plays an integral role in maintaining data consistency between production and replica, during normal replication, and for disaster recovery.

Consistency groups monitor all the volumes assigned to them, to ensure consistency and write-order fidelity. If two data sets are dependent on one another (for instance, a database and a database log), they should be part of the same consistency group.

Note that In RecoverPoint/SE:

- Journal volumes can be automatically provisioned. To do so, ensure that you have dedicated resource pools on the VNX/CLARiiON array, and have registered them in RecoverPoint, at each RPA cluster, as follows:
 - **a.** Select RPA Clusters, and select the tab of the relevant RPA cluster.
 - **b.** In the left pane, select **Storage**.
 - c. In the right pane, select your array in the **Registered Storage** table to display the **Registered Resource Pools** table.

Unisphere for Re	coverPoint v4.1.0								Ø 🕽 🕄.
Dashboard	Votection	Recovery	RPA Clusters	â 🖉 Adr	nin 🙆	Support			
RecoverPoint > RPAC	Justers on								
General Cluster Info	Registered Storage	•							
Storage Splitters									7 0. 0 0
RPAs	Name 1.	Serial Number	Туре	IP	Version	Splitter	Connectivity Status		
vCenter Servers	MyvCenterServer	Ser#102	CLARION	10.10.10.10	4.0			2	
	Add Edit R	emove							1 iten
	Registered Resource	Pools							7 %. 6
	Name 1. Type	Total Size	Available 5	Tiers	Available Tie	oring Policies			
	Arid Demous								0 iter
	ALL NUMBER								

d. Under the **Registered Resource Pools** table, click **Add**. The **Register Available Resource Pools** dialog box is displayed.



gister Av	ailab	le Resource Po	ols			3
					2	Y 9., 🛙
Name	1.	Туре	Total Size	Available S	Tiers	Availab
Pool Name	e	RAID Groups	28.6MB	28.6MB	Unknown	tier_po
•			IIII			
						1 iten
					C	CIO

- e. In the **Register Available Resource Pools** dialog box, select the resource pool that you want to register, and click **OK**. The resource pool is now registered for RecoverPoint management, and RecoverPoint can automatically provision volumes upon it.
- Because there is a limitation of one array per side, if you have more than one non-production copy in the group, make sure the local copy is stored on the same VNX/CLARiiON array as the production copy.

To begin creating a consistency group, select **Protection** from the main menu, and then **Protect Volumes** to open the Protect Volumes wizard. The Select Production Volumes screen appears.

	Dashboard	Protec	tion 🧿	Recovery	RPA Cluster	- 🦓 Ad	min 🕜 Support			
ove	rPoint > Protectio	n > Protect	Volumes							
		1 Select Prod	uction Volumes	8						
1	Define Source	· Consistency	Group Name:	MyCG						
4	Сору	• Descluction N	amer	100-5-	• BBA Cluster		Gree	up and Productio	n Destaction -	
		Production is	ame:	-	- RPA Cluster	-	Gio	up and moducoo	1 Protection:	
		prod		,	New York	*	Mo	dify Policies		
	old Count									
1	and copy									27
			Vendor	Array Type	Serial Nu 1 v	Volume	UID	Size	VPLEX Group	
			DGC	VNX/Clariton	Ser#102	VOL 1D: 0057	53:65:72:23:31:33:38:30	895GB		
	Troup Summary		DGC	VNX/Clariton	Ser#102	VOL 1D: 0001	53:65:72:23:38:32:30	15.7GB		
Î	roub Summary	2	DGC	VNX/Clarifon	Ser#102	VOL ID: 0003	53:65:72:23:38:34:30	47.1GB		Í
			DGC	VNX/Clariton	Ser#102	VOL 1D: 0038	53:65:72:23:31:31:39:30	612GB		
			DGC	VNX/Clariton	Ser#102	VOL 1D: 0040	53:65:72:23:31:32:31:30	644GB		
			DGC	VNX/Clariton	Ser#102	VOL 1D: 0009	53:65:72:23:39:30:30	141GB		
			DGC	VNX/Clariton	Ser#102	VOI. 1D: 0046	53:65:72:23:31:32:37:30	738GB		
			DGC	VNX/Clariton	Ser#102	VOL 1D: 0033	53:65:72:23:31:31:34:30	518GB		
			DGC	VNX/Clariion	Ser#102	VOL ID: 0018	53:65:72:23:39:39:30	298GB		
			DGC	VNX/Clariton	Ser#102	VOL 1D: 0002	53:65:72:23:38:33:30	47.1GB		
			DGC	VNX/Clariton	Ser#102	VOL ID: 0023	53:65:72:23:31:30:34:30	361GB		
			DGC	VNX/Clariion	Ser \$ 102	VOL 1D: 0008	53:65:72:23:38:39:30	141GB		
			DGC	VNX/Clariion	Ser#102	VOL ID: 0037	53:65:72:23:31:31:38:30	581GB		
		173	DGC	VNX/Clariton	Sec#102	VOI 10: 0014	53-65-72-23-39-35-30	23668		
		Selected: 1		Total	size of selected volum	es: 47.1GB				Unfiltered: 32

Define the consistency group name, the production name, and the RPA cluster that will manage the production.

Configure Replication Environment

Then, select your production volumes from the volumes list.

Click **Next Define the Production Journal** to continue. The Journal Provisioning Method screen appears.

ι	Jnisphere for Rec	overPoint v4.1.0											Ø 🕽 3.
Ę	Dashboard	Protection	2	ecovery	-	RPA C	lusters 嶺	Admin	0	Support			
Rec	overPoint > Protection	on > Protect Volume	61										
1	Define Source Copy	Define Production Jo Journal Protection: Select Provisioned Jo	Modify Pol wmai Volum	licy es (i) Au	tomatically	Provision	Journal Volumes						3
		- Provision Setting	5										
2	Add Copy	prod journal Size Predicted Incoming	Write-Date	10	GB	s/Sec							
2	C	Required Protection W	indow:	1	Hours	~							
3	Group Summary												700
		Resource Pool Name	Туре		Total Size		Available Size	Tiers		Available Tiering	Storage 1	Serial Number	Array Type
		Pool Name	RAID Gro	ops	28.6MB	2	OBYTES	Unknow	m	tier_policy_1	МуАттау	Ser≢102	CLARION
		•											
		Tiering policy: tier_	policy_1		~								Unfiltered: 1 items
					< Ba	ick to Sel	ect Production Vol	umes N	ext Add a	Copy >			Finish Cancel
Con	nected to RPA1 at New	York Alerts: 🧿 0 C	Inticals 🤤	0 Errors	A 7 W8	arnings	Time displayed:	RPA Local Tin	ne (Amer	ica/New_York)		User:	admin Role: admin

It is recommended that you allow RecoverPoint/SE to automatically provision your journal volumes. To automatically provision journal volumes, keep the **Automatically Provision Journal Volumes** option selected, select the relevant resource pool, and specify one of the following:

- Journal size (in GB), in which case the journal of that size will be created.
- **Predicted Incoming** Write **Rate** for the set of volumes that belong to the newly created consistency group, and the **Required Protection Window**, which is the application's rollback window. Based on these estimates, RecoverPoint will recommend a **Calculated Journal Size**. Optionally, select a Tiering policy from the drop-down at the bottom of the resource pool table to automatically apply it to the selected volumes.

Then, click **Next Add a Copy**, and continue defining your consistency group, as described on page 103.



Alternatively, you may use the **Select Provisioned Journal Volumes** option to select from a list of volumes (LUNs) that have already been provisioned on storage. The **Define Production Journal** screen is displayed.

Ę	Dashboard	Protect	tion	Recovery	RPA Clusters	- 🚑 Ad	min 🕜 Support			
leci	overPoint > Protection	on > Protect 1	/olumes							
1	Define Source Copy	1 Define Produ Journal Prote	uction Journal ction: Mod ioned Journal	lify Policy Volumes () Autom	stically Provision Journal	Volumes				0
										rmsenv1_HOS
			Vendor	Array Type	Serial Nu 1 v	Volume	UID	Size	VPLEX Group	rmsenv1_HOS
2	Add Copy		DGC	VNX/Clariton	Ser #102	VOL 1D: 0001	53:65:72:23:38:32:30	15.7G8		
			DGC	VNX/Clariion	Ser#102	VOL 10: 0040	53:65:72:23:31:32:31:30	644GB		rmsenv1_HOS
			DGC	VNX/Clariton	Ser#102	VOL 1D: 0014	53:65:72:23:39:35:30	236GB		
			DGC	VNX/Clariion	Ser#102	VOL 1D: 0009	53:65:72:23:39:30:30	141GB		
2	Group Summary		DGC	VNX/Clariion	Ser#102	VOL ID: 0047	53:65:72:23:31:32:38:30	738GB		
3			DGC	VNX/Clariion	Ser#102	VOL 1D: 0018	53:65:72:23:39:39:30	298GB		
			DGC	VNX/Clariion	Ser#102	VOL ID: 0000	53:65:72:23:38:31:30	15.7G8		
			DGC	VNX/Clariion	Ser#102	VOL 1D: 0011	53:65:72:23:39:32:30	173GB		
			DGC	VNX/Clariion	Ser £102	VOI. 1D: 0059	53:65:72:23:31:34:30:30	926GB		
			DGC	VNX/Clariion	Ser#102	VOL 1D: 0043	53:65:72:23:31:32:34:30	675GB		
			DGC	VNX/Clariion	Ser#102	VOL 1D: 0046	53:65:72:23:31:32:37:30	738GB		
			DGC	VNX/Clariton	Ser#102	VOL 1D: 0048	53:65:72:23:31:32:39:30	769GB		
		2	DGC	VNX/Clariton	Ser#102	VOL 1D: 0049	53:65:72:23:31:33:30:30	769GB		
			DGC	VNX/Clariion	Ser#102	VOL ID: 0058	53:65:72:23:31:33:39:30	926GB		1
			DGC	VNX/Clariion	Ser#102	VOL 1D: 0042	53:65:72:23:31:32:33:30	675GB		
			DGC	VNX/Clariion	Ser#102	VOL ID: 0056	53:65:72:23:31:33:37:30	895GB		
			DCC	VAV /Clariton	Cer#103	NOI 10-0015	E3-4E-73-33-30-33-30	304CB		
		Selected: 1		Tota	I size of selected volume	es: 769GB				Unfiltered: 351 item
					< Back to Select Proc	luction Volumes	Next Add a Conv >			Einish Cancel

Select the volumes to add to the journal.

For best performance, select volumes that are identical in size. If identically sized volumes are not available, select volumes that are similar in size.

Then, click **Next Add a Copy** to continue. The Add a Copy screen appears.

Unis	phere for Recove	rPoint v4.0(f.211)			
400	Dashboard	Protection 2 Recovery	RPA Clusters 🦓 Adı	min 🕜 Support	
Reco Prote	overPoint > Protection	n > Protect Volumes			
1	Define Source Copy	2 Add a Copy Copy Name: RPA Cluster: Select cluster	Replication Mode:	Synchronous	Copy and Link I Modify Policies
		Select Cluster	RPO: 25	Seconds 🗸	
2	Add Copy	Production - myProduction	at New York		
4	Add Copy	S 1 Volume UID	Size VPLE	Seria Volume UIE	Size
		6485183463413 DEV ID: 0065 53:65:72:23:	1.00TB	Select volume	
		6485183463413 DEV ID: 0067 53:65:72:23:	1.03TB	Select volume	
3	Group Summary				
		O D D D D D D D D D D		1	
		Replication sets: 0 of 2	lotal size of selected volumes	: OBYTES	
			< Back to Define Production	n Journal Next Define Copy Journal	>
Con	nected to RPA1 at New	York Alerts: 😝 0 Criticals 🗢 0 Errors 🛝	6 Warnings		

Define the copy name, the RPA cluster that will manage the copy volumes, and the replication mode.

For each production volume, click the **Select volume** link to add a volume to the copy. The selected volume is the volume to which the production volume shall be replicated.

Configure Replication Environment

The volumes list is displayed.

roduction vo							~
	olume:						
Ven A	Array	Serial Number	Volume 1	UID	Size	VPLEX Group	
MC S	Symmetrix	648518346341351452	DEV ID: 0065	53:65:72:23:33:30:32:30	1.00TB		
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alact tha	conv volu	mo to which the producti		uill soplicator			
elect the		me to which the production	on volume above v	wiii replicate.			
Filter	for						
en A	Array	Serial Number	Volume 1▲	UID	Size	VPLEX Group	
MC S	Symmetrix	648518346341351451	DEV ID: 0064	53:65:72:23:32:30:37:30	1.00TB		
MC S MC S	Symmetrix Symmetrix	648518346341351451 648518346341351451	DEV ID: 0064 DEV ID: 0070	53:65:72:23:32:30:37:30 53:65:72:23:32:31:33:30	1.00TB 1.09TB		
MC S MC S MC S	Symmetrix Symmetrix Symmetrix	648518346341351451 648518346341351451 648518346341351451	DEV ID: 0064 DEV ID: 0070 DEV ID: 0071	53:65:72:23:32:30:37:30 53:65:72:23:32:31:33:30 53:65:72:23:32:31:34:30	1.00TB 1.09TB 1.09TB		
MC S MC S MC S MC S	Symmetrix Symmetrix Symmetrix Symmetrix	648518346341351451 648518346341351451 648518346341351451 648518346341351451	DEV ID: 0064 DEV ID: 0070 DEV ID: 0071 DEV ID: 0072	53:65:72:23:32:30:37:30 53:65:72:23:32:31:33:30 53:65:72:23:32:31:34:30 53:65:72:23:32:31:35:30	1.00TB 1.09TB 1.09TB 1.12TB		
MC S MC S MC S MC S MC S	Symmetrix Symmetrix Symmetrix Symmetrix Symmetrix	648518346341351451 648518346341351451 648518346341351451 648518346341351451 648518346341351451	DEV ID: 0064 DEV ID: 0070 DEV ID: 0071 DEV ID: 0072 DEV ID: 0073	53:65:72:23:32:30:37:30 53:65:72:23:32:31:33:30 53:65:72:23:32:31:34:30 53:65:72:23:32:31:35:30 53:65:72:23:32:31:36:30	1.00TB 1.09TB 1.09TB 1.12TB 1.12TB		
MC S MC S MC S MC S MC S MC S	Symmetrix Symmetrix Symmetrix Symmetrix Symmetrix Symmetrix	648518346341351451 648518346341351451 648518346341351451 648518346341351451 648518346341351451 648518346341351451 648518346341351451	DEV ID: 0064 DEV ID: 0070 DEV ID: 0071 DEV ID: 0072 DEV ID: 0073 DEV ID: 0075	53:65:72:23:32:30:37:30 53:65:72:23:32:31:33:30 53:65:72:23:32:31:34:30 53:65:72:23:32:31:35:30 53:65:72:23:32:31:36:30 53:65:72:23:32:31:38:30	1.00TB 1.09TB 1.09TB 1.12TB 1.12TB 1.12TB 1.15TB		
MC S MC S MC S MC S MC S MC S MC S MC S	Symmetrix Symmetrix Symmetrix Symmetrix Symmetrix Symmetrix Symmetrix	648518346341351451 648518346341351451 648518346341351451 648518346341351451 648518346341351451 648518346341351451 648518346341351451	DEV ID: 0064 DEV ID: 0070 DEV ID: 0071 DEV ID: 0072 DEV ID: 0073 DEV ID: 0075 DEV ID: 0076	53:65:72:23:32:30:37:30 53:65:72:23:32:31:33:30 53:65:72:23:32:31:34:30 53:65:72:23:32:31:35:30 53:65:72:23:32:31:36:30 53:65:72:23:32:31:38:30 53:65:72:23:32:31:39:30	1.00TB 1.09TB 1.09TB 1.12TB 1.12TB 1.12TB 1.15TB 1.18TB		

The volumes list contains only volumes of sizes that are equal to, or greater than, the specified production volume.

For best performance during failover, select a volume that is the same size as the production volume. If a volume of the same size is not available, select a volume that is as similar in size as possible.

You can proceed to the next step only when the replication sets icon under the volume list shows a green check mark to indicate that the number of replication sets is equal to the number of production volumes.



To continue, click **Next Define Copy Journal**. The Journal Provisioning Method screen appears.



Unisphere for Rec	overPoint v4.1.0								Ø 🕽 🤉	
Dashboard	Protection	Recovery	RPA Ch	usters 🚑 Ac	lmin 🙆	Support				
RecoverPoint > Protectio	on > Protect Volumes									
1 Define Source Copy	2 Define Copy Journal Journal Protection: Mod Select Provisioned Journal Provision Settings	fy Policy /olumes () Auto	matically Provision J	lournal Volumes						
2 Add Copy	Remote 10 500 mail Size Journal Size 10 500 mail Size Predicted Incoming Write-Rate 1 1 Applied Prediction Window: 1 4									
5 Group Summary	The journal resource pools size r journal size.	mot be at least as							74.	
	Resource Pool Name 1	Туре	Total Size	Available Size	Tiers	Available T	Storage N	Serial Number	Array Type	
	Pool Name	RAID Groups	28.6MB	OBYTES	Unknown	tier_policy_1	Мултау	Ser≇102	CLARIION	
	Thering policy: Uer_policy_1									
Connected to RPA1 at New	York Alerts: 🧿 0 Criticals	O Errors	< Back to Select C	Time displayed: RPA Li	cal Time (Americ	ca/New_York)		User:	admin Role: adm	

It is recommended that you allow RecoverPoint/SE to automatically provision your journal volumes. To automatically provision journal volumes, keep the **Automatically Provision Journal Volumes** option selected, select the relevant resource pool, and specify one of the following:

- Journal size (in GB), in which case the journal of that size will be created.
- **Predicted incoming data** (write) **rate** for the set of volumes that belong to the newly created consistency group, and the **Desired protection window**, which is the application's rollback window. Based on these estimates, RecoverPoint will recommend a **Calculated Journal Size**.

Optionally, select a **Tiering policy** from the drop-down at the bottom of the resource pool table to automatically apply it to the selected volumes.

Configure Replication Environment

Alternatively, you may use the **Select Provisioned Journal Volumes** option to select from a list of volumes (LUNs) that have already been provisioned on storage. The **Define Copy Journal** screen is displayed.

5		V Protec			-	18	and Constraint			
ecove	rPoint > Protectio	on > Protect	Volumes							
1	Define Source Copy	2 Define Copy Journal Prote	/ Journal ction: Mod ioned Journal	lify Policy Volumes 🕜 Autom	v ② Automatically Provision Journal Volumes					
. 1			Vendor	Array Type	Serial Nu 1 v	Volume	UID	Size	VPLEX Group	rmsenv1_HO rmsenv1_HO
2 4	Add Copy		Xtram10	VinemIO	Sec \$110	110-53.65.7	52-65-77-72-24-25-28-20	15 768		_
			XtremIQ	XtremIQ	Sec#110	HID: 53,65,7	53-65-72-23-34-36-35-30	11068		rmsenv1_HO
			Xtrem10	XtremIO	Ser#110	UID: 53.65.7	53:65:72:23:34:35:39:30	15.768		
			XtremIO	XtremIO	Ser#110	UID: 53.65.7	53:65:72:23:34:37:35:30	267GB		
Group Summary	Territor Francisco		Xtrem10	XtremIO	Ser#110	UID: 53.65.7	53:65:72:23:34:37:37:30	298GB		
	roub summary		Xtrem10	XtremIO	Ser#110	UID: 53,65,7	53:65:72:23:34:37:32:30	236GB		
		1	Xtrem10	XtremIO	Ser#110	UID: 53,65,7	53:65:72:23:34:36:34:30	110GB		
			Xtrem10	XtremIO	Ser#110	UID: 53,65,7	53:65:72:23:34:37:39:30	330GB		
			Xtrem10	XtremIO	Ser \$ 110	UID: 53,65,7	53:65:72:23:34:36:37:30	141GB		
			Xtrem10	XtremIO	Ser#110	UID: 53,65,7	53:65:72:23:34:38:31:30	361GB		
			XtremIO	XtremIO	Ser#110	UID: 53,65,7	53:65:72:23:34:37:34:30	267GB		
			XtremIO	Xtrem10	Ser#110	UID: 53,65,7	53:65:72:23:34:36:31:30	47.1GB		
			Xtrem10	XtremIO	Ser#110	UID: 53,65,7	53:65:72:23:34:38:37:30	455GB		
			Xtrem10	XtremI0	Ser#110	UID: 53,65,7	53:65:72:23:34:37:33:30	236GB		
			Xtrem10	XtremIO	Ser#110	UID: 53,65,7	53:65:72:23:34:38:33:30	393GB		
			XtremIO	XtremI0	Ser#110	UID: 53,65,7	53:65:72:23:34:37:38:30	330GB		
			Viramin	Vinanto	Car#110	1101 53 65 7	53-65-73-32-34-36-30-30	47.1CB		
		Selected: 0 Total size of selected volumes: 0Bytes								Unfiltered: 349 it
				177		resources provide and				press and a second second

Select the volumes to add to the journal.

For best performance, select volumes that are identical in size. If identically sized volumes are not available, select volumes that are similar in size.

When you are done configuring your journal settings, click **Next Display Group Summary**.

The Group Summary screen appears.



You should ensure that the consistency group diagram reflects your anticipated group configuration. If not, you can edit the copy settings, delete the copy, or edit the replication sets.



If you want to add another copy, select **Add a Copy**, and create the new copy in the same way as you created the previous one (see page 103).

Note: Before clicking **Finish**, ensure that the copy volumes are unmounted from any hosts and any volume groups are deported from the logical volume manager (AIX, HP-UX, Windows, and Solaris have volume managers built into the operating system; Veritas Volume Manager can be used with any of these operating systems).

If you want to start replication for this group after it is created, check the **Start transfer upon completion** checkbox under the group diagram.

When you are ready, click **Finish** to create the consistency group, apply all of the specified settings, and start a first-time initialization process to synchronize the production volumes to the copy volumes.

Unisphere for RecoverPoint provides a full set of tools for monitoring the status and managing the consistency group that you have created.

To access these tools, select **Protection** from the main menu, and then **Manage Protection**.



Configure Replication Environment

The Manage Protection screen appears.

Unisphere for RecoverPoint v4.0.SP1(K.94)												
Dashboard	🕖 Pro	tectio		Recovery	RPA Cluste	rs 🗸 🦉 Admin	Support					
RecoverPoint > Protection > Manage Protection												
Consistency Groups	All Cons	istenc	/ Groups									
[▶] 🖏 group 2	Name	1	Status	Transfer	Alerts	Protected Size	Active RPA	Group Set				
▶ 😽 group1	group1		Disabled	N/A	🐴 2 Alerts	141GB						
	group2		Enabled	Active	👍 1 Alert	518GB	RPA6					
	Remov	e Grou	Apply	Parallel Bookm	ark Enable							
Connected to RPA1 at New	York Aler	ts: 🙆	0 Criticals	O Errors	A 10 Warnings							

When the Manage Protection screen is first displayed, the Consistency Groups node is selected in the left pane, and the list of all consistency groups in the system is displayed in the right pane along with the status of every consistency group in the RecoverPoint system.

To monitor the status of replication for a specific group, select the group in the left pane, and then select the Status tab in the right pane.






To monitor performance for that group, select the Statistics tab.

These are just a couple of the monitoring tools available.

Congratulations! You have successfully completed the installation and configuration of RecoverPoint/SE, and have gotten started using RecoverPoint/SE replication.

Use the IP & SAN Setup Details Template for physical RPA clusters (page 112) and for virtual RPA clusters (page 113) to collect relevant infrastructure data prior to installation.

Note: With regard to the data for the IP & SAN Setup Details Templates:

 A RecoverPoint installation requires at least two designated IP addresses per RecoverPoint appliance, one for Management (LAN) and the other for WAN, for physical and virtual RPAs. Two additional IP addresses are required for iSCSI for each virtual RPA. Finally, an additional floating IP is required per cluster, for use by one of the RPAs for management activities.

When replicating over Fibre Channel, WAN IPs are not mandatory, but recommended to enable intra-cluster RPA communication.

- A RecoverPoint installation requires Management (LAN) and WAN default gateways and subnet masks.
- Use of NTP, DNS, SMTP, and SNMP services, is optional according to your preference.



IP & SAN Setup Details Templates

	IP & SAN Setup Details		
	Physical RPA Clusters	Cluster #1	Cluster #2
	Cluster Name		
	Time Zone		
	Local Domain		
	Primary DNS Server (Optional)		
	Secondary DNS Server (Optional)		
	NTP Server (Optional)		
	Cluster Management IPv4		
	Management Default Gateway IPv4		
	Management Subnet Mask IPv4		
	WAN Default Gateway		
	WAN Subnet Mask		
	SMTP (Optional)		
RPA 1:	RPA Management IP		
	RPA WAN IP		
RPA 2:	RPA Management IP		
	RPA WAN IP		
RPA 3:	RPA Management IP		
	RPA WAN IP		
RPA 4:	RPA Management IP		
	RPA WAN IP		
RPA 5:	RPA Management IP		
	RPA WAN IP		
RPA 6:	RPA Management IP		
	RPA WAN IP		
RPA 7:	RPA Management IP		
	RPA WAN IP		
RPA 8:	RPA Management IP		
	RPA WAN IP		
Array SPA	Array SPA Mgmt IP		
Array SPB	Array SPB Mgmt IP		
Fabric A	Switch IP Address		
Fabric B	Switch IP Address		
Fabric A:	SPA Storage port		
	SPB Storage port		
Fabric B:	SPA Storage port		
	SPB Storage port		



