Virtuozzo

Virtuozzo Hybrid Infrastructure 4.5

MIGRATION GUIDE FOR VMWARE

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1 Deploying the VMware Agent from an OVF Template

Before you proceed to deploy one or more agents, take note of the following:

• Agent system requirements.

By default, a virtual appliance is assigned 4 GB of RAM and 2 vCPUs, which is optimal and sufficient for most operations. It is recommended, however, to let an agent have 8 GB of RAM and 4 vCPUs to improve backup performance if the backup traffic exceeds 100 MB/s (in 10 Gbps networks, for example).

As for storage, appliance virtual disks occupy no more than 6 GB. Thick or thin disk format does not matter as it does not affect the appliance performance.

• The number of agents.

Even though one virtual appliance can protect the entire vSphere environment, the best practice is to deploy one virtual appliance per vSphere cluster (or per host, if there are no clusters). This makes for faster backups because the appliance can attach the backed-up disks by using the HotAdd transport and therefore direct the backup traffic from one local disk to another. You can use both the virtual appliance and VMware Agent for Windows at the same time, as long as they are connected to the same vCenter Server or different ESXi hosts. Avoid connecting one agent to an ESXi directly and another to the vCenter Server which manages this ESXi.

It is not recommended to use locally attached storage (i.e. storing backups on virtual disks added to the virtual appliance) if you have more than one agent.

• Disable automatic DRS for the agents.

If the virtual appliance is deployed to a vSphere cluster, be sure to disable automatic vMotion for it. In the cluster DRS settings, enable individual virtual machine automation levels, and then set **Automation** level for the virtual appliance to **Disabled**.

1.1 Creating the VMware Agent Appliance

To create a VMware Agent appliance from an OVF template, do the following:

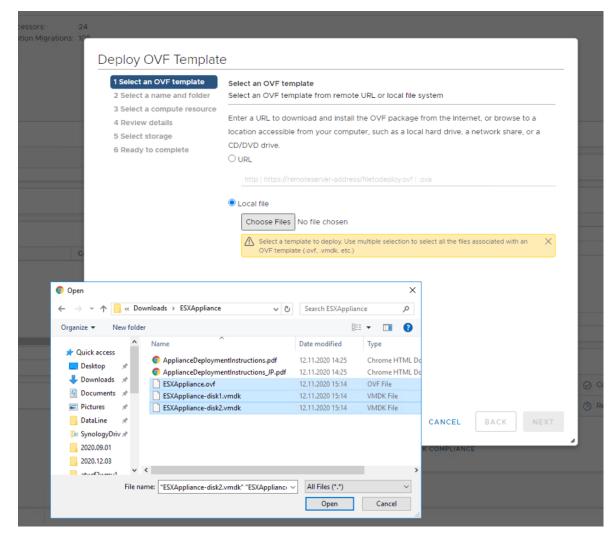
 In Virtuozzo Cyber Cloud, click All devices > Add > VMware ESXi > Virtual Appliance (OVF). The archived template will be downloaded to your machine.

Virtuozzo (Cyber Cloud	All	devic	es	Ado	d devices	×	
Manage		Q S	Search			P		
🕢 dashboa	RD 5		Туре	Name 🕈		Windows only		
			•	000050059-004		WORKSTATIONS		
All devices			5			# 		
Machiner	with agents		Fo	Statements and the second s		Windows Mac		
	with agents		þ					
VMware			Ø			SERVERS		
Virtuozzo Infrastruct		×	þ	test-VM-01		1 A		
Virtuozzo	Migration Demo		Ø	test-VM-01		Windows Linux		
Unmanage			Fo			VIRTUALIZATION HOSTS		
Data prote			5		1			
			5					
Powered by Acroni	is AnyData Engine		5	Colicocolimit		Virtuozzo Hybrid Infrastructure		

- 2. Unpack the archive. It will contain an OVF file and two VMDK files.
- 3. Make sure that these files can be accessed from the machine running the vSphere Client.
- 4. Start the vSphere Client and log on to the vCenter Server.
- In the vSphere Client, click **Deploy OVF Template** in the **Actions** menu. The corresponding wizard will open.

vm vSphere Client Menu v	Q Search in	all environments				
	uster Action	NS ~				
V 🗗 vcsa.home.local Summa	ry Monitor C	onfigure Permissions	Hosts VMs	Datastores	Networks	Updates
V 📑 Datacenter	Total Proce	ssors: 24				
Actions - Cluster	1.	on Migrations: 105				
🚺 🚹 Add Hosts	📮 🐥					
🖞 🚹 New Virtual Machine						
a 🏷 New Resource Pool						
Deploy OVF Template						
R New vApp	Dbjects					^
	-					
É Storage	▶ center		Datacenter			
Host Profiles	•					
Edit Default VM Compatibility	на					~
G ∰→ Assign License						
E Settings						^
Move To	l Tag	Category		Description	1	
Rename						*
Tags & Custom Attributes	•					
ជ ឝ Add Permission						
d Alarms	•					
E X Delete					N	o items to display
E VSAN	Remove					
Update Manager	esources					~

6. On wizard step #1, select all three files of the template.



7. On wizard step #2, type in a name and choose a location for the appliance.

1 Select an OVF template 2 Select a name and folder	Select a name and folder Specify a unique name and target location
3 Select a compute resource	
4 Review details	Virtual machine name: ESXAppliance
5 Select storage 6 Ready to complete	Select a location for the virtual machine.
e namej te semplete	V 🗗 vcsa.home.local
	> 📴 Datacenter

8. On wizard step #3, choose a destination compute resource.

 1 Select an OVF template 2 Select a name and folder 	
3 Select a compute resource 4 Review details	v III Datacenter
5 Select storage	> 🗍 Cluster
6 Ready to complete	
	Compatibility
	✓ Compatibility checks succeeded.

9. On wizard step #4, review the template details.

1 Select an OVF template 2 Select a name and folder		ails.
3 Select a compute resourd 4 Review details 5 Select storage 6 Select networks	The OVF package security risk. Revie	e contains advanced configuration options, which might pose a ew the advanced configuration options below. Click next to ced configuration options.
7 Ready to complete	Publisher	No certificate present
	Description	{AB53A0F1-AD54-480f-80BB-FC72DC41DF53}
	Download size	411.2 MB
	Size on disk	800.7 MB (thin provisioned)
		9.0 GB (thick provisioned)
	Extra configuration	disk.EnableUUID = TRUE virtualHW.productCompatibility = hosted

10. On wizard step #5, select storage for the appliance. If possible, select a shared datastore. The disk format, thick or thin, does not matter as it does not affect the appliance performance.

Select the storage for t	he configuration and d	lisk files					
Encrypt this virtual	Encrypt this virtual machine (Requires Key Management Server)						
Select virtual disk form	at:	Thin Provision	\sim				
VM Storage Policy:		Datast	ore Default	~			
Name	Capacity	Provisioned	Free	Тур			
🖯 vm	34.91 TB	24.72 TB	22.28 TB	NF			
Vol2	911.3 GB	688.93 GB	505.92 GB	NF			
🗐 vol3	911.3 GB	517.13 GB	590.12 GB	NF			
Compatibility	_			•			
 Compatibility cried 	cks succeeded.						
	Encrypt this virtual Select virtual disk form VM Storage Policy: Name vm vol2 vol3 vol3 Compatibility	Encrypt this virtual machine (Requires Key) Select virtual disk format: VM Storage Policy: Name Capacity vm 34.91 TB vol2 911.3 GB vol3 911.3 GB	Compatibility	Compatibility			

11. On wizard step #6, select networks for the appliance. The agent will require an Internet connection to register in the cloud.

 1 Select an OVF template 2 Select a name and folder 	Select networks Select a destination network fo	or each source network.	
 3 Select a compute resource 4 Review details 	Source Network	T Destination Network	т
5 Select storage	bridged	Servers	× 4
6 Select networks			1 items
7 Ready to complete	IP Allocation Settings		
	IP allocation:	Static - Manual	
	IP protocol:	IPv4	

12. On wizard step #7, click **Finish** to create the appliance.

 1 Select an OVF template 2 Select a name and folder 	Ready to complete Click Finish to start creatior	r.
 3 Select a compute resource 4 Review details 		
 5 Select storage 	Provisioning type	Deploy from template
 ✓ 6 Select networks 7 Ready to complete 	Name	ESXAppliance
7 Ready to complete	Template name	ESXAppliance
	Download size	411.2 MB
	Size on disk	800.7 MB
	Folder	Datacenter
	Resource	Cluster
	Storage mapping	1
	All disks	Datastore: vm; Format: Thin provision
	Network mapping	1
	bridged	Servers
	IP allocation settings	
	IP protocol	IPV4
	IP allocation	Static - Manual

1.2 Configuring the VMware Agent

After creating the agent appliance, start it. In the vSphere Client, open **Inventory**, right-click the appliance name, and then select **Power > Power On**. Select the **Console** tab.

📌 VZ_ESXAppliance - VM	Iware Remote Console	-		×
VMware Remote Console	 ↓ ↓ ↓ ↓ 	≫ 📮		
Agent for VMware	(Virtual Appliance)			×
Agent for VI	Nware (Virtual Appliance)			
Specify the requir web console.	red parameters below. After the agent is configured, the virtual machine	es will appe	ar in t	the
Agent status:	The agent is connected to vCenter/ESX(i) server '1			
AGENT OPTIONS				
vCenter/ESX(i):	Connected Server name/IP: 1	Cha	ange.	
Management Server	Registered Server name/IP: https://us5-cloud.acronis.com User name: H	Cha	ange.	
eth0	Address type: Assigned by DHCP IP address: 1	Cha	ange.	
VIRTUAL MACHINE				
Name:	1	Cha	ange.	
(i) About	Turn	Off F	Rebo	ot EN-US

Configure the agent as follows:

- 1. (Optional) Configure a proxy server if you have one in your network:
 - a. Start the command shell by pressing CTRL+SHIFT+F2 while in the virtual appliance UI.
 - b. Edit the following section in the file /etc/Acronis/Global.config:

```
<key name="HttpProxy">
<value name="Enabled" type="Tdword">"1"</value>
<value name="Host" type="TString">"ADDRESS"</value>
<value name="Port" type="Tdword">"PORT"</value>
<value name="Login" type="TString">"LOGIN"</value>
<value name="Password" type="TString">"PASSWORD"</value>
</key>
```

If the section is missing, copy and paste it to the file inside the <registry name="Global">...</registry> tag.

- c. Replace ADDRESS with your proxy server host name or IP address and PORT with the port number.
- d. If your proxy server requires authentication, replace LOGIN and PASSWORD with the proxy server credentials. Otherwise, delete these lines.

e. Locate (or create) the env section in the file /opt/acronis/etc/aakore.yaml and add the following lines to it:

```
http-proxy: LOGIN:PASSWORD@ADDRESS:PORT
https-proxy: LOGIN:PASSWORD@ADDRESS:PORT
```

- f. Replace LOGIN and PASSWORD with the proxy server credentials, and ADDRESS:PORT with the address and port number of the proxy server.
- g. Reboot the appliance with reboot.
- 2. The agent's network connection will be configured automatically via DHCP. To change the default configuration, under **AGENT OPTIONS**, in **eth0**, click **Change** and specify the desired network settings.

📌 VZ_ESXApplia	ince - VMware Remote	Console			_			×
VMware Remote	Console 🔻 📘 👻	4 (C)			≫ 🕞			5
Agent for \	Network				×			×
Agent f	Configure the net	work interfaces available	on the virtual machine with	n the agent				
	eth0		eth0					_
Specify th web cons			Network adapter:		¢	ear in	the	
Agent sta			VLAN ID:					
2.7			Hardware address:	00:50:56:97:2F:F4	-			-
AGENT OPTIC			Status:	Connected				
···O a referre/F			Media type:	10 Gbps Full-Duples				
vCenter/E			 Auto configuration 		ľ	ange		
			DHCP:	Used				
Managem			IP address:			ange	lue -	
Server			Subnet mask:	2				
-			Default gateways:					
eth0			DNS suffix:			ange	her	
			DNS servers:	1		~		
VIRTUAL MAC								
VINI UAL MAG	+ Add VLAN	- Remove VLAN	WINS servers:					
Name:					_	ange		
				OK Cance				
(i) About I						Rebo		-US

3. Under **AGENT OPTIONS**, in **vCenter/ESX(i)**, click **Change** and specify the vCenter Server name or IP address. The agent will be able to back up and recover any virtual machines managed by the vCenter Server.

If you do not use a vCenter Server, specify the name or IP address of the ESXi host whose virtual machines you want to back up and recover. Normally, backups run faster when the agent backs up virtual machines located on its own host.

Specify the credentials that the agent will use to connect to the vCenter Server or ESXi. It is recommended to use an account that has the Administrator role assigned. Otherwise, provide an account with the necessary privileges on the vCenter Server or ESXi.

H VZ ESXAppliance - VMware Remote Console \times VMware Remote Console 👻 📘 👻 🛱 ≫ 🗛 🗛 🗛 📴 Agent Чтобы вернуться к компьютеру, нажмите Ctrl+Alt. r \/Mwara (Virtual Appliance) Agent Connections Specify the ESX(i) server and credentials for remote connection to Agent for VMware ear in the Specify th web cons Agent sta ESX(i) Server ESX(i) Server AGENT OPTIC Specify an ESX(i) server and the access credentials. vCenter/E Server name/IP: 1 User name: r@vsphere.local Managem nange... Password: Server Check connection eth0 hange... VIRTUAL MAC Cancel Name: iande.. (i) About Reboot EN-US

Click **Check connection** to ensure the access credentials are correct.

4. Under AGENT OPTIONS, in Management Server, click Change.

In **Server name/IP**, select **Cloud**. The software will display the Cyber Protection service address. Do not change this address unless instructed otherwise.

In **User name** and **Password**, specify the user name and password for the Cyber Protection service. The agent and the virtual machines managed by the agent will be registered under this account.

Aware Remote Console			» 🗛 🗛 🖓
Agent for VMware	(virtual App	pliance)	
Agent for VI	Mware (Virtual Appliance)	
Specify the requir web console.	ed paramet	ers below. After the agent is configured, the virtual machin	es will appear in the
Agent status:	The agent i	Register agent	
AGENT OPTIONS		Server name/IP:	
vCenter/ESX(i):	Connect	Cloud + https://us5-cloud.acronis.com	Change
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Server n User nar	User name:	
	03ci Hai		
Management Server	Register Server n	Password:	Sange
	User nar		
eth0	Address	OK Cancel	Change
	IP addre	OK Cancer	
VIRTUAL MACHINE			
Name:	1000000	***	Change

5. Under **VIRTUAL MACHINE**, in **Time zone**, click **Change**. Select the time zone of your location to ensure that the scheduled operations run at the appropriate time.

VZ_ESXAppliance - \	/Mware Remote Console	-	
/ware Remote Conso	le ▼   🔢 ▼ 母 ロ	≫ 📮	
Agent for VMwa	re (Virtual Appliance)		
Agent for V	/Mware (Virtual Appliance)		
Specify the required web console.	uired parameters below. After the agent is configured, the virtual mach	ines will appe:	ar in the
Agent status:	The agent is connected to vCenter/ESX(i) server '1		
Management Server	Registered Server name/IP: https://us5-cloud.acronis.com User name: k	Cha	inge
eth0	Address type: Assigned by DHCP IP address: 1	Cha	inge
VIRTUAL MACHINE			
Name:	1	Cha	inge
Time:	Tuesday, December 22, 2020 12:59:00 PM		
Time zone:	(UTC+03:00) Moscow, St. Petersburg, Volgograd (RTZ 2)	Cha	inge
D About	Tu	rn Off 🛛 🗍 F	

6. Optionally, you can attach an additional disk to the virtual appliance so the Agent for VMware can back up to this locally attached storage.

Add the disk by editing the settings of the virtual machine and click **Refresh**. The **Create storage** link will become available. Click this link, select the disk, and then specify a label for it.

### 2 Deploying the VMware Agent from a QCOW2 Template

Such an appliance is a pre-configured virtual machine that you deploy in Virtuozzo Hybrid Infrastructure. It contains a protection agent that enables you to administer cyber protection of all virtual machines in a Virtuozzo Hybrid Infrastructure cluster.

Before you proceed to deploy one or more agents, take note of the following:

#### • Agent system requirements.

When deploying the agent virtual appliance(s), you can choose between different predefined combinations of vCPUs and RAM, i.e. flavors. You can also create your own flavors. The medium flavor with 2 vCPUs and 4 GB of RAM is optimal and sufficient for most operations. It is recommended, however, to let an agent have 8 GB of RAM and 4 vCPUs to improve backup performance if the backup traffic exceeds 100 MB/s (in 10 Gbps networks, for example).

#### • The number of agents.

Even though one agent can protect the entire cluster, you can deploy more if you need to distribute the backup traffic bandwidth load.

If you have more than one agent in a cluster, the virtual machines are automatically evenly distributed between the agents, so that each agent manages an equal number of machines. Automatic redistribution takes place when a load imbalance among the agents reaches 20%. This may happen, for example, when a machine or an agent is added or removed. For example, you may realize that you need more agents to help with throughput and deploy an additional virtual appliance to the cluster. The management server will assign the most appropriate machines to the new agent. The load on older agents will be reduced. When you remove an agent from the management server, the machines assigned to the agent are distributed among the remaining agents. This, however, will not happen if an agent gets corrupted or is deleted manually from a Virtuozzo Hybrid Infrastructure node. Redistribution will start only after you remove such an agent from the Cyber Protection web interface.

You can view the result of the automatic distribution:

- In the Agent column for each virtual machine in the All devices section
- In the Assigned virtual machines section of the Details panel when an agent is selected in Settings > Agents
- Limitations
  - Virtuozzo Hybrid Infrastructure appliances cannot be deployed remotely.
  - Application-aware backup of virtual machines is not supported.

### 2.1 Configuring Networks in Virtuozzo Hybrid Infrastructure

Before deploying and configuring the virtual appliance, you need to configure networks in Virtuozzo Hybrid Infrastructure.

The network requirements for the agent are:

- The virtual appliance requires at least two network adapters. The actual number may vary depending on the network architecture.
- The virtual appliance must be connected to Virtuozzo networks with the following network traffic types: **Compute API, VM Backup, ABGW Public, VM Public**.

For more information about configuring the networks, see Requirements for the compute cluster and Network requirements and recommendations sections in the Virtuozzo Hybrid Infrastructure documentation.

### 2.2 Configuring User Accounts in Virtuozzo Hybrid Infrastructure

To configure the agent appliance, you need a Virtuozzo Hybrid Infrastructure user account. This account must have the Administrator role in the **Default** domain. For more information about users, refer to the Virtuozzo Hybrid Infrastructure documentation. Grant this account access to all projects in the **Default** domain.

To do this, run the following script in the Virtuozzo Hybrid Infrastructure cluster via the OpenStack Command-Line Interface. For more information on how to connect to this interface, refer to the Virtuozzo Hybrid Infrastructure documentation.

```
# su - vstoradmin
# kolla-ansible post-deploy
# exit
# . /etc/kolla/admin-openrc.sh
# openstack --insecure user set --project admin --project-domain Default --domain
Default USERNAME
# openstack --insecure role add --domain Default --user USERNAME --user-domain
Default compute --inherited
```

Here, USERNAME is the Virtuozzo Hybrid Infrastructure account with the Administrator role in the **Default** domain. The virtual appliance will use this account in order to back up and restore the virtual machines in any child project under the **Default** domain.

Replace **Default** with the name of another domain to manage backups for virtual machines in that domain.

### 2.3 Creating the VMware Agent Appliance

To create a VMware Agent appliance from a QCOW2 template, do the following:

- 1. Log in to your Cyber Protection account.
- 2. Click **Devices** > **All devices** > **Add** > **Virtuozzo Hybrid Infrastructure**. The ZIP archive will be downloaded to your machine. Unpack it to get the QCOW2 template.
- 3. Log in to your Virtuozzo Hybrid Infrastructure account.
- 4. Add the QCOW2 image file to the Virtuozzo Hybrid Infrastructure compute cluster:
  - a. On the **Compute > Virtual machines > Images** tab, click **Add image**.

Virtuozzo	Virt	ual machines					@
	5 VIRTU	JAL MACHINES IMAGES	FLAVORS SSH KEYS				_
	<b>*</b>	Filters Search	Q		_	1 ( + Add ir	nage
Overview		Name 🕇	Status 🔱	Туре	OS type	Min. volume size	¢
Nodes		Cirros	Active	Template	Generic Linux	1 GIB	
Virtual machines							
Network							
Storage							
STORAGE SERVICES							
လ္လြို SETTINGS							
Storage-Cluster	•						

b. In the Add image window, click Browse, and then select the QCOW2 file.

c. Specify the image name, select the **Generic Linux** OS type, and then click **Add**.

E3		
$\odot$	Z Fliters Add image	
	Image file VHIAppliance.qcow2 Browse	
	Name	
	VHIAppliance.qcow2	
	Select OS distribution Generic Linux	
	Share between all projects	
Δ	Cancel	
ŝ		
Stor		

5. In the **Compute > Virtual machines > Virtual machines** tab, click **Create virtual machine**.

1	Virtuozzo	Virtual machines	0
Æ		VIRTUAL MACHINES IMAGES FLAVORS SSH KEYS	
$\Diamond$	COMPUTE		
	Overview		
	Nodes		
	Virtual machines	$\sim$	
	Network		
	Storage		
88	STORAGE SERVICES	No virtual machines to show Virtual machines that you create will be shown here.	
ይ	INFRASTRUCTURE	+ Create virtual machine	
ŝ	SETTINGS		
	age-Cluster  egge-Cluster  egg	tances/add	

A window will open where you will need to specify a name for the new virtual machine.

- 6. In **Deploy from**, choose **Image**.
- 7. In the **Images** window, select the QCOW2 image file of the appliance, and then click **Done**.

1	Virtu	IOZZŌ	Virtual ma	achines.					0
	моліто	Image	s					×	
	сомрит	Search		Q					
(	Qverview	Name \downarrow		Ту	pe Min. volu	OS type	Placements	Size	
	Nodes	0 🗄	VHIAppliance.qcow2	Templa	te 8 G	iB Generic Linu:	x	692 MIB	
0	Viltual ma	0 🖪	cirros	Templa	te 1 G	iB Generic Linux	x	12 MiB	
1	Network								
1	Storage								
	STORAGE								
. ک	INFRAST								
- tộj									
							Ca	Done	
Storag									

- 8. In the **Volumes** window, do not add any volumes. The volume that is added automatically for the system disk is sufficient.
- 9. In the **Flavor** window, choose a desired combination of vCPUs and RAM, and then click **Done**. See the agent system requirements in "Deploying the VMware Agent from a QCOW2 Template".
- In the Network interfaces window, click Add, select a public virtual network, and then click Add. It will appear in the Network interfaces list.
   If you use a setup with more than one physical network (and thus with more than one public virtual network), repeat this step and select the virtual networks that you need.
- 11. Click **Done**.
- 12. Back in the **Create virtual machine** window, click **Deploy** to create and boot the virtual machine.

Virtuozzo	Virtual machines	VHI_vAPP	×
	VIRTUAL MACHINES	도 Console (가 Reboot (신) Shut de	own 🗲 Hard reboot 🛈 Power off \cdots
<b>Сомрите</b>	Search	Overview	Monitoring
Overview	Name 🕇		
Nodes	VHI_VAPP	Details	
Virtual machines		Status	O Active
Network		Node	vhi-03
Storage		Creation time	December 22, 2020 4:33 PM
STORAGE SERVICES		SSH key	Not specified
		VM ID	6b0a30c2-cead-4944-8735-ab33bd85299f
္သည့္သို Settings		Project name and ID	admin e0861da65cab4a218d52353128e50f1b
Storage-Cluster 🔗		Properties	

### 2.4 Configuring the VMware Agent

After creating the agent appliance, you need to configure it so that it can reach both the Virtuozzo Hybrid Infrastructure cluster that it will protect and the Cyber Protection cloud service.

To configure the virtual appliance:

- 1. Log in to your Virtuozzo Hybrid Infrastructure account.
- 2. On the **Compute** > **Virtual machines** > **Virtual Machines** tab, select the virtual machine that you created. Then, click **Console**.

<ul> <li>Agent for Virtuozzo Hybrid Infrastructure</li> </ul>		Agent for	Virtuozzo	Hybrid	Infrastructure
---------------------------------------------------------------	--	-----------	-----------	--------	----------------

Specify the required parameters below. After the agent is configured, the virtual machines will appear in the web console.					
Agent status: The agent is connected to the Virtuozzo Hybrid Infrastructure server 'https:// 102-1002-201:5000'.					
GENT OPTIONS					
∕irtuozzo Hybrid nfrastructure:	Connected Server name/IP: https://1 User domain name: Default User name: admin	Change			
Vlanagement Server	Registered Server name/IP: https://us5-cloud.acronis.com User name: k	Change			
eth0	Address type: Assigned by DHCP IP address: 1	Change			
IRTUAL MACHINE					

3. Configure the network interfaces of the appliance. There may be one or more interfaces to configure, it depends on the number of virtual networks that the appliance uses. Ensure that automatically assigned DHCP addresses (if any) are valid within the networks that your virtual machine uses, or assign them manually.

<ul> <li>Agent for \</li> </ul>	Network				×	×
Agent f	Configure the net	vork interfaces available	on the virtual machine with	the agent		
Ŭ	eth0		eth0			
Specify th web cons			Network adapter:		ear	in the
Agent sta			VLAN ID:			
			Hardware address:	00:50:56:97:64:AB		
AGENT OPTIC			Status:	Connected		1
			Media type:	10 Gbps Full-Duplex	•	
Virtuozzo			<ul> <li>Auto configuration</li> </ul>		hang	ge
Hybrid Infrastruc			DHCP:	Used		
ninasuuc			IP address:			
Manager			Subnet mask:			
Server			Default gateways:			ge
			DNS suffix:			
eth0			DNS servers:		hang	_{ge}
					1	
	+ Add VLAN	- Remove VLAN	WINS servers:			
VIRTUAL MAC			_			
~				OK Cancel		
() About					Re	boot EN-US

- 4. Specify the Virtuozzo cluster address and credentials:
  - The DNS name or IP address of the Virtuozzo Hybrid Infrastructure cluster. This is the address of the cluster's management node. The default port 5000 will be automatically set. If you use a different port, specify it manually.
  - In the **User domain name** field, specify your domain in Virtuozzo Hybrid Infrastructure. For example, **Default**. The domain name is case-sensitive.
  - In the **User name** and **Password** fields, enter the credentials for the Virtuozzo Hybrid Infrastructure user account with the **Administrator** role in the specified domain. For more information about users, roles, and domains, refer to the Virtuozzo Hybrid Infrastructure

#### documentation.

• Agent for V	/irtuozzo Hybrid Infrastructu	re		×	
Agent f	Connections	d Infractructur	×		
Specify th web cons Agent sta	to Agent for Virtuozzo Hybrid I	Specify the Virtuozzo Hybrid Infrastructure cluster address and credentials for remote connection to Agent for Virtuozzo Hybrid Infrastructure.			
Agenitista	Virtuozzo Hybrid Infrastruc	Virtuozzo Hybrid Infra	astructure cluster.		
AGENT OPTIC		Specify the Virtuozz address and the acc	o Hybrid Infrastructure cluster ess credentials.		
Virtuozzo Hybrid		Server name/IP:	https://11:5000	hange	
Infrastruc		User domain name:	Default		
· · · · · · · · · · · · · · · · · · ·		User name:	admin	I	
Managen Server		Password:	Check connection	hange	
eth0				nange	
VIRTUAL MAC			OK Cancel		
(i) About			Turn Off	Reboot EN-US	

5. Specify the Cyber Protection management server address and credentials for accessing it.

Agent for	Virtuozzo	Hybrid	Infrastructure
Agention	VIIIU0220	riyonu	minastructure

### Agent for Virtuozzo Hybrid Infrastructure

Specify the required parameters below. After the agent is configured, the virtual machines will appear in the web console.

Agent status:	The agent 192.168.2.	· Register agent	'https://
AGENT OPTIONS		Server name/IP: Cloud - https://us5-cloud.acronis.com	
Virtuozzo Hybrid Infrastructure:	Connect Server n User dor User nar	User name: Password:	Change
Management Server	Register Server n User nar	OK Cancel	Change
eth0	Address IP addres		Change
VIRTUAL MACHINE			
() About		Tu	m Off Reboot

### **3 Migrating Virtual Machines**

Migrating virtual machines from VMware vSphere to Virtuozzo Hybrid Infrastructure involves two major steps:

- 1. Backup the virtual machines.
- 2. Recover them to Virtuozzo Hybrid Infrastructure.

These steps are described in detail in the next sections.

### 3.1 Backing Up Virtual Machines

To backup virtual machines, you will need to create a protection plan with the **Backup** module enabled. It is a set of rules that specify how the given data will be protected on a given machine. A protection plan can be applied to multiple machines at the time of its creation, or later.

To create the first protection plan with the **Backup** module enabled, select the machines that you want to back up and click **Protect**.

The software will display protection plans that are applied to the machine. If the machine does not have any plans assigned to it, you will see the default protection plan that can be applied. You can adjust the settings as needed and apply this plan or create a new one.

To create a new plan:

<b>Virtuozzo</b> Cyber Cloud	VMware 🚿 All virtual r	mach test-\	/M-01		×
Manage account	<b>Q</b> Search	All vir	- Back to applied protection plans		
🕜 dashboard 🛛 🚺	Type Name ↑ _	test	New protection plan (1)	Cancel	reate
		æ	Backup Entire machine to Cloud storage, Monday to F	Friday at 05:45 PM	~
All devices	test-VM-01	Ŧ	What to back up	Entire machine	~
Machines with agents		⊅	Where to back up	Cloud storage	
VMware		Ŗ	Schedule	Monday to Friday at 05:45 PM	0
Virtuozzo Hybrid Infrastructure			How long to keep	Monthly: 6 months Weekly: 4 weeks Daily: 7 days	
Virtuozzo Migration Demo	5		Encryption		0
Unmanaged machines Data protection map		Ŀ	Application backup	Disabled	0
	•	()	Backup options	Change	
		E.	Disaster recovery		>
Powered by Acronis AnyData Engine		~	Recovery server: auto, Cloud network infrastr	ucture: auto	

1. Click Create plan. Enable the Backup module and unroll the settings.

- 2. (Optional) To modify the protection plan name, click the default name.
- 3. (Optional) To modify the **Backup** module parameters, click the corresponding setting of the protection plan panel.

- 4. (Optional) To modify the backup options, click **Change** next to them.
- 5. Click **Create**.

To apply an existing protection plan:

1. Select the machines that you want to back up and click **Protect**. If a common protection plan is already applied to the selected machines, click **Add** plan. The software will display the previously created protection plans.

Virtuozzo Cyber Cloud	VMware > All virtual mach	test-\	/M-01		×
Manage account	Q Search	All vir	Applied protection plan: 1	Ð	Add plan
🕜 dashboard 🛛 🕚	Type Name ↑ -	test	New protection plan		
		Ф			
All devices	✓ 🔁 test-VM-01	۲	Backup Entire machine to Cloud storage, Monday to Friday at 06:30 PM	0	>
Machines with agents		♪			
VMware					
Virtuozzo Hybrid Infrastructure		Ē.			
Virtuozzo Migration Demo		E			
Unmanaged machines	<b>₽</b>	Ŀ			
Data protection map		()			
	<b>D</b>	Ŀ₽			
Powered by Acronis AnyData Engine	<b>P</b>	L⊕			

- 2. Select a protection plan to apply.
- 3. Click **Apply** and wait until the backup procedure is complete.

Virtuozzo Cyber Cloud	VMware > All virtual ma	achines	+ Add 🗄 🏭 🗇 🕘
Manage account	<b>Q</b> Search	Selected: 1 / Load	ded: 25 / Total: 25
Dashboard 1	Type Name ↑ _	Account Status 3	La 🏠
		Not protected	Never Protect
All devices	test-VM-01	ок 🖉	Dec 22 0 Disaster recovery
Machines with agents		Not protected	Never
VMware		Not protected	Never
Virtuozzo Hybrid	<b>F</b>	Not protected	Never R Replication
Infrastructure		Not protected	Never Details
Virtuozzo Migration Demo	5	Not protected	Never
Unmanaged machines		Not protected	Never Activities
Data protection map		Not protected	Never () Alerts
	<b>D</b>	Not protected	Never Add to group
Powered by Acronis AnyData Engine		Yuri Karotolkey (karot 🚫 Not protected	Never

### 3.2 Recovering Virtual Machines

To complete migration, virtual machines need to be recovered from their backups to the desired location.

One prerequisite is that a virtual machine must be stopped during recovery. By default, the software stops the machine without a prompt. When the recovery is completed, you have to start the machine manually. You can change the default behavior by using the VM power management recovery option (**Recovery** options > **VM power management**).

To recover a VM to a desired location:

- 1. Do one of the following:
  - Select a backed-up machine, click **Recovery**, and then select a recovery point.

Virtuozzo Cyber Cloud	VMware > All virtual machine	S		+ Add	8 8 7 9
Manage account	<b>Q</b> Search		Selected: 1 / Loaded:	25 / Total: 25	All virtual machines Protect group
🕜 DASHBOARD 🛛 🛐	Type Name ↑ _	Account	Status	La 🗘	test-VM-01
			🚫 Not protected	Never	Protect
All devices	test-VM-01		📀 ок	Dec 22 (	Disaster recovery
Machines with agents			🚫 Not protected	Never	Recovery
VMware			🚫 Not protected	Never	
Virtuozzo Hybrid Infrastructure			🚫 Not protected	Never	Replication
Virtuozzo Migration Demo			🚫 Not protected	Never	Details
Unmanaged machines	<b>F</b> _	Y TO THE OWNER AND DESIGNATION	🚫 Not protected	Never	
Data protection map		<u>Vuri Karetoikou (karet.</u>	🚫 Not protected	Never	Activities
			🚫 Not protected	Never	(!) Alerts
	<b>D</b>	Y CONTRACTOR OF CONTRACT	🚫 Not protected	Never	Add to group
Powered by Acronis AnyData Engine		Ye	🚫 Not protected	Never	

- Select a recovery point on the **Backup storage** tab.
- 2. Click **Recover** > **Entire machine**.

<b>Virtuozzo</b> Cyber Cloud	VMware > All virtual ma	d test	-VM-01	×
Manage account	<b>Q</b> Search	All vir	Storage:	More ways to recover
🕜 dashboard 🛛 🥵	Type Name ↑	test	1 backup Delete all	ۍ ش
		₽	<ul> <li>Today, 06:23 PM</li> <li>Backup plan: New protection plan</li> <li>Size: 580 MB</li> </ul>	2 <u>0</u> 5
All devices	✓ 🔁 test-VM-01	G	Contents: Virtual machine Backup type: Full	
Machines with agents		\$	RECOVER RUN AS VM	
VMware		Ū	2 Entire machine	
Virtuozzo Hybrid Infrastructure			Files/folders	
Virtuozzo Migration Demo				
Unmanaged machines		Ŀ		
Data protection map		()		
		Ē		
Powered by Acconis ApyData Engine https://us5-cloud.acronis.com/ui/#				

By default, the software automatically selects the original machine as the target machine.

∛ır	<b>uozzo</b> Cyber Cloud	Ξ	VMwa	are > All virtual maci	test-VM-01	?	×
		Q	Search		RECOVER TO Virtual machine		
	DASHBOARD 5		Туре —	Name 🕈	TARGET MACHINE Press "Origin	al" t	0
Ę	DEVICES		•	00000002245	test-VM-01 on 1 to comment		
	All devices	~	æ	test-VM-01	VM SETTINGS Memory: 2.00 GB Virtual processors: 1		
	Machines with agents		F.		Network adapters: 1		
	VMware		F.		START RECOVERY		
	Virtuozzo Hybrid		÷	****			
			Fo	Reference			
	Virtuozzo Migration Demo		F.				
	Unmanaged machines		Ð	-			
			þ	WIS-02			
ф	PLANS		Þ				
Po	wered by Acronis AnyData Engine		þ				

To recover to another virtual machine, click **Target machine**, and then do the following:

- a. Select the hypervisor **Virtuozzo Hybrid Infrastructure**.
- b. Select whether to recover to a new or existing machine.
- c. Select the storage, domain, project and specify the new machine name, or select an existing target machine.
- d. Click **OK**.

Virtuozzo Cyber Cloud	VMware > All virtual mac	Select target machine X
Manage account	Q Search	Virtuozzo Hybrid Infrastructure V Select "Virtuozzo Hybrid Infrastructure"
ashboard 5	□ Type Name ↑ —	New machine     Select "New machine"     Existing machine
		Storage-Cluster Select Storage
All devices	test-VM-01	Default Celect Domain
Machines with agents		admin
VMware		TestDomain
Virtuozzo Hybrid		
Infrastructure		
Virtuozzo Migration Demo		
Unmanaged machines		
Data protection map		Machine name:
PLANS		test-VM-01
Powered by Acronis AnyData Engine		ок Cancel

3. Setup up the additional recovery options if needed.

#### 4. Click Start recovery.

∛ır	<b>tuozzo</b> Cyber Cloud	Ξ	VMwa	re 🔿 All virtual maci	test-VM-01	?	×
	Manage account	Q 9	Search		RECOVER TO		
	DASHBOARD 5		Туре —	Name ↑	Virtual machine TARGET MACHINE		
Ę	DEVICES		Φ		test-VM-01 on vhi-01.vstoragedomain New		
	All devices	>	ē	test-VM-01	DISK MAPPING DIsk 1 -> default, 16.0 GB		
	Machines with agents		fo		VM SETTINGS Flavor type: medium		
	VMware		fo	1000000	Network adapters: 1		
	Virtuozzo Hybrid		fo	<b>Volkeonlinik</b>	START RECOVERY		
	Infrastructure		Fo.				
	Virtuozzo Migration Demo		5		1		
	Unmanaged machines		Þ				
	Data protection map		Þ				
ф	PLANS		Þ	-			
Po	wered by Acronis AnyData Engine		Ð	win2012			

5. When recovering to an existing virtual machine, confirm that you want to overwrite the disks.

The recovery progress is shown on the **Activities** tab.

∛ırt	<b>uozzo</b> Cyber Cloud		VMware >	All virtual maci	Act	ivity details	×
	Manage account	<b>Q</b> Sea	arch		0	06:43 PM — 06:51 PM (7 min) Recovering virtual machine	
Ì	DASHBOARD 5	<b>–</b> 1	ype Nam –	ne ↑		Status: Succeeded Started by: Bootenation Start time: Dec 22, 2020, 06:43:59 PM	
Ģ	DEVICES		•			Finish time: Dec 22, 2020, 06:51:18 PM Duration: 7 min	
	All devices		test-	VM-01		All properties	
	Machines with agents		<b>F</b> o			<ul> <li>06:44:09 PM — 06:51:18 PM Recovering the entire virtual machine</li> </ul>	
	VMware		<b>5</b>	•		<ul> <li>06:44:09 PM — 06:44:29 PM</li> <li>Preparing for recovery of virtual machine</li> </ul>	
	Virtuozzo Hybrid		5	<u>/2</u>		06:44:30 PM 06:44:45 PM	
	Infrastructure		<b>Fo</b>			Creating new virtual machine	
	Virtuozzo Migration Demo		5			<ul> <li>06:44:45 PM — 06:49:56 PM Recovering virtual machine disks</li> </ul>	
	Unmanaged machines		þ	-		06:49:56 PM — 06:51:18 PM	
	Data protection map		•	**		Fixing virtual machine bootability	
ф	PLANS						
Pow	ered by Acronis AnyData Engine		<b>e</b>	-			

After a successful migration, you will see your VM in Virtuozzo Hybrid Infrastructure.

Virtuozzo	Virtual machines				0
	VIRTUAL MACHINES IMAGES	FLAVORS SSH KEYS			
Сомрите	Search	۹		+ Create virtu	ual machine
Overview	Name 🕇	Status 🔱 IP address	vCPUs 🧅	RAM 🔱	s 🗘
Nodes	C test-VM-01	Shut down	2	4 GIB	0
Virtual machines	VHI_VAPP	Active	1	2 GIB	8
Network					
Storage					
STORAGE SERVICES					
SETTINGS					
Storage-Cluster 🔗					