

ZConverter Backup & Recovery Operation Guidebook between Nutanix Cluster

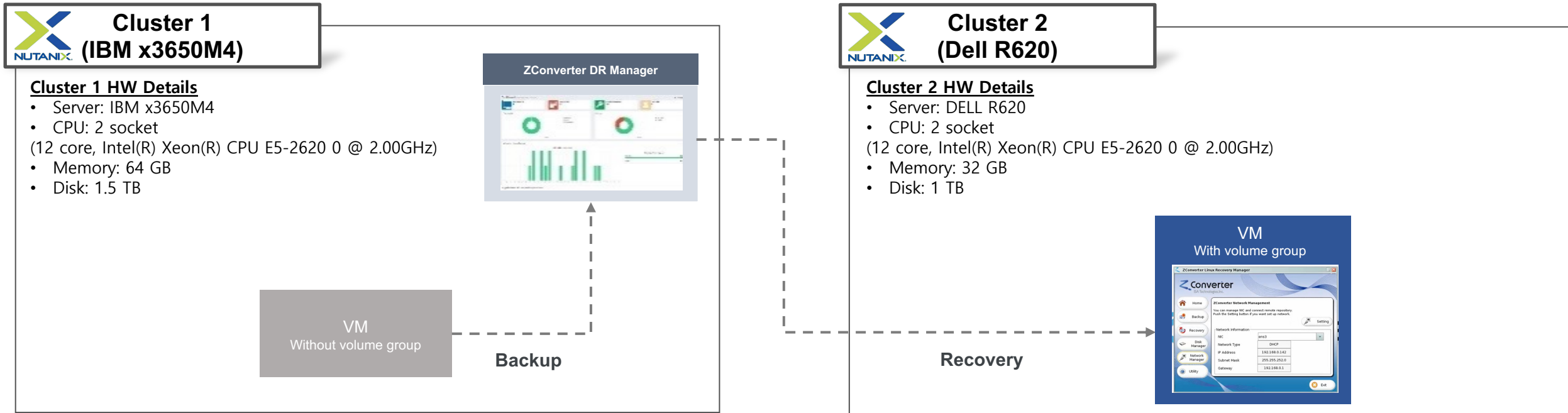


ZConverter Cloud

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1. **Backup & Recovery architecture between Nutanix Cluster**
2. Backup guide(Linux)
3. Backup guide(Windows)
4. Recovery guide(Linux)
5. Recovery guide(Windows)

1. Backup & Recovery Architecture between Nutanix Cluster



ZConverter Backup & Recovery Phases(Cluster to Cluster)

- 1 Start backup job by ZDM (Cluster 1)
- 2 Boot using recovery ISO (Cluster 2)
- 3 Connect between ZDM repository and ZLRM(ZConverter Linux Recovery Manager)
- 4 Initiate recovery process. (Cluster 2)

Term explanation

1. Source server: Client server for backup
2. ZDM: ZConverter Backup & DR Manager
3. ZLRM: ZConverter Linux Recovery Manager(Recovery ISO file)
4. ZWRM: ZConverter Windows Recovery Manager(Recovery ISO file)

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2. Backup guide(Linux)

1) Source Server VM Configuration

Cluster 1

VM Name	Host	IP Address	Cores	Memory Capacity	Storage	CPU Usage	Memory Usage	Controller Read IOPS	Controller Write IOPS	Controller IO Bandwidth	Controller Avg IO Latency	Bac...	Flash Mode
Source_Nuta...	NTNX-fd57e139-A/AHV	192...	1	2 GiB	1.73 GiB / 26 GiB	0%	19.59%	-	-	-	-	Yes	Yes
ZDM-Nutanix	NTNX-fd57e139-A/AHV	192...	2	4 GiB	8.13 GiB / 60 GiB	0%	22.34%	0	7	98 KBps	0.83 ms	Yes	No

Source server in Cluster 1

ZConverter Backup & DR Manager(ZDM) in Cluster 1

Cluster 2

VM Name	Host	IP Address	Cores	Memory Capacity	Storage	CPU Usage	Memory Usage	Controller Read IOPS	Controller Write IOPS	Controller IO Bandwidth	Controller Avg IO Latency	Bac...
ZConverter_...	NTNX-b9b7a827-A/AHV	192...	2	4 GiB	954.38 MIB / 955.31 MIB	0.5%	21.01%	-	-	-	-	Yes

Source Server VM Details (Cluster 1):

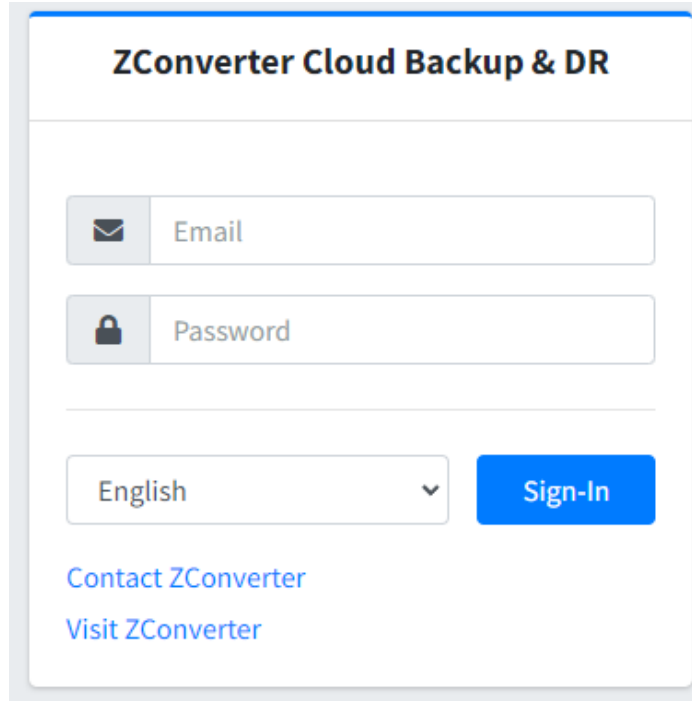
- Name: Source_Nutanix_1_for_ZDM
- Description: source_nutanix
- ID: 3aa17f30-64fa-4284-aeca-ef8be7a7c6cf
- Host: NTNX-fd57e139-A

Backup Manager VM Details (Cluster 1):

- Name: ZConverter_recovery_VM
- Description: ZConverter_recovery_VM

2. Backup guide(Linux)

2) Web Portal Login



The screenshot shows the login interface for ZConverter Cloud Backup & DR. It features a title bar, two input fields for email and password, a language dropdown menu, a sign-in button, and two links for contact and visit.

ZConverter Cloud Backup & DR

Email

Password

English

[Contact ZConverter](#)

[Visit ZConverter](#)

ZConverter Manager web account
Email ID: admin@zconverter.com

*ZConverter Backup & DR Manager(ZDM)
is configured in Cluster 1

2. Backup guide(Linux)

3) Backup Agent Download

The screenshot displays the ZConverter Cloud Backup & DR web interface. The left sidebar contains navigation options: Monitoring, Registration (selected), System, ZDM, Management, and License. The main content area is titled "Registration" and shows a success message: "✓ You can download the agent file from this link". Below the message are four links: "Source Agent(Linux)", "Target Agent(Linux)", "Source Agent(Windows)", and "Target Agent(Windows)". The "Source Server list" section is visible below, featuring a "CSV" button, a "Column visibility" dropdown, and a search input field.

ZConverter Cloud Backup & DR

admin@zconverter.com

Registration / System

Registration

Agent ✓ You can download the agent file from this link

[Source Agent\(Linux\)](#) [Target Agent\(Linux\)](#) [Source Agent\(Windows\)](#) [Target Agent\(Windows\)](#)

Source Server list

CSV Column visibility

Search

2. Backup guide(Linux)

4) Backup Agent Installation

A. Install using the agent installation file provided by ZConverter Manager.

Unzip the agent file with the following command.

- tar zxvf ZConverter_CloudSource_Setup_Linux.tar.gz

B. Start the agent installation job

- ./zconverter_install_source/install.sh

```
All files checked
Check if the service is already installed. : zconverter

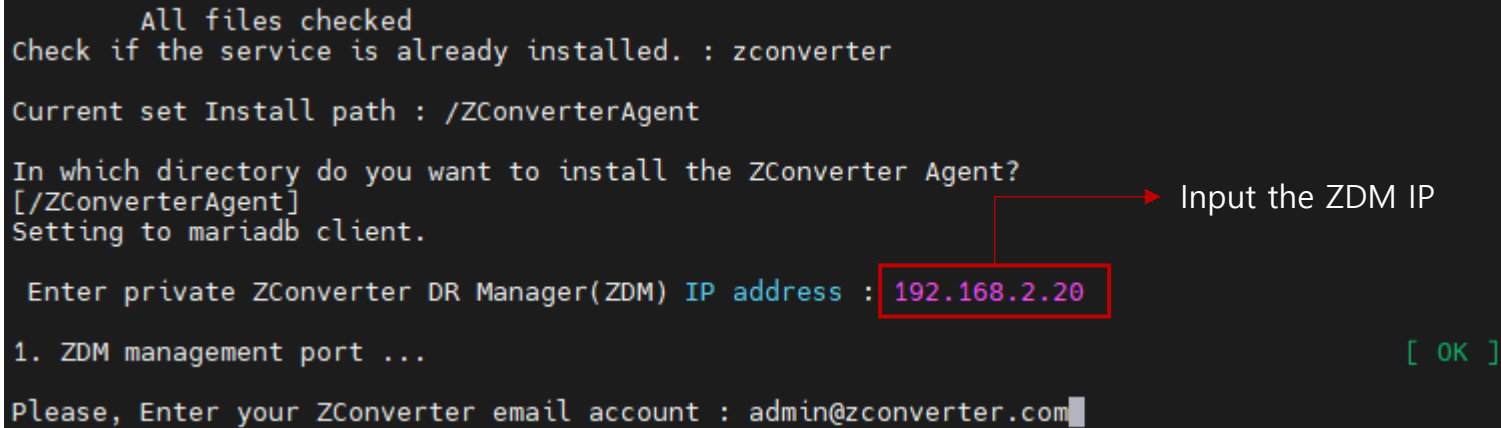
Current set Install path : /ZConverterAgent

In which directory do you want to install the ZConverter Agent?
[/ZConverterAgent]
Setting to mariadb client.

Enter private ZConverter DR Manager(ZDM) IP address : 192.168.2.20

1. ZDM management port ... [ OK ]

Please, Enter your ZConverter email account : admin@zconverter.com
```



2. Backup guide(Linux)

4) Backup Agent Installation

C. Check the backup agent status

```
[root@zconverter-source /]# systemctl status zconverter
● zconverter.service - ZConverter Cloud Agent
  Loaded: loaded (/etc/systemd/system/zconverter.service; enabled; vendor preset: disabled)
  Active: active (running) since Wed 2024-01-31 20:57:12 EST; 29s ago
  Process: 3361 ExecStart=/etc/init.d/zconverter start (code=exited, status=0/SUCCESS)
  Main PID: 3431 (ZConLinuxCloudA)
  CGroup: /system.slice/zconverter.service
          └─3431 /ZConverterAgent/ZConLinuxCloudAgent
```

D. Check the installed backup agent on the web screen(Web)

The screenshot shows the ZConverter Cloud Backup & DR web interface. The left sidebar contains navigation options: Monitoring, Registration, Management (selected), ZDM, System, Configuration, and License. The main content area is titled 'Management' and shows a 'System' view. At the top, there are filters for ZDM (1 selected), Agent type (All selected, (2)), and OS (All selected, (2)). Below the filters is a table with the following columns: Agent type, Hostname, Agent version, OS, IP, Processor, Memory, and Management. The table contains one entry:

Agent type	Hostname	Agent version	OS	IP	Processor	Memory	Management
Source	zconverter-source (192.168.2.13)	v7 build 7023	CentOS Linux release 7.9.2009 (Core), 3.10.0-1160.45.1.el7.x86_64	192.168.2.13	1	1.80GB	Delete

At the bottom of the table, there is a 'View' dropdown set to '10' and a pagination bar with 'first page', 'Previous', '1', 'Next', and 'last page' buttons.

2. Backup guide(Linux)

5) Backup Job Registration

E. Register backup job(Web)

The screenshot shows the ZConverter Cloud Backup & DR web interface. The left sidebar contains navigation options: Monitoring, Registration (selected), System, ZDM, Management, and License. The main content area is titled "Registration" and includes a search bar and a breadcrumb "Registration / System". Below the title is an "Agent" section with four links: Source Agent(Linux), Target Agent(Linux), Source Agent(Windows), and Target Agent(Windows). The "Source Server list" section features a "CSV" button, a "Column visibility" dropdown, and a search input. The table below lists source servers with columns for selection, server name, license type, OS, manufacturer, public IP, private IP, and agent version. One server is listed and selected.

<input type="checkbox"/>	Server name	License type	OS	Manufacturer	IP(Public)	IP(Private)	Agent version
<input checked="" type="checkbox"/>	zconverter-source (192.168.2.13)	Backup	CentOS Linux release 7.9.2009 (Core), 3.10.0-1160.45.1.el7.x86_64	VMware, Inc.	192.168.2.13	192.168.2.13	v7 build 7023

** Setup for backup schedule and backup repository.

2. Backup guide(Linux)

6) Backup Job Registration & Run

E. Register backup job(Web)

The screenshot shows the ZConverter backup job registration interface. The main window is titled "Job" and has tabs for "Backup(Basic)", "Backup(Advanced)", and "Recovery". The "Backup(Basic)" tab is active, showing a table of backup jobs for "zconverter-source (192.168.2.13)".

Drive/Partition	Size	Job name	Backup type	Rotation (cycle)
/	2.64GB / 16.99GB	zconverter-source_ROOT	Full backup	1
/boot	0.18GB / 0.99GB	zconverter-source_boot	Full backup	1

Callouts highlight the following components:

- Schedule option:** A dialog box showing "Backup Type" set to "Full Backup", frequency set to "Daily", "Date" as "02/01/2024", and "Time" as "11:12 AM".
- Repository:** A dialog box showing "Repository type" as "Network(SMB)", "Repository" as "zconverter", "Local path" as "/ZConverter", "Access Point" as "ZConverter", and "Size" as "0.71GB / 97.61GB".
- Backup Summary:** A summary window showing backup information, schedule, and options for both jobs.

The "Backup Summary" window contains the following data:

Job name	Drive	Repository
zconverter-source_ROOT	/	\\192.168.2.20\ZConverter(SMB)
zconverter-source_boot	/boot	\\192.168.2.20\ZConverter(SMB)

Job name	Type	Schedule
zconverter-source_ROOT	Full Backup	Start working on Thursday, February 01, 2024 11:12
zconverter-source_boot	Full Backup	Start working on Thursday, February 01, 2024 11:12

Job name	Compression	Encryption	Network limit	Email	Existing Folder
zconverter-source_ROOT	Enable	Disable	Unlimit	Unselect	Not set
zconverter-source_boot	Enable	Disable	Unlimit	Unselect	Not set

At the bottom of the Backup Summary window, there is a checkbox: "Please check the space of the backup storage. If there is insufficient space in the backup storage, the backup may fail." and buttons for "Start", "Register", and "Cancel".

2. Backup guide(Linux)

7) Backup Job Monitoring

F. Monitoring backup job(Web)

The screenshot displays the 'Monitoring' page in the ZConverter Cloud Backup & DR interface. The page title is 'Monitoring' and the breadcrumb is 'Monitoring / Monitoring(Job)'. The user is logged in as 'admin@zconverter.com'.

The main content area is titled 'Backup Monitoring' and includes filters for 'ZDM' (1 selected), 'System' (All selected, (2)), and 'Action' (Management). There are also options for 'CSV' and 'Column visibility'.

The table shows 3 items (Total: 3) with the following data:

<input type="checkbox"/>	System Name	Job Name	Drive/Partition	Backup Type	Job Status	Start Time	End Time	Elapsed Time	Management
<input checked="" type="checkbox"/>	zconverter-source (192.168.2.13)	zconverter-source_boot	/boot	Full	<div style="width: 46%;"><div style="width: 46%;"></div></div> 46%	2024-02-01 09:02:35		0 day, 00:00:22	Action ▾
<input type="checkbox"/>	WIN-VCHFPET7EAE (192.168.0.249)	WIN-VCHFPET7EAE_C	C:	Full	Scheduled	2024-02-01 04:20:57	2024-02-01 04:44:17	0 day, 00:23:20	Action ▾
<input type="checkbox"/>	zconverter-source (192.168.2.13)	zconverter-source_ROOT	/	Full	Scheduled	2024-02-01 02:18:43	2024-02-01 02:22:21	0 day, 00:03:38	Action ▾

At the bottom, there is a 'View' dropdown set to '10' and a pagination control showing 'first page', 'Previous', '1', 'Next', and 'last page'.

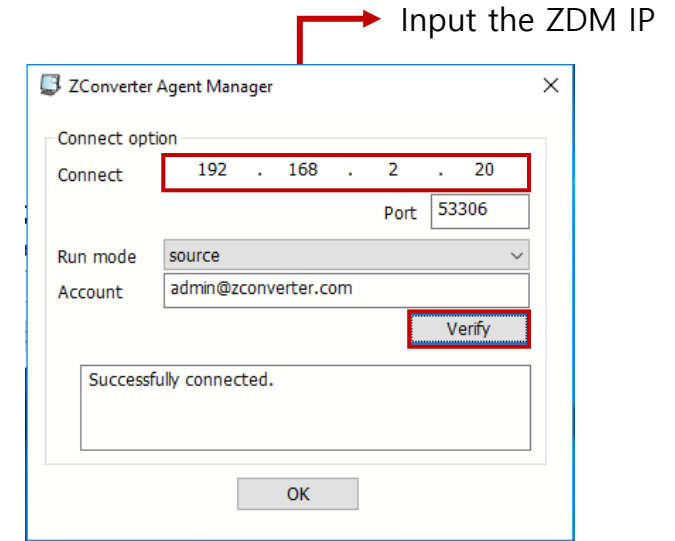
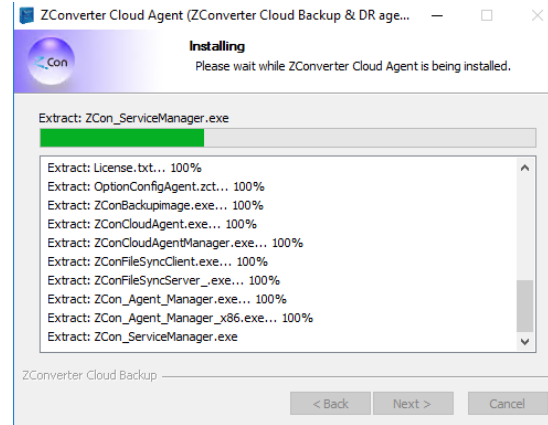
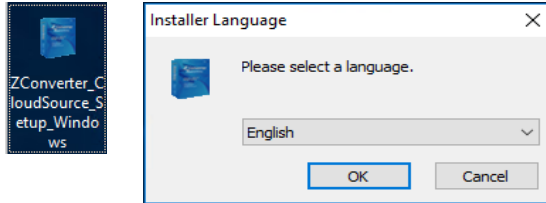
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3. Backup guide(Windows)

1) Backup Agent Installation

A. Install the agent



3. Backup guide(Windows)

2) Backup Agent Checking

B. Check the installed backup agent on the web screen

The screenshot shows the ZConverter Cloud Backup & DR web interface. The main content area is titled "Management" and "System". It features a table of installed backup agents. The table has the following columns: Agent type, Hostname, Agent version, OS, IP, Processor, Memory, and Management. Two agents are listed:

Agent type	Hostname	Agent version	OS	IP	Processor	Memory	Management
Source	zconverter-source (192.168.2.13)	v7 build 7023	CentOS Linux release 7.9.2009 (Core), 3.10.0-1160.45.1.el7.x86_64	192.168.2.13	1	1.80GB	Delete
Source	WIN-VCHFPE7EAE (192.168.0.249)	v7 build 7015	Windows Server 2016 Standard[64bit]	218.145.120.34	2	4.00GB	Delete

The interface also includes a sidebar with navigation options: Monitoring, Registration, Management (selected), ZDM, System, Configuration, and License. The top right corner shows the user email admin@zconverter.com. The bottom right corner has pagination controls: first page, Previous, 1 (selected), Next, last page.

3. Backup guide(Windows)

3) Backup Job Registration

C. Register backup job(Web)

The screenshot shows the ZConverter Cloud Backup & DR web interface. The left sidebar contains navigation options: Monitoring, Registration (selected), System, ZDM, Management, and License. The main content area is titled 'Registration' and includes a search bar and a 'Registration / System' breadcrumb. Below the search bar, there are links for 'Source Agent(Linux)', 'Target Agent(Linux)', 'Source Agent(Windows)', and 'Target Agent(Windows)'. The 'Source Server list' section features a table with the following data:

<input type="checkbox"/>	Server name	License type	OS	Manufacturer	IP(Public)	IP(Private)	Agent version
<input type="checkbox"/>	zconverter-source (192.168.2.13)	Backup	CentOS Linux release 7.9.2009 (Core), 3.10.0-1160.45.1.el7.x86_64	VMware, Inc.	192.168.2.13	192.168.2.13	v7 build 7023
<input checked="" type="checkbox"/>	WIN-VCHFPET7EAE (192.168.0.249)	Backup	Windows Server 2016 Standard[64bit]	VMware, Inc.	218.145.120.34	192.168.0.249	v7 build 7015

At the bottom of the table, there is a 'View' dropdown set to '10' and a pagination control showing 'first page', 'Previous', '1', 'Next', and 'last page'. A 'Next' button is located at the bottom right of the interface.

*** Setup for backup schedule and backup repository.*

3. Backup guide(Windows)

4) Backup Job Registration & Run

D. Register backup job(Web)

The main interface shows a job configuration for 'WIN-VCHFPET7EAE (192.168.0.249)'. A table lists the backup details:

	Drive/Partition	Size	Job name	Backup type	Rotation (cycle)
<input checked="" type="checkbox"/>	C:	10.69GB / 49.45GB	WIN-VCHFPET7EAE_C	Full backup	1

Buttons for 'Schedule', 'Repository', and 'Option' are visible below the table. A 'Next' button is also present at the bottom right of the main configuration area.

Schedule option

Backup Type: Full Backup

Frequency: Once | Daily | Weekly | Monthly | Monthly(Specific month)

Date: 02/01/2024 | Time: 11:12 AM

Buttons: Add, Cancel

Repository

Select Repository: Network(SMB)

Repository	Local path	Access Point	Size
<input checked="" type="checkbox"/> zconverter	/ZConverter	ZConverter	0.71GB / 97.61GB

Network authentication: IP: 192.168.2.20, Access Point: ZConverter

Buttons: Add, Cancel

Backup Summary

WIN-VCHFPET7EAE (192.168.0.249)

Job name	Drive	Repository
WIN-VCHFPET7EAE_C	C:	\\192.168.2.20\ZConverter(SMB)

Job name	Type	Schedule
WIN-VCHFPET7EAE_C	Full Backup	Start working at 13:16 every day

Job name	Compression	Encryption	Network limit	Email	Existing Folder
WIN-VCHFPET7EAE_C	Enable	Disable	Unlimit	Unselect	Not set

Please check the space of the backup storage. If there is insufficient space in the backup storage, the backup may fail.

Buttons: Start, Register, Cancel

3. Backup guide(Windows)

5) Backup Job Monitoring

E. Monitoring backup job(Web)

The screenshot displays the ZConverter Cloud Backup & DR Monitoring interface. The left sidebar contains navigation options: Monitoring (selected), System, Job, Schedule, History, ZDM, Registration, Management, and License. The main content area is titled 'Monitoring' and shows 'Backup Monitoring' details. It includes filters for ZDM (1 selected), System (All selected, (2)), and Action (Management). A table lists backup jobs with columns for System Name, Job Name, Drive/Partition, Backup Type, Job Status, Start Time, End Time, Elapsed Time, and Management. One job is shown with a 'Scheduled' status. The interface also features a search bar, a 'View' dropdown, and pagination controls.

System Name	Job Name	Drive/Partition	Backup Type	Job Status	Start Time	End Time	Elapsed Time	Management
WIN-VCHFPE7EAE (192.168.0.249)	WIN-VCHFPE7EAE_C	C:	Full	Scheduled	2024-02-01 04:20:57	2024-02-01 04:44:17	0 day, 00:23:20	Action

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4. Recovery guide(Linux)

1) Dummy VM Boot via Recovery ISO

A. Boot the ZConverter Linux Recovery Manager(ZLRM) in Nutanix Cluster 2

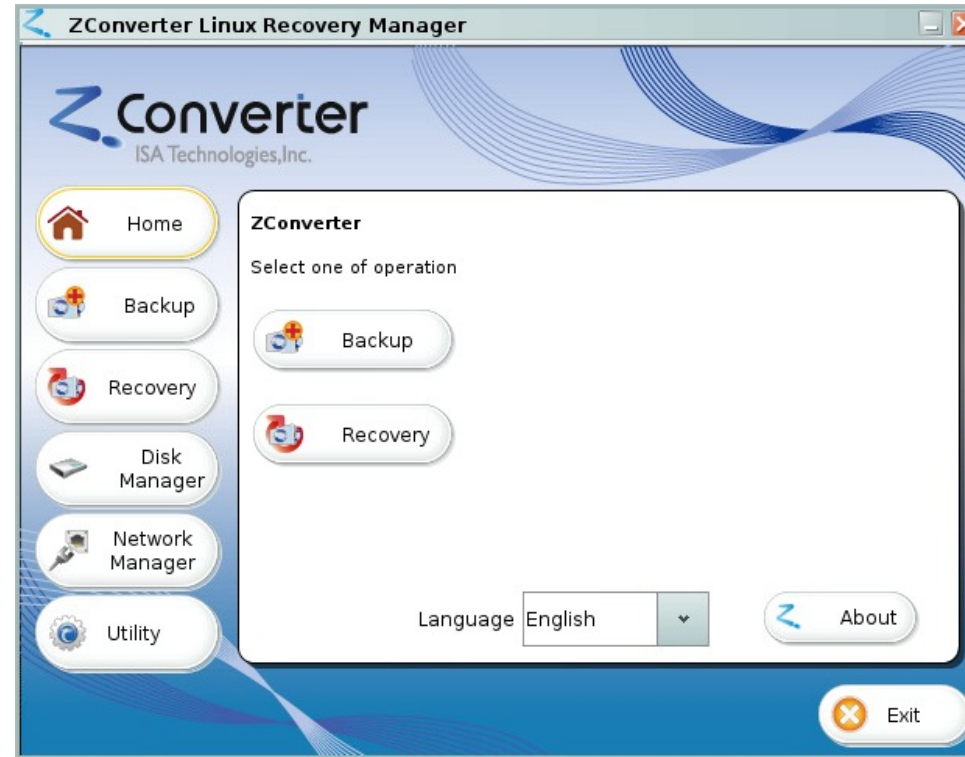
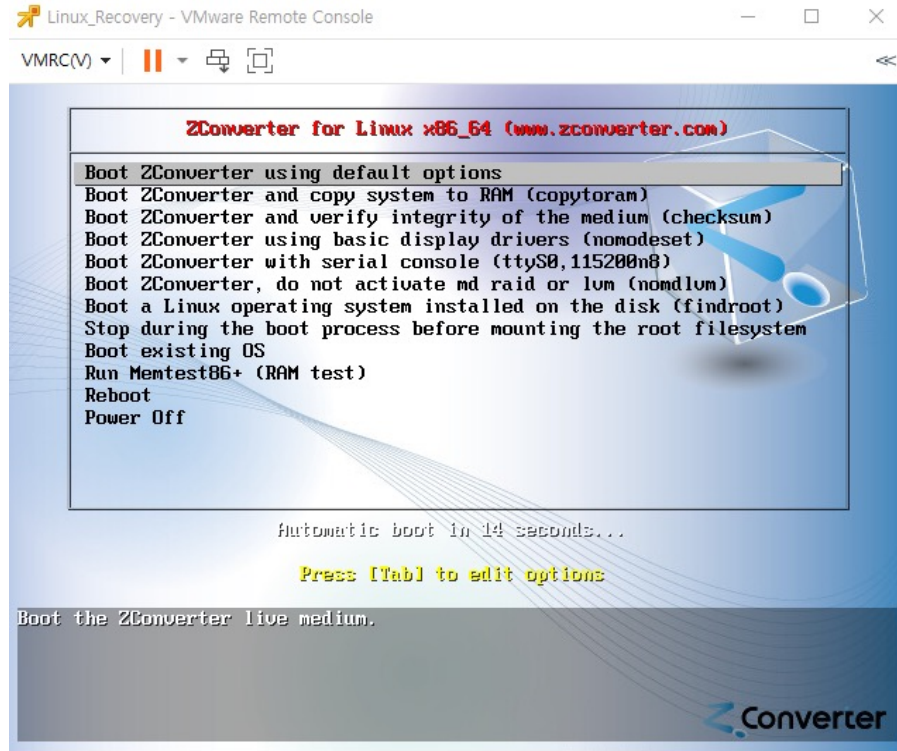
The screenshot displays the Nutanix Prism Central interface. On the left, 'Cluster 1' is selected, showing a table with 16 VMs. On the right, 'Cluster 2' is selected, showing a table with 3 VMs. The VM 'ZConverter_recovery_VM' is highlighted in the Cluster 2 table. A red box highlights the 'Cluster 2' header, and another red box highlights the 'ZConverter_recovery_VM' row. An arrow points from this row to a text box that says 'Recovery VM in Cluster 2'.

VM Name	Host	IP Address	Cores	Memory Capacity	Storage	CPU Usage	Memory Usage	Controller Read IOPS	Controller Write IOPS	Controller IO Bandwidth	Controller Avg IO Latency	Bac...	Flash Mode
Source_Nuta...	NTNX-fd57e139-A/AHV	192...	1	2 GiB	1.73 GiB / 26 GiB	0.34 %	19.6 %	-	-	-	-	Yes	Yes
ZConverter_...	NTNX-b9b7a827-A/AHV	192...	2	4 GiB	954.38 MiB / 955.31 MiB	0.61 %	21.15 %	-	-	-	-	-	Yes

4. Recovery guide(Linux)

2) Launching the Recovery ISO UI

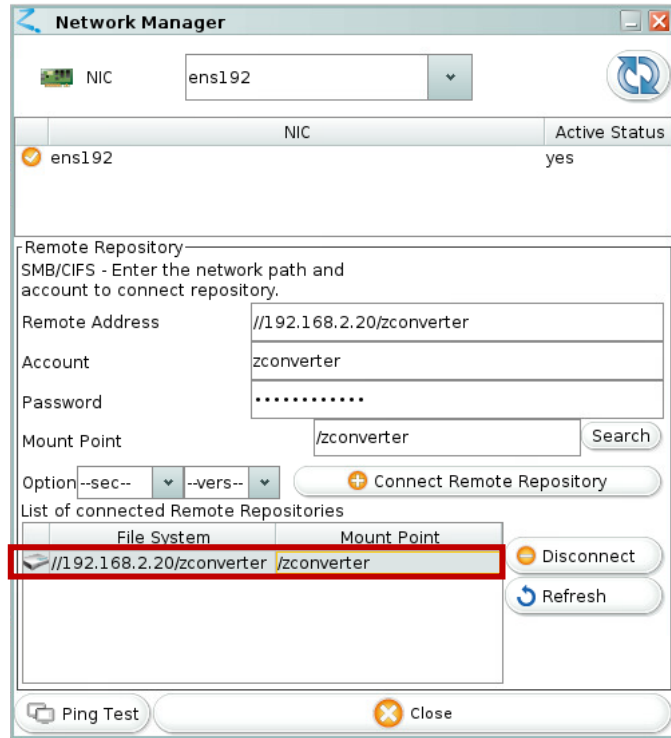
B. ZConverter Linux Recovery Manager main screen



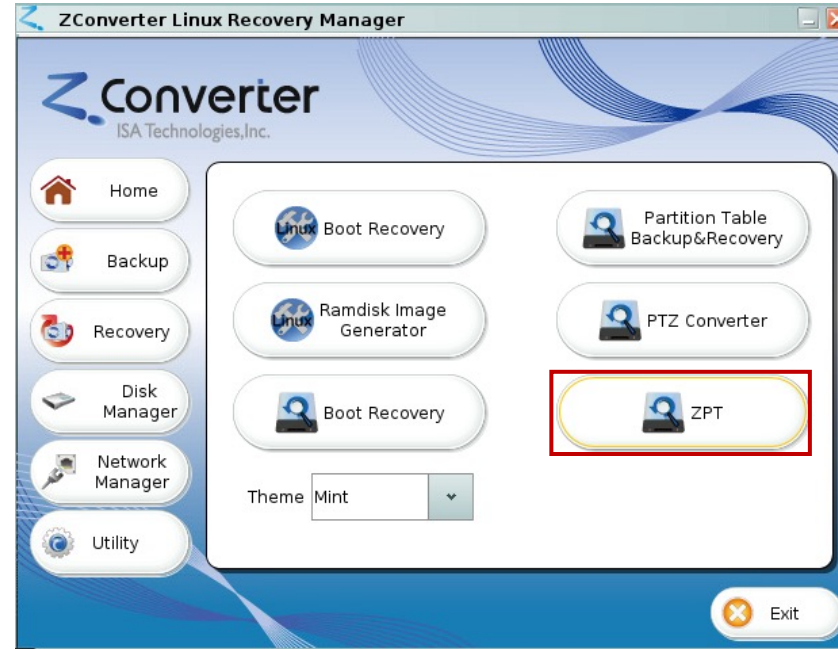
4. Recovery guide(Linux)

3) Connecting between ZDM and ZLRM (Recovery ISO UI)

A. Network connection(connect to backup repository)



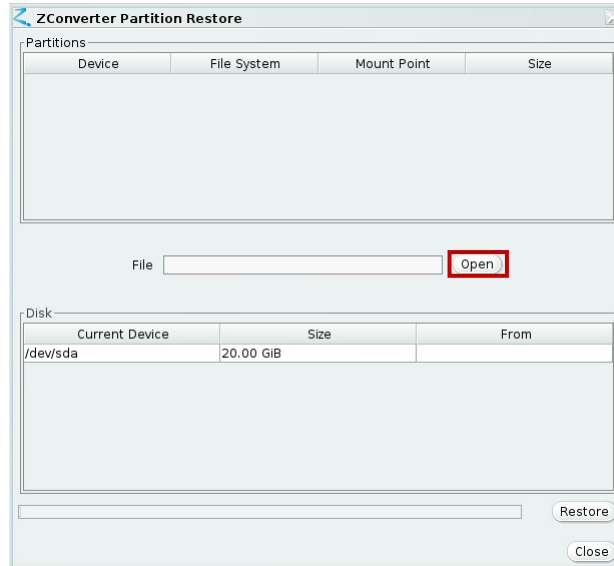
B. Disk partitioning(Using ZPT utility)



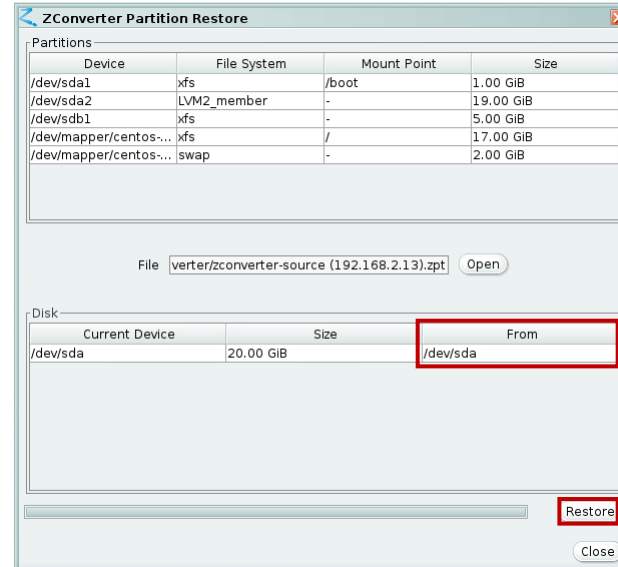
4. Recovery guide(Linux)

4) Disk Partitioning for the target VM

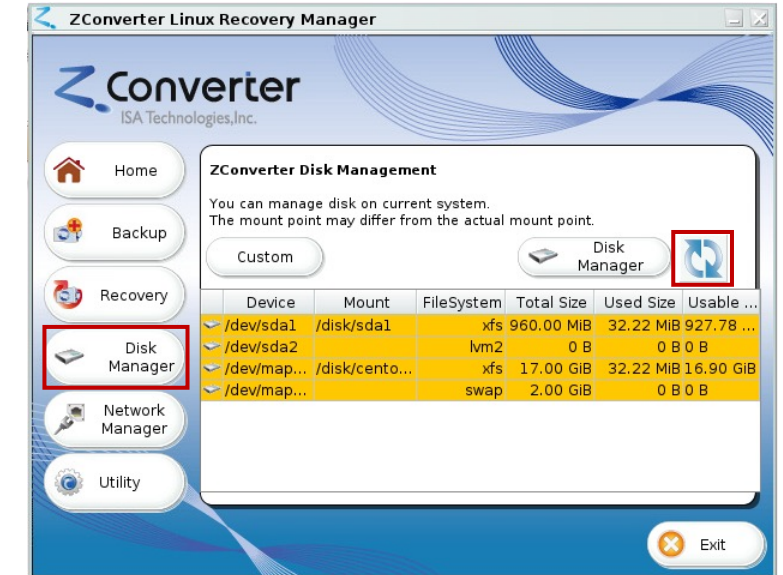
B. Disk partitioning(Using ZPT utility)



** Partition information gathering from the source server.



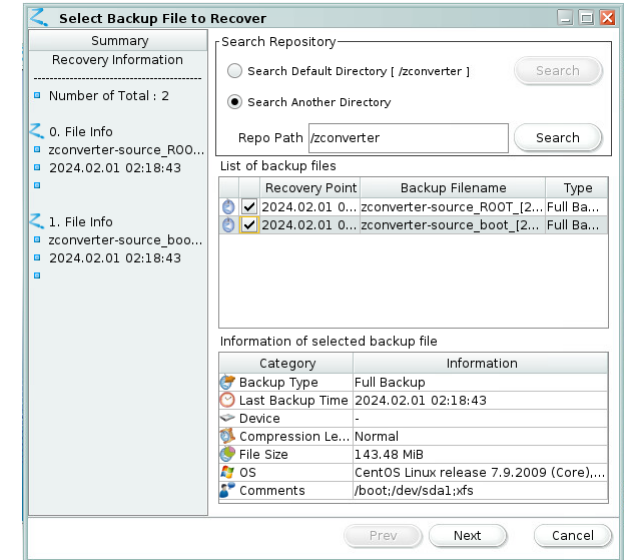
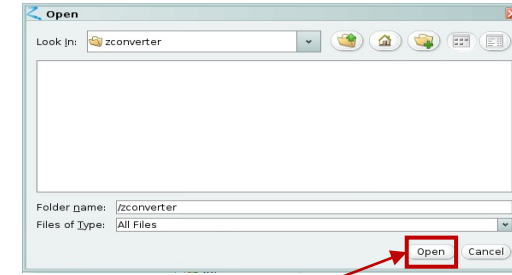
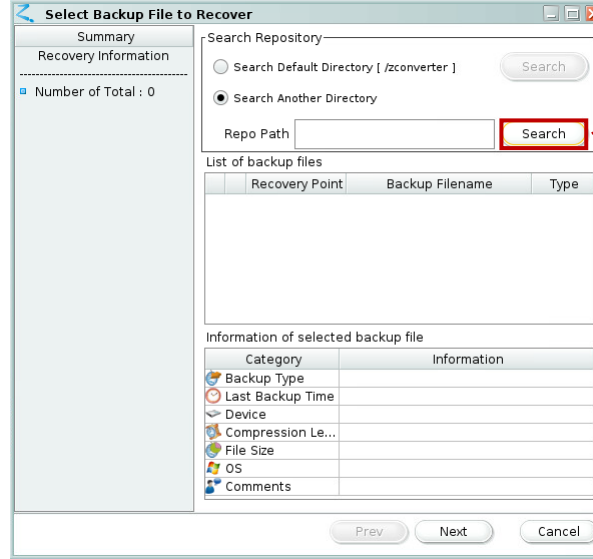
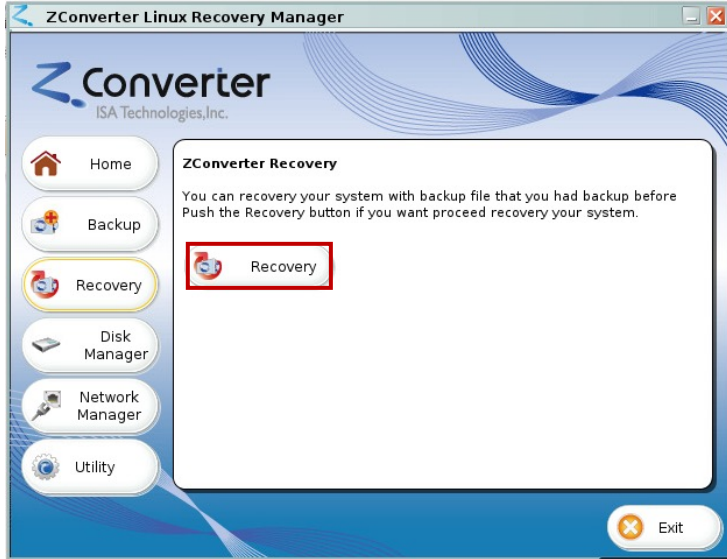
** If the partitioning job has been done, click the 'Close'



4. Recovery guide(Linux)

5) Backup Image loading

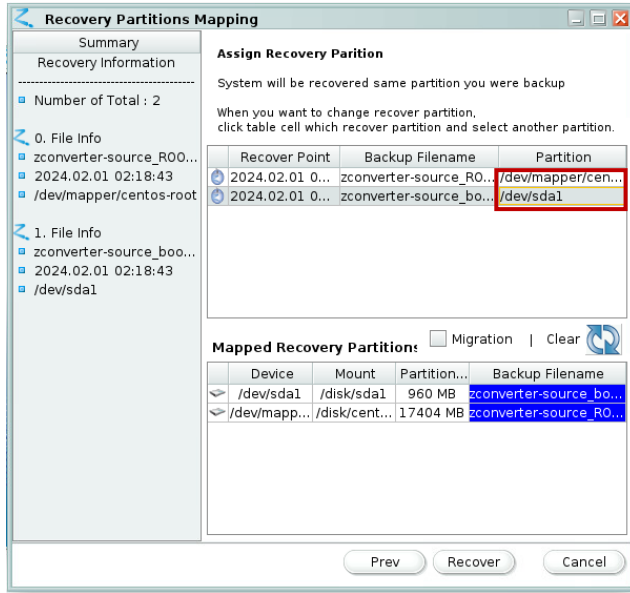
A. Recovery job



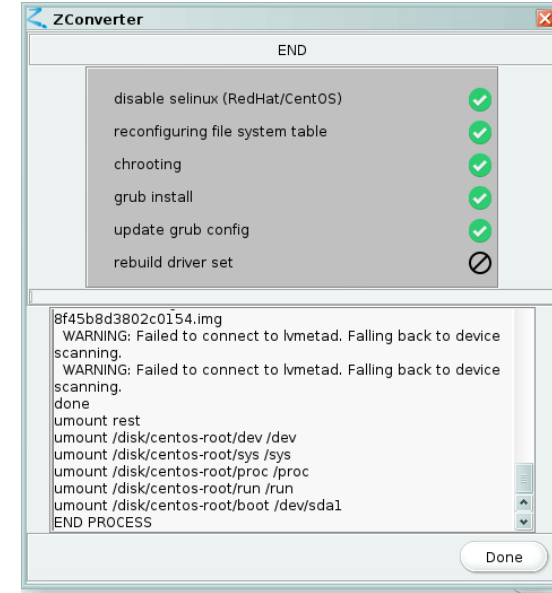
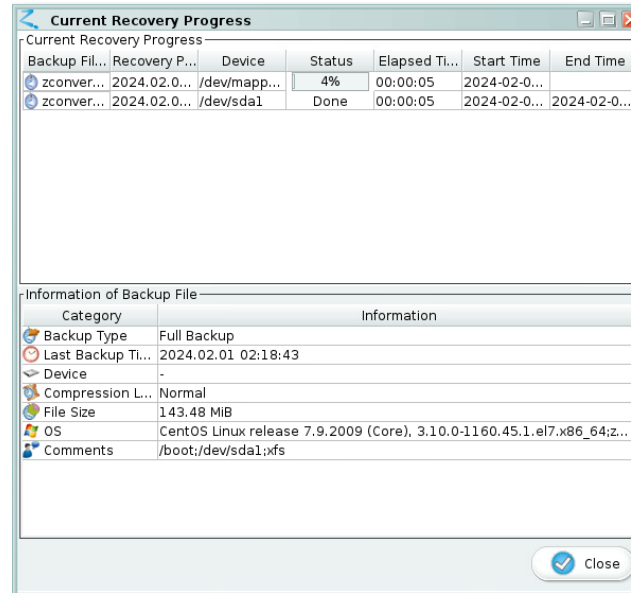
4. Recovery guide(Linux)

6) Recovery partition mapping and job run

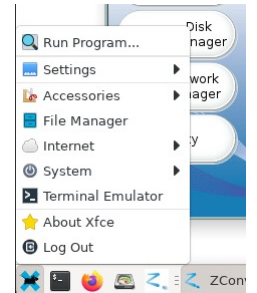
A. Recovery job



** Needs disk mapping



** Recovery is completed then just reboot



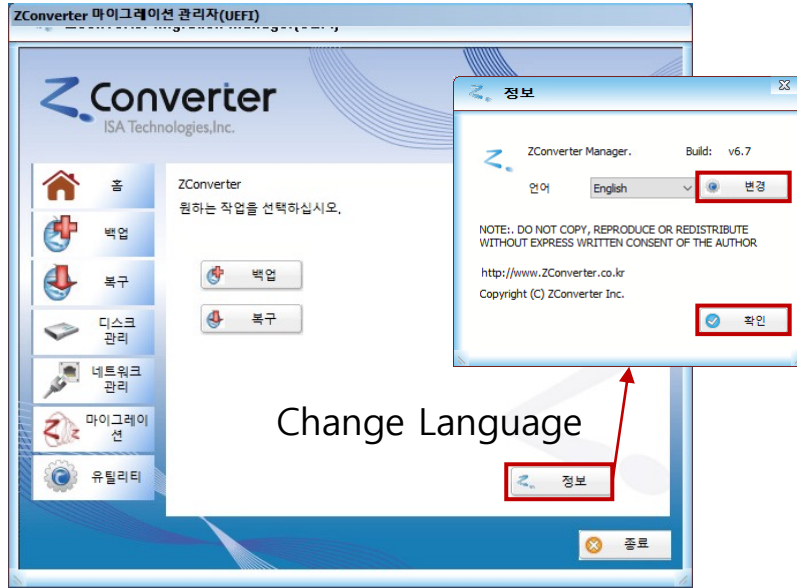
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5. Recovery guide(Windows)

1) Boot via Recovery ISO

A. ZConverter Windows Recovery Manager(ZWRM) main screen in Nutanix Cluster 2

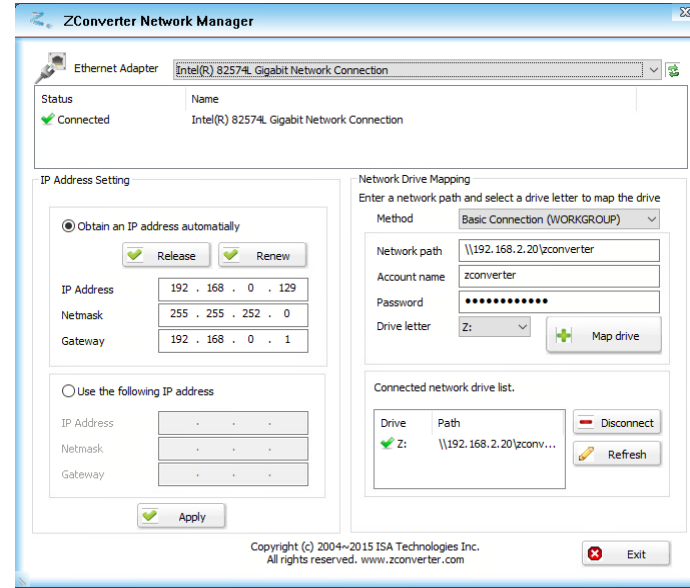


*** If need to change the language*

5. Recovery guide(Windows)

2) Connecting between ZDM and ZMM

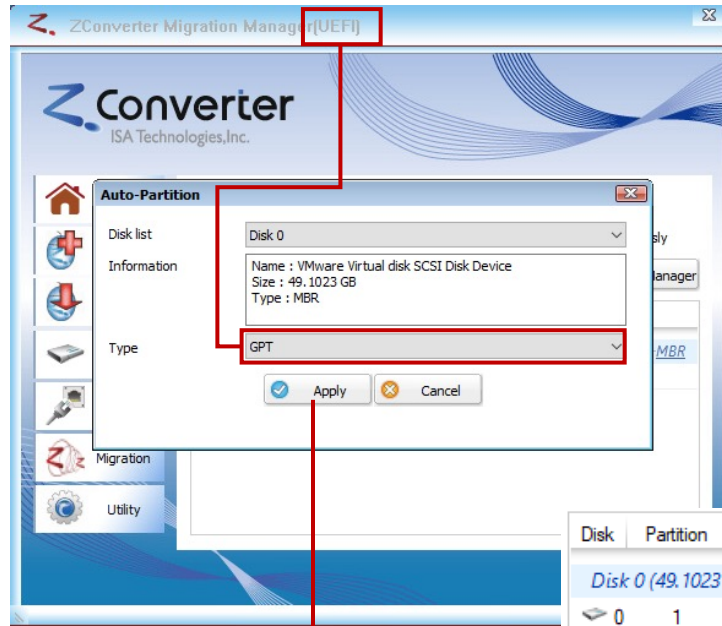
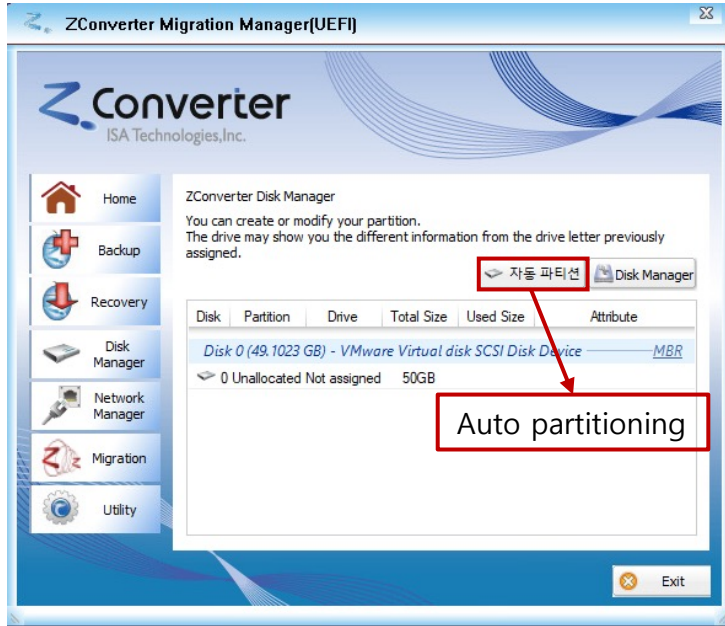
A. Network connection(connect to backup repository)



5. Recovery guide(Windows)

3) Disk Partitioning

B. Disk partitioning



✓ You should know in advance that disk boot options are divided into MBR and GPT.

1. BIOS = MBR
2. UEFI = GPT

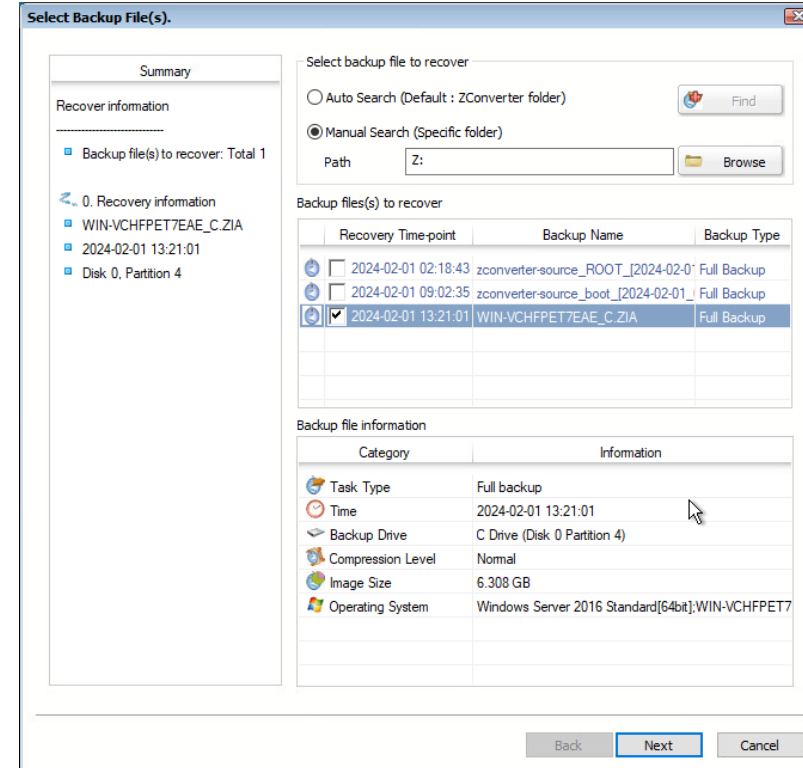
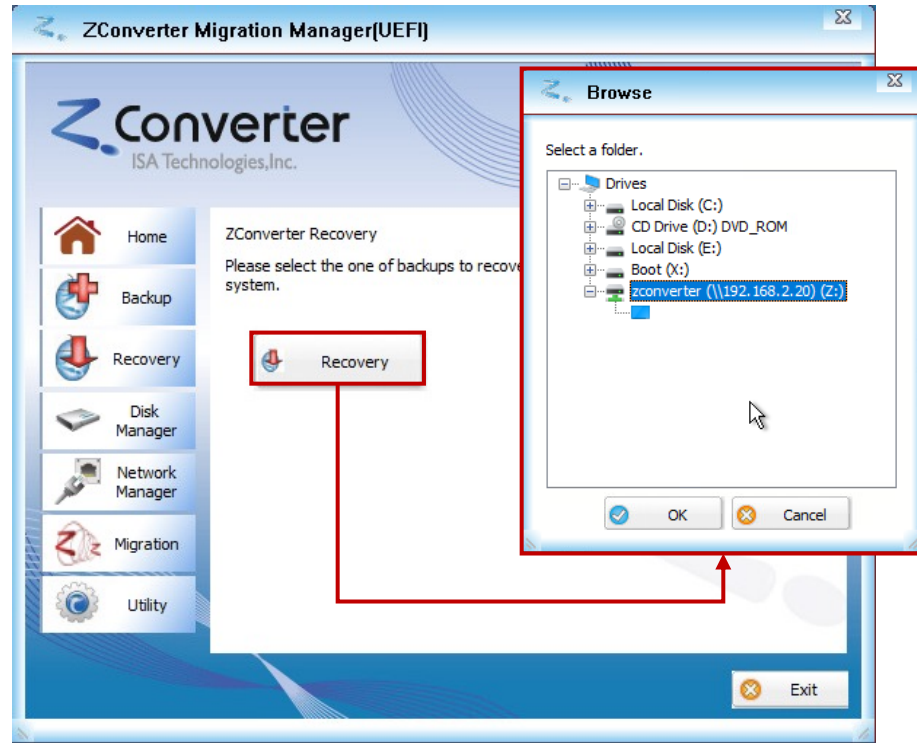
Disk	Partition	Drive	Total Size	Used Size	Attribute
Disk 0 (49.1023 GB) - VMware Virtual disk SCSI Disk Device					
0	1	E:	500MB	0 MB	System
0	2	C:	49GB	97 MB	Primary



5. Recovery guide(Windows)

4) Backup Image loading

C. Recovery job

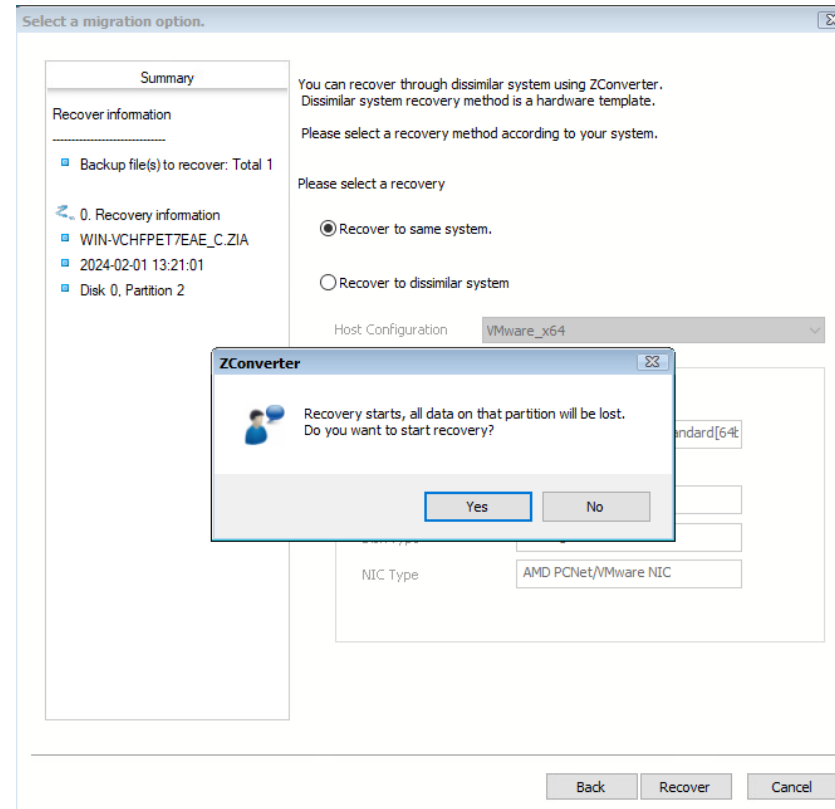
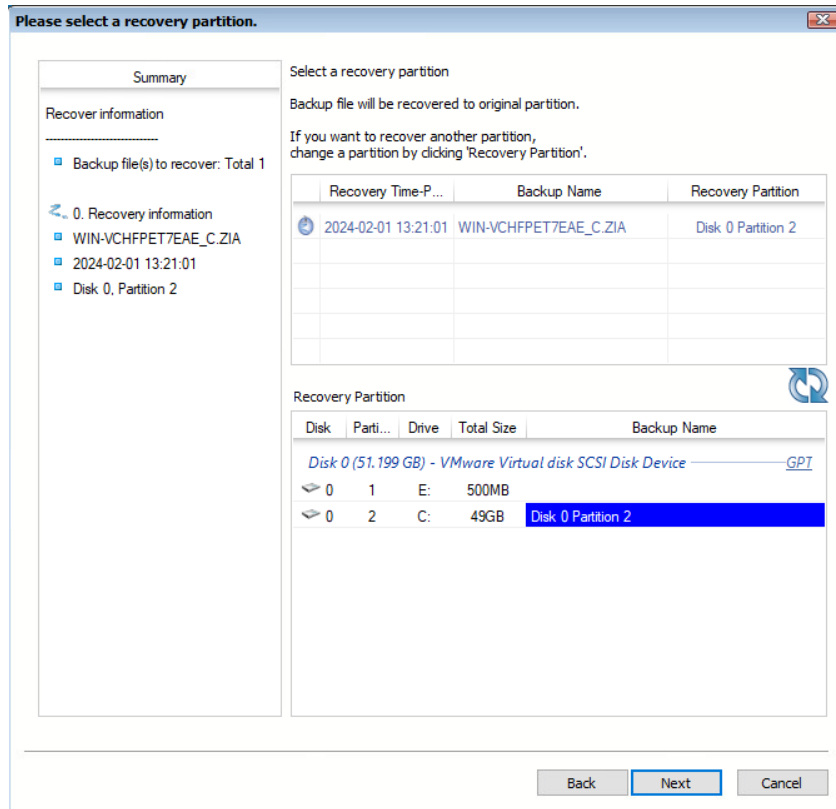


** Click the backup image(.ZIA file)

5. Recovery guide(Windows)

5) Partition mapping and Recovery job run

C. Recovery job

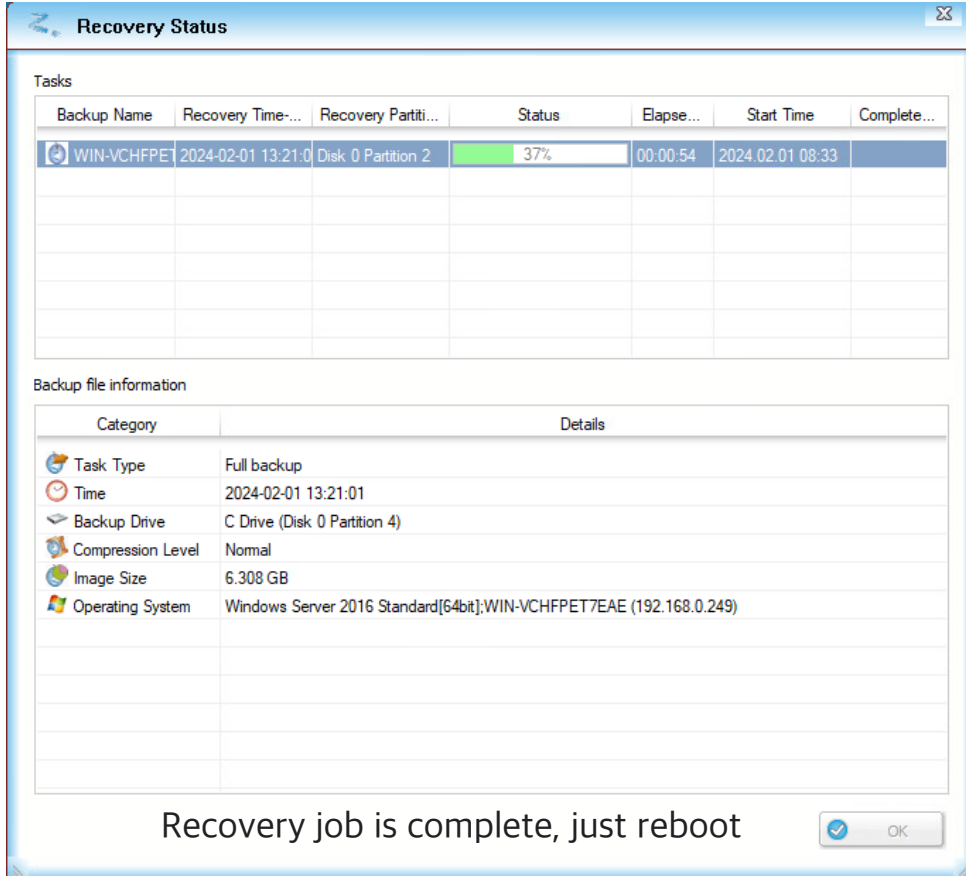


** Select a recovery partition
ex) C: to C: (Disk 0 Partition 2)

5. Recovery guide(Windows)

6) Recovery job monitoring

C. Recovery job



The screenshot shows a window titled "Recovery Status" with a table of tasks and a section for backup file information.

Tasks

Backup Name	Recovery Time...	Recovery Partiti...	Status	Elapse...	Start Time	Complete...
WIN-VCHFPET	2024-02-01 13:21:0	Disk 0 Partition 2	37%	00:00:54	2024.02.01 08:33	

Backup file information

Category	Details
Task Type	Full backup
Time	2024-02-01 13:21:01
Backup Drive	C Drive (Disk 0 Partition 4)
Compression Level	Normal
Image Size	6.308 GB
Operating System	Windows Server 2016 Standard[64bit];WIN-VCHFPET7EAE (192.168.0.249)

Recovery job is complete, just reboot OK

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