



ActiveImage Protector 2016R2SP1

Backup and Recovery of Domain Controller User Guide

Second Edition - June 11, 2020

This user guide provides a detailed description about backup and recovery procedures of domain controllers by using ActiveImage Protector 2016R2SP1.

For more detailed operating procedures for a specific topic, please refer to the Help of ActiveImage Protector.

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Introduction

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Any information included in this document is provided solely on informational purposes and Actiphy shall not be liable for technical or editorial errors or omissions contained herein.

This document provides general descriptions for standard settings to use ActiveImage Protector which may not be applicable to a specific system environment or operation. You will be solely responsible for the installation, the use, the operation of the product in your customer's system environment.

This document is intended for the system engineers who are engaged in an effort to design and introduce a new system or the system administrators and maintenance staff who are engaged in maintenance and management of the existing system.

The readers of this document are supposed to have specialized expertise about Windows operating system and domain controller.

This document provides the minimum of the required information for the operation of ActiveImage Protector. For more detailed information about the operating procedures, please refer to the manuals.

The screen images included in this document provide only examples of the settings but may differ from the actual appearance.

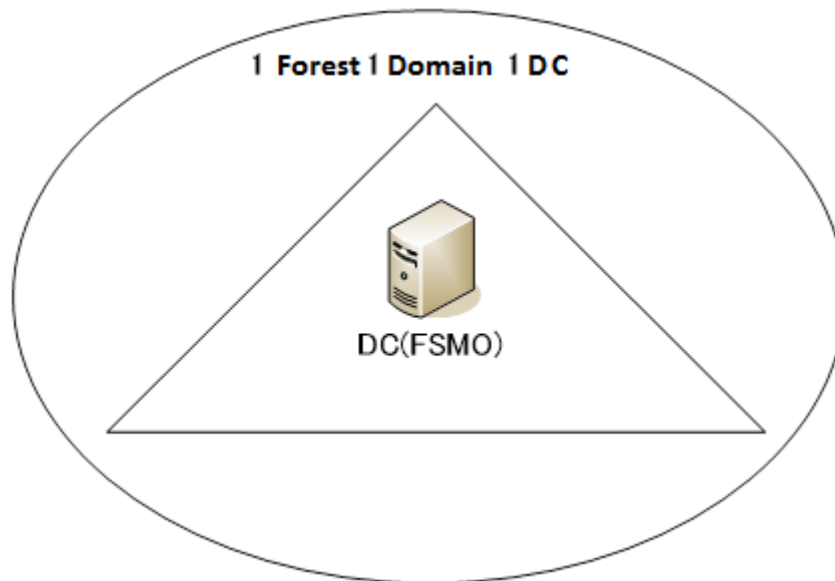
1. Preparations

In order to perform authoritative recovery of multiple domain controllers, the domain controllers must be backed up by using ActiImage Protector 2016R2SP1 (Ver 4.7.5.3807) or later. Authoritative recovery of the domain controllers is not supported by using the backup images created with ActiImage Protector earlier than 2016R2SP1.

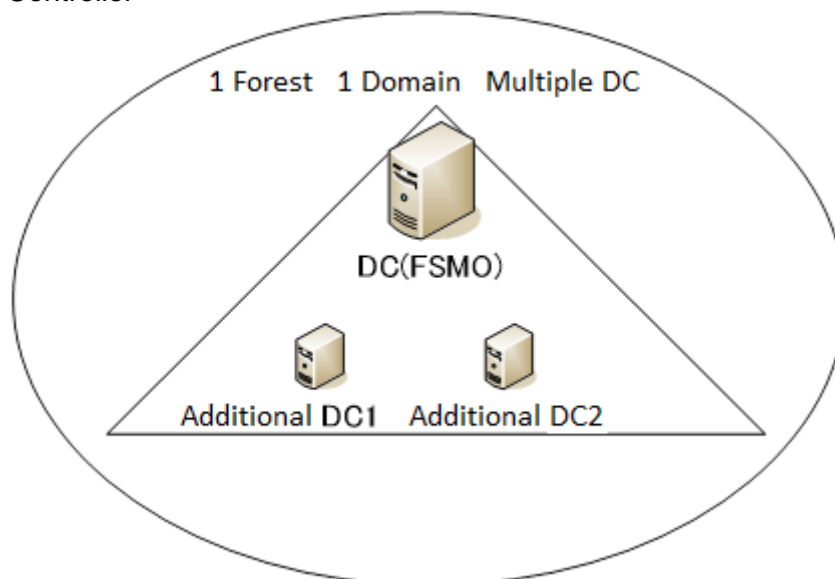
2. Configuration Example

This user guide provides backup and recovery procedures based on the following system environment.

Single Domain Controller



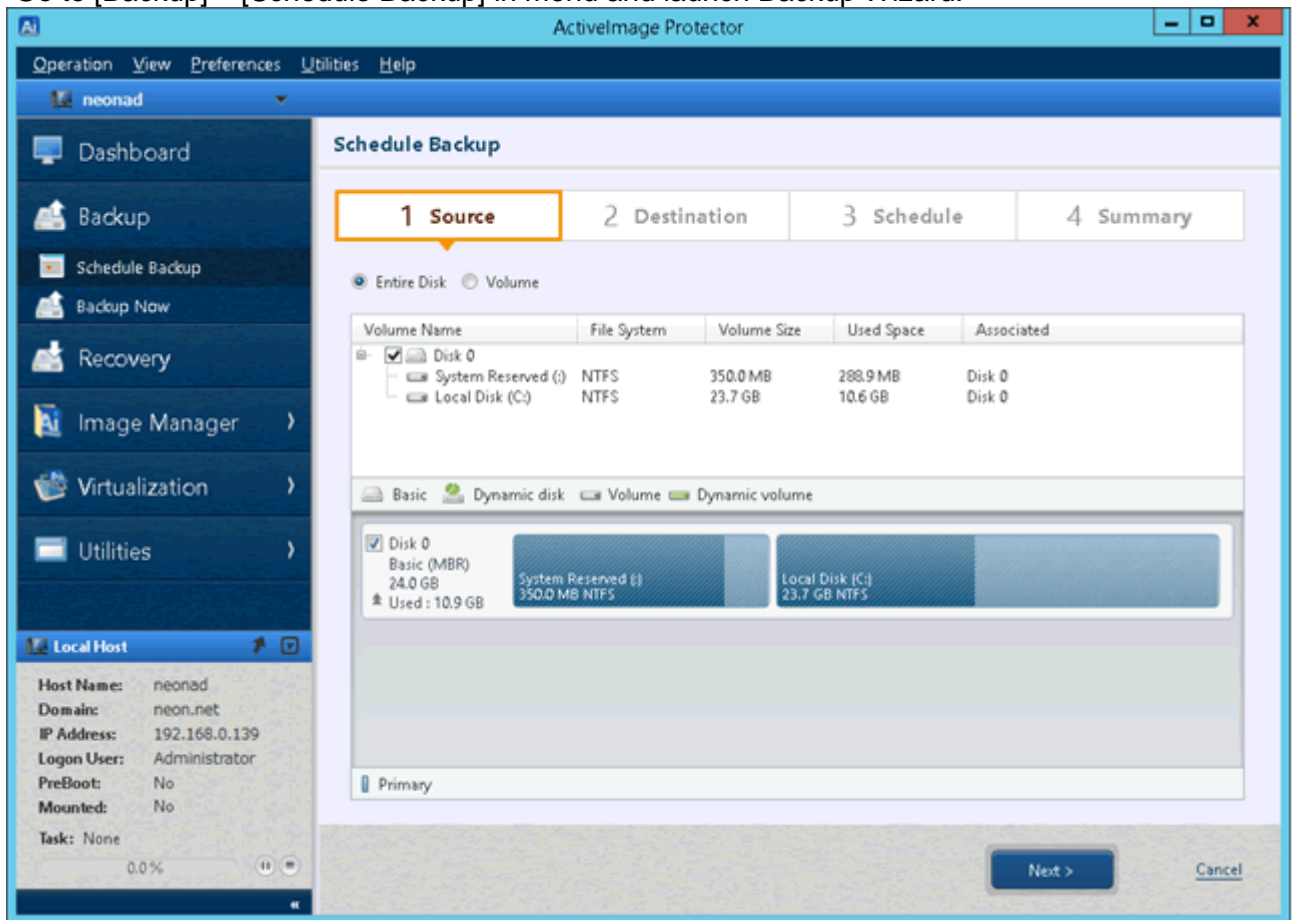
Multiple Domain Controller



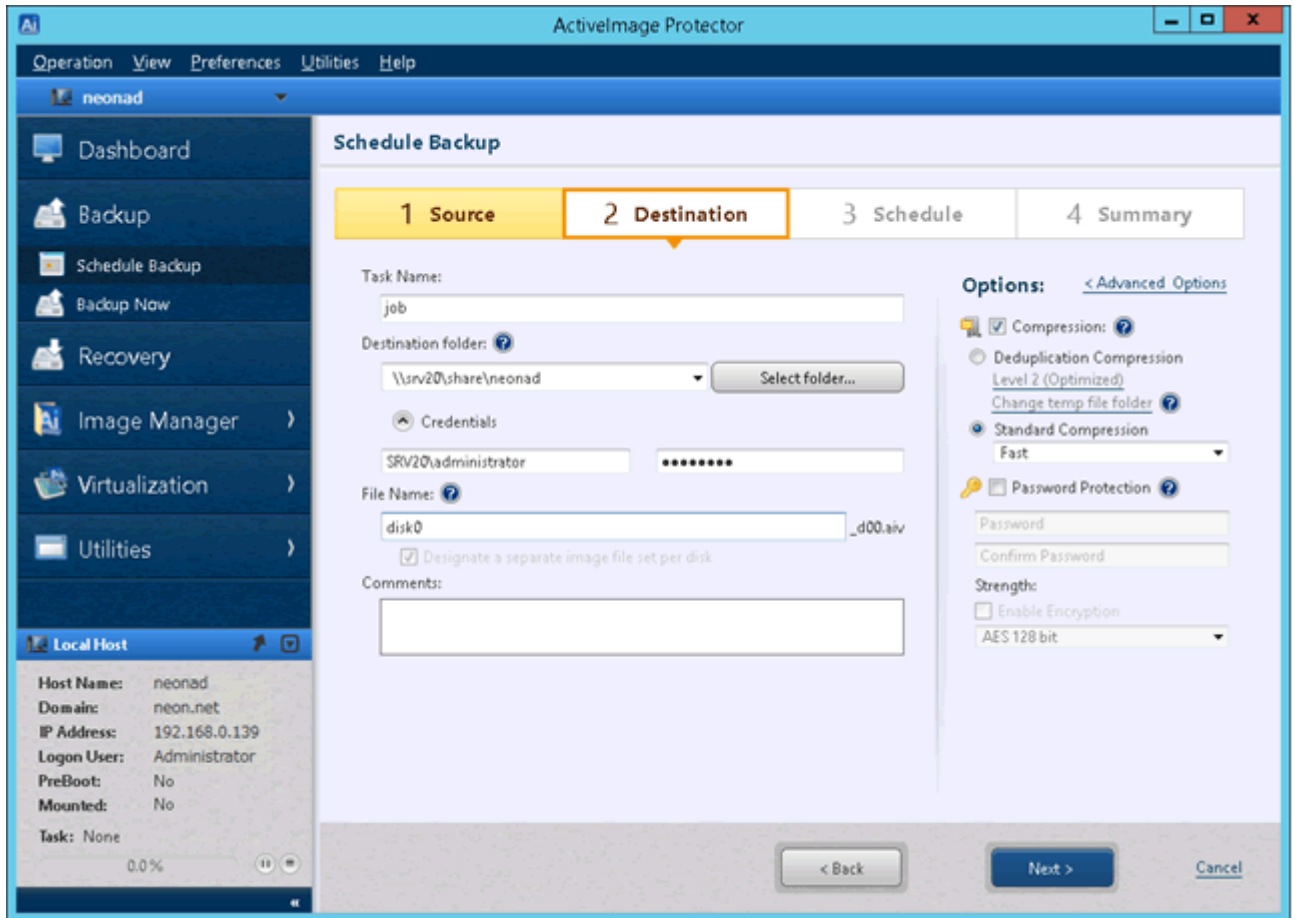
This user guide provides operating procedures by using ActiImage Protector (hereinafter AIP).

3. Backup by using AIP

1. Go to [Backup] – [Schedule Backup] in menu and launch Backup Wizard.

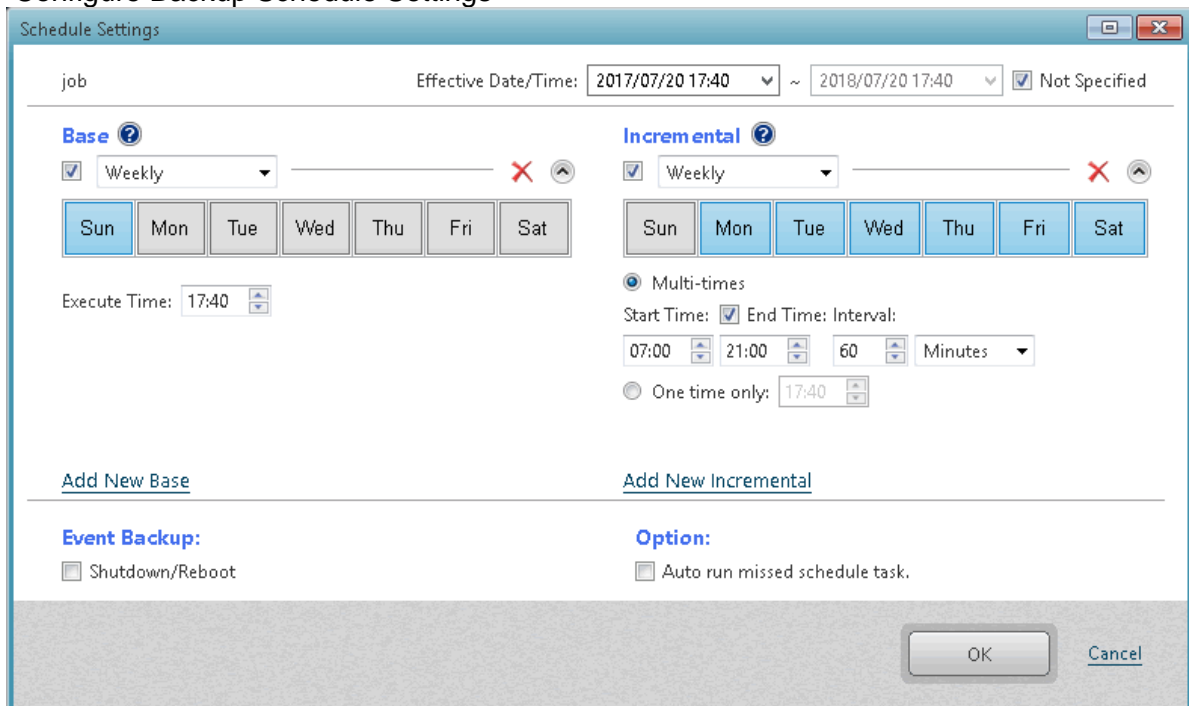


2. Select Destination



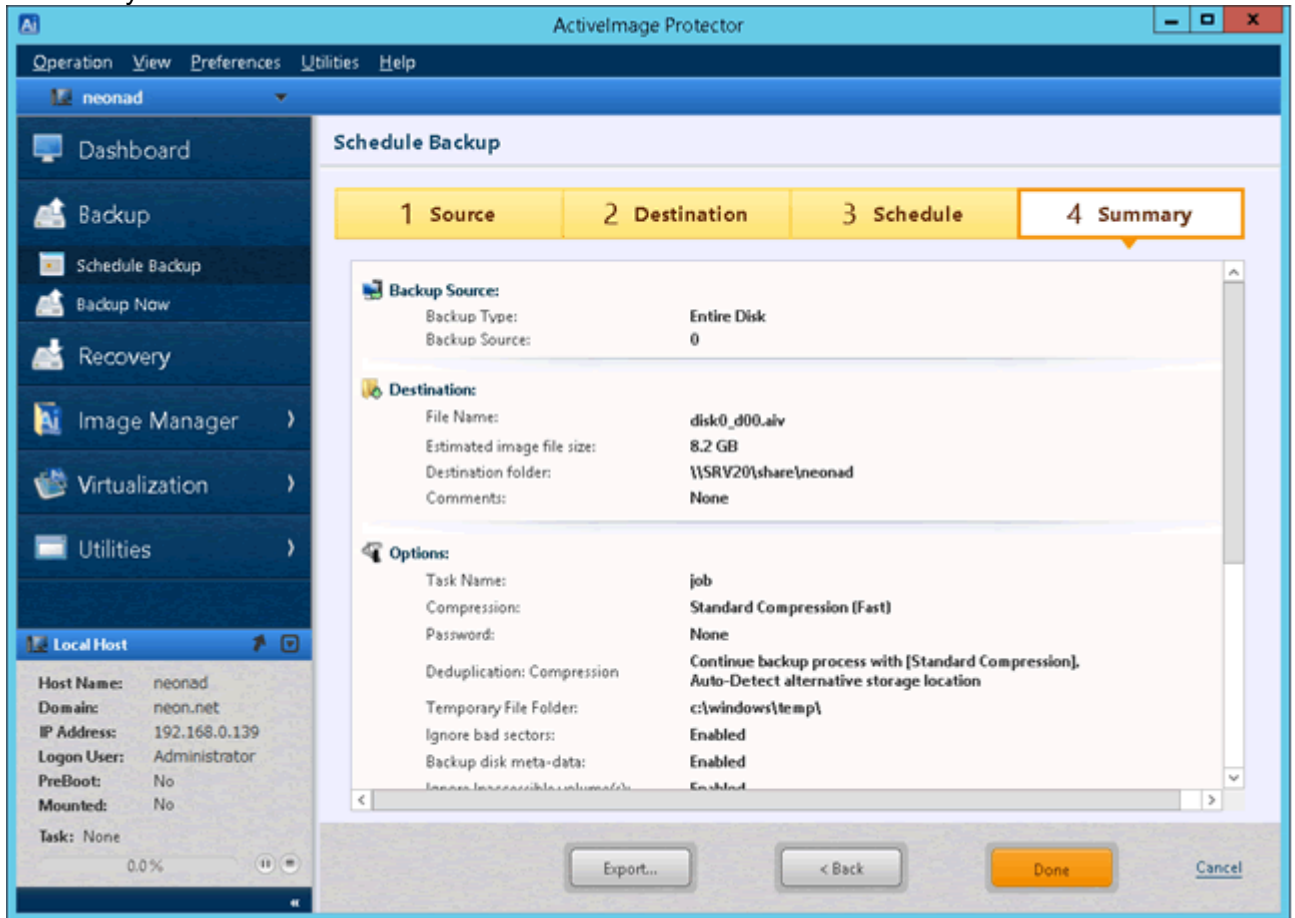
*You are recommended to specify a network shared folder under consideration of system failure caused by server crash, etc.

3. Configure Backup Schedule Settings



Configure the schedule settings.

4. Summary



Click on [Done] button and a dialog is displayed to ask you [Do you want to run the first scheduled backup task immediately?]. Click [No] button.

4. Summary of Recovery Procedures

You may need to recover domain controllers in a couple of situations.

*Please make sure that the backup image files to use for recovery have Tombstone lifetime of 180 days or less.

- Single Domain Controller

- 1) Boot into AIP Boot Environment and recover the domain controller by using a backup image.
- 2) Restart the computer.
- 3) Ensure that Active Directory Domain service is normally started.

- Multiple Domain Controllers (1) --- [Non-authoritative Restore] ---

In case that the data in DC database to recover is older than the data in other DC database.

- 1) Boot into AIP Boot Environment and recover the domain controller by using a backup image.
- 2) Restart the computer.
- 3) Ensure that Active Directory Domain service is normally started.
- 4) The objects or records in Active Directory are automatically duplicated and updated from other DC.

- Multiple Domain Controller (2) --- [Authoritative Restore] ---

In case that an object or a user is deleted by mistake and synchronized with other DC's.

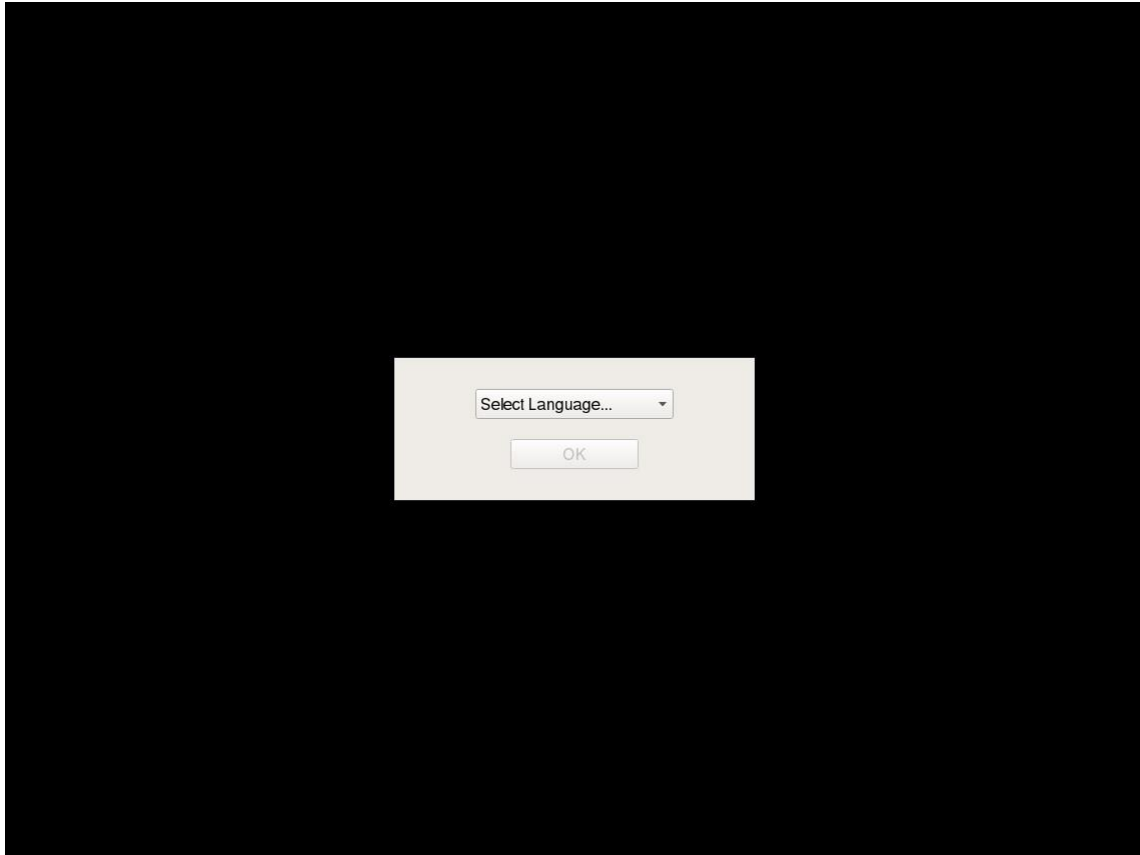
- 1) Boot into AIP Boot Environment and recover the domain controller by using a backup image.
- 2) Restart the computer.
- 3) Press F8 to boot up the computer in Directory Service Recovery Mode.
- 4) Run Authoritative Restore command.
- 5) Restart OS.

4.1 Recovery of a Single Domain Controller

The operating procedures to recover a single domain controller are the same as the regular system recovery procedures. Use AIP Boot Environment (accessory DVD) to recover the domain controller while OS is shut down. Please shut down the running operating system, and boot into AIP boot environment.

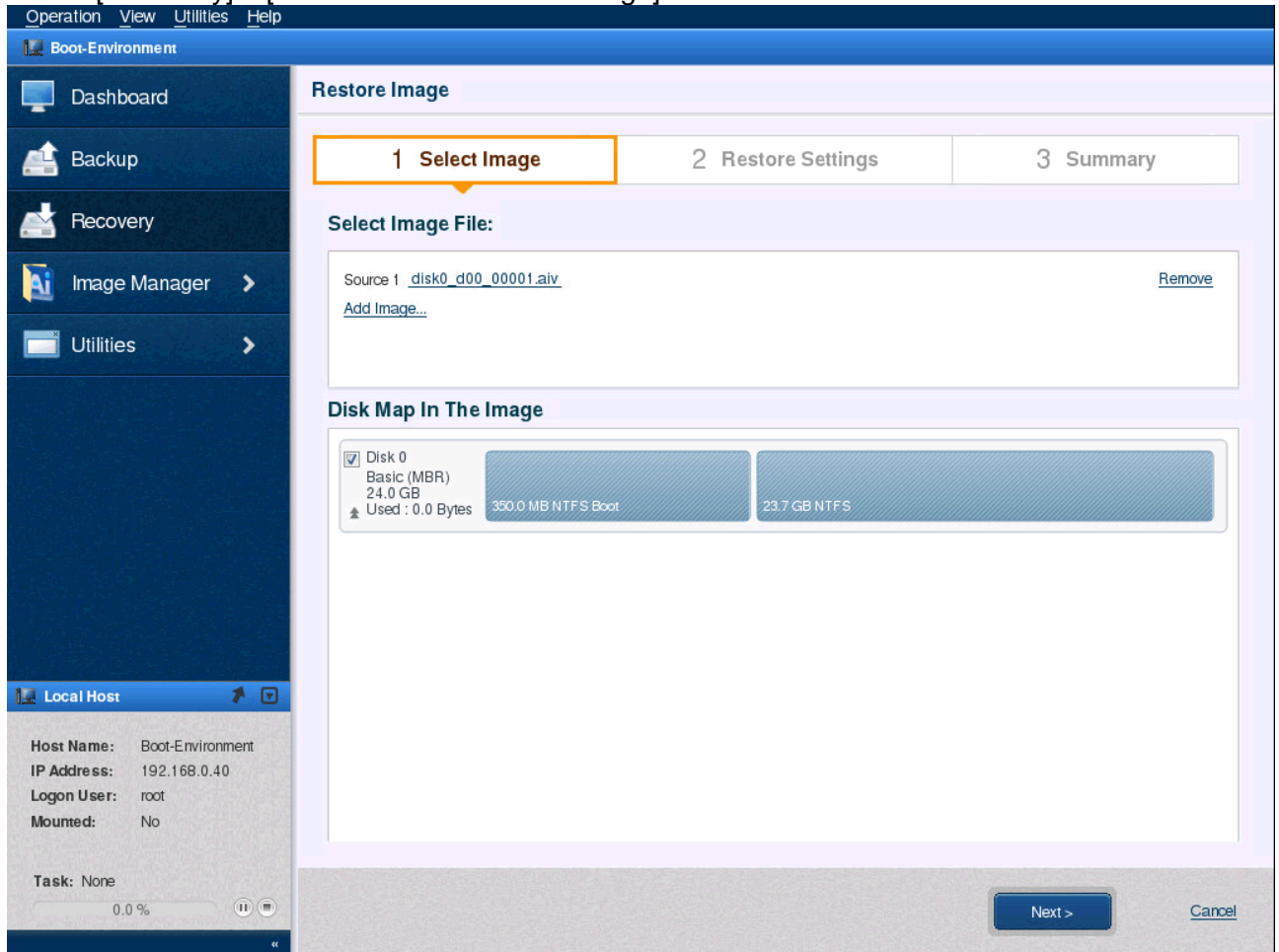
*For more detailed operating procedures, please refer to AIP Help.

1. Boot into AIP boot environment.



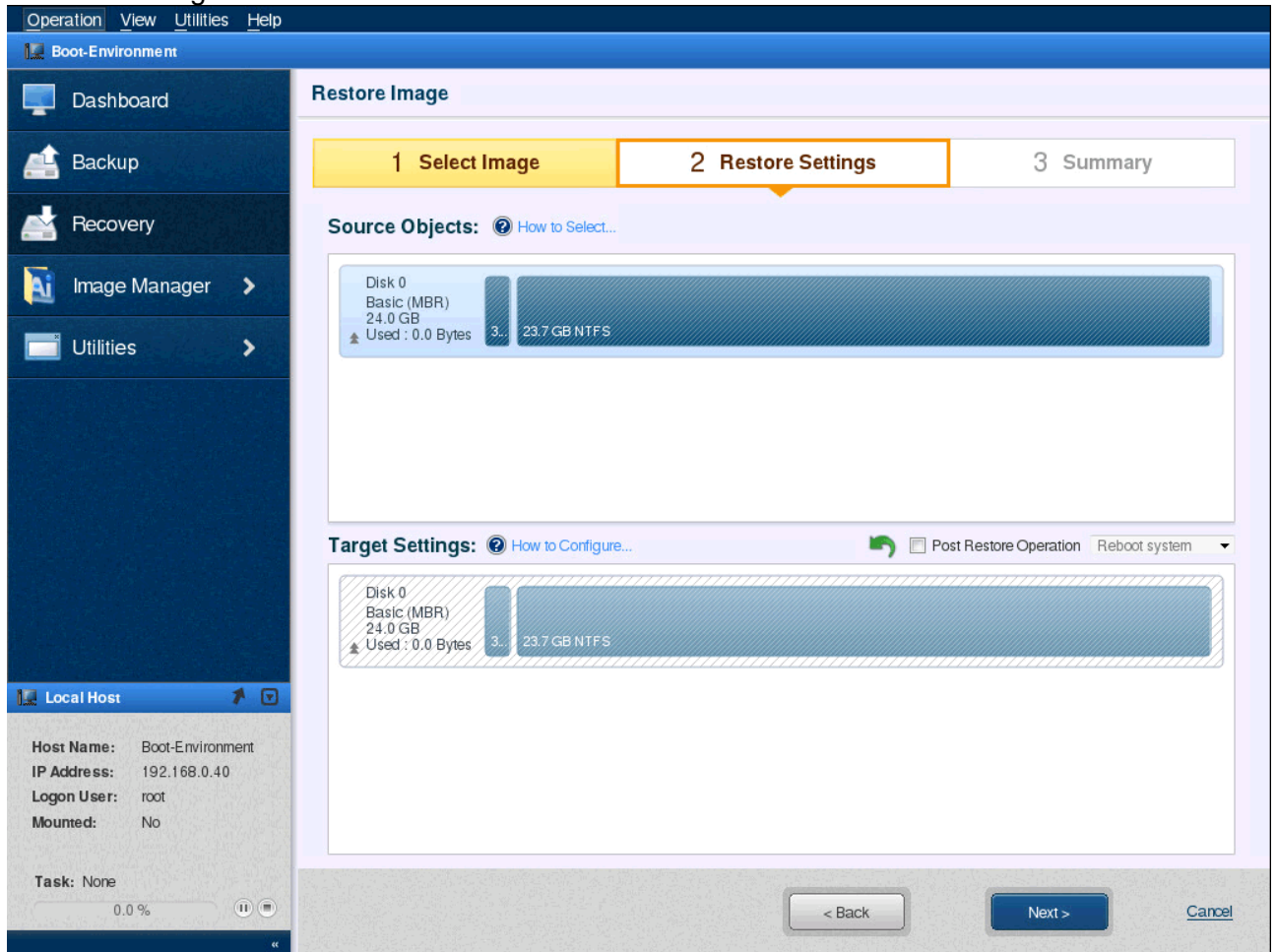
Use AIP's DVD to boot into AIP Boot Environment.

2. Select [Recovery] – [Select Restore Source Image].



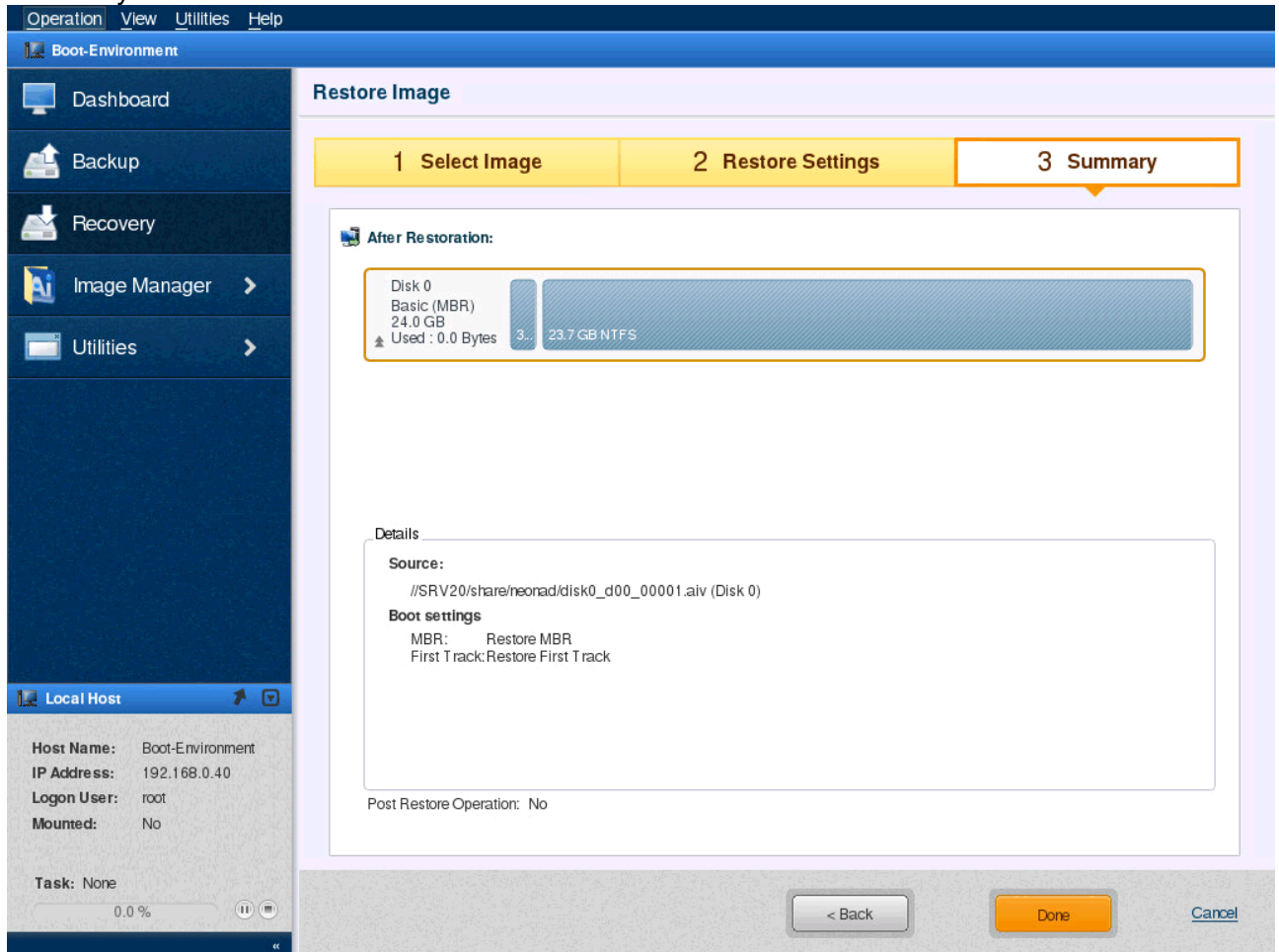
Select the backup image to use for recovery.

1. Restore Settings



Drag and drop the restore source image from [Source Objects:] to restore destination in [Target Settings].

2. Summary



Review the summary and the image file to restore. Click [Done] button to start running restore task.

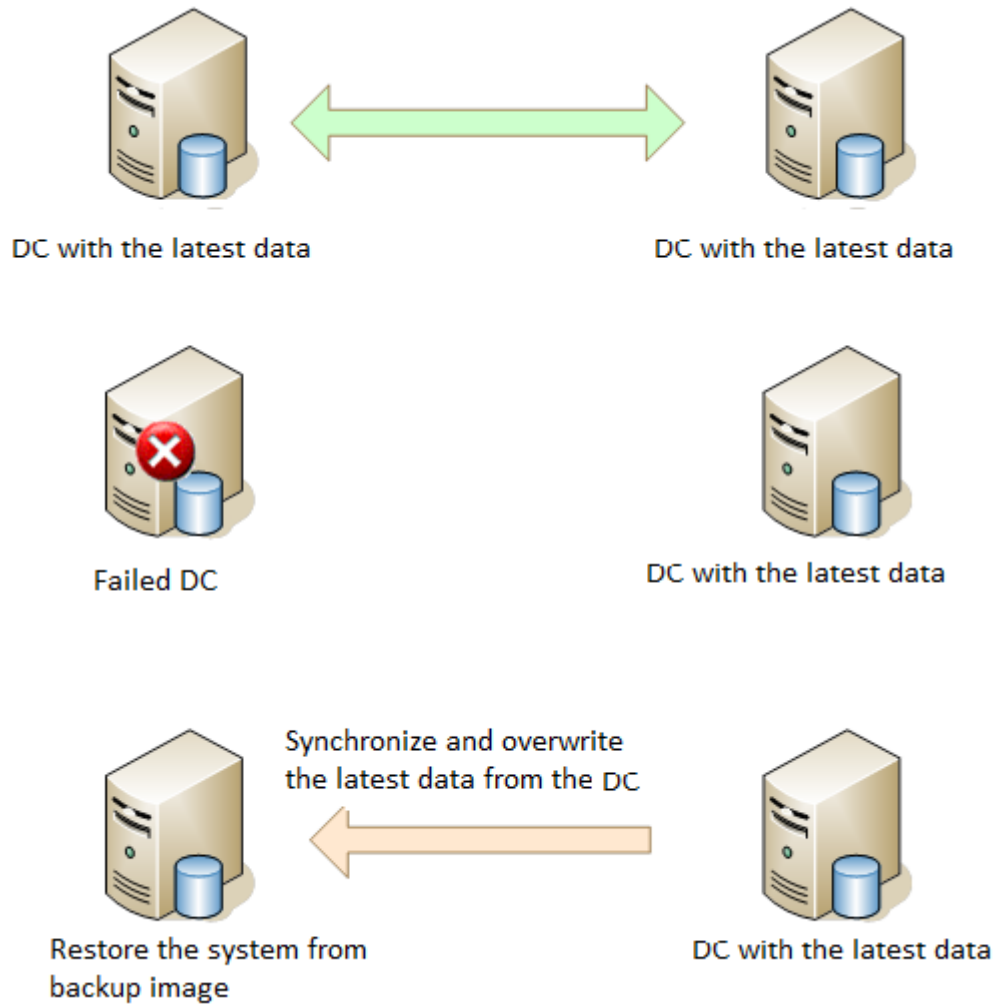
3. Reboot boot environment

Upon successful completion of restore task, please stop and restart AIP boot environment.

4.2 DC Recovery procedures in the system environment where there exist multiple domain controllers --- [Unauthoritative Restore] ---

Even in the system environment where multiple domain controllers exist, if the data located on the other domain controller are updated, the recovery procedures are the same as the regular system recovery procedures. Booting into AIP boot environment (accessory DVD), take recovery procedures while the system is not up and running. Shut down running OS, boot up AIP boot environment and restore OS following the recovery producers described in "4.1 Recovery of a Single Domain Controller".

*For more detailed procedures, please refer to AIP Help.

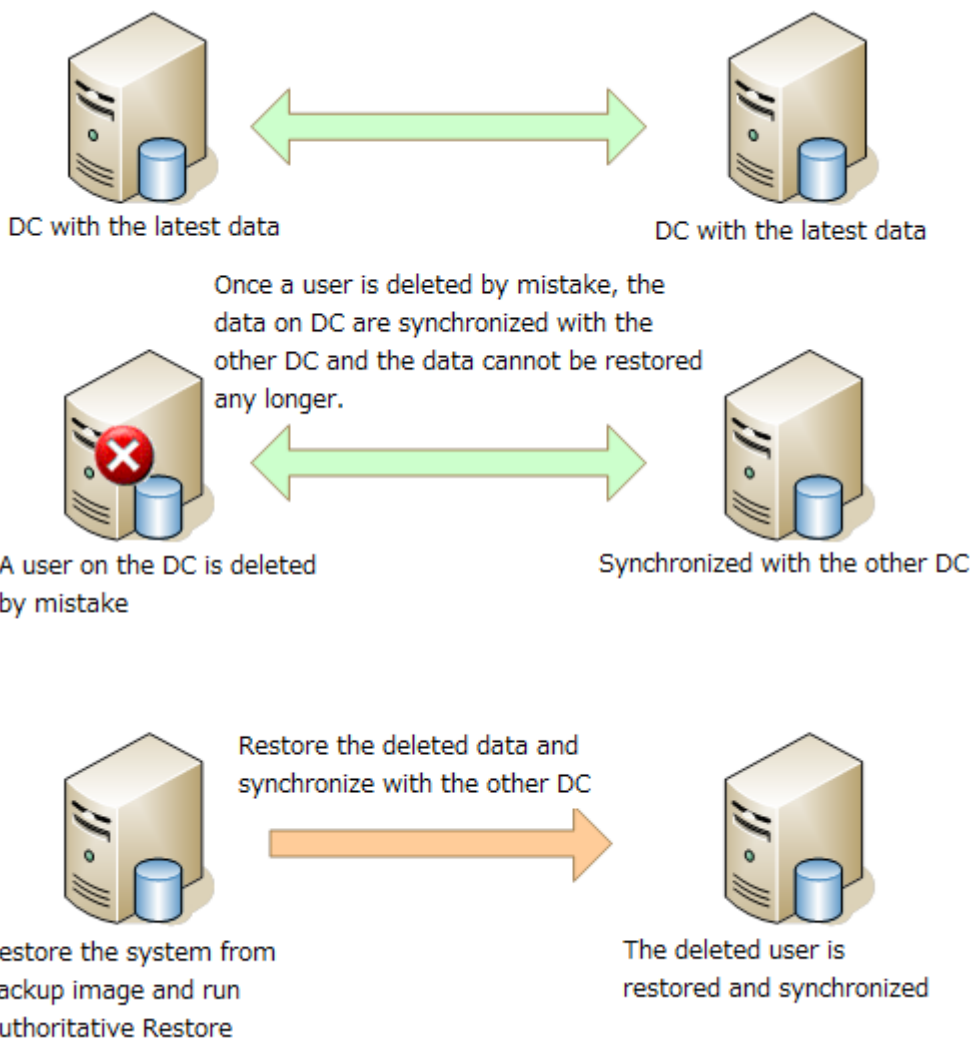


4.3 DC Recovery procedures in the system environment where there exist multiple domain controllers --- [Authoritative Restore]

In the system environment where there exist multiple domain controllers, if an object or user on one domain controller is deleted by mistake, the data on the DC are synchronized with the other DC, therefore, the original data are purged.

In this case, you need to restore the data from a backup file and copy them to the domain controller in the system environment. The recovery procedures are the same as the regular system recovery procedures using a backup image. Use AIP Boot Environment (accessory DVD) to recover the domain controller while OS is not running. Shut down OS, boot up AIP boot environment and take the recovery producers described in “4.1 Recovery of a Single Domain Controller”.

*For more detailed procedures, please refer to AIP Help.



1. Restore Domain Controller

Restore domain controller, following the procedures described in “4.1 Recovery of a Single Domain Controller”.

2. Start Directory Service in Restore Mode.

Hit F8 key many times to display Advanced Boot Options screen and start Directory Service in Restore Mode.

3. Run authoritative restore

```
C:\> ntdsutil
```

```
ntdsutil: activate instance ntds
```

```
Activate instance is "ntds".
```

```
ntdsutil: authoritative restore
```

```
authoritative restore: restore subtree CN=Users,DC=test,DC=net
```

*This example describes the case that a user is deleted and the domain name is “test.net”.

4. Restart OS

Please ensure that the deleted object is restored and synchronized to the other DC.