Restoring Windows Logical Disks

With CDP Enterprise and Advanced Edition, you can perform a Bare-Metal Restore of Windows logical disks.

> **Reference**
> Logical drive is a part of a physical disk drive that has been partitioned and allocated as an independent unit, and functions as a separate drive altogether. For example, one physical drive can be partitioned into drives F:, G:, and H:. Using the logical drive hierarchy is one method of organizing large units of memory capacity into smaller units.

1. Loading Agent in Recovery Mode and Installing the Server Key | 2. Restoring Windows System Volume | 3. Booting Windows | 4. Configuring Windows Logical Disks | 5. Restarting CDP Agent | 6. Restoring Logical Disk File Systems

1. Loading Agent in Recovery Mode and Installing the Server Key

Follow the instructions bellow to load the Agent in Recovery mode and to install the Server Key.

1. Boot the Agent from Live CD or PXE Network Boot.

2. Then, you may need to configure the network settings.

3. To add the Server Key to the Agent, run the following command on the Agent machine:

```
#r1soft-setup --get-key [Server_URL]
```

```
root@r1soft-recovery:~# r1soft-setup --get-key http://192.168.122.130
Key '192.168.122.130' successfully installed.
```

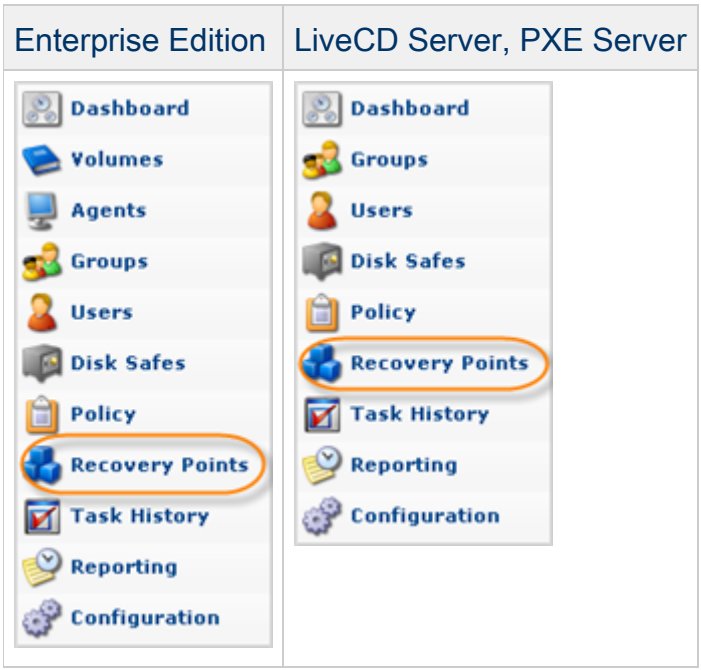
> **Note**
> The `--get-key` function downloads the Key from the Server. For this option to work, the Server should be up and accessible from the Agent via the network.

2. Restoring Windows System Volume

Follow the instructions below to start the Bare-Metal Restore of the Windows system (boot)

Volume.

1. Click on "Recovery Points" in the Main Menu to open the "Recovery Points" screen.



2. Select an Agent from the drop-down menu located on the "Recovery Points" list toolbar.



3. Select a Disk Safe from the drop-down menu located on the "Recovery Points" list toolbar.

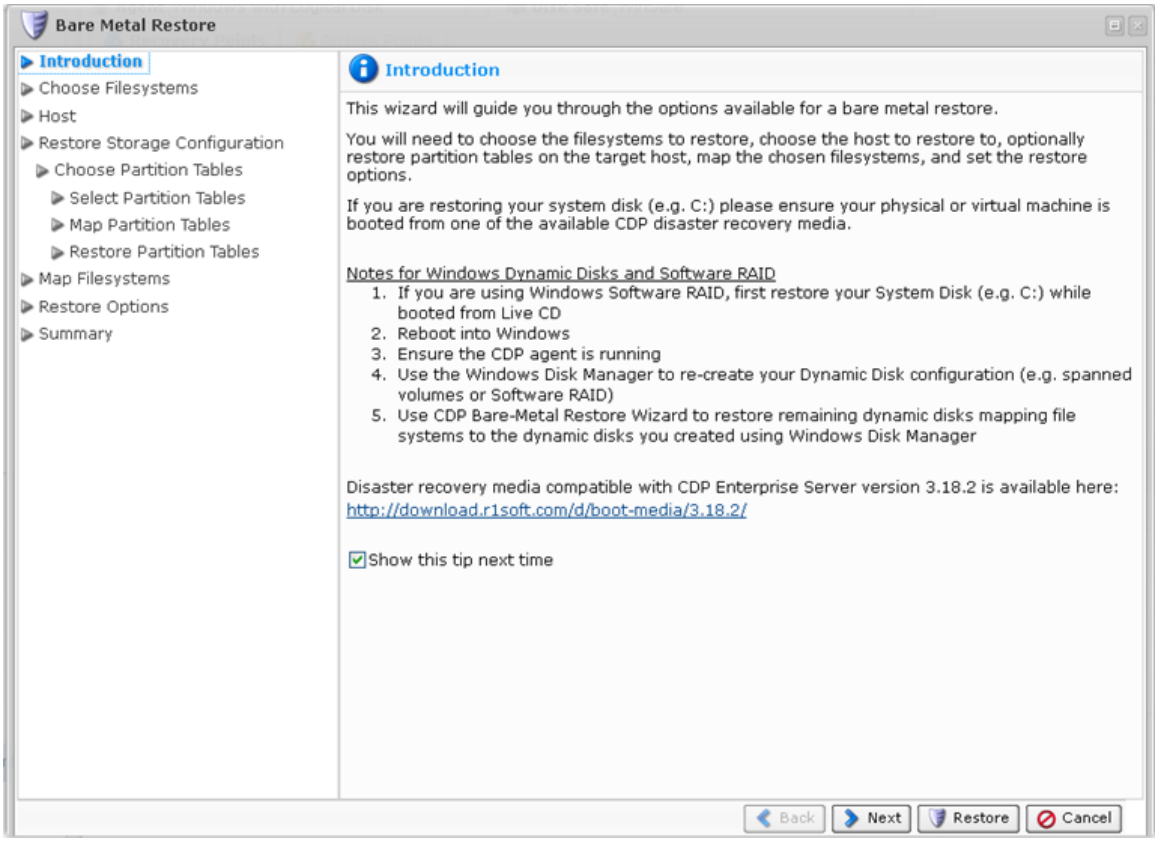


4. In the "Recovery Points" list, click on the "Bare-Metal Restore" icon in the "Actions" column for the Recovery Point from which you are going to restore.



> **Tip**
> To find a Recovery Point, you can use the Basic and Advanced List Filters. See Customizing the Recovery Points List.

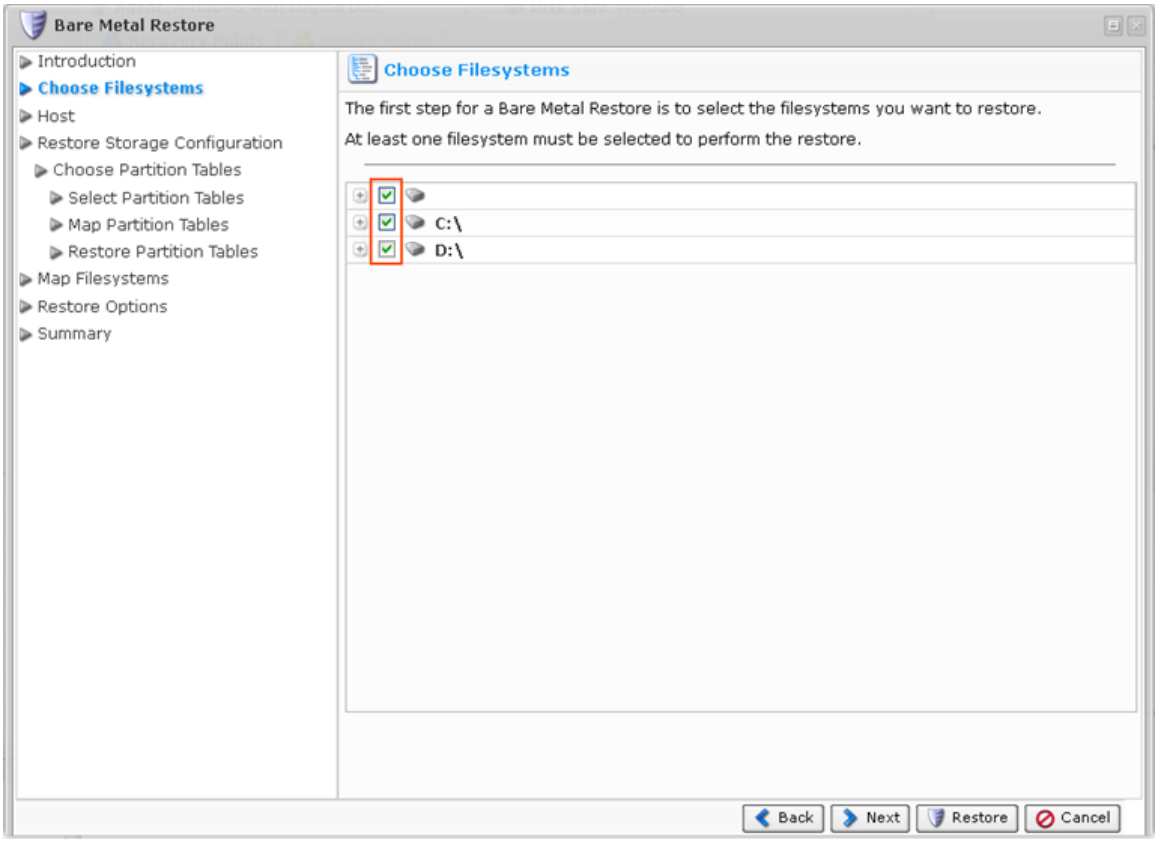
5. The "Bare-Metal Restore" window opens.



6. Look through the information on the Introduction screen and click "Next."



7. On the next page, select the disk where the Windows system was previously installed.



Note

With version 3.18 and later versions, there is no need to restore logical disks separately from the boot partition and disk where the Windows system was previously installed.

Tip

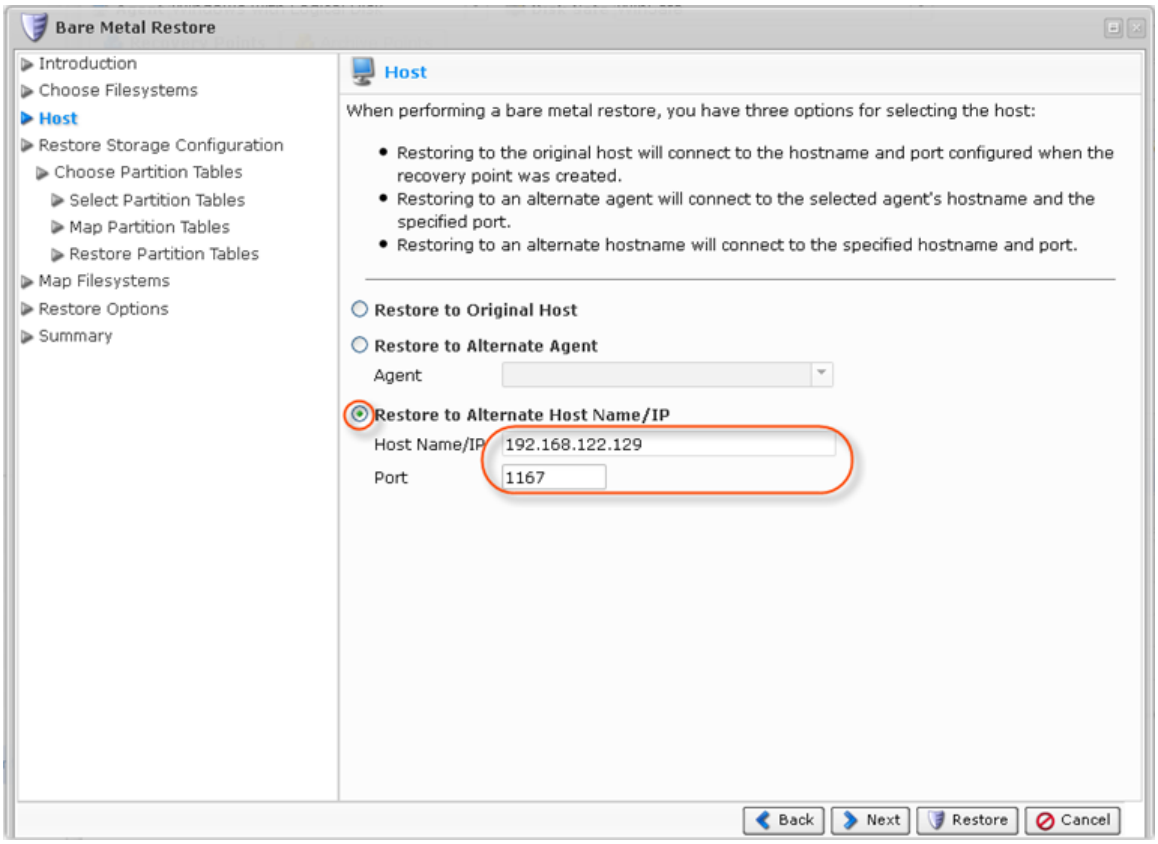
To display filesystem properties, click on the "Plus" icon in front of the file system name. The following data is provided for each file system:

- Content Type - Either "MBR" (Master Boot Record) or a special type of filesystem. Most common filesystem types are NTFS (Windows) or EXT3 (Linux).
- Device Path - The path used by the operating system to identify the hard disk or partition. In Windows, it looks like \\?\Volume2cb24442-fd22-11df-b57d-806e6f6e6963. In Linux, it looks like /dev/hda or /dev/sda. The Device path saved in the Recovery Point refers to the Device that this Recovery Point was created for. If you are performing a Bare-Metal Restore to an alternate Agent, the Device Path will be different.
- Size - Size of the hard disk or partition in gigabytes
- Block Size - Minimum amount of space that can be allocated on the hard disk. This depends on the partition size and file system used and is a multiple of 512 bytes.
- Total Blocks - The total number of blocks (see above) available for data on this partition
- Allocated Blocks - The number of blocks allocated for data at the time Recovery Point was created

Click "Next" to proceed to the following step.



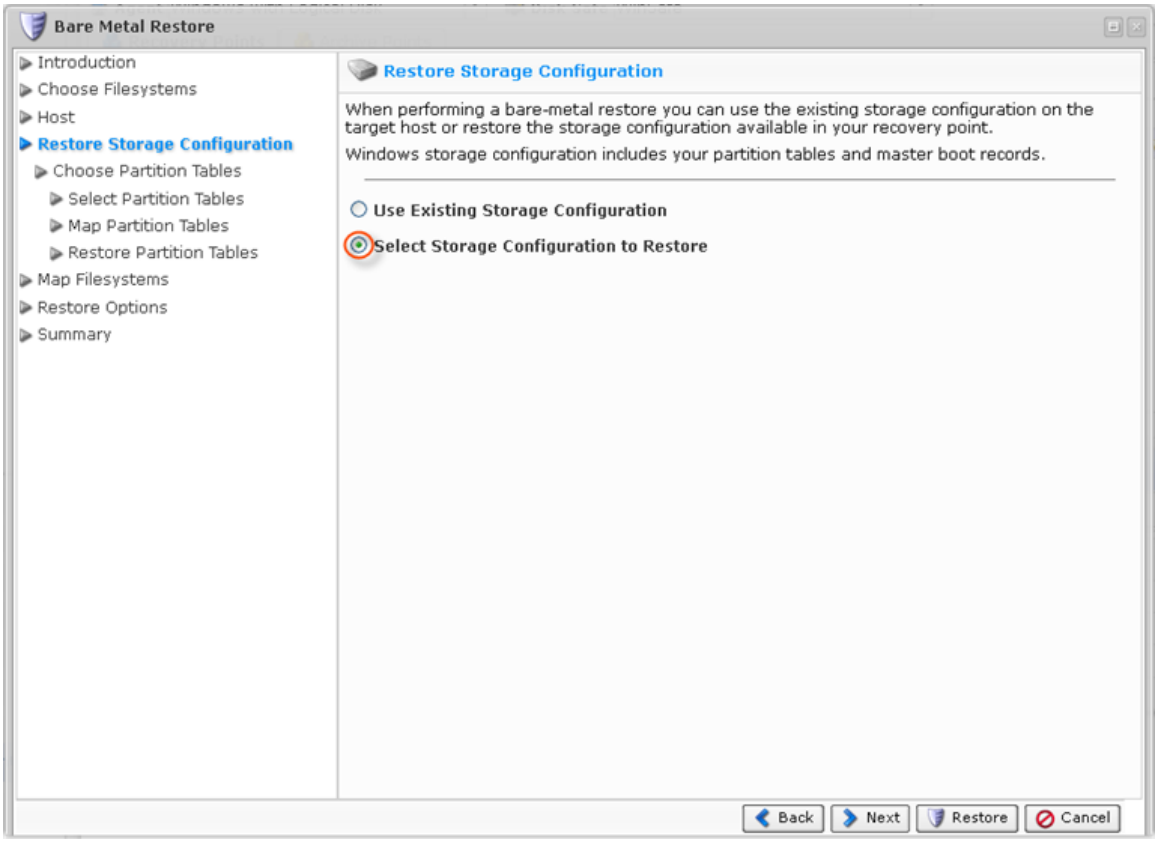
8. On the next screen, select the "Restore to Alternate Host Name/IP" option. Then enter the Hostname or IP address of the alternate Agent.



Click "Next" to proceed to the following step.



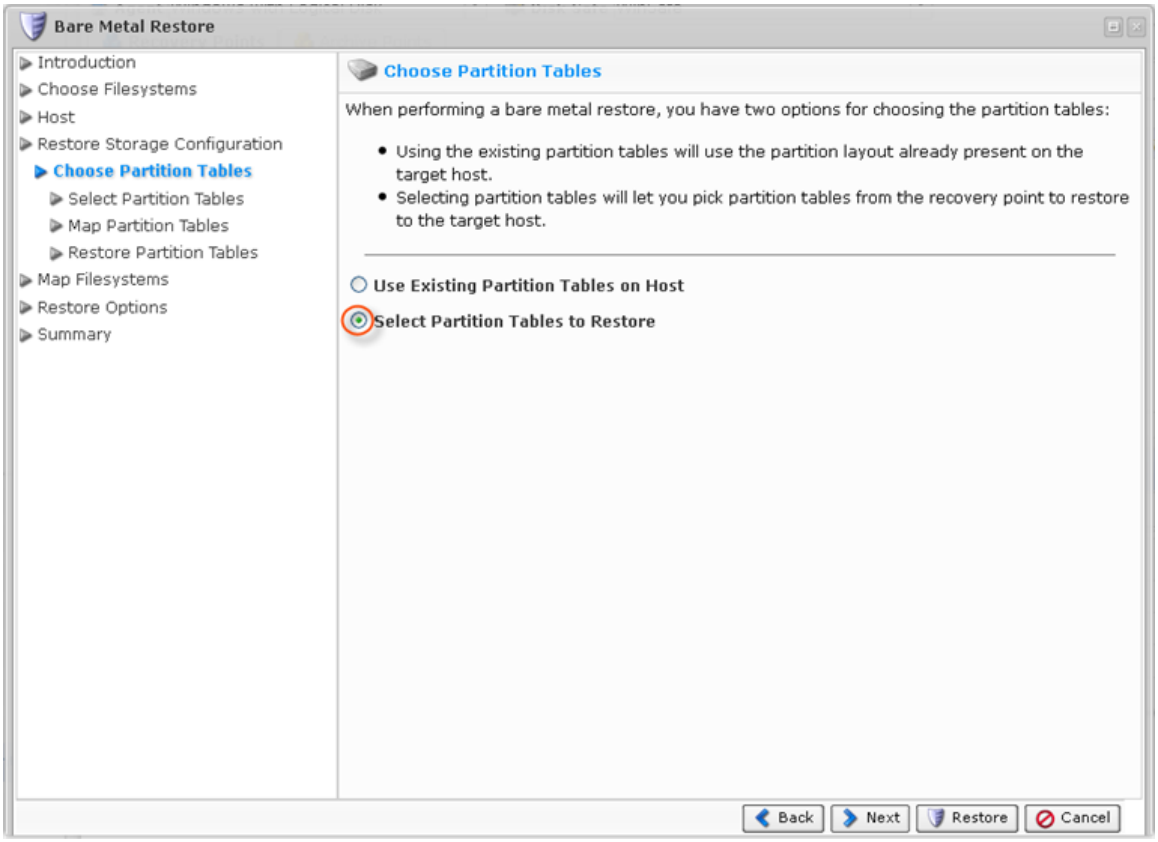
9. On the "Restore Storage Configuration" screen, choose the "Select Storage Configuration to Restore" option.



Click "Next" to proceed to the following step.



9.1 On the next screen, select the "Select Partition Tables to Restore" option. Selecting this option lets you pick partition tables from the Recovery Point to restore to the target Agent.



Click "Next" to proceed to the following step.

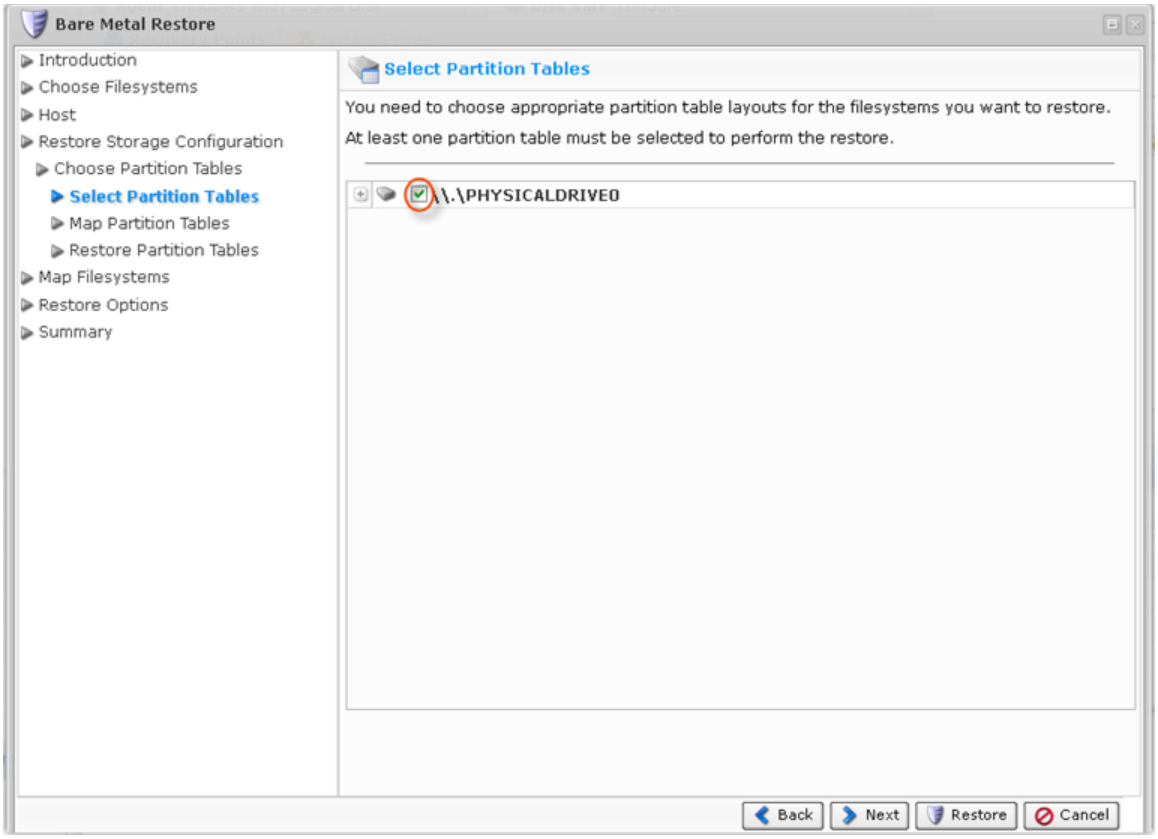


After the "Select Partition Tables to Restore" option is selected, you must complete three (3) additional steps:

- Select Partition Tables
- Map Partition Tables
- Restore Partition Tables

9.1.1 Selecting Partition Tables

Select the partition table layout(s) for the filesystems you want to restore.



Tip
To display the partition table properties, click on the "Plus" icon in front of the partition table's name.

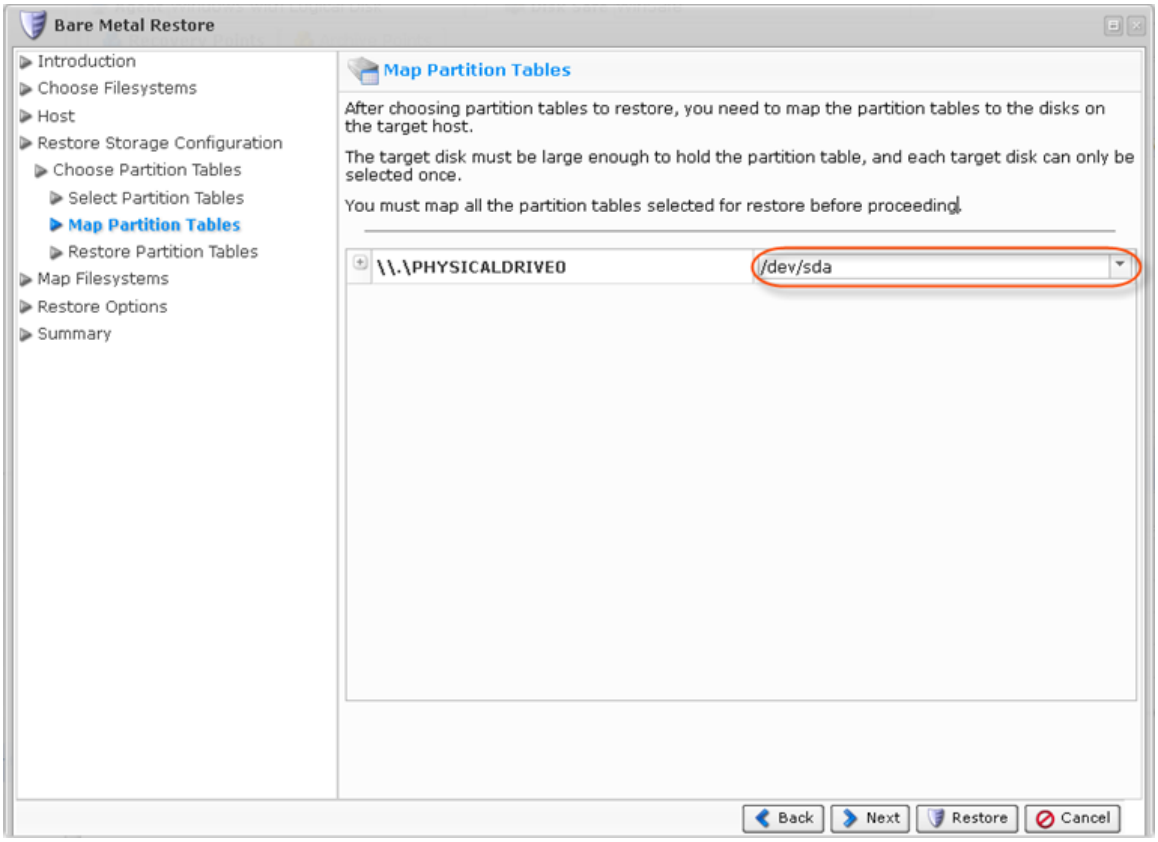
- Content Type - Either MBR (Master Boot Record) or another special type of partition
- Size - Size of the partition table in gigabytes
- Number Of Sectors - Shows the total number of partition table sectors
- Sector Size - The value in bytes of the sector
- Serial Number - Full serial number of the partition table
- Partitions - The list of partitions allocated with the partition table

Click "Next" to proceed to the following step.



9.1.2 Mapping Partition Tables

After choosing partition tables to restore, map the selected Partition Table(s) Recovery Points to physical disks in the Target Agent. From the drop-down menu, select the physical disks you are going to restore to.



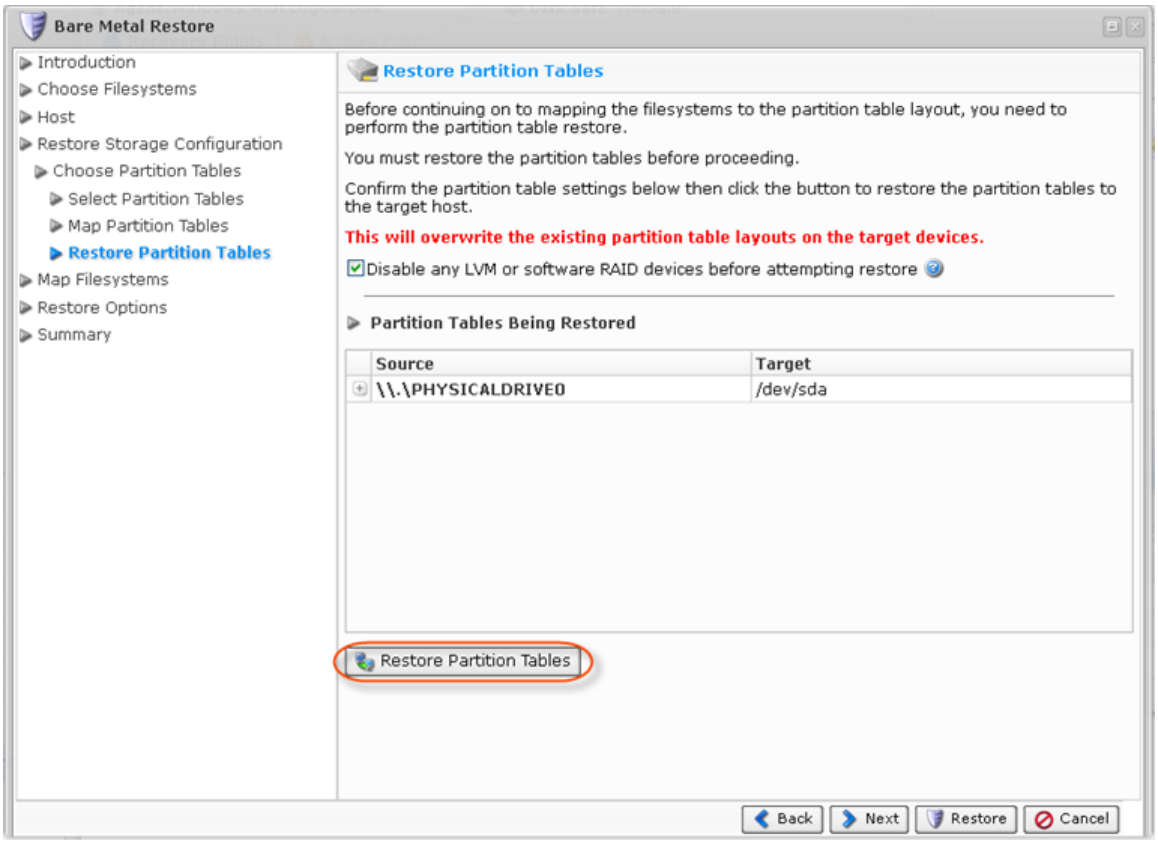
You are provided a table that allows you to map the chosen partition tables to physical disks on the target Agent. You can see as many lines in the table as the number of partition tables selected for restore. Each partition table must be mapped to a physical disk on the target Agent before proceeding.

After selecting the disks, click "Next" to proceed to the next page.



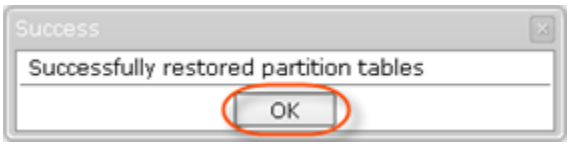
9.1.3 Restoring Partition Tables

Perform the partition table restore by clicking on the "Restore Partition Tables" button. Once confirmed, the Partition Table Restore will be initiated. A busy indicator will be displayed while the restore is in progress. Restoring the partition table should not take a lot of time because the partition table fits into one 512 byte sector.



> **Notice**
> Restored partition tables will overwrite the existing partition table layout on the target devices.

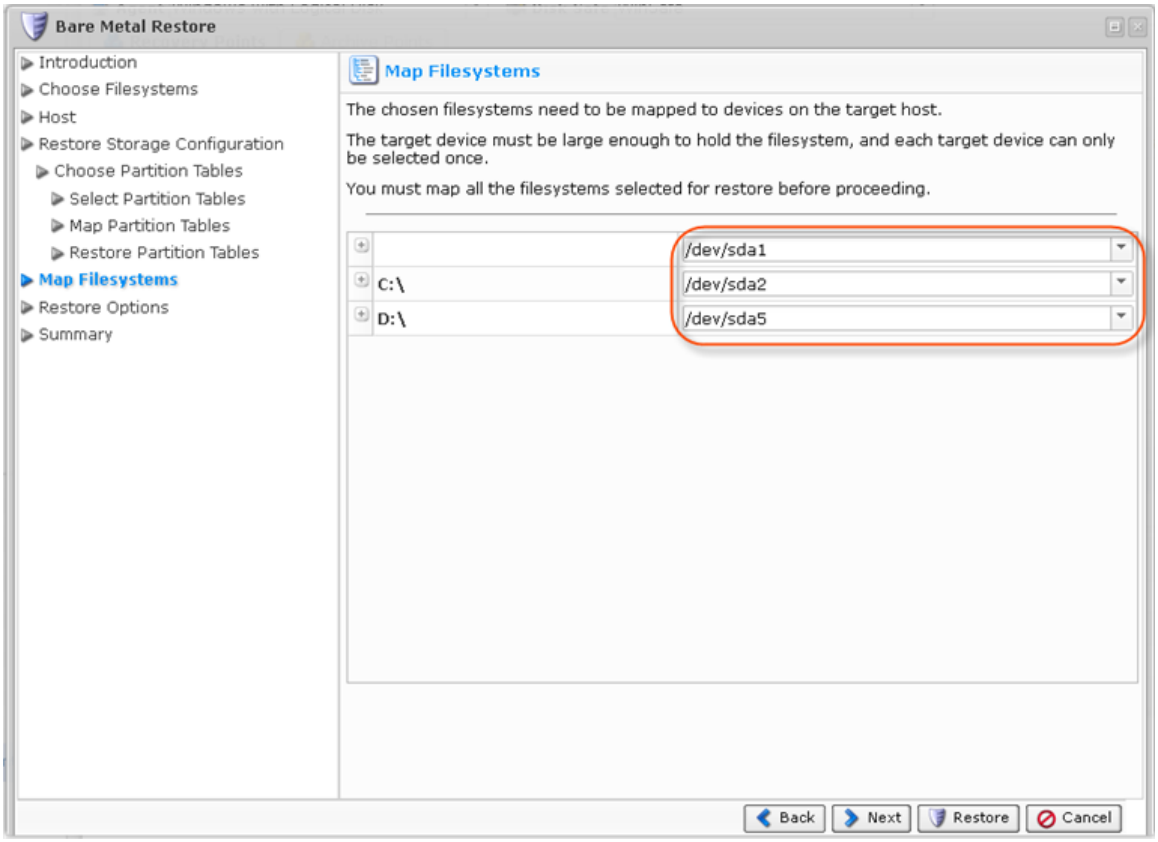
When the process is over, click "OK" in the notification pop-up.



Click "Next" to proceed to the following step.



10.On the "Map Filesystems" screen, map the chosen filesystems to devices on the target host.



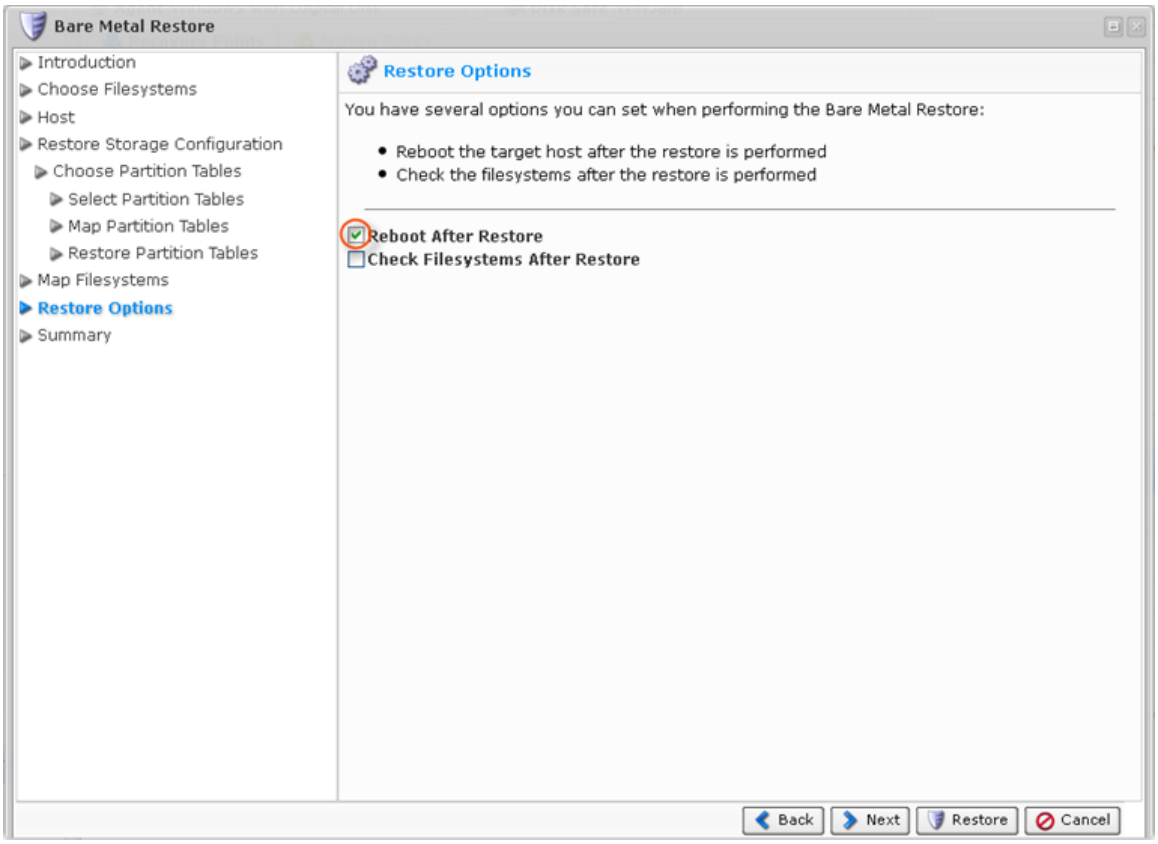
> **Note**
> The target device must be large enough to hold the filesystem, and each target device can only be selected once.

> **Note**
> You must select all of the filesystems for restore before proceeding.

Click "Next" to proceed to the following step.



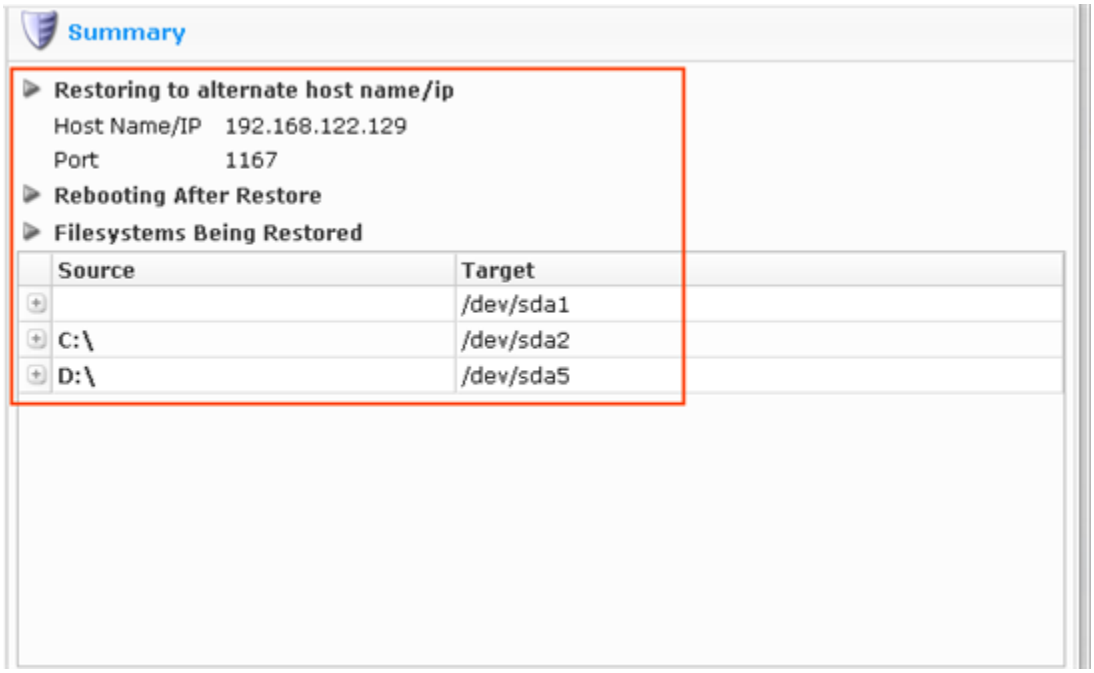
11. Then on the "Restore Options" screen, select the "Reboot After Restore" option.



Click "Next" to proceed to the following step.



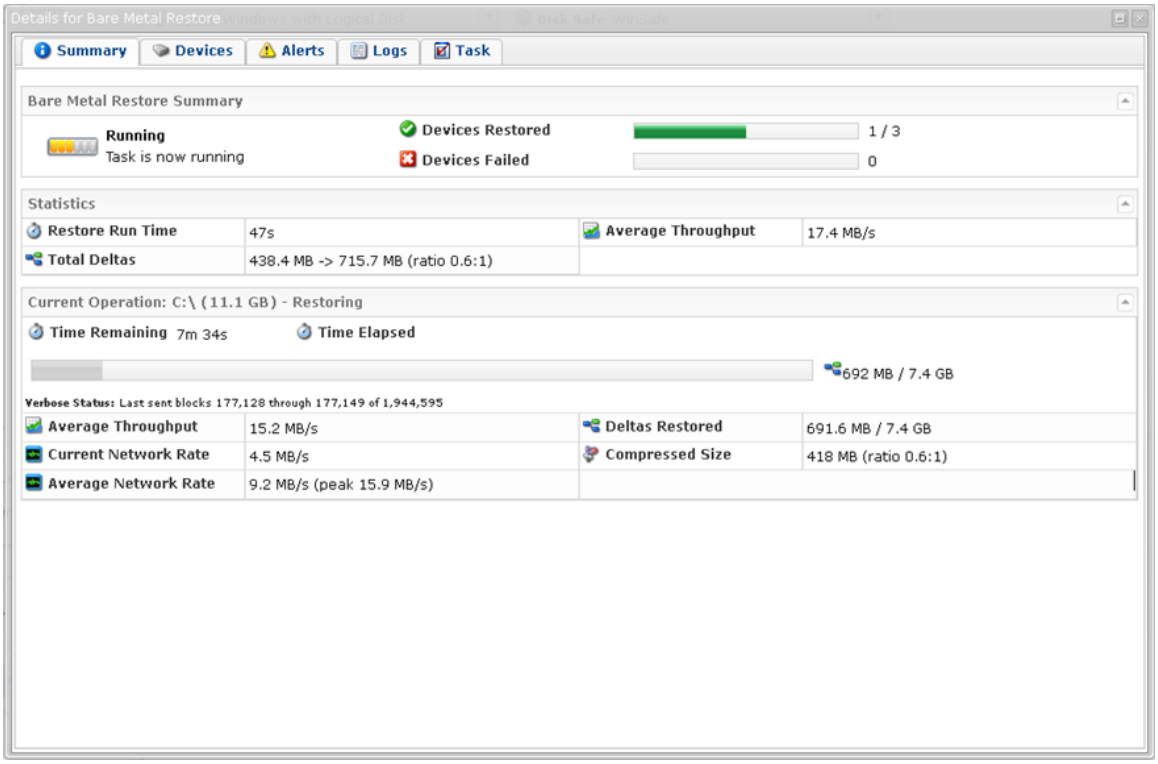
12. On the "Summary" page, you will need to confirm the selected Bare-Metal Restore options. Each selected filesystem is listed, along with the name of the target device it is being mapped to.



Click "Restore" to start the Bare-Metal Restore task.

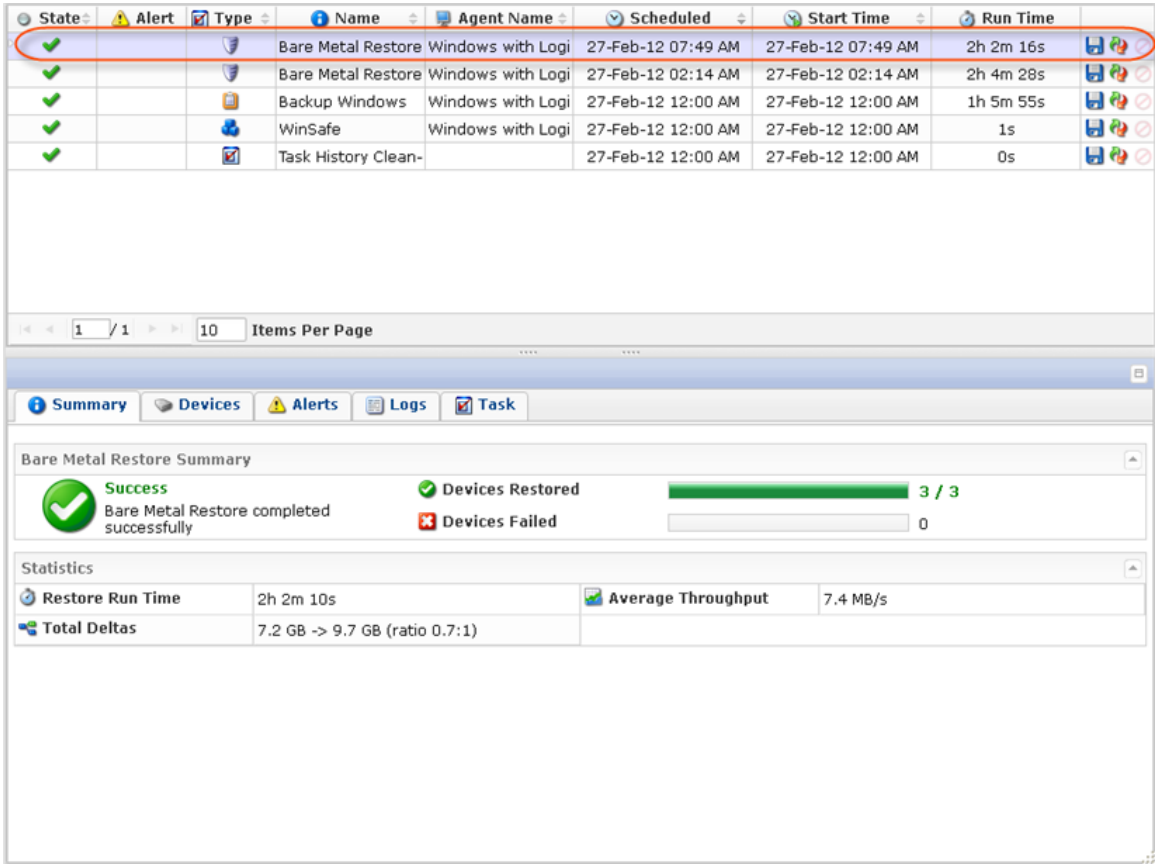


13. The "Details for Bare Metal Restore" window opens. Here, you can see all the details of Bare Metal Restore process.



14. The Restore process starts and can take awhile. You can go to the "Task History" screen to observe the task progress. See Accessing Task History.

The Task History page displays the State, Alert, Type, Progress percentage, and the Started and Run Time stamps of the Bare-Metal Restore process.



15. When the process is complete, you can reboot the server you just restored by pressing Ctrl-Alt-Del or by executing the reboot command in the root shell.

> **Notice**
> Make sure you eject the Disk from the CD-ROM drive so the server will boot from the hard Disk.

> **Note**
> If the Disk you used for your Bare-Metal Restore is larger than the disk you backed up previously, then the free space on the new disk will remain free. You can create a new partition in this space.

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3. Booting Windows

Once the system disk has been restored, boot Windows.

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4. Configuring Windows Logical Disks

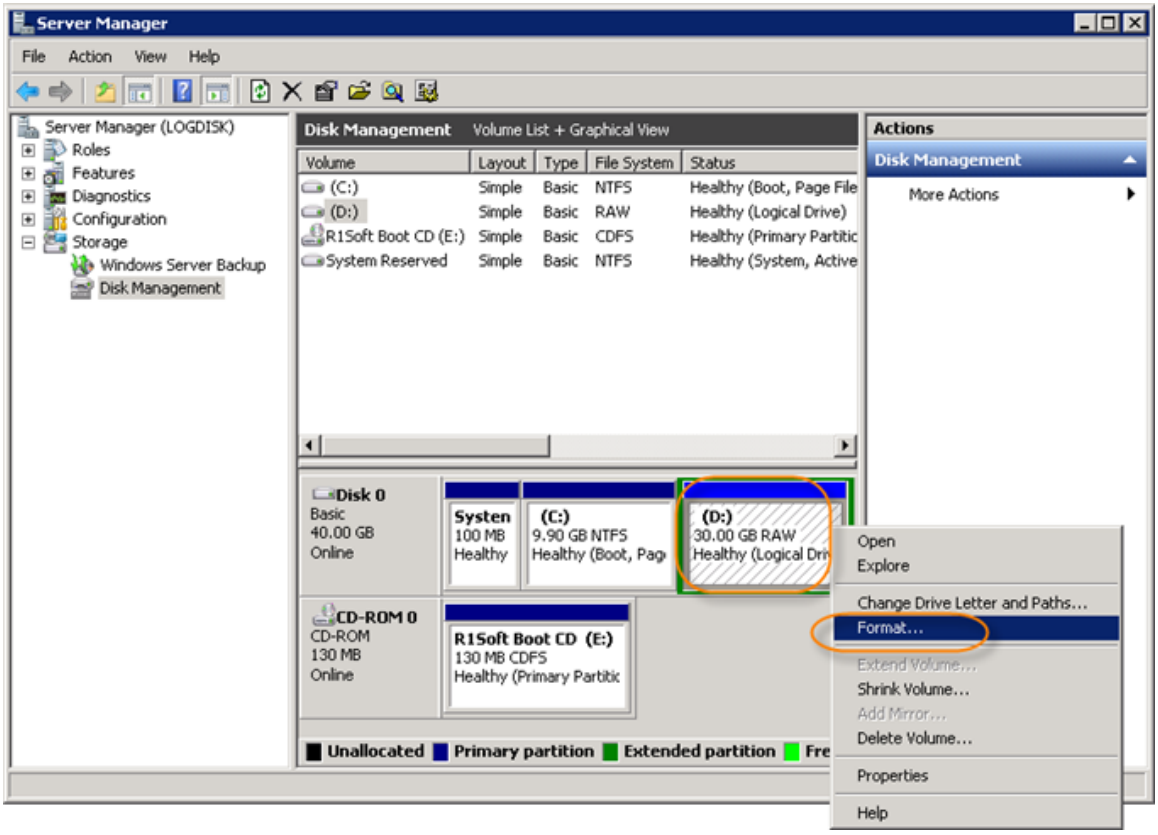
Use Windows Disk Manager to configure the necessary logical disks.

> **Reference**
> Disk Management is a system utility for managing hard disks and the volumes or partitions that they contain. Disk Management enables you to perform most disk-related tasks.

1. Run the Windows Disk Manager.

2. Create the necessary logical drives.

3. Format the created drives.



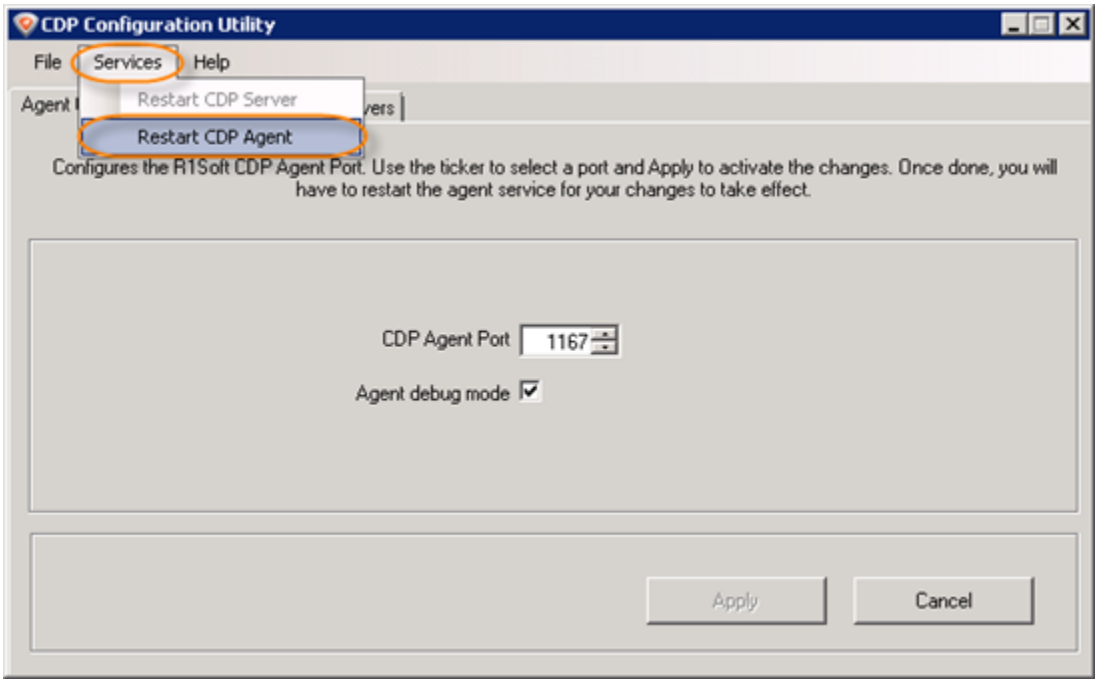
Find more information here:

- Disk Management in Windows XP
- Disk Management in Windows Server 2008 R2
- Disk Management in Windows 7
- Disk Management in Windows Server 2003

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5. Restarting CDP Agent

Restart the Agent. See Restarting CDP Agent.



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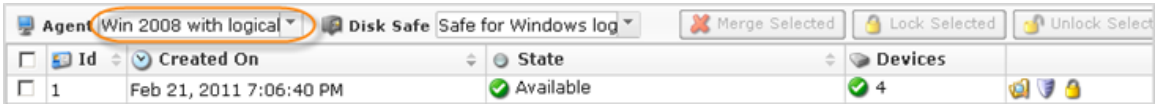
6. Restoring Logical Disk File Systems

Use CDP to restore logical disk filesystems.

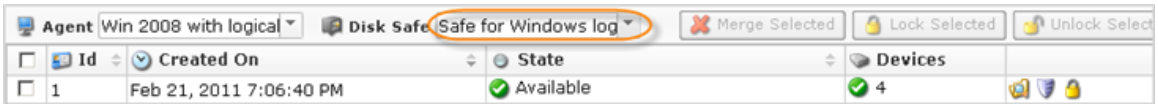
1. Click on "Recovery Points" in the Main Menu to open the "Recovery Points" screen.

Enterprise Edition	LiveCD Server, PXE Server
	

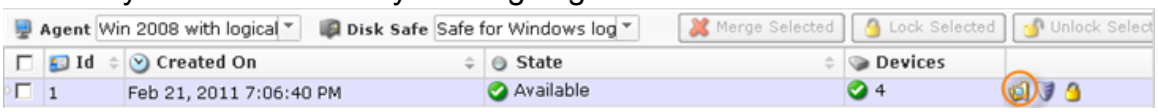
2. Select an Agent from the drop-down menu located on the "Recovery Points" list toolbar.



3. Select a Disk Safe from the drop-down menu located on the "Recovery Points" list toolbar.

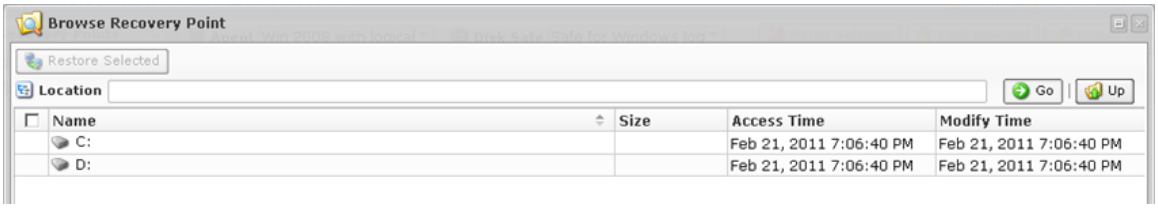


4. In the "Recovery Points" list, click on the "Browse" icon in the "Actions" column for the Recovery Point from which you are going to restore.



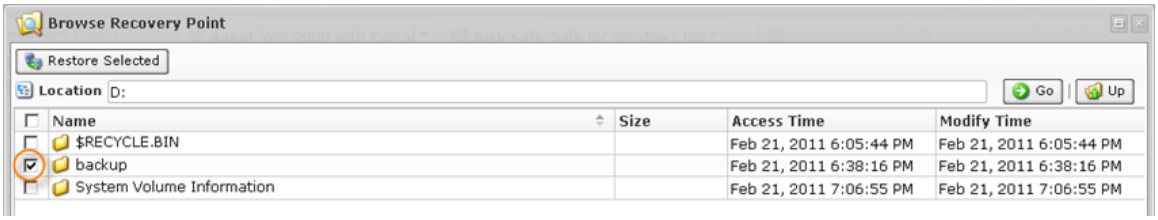
> **Tip**
> To find a Recovery Point, you can use the Basic and Advanced List Filters. See Customizing the Recovery Points List.

5. The "Browse Recovery Point" window opens.

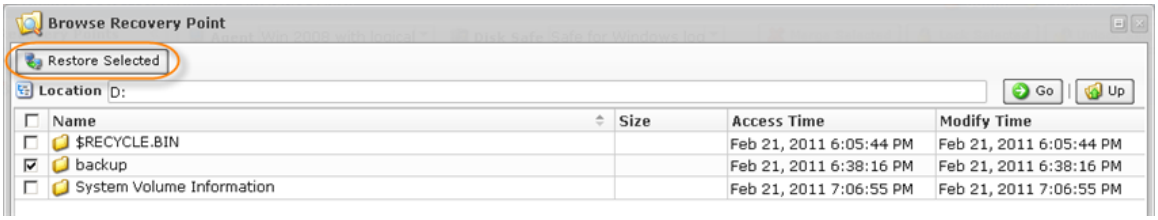


See also: Browsing Recovery Points.

6. Select the checkboxes next to the files and folders you want to restore.



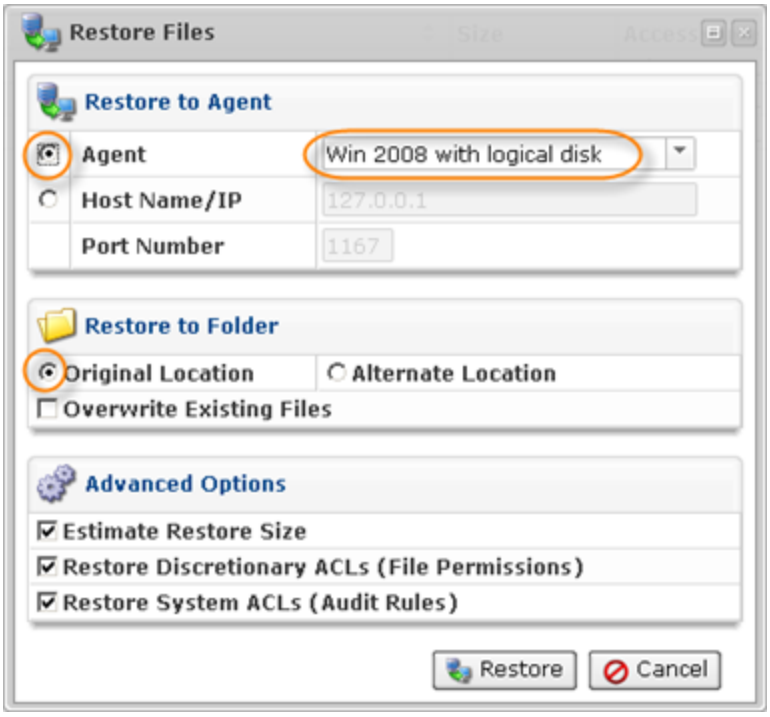
7. Once the files and folders are selected, click on "Restore Selected."



8. The "Restore Files" window opens.

9. Specify the following options:

- Restore to Agent - Select the Agent with the logical disks you have just created.
- Restore to Folder - In our example, we select "Original Location."



10. Click "Restore."



11. A notification window informs you that the Restore task has been scheduled. It means the Task has started. The "Reporting" screen displays the progress of the Task.

Click "OK" in the displayed window.



Tip
The Task results can be sent via email as a Report. See Reporting.

12. To view the Restore Task details, access the "Reporting" window. See Accessing Task History.

