

Dell Data Protection | Rapid Recovery Live Recovery

Recover from a system failure in minutes



Abstract

Organizations today need their applications—especially critical applications like Microsoft Exchange — to be up and running around the clock. When a server fails, you need it restored in minutes rather than hours, in order to minimize the impact to the business.

Unfortunately, legacy recovery techniques often require building a new server from scratch, with a process that can take hours — time during which users are unable to access mission-critical applications. Even modern imaging recovery techniques can still cause extended recovery time objectives (RTOs), since they require restoring the entire system — possibly terabytes of data — before booting.

Dell Data Protection | Rapid Recovery offers a higher standard for system and data protection. A Live Recovery feature offers near-zero RTOs by enabling users to access target servers during the recovery process — the data they need is restored

on demand, without needing to wait for a complete system restore, ensuring a seamless recovery.

This technical brief illustrates the power of Live Recovery by showing how you can recover from a Microsoft Exchange Server failure in just a few simple steps: within minutes of an Exchange Server loss, you can have users sending, receiving and accessing emails — even if a very large amount of mailbox and message data is being restored.

Introduction

What is Live Recovery?

Live Recovery is the fastest way to recover your data, enabling near-zero downtime. Data and applications on non-system volumes are instantly available and accessible during recovery. Live Recovery instantly runs or resumes physical or virtual machines on any virtual platform (including VMware vSphere ESX(i), Microsoft Hyper-V, Citrix XenServer or Virtual Box) directly from the backup file. When a non-system volume is

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being restored, Rapid Recovery presents the volume metadata to the operating system instantly and makes data available on demand.

For example, for most businesses, Microsoft Exchange is an essential and highly visible application that must be recovered in minutes to avoid negative impacts on productivity and revenue. However, Exchange servers can grow to extremely large sizes, causing difficulty in meeting RTOs when recovering with traditional methods. With Live Recovery, you can restore the volume, database and Exchange services in minutes, enabling users to immediately continue business operations.

How Live Recovery works

You initiate the restoration of a non-system volume from the Rapid Recovery core console. The Rapid Snap for Applications agent on the target machine begins to quickly restore the metadata (directory structure, security descriptors, NTFS file attributes, free space map, and so on) of the target volume. Once this metadata has been restored, the volume and its contents become available to the system.

The agent then begins restoring data blocks from the Rapid Recovery core server and writing the blocks to the target volume. Requests for data are prioritized, and blocks are immediately restored and delivered to the requesting program or system. The requestor is unaware that the data was just recovered, ensuring a seamless recovery. The agent continues restoring all of the data in the background while prioritizing data requests as they are received until the restore is complete.

Restoring Microsoft Exchange in minutes with Live Recovery

The sample environment

To illustrate how easy it is to use Rapid Recovery Live Recovery to quickly restore data, let's walk through an example. Suppose your organization has a Windows 2012 Server that is running

Microsoft Exchange 2013. The server operating system (OS) is installed on the C: volume, the (large) Exchange database is on the E: volume and the logs are located on the G: volume.

To recover this server using legacy methods, you would need to provision a new server, recover the OS, install applications and recover the data. Using modern imaging technology, you need to recover the entire disks or volumes either individually or as a whole. While this procedure would be much faster than the legacy method, meeting RTOs would likely still be difficult when dealing with the large amounts of data typically stored in Exchange databases.

Rapid Recovery resolves these issues by leveraging modern image recovery methods for the operating system and using Live Recovery for the data volumes. Therefore, you have been using Rapid Recovery to protect this critical machine with an incremental backup every 20 minutes. In our example, the Exchange database volume is corrupted, and you need to restore the volume, database and Exchange services.

Step 1: Select the machine and recovery point.

Because the Rapid Recovery interface is so intuitive, recovering data is easy, even for first-time users. To begin the recovery, select the Exchange Server you need to recover data for (Exchange2k13 in the example shown in Figure 1), and click the **Recovery Points** tab to display the available recovery points. Simply choose the one you want and then click **Restore** to begin the recovery.

A recovery wizard will guide you through the rest of the process. You will be prompted to select the recovery destination, which can be any protected machine or any other machine through the use of bootable media.

The latter option, using bootable media, is used when doing a bare

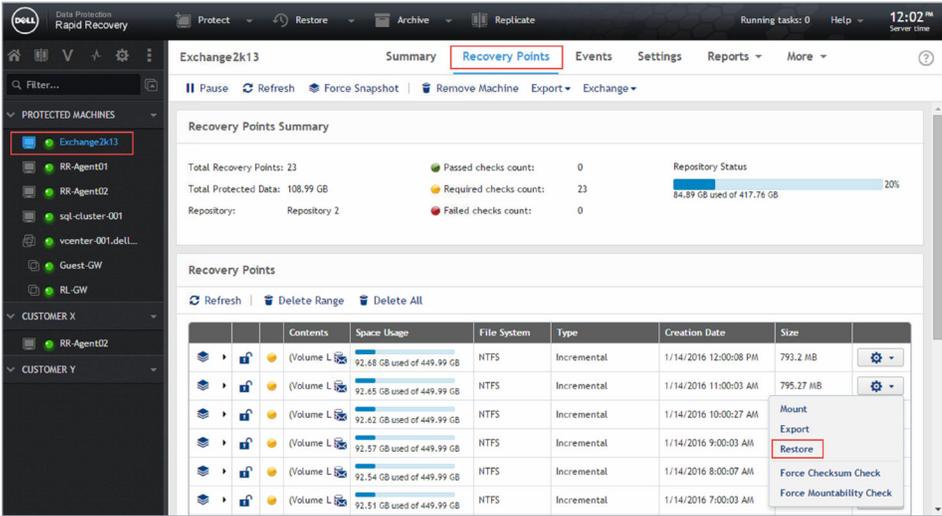


Figure 1. Choosing the server and a recovery point

metal recovery (BMR) to a new physical or virtual machine. Rapid Recovery BMR enables you to recover Windows and Linux machines to any x86 based hardware, provided you have the drivers for the operating system. BMR restores the full software configuration for a specific system; it includes the term "bare metal" because the restore operation not only recovers the data from the server, but also reformats the hard drive and reinstalls the operating system and all software applications.

For our example, let's use BMR to recover the Exchange server system drive to a brand new machine.

Step 2: Specify which volumes to recover and where they will be stored. Next, select the volumes that you want to recover and specify where they will be stored. In the example shown in Figure 2, we have selected the database drives E:\ and F:\. Click **Show advanced options** and then select **Live Recovery** to restore the database drives using Live Recovery.

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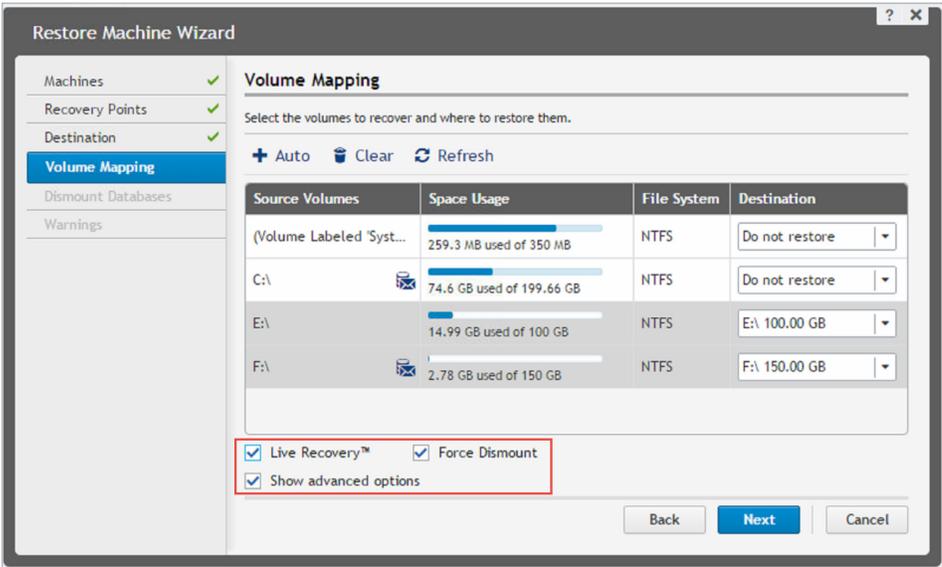


Figure 2. Drive selection



By enabling near-zero RTOs, Rapid Recovery Live Recovery delivers immediate and measurable results for your organization.

The system volume cannot be recovered using Live Recovery, so select the remaining volumes and configure the destination volumes for them. If you are unsure about where to map the destination volumes, choose the **Auto** option and Rapid Recovery will automatically map the drives for you.

Step 3: Start the Live Recovery process. Click **Finish** to start the Live Recovery process for the selected volumes. Rapid Recovery will quickly restore the metadata and present the volumes to the operating system, so the Exchange Server becomes operational. Users can immediately send and receive emails, work with their contacts and calendars, and so on, since their queries are sent to the Live Recovery driver for immediate recovery of the necessary data. In the background, the database recovery continues until the entire volumes are recovered.

Conclusion

You need to be able to restore critical data and applications like Microsoft Exchange in minutes, not hours. By enabling near-zero RTOs, Rapid Recovery Live Recovery delivers immediate and measurable results for your organization. For more information about Rapid Recovery, please use the following resources:

- **More useful how-to guides like this:** Resources tab at software.dell.com/products/rapid-recovery.
- **Rapid Recovery documentation, including user guides:** support.software.dell.com/release-notes-product-select
- **Rapid Recovery customer forum:** en.community.dell.com/techcenter/dataprotection/f/4816.aspx
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