

Backup and Recovery



Protect your plant data with the Backup and Recovery solution.

- Best-in-class offering
- Easy-to-use Backup and Recovery solution
- Data protection and disaster recovery in a single solution
- Scalable architecture and functionality
- Centralized and remote management

Introduction

Your plant produces many things, including the data required to operate, manage and document your plant processes. How do you go about protecting this data and ensuring a loss of data will not disrupt production? Backup and Recovery gives you the ability to easily back up your

DeltaV™ system, AMS Suite (AMS Device Manager and AMS Machinery Manager) and other critical files, folders and databases, all with the security of knowing you can recover this data as needed.

You have many things to worry about when operating your plant and the integrity of your plant data should not be one of them. With Backup and Recovery, you won't have to; you will be able to spend your time focusing on the issues that are important to your plant production. Backup and Recovery is easy to use and offers you one solution for data protection and disaster recovery, all with a single, user-friendly interface. If disaster strikes, you don't have to panic because you can recover quickly and easily as well.

Based on the industry-leading Acronis® Backup & Recovery™ software, Backup and Recovery is scalable from the smallest system with a single PC to the largest, multiple system facility with hundreds of PCs.



Benefits

Best-in-class offering. Backup and Recovery is based on the Acronis Backup & Recovery software. Emerson has partnered with Acronis to deliver a best-in-class offering for standalone and advanced Backup and Recovery for the DeltaV system and AMS Suite. Acronis is a leading provider of easy-to-use disaster recovery and data protection solutions for physical, virtual and cloud environments. With Backup and Recovery, you can protect your digital information, maintain business continuity and reduce downtime.

Easy-to-use Backup and Recovery solution.

Backup and Recovery is easy to install, use and manage. Backup plan templates are provided for the DeltaV system and AMS Suite so you can be assured that all the data required to back up these systems is known and easily accessible. The backup plan templates may also be modified to add your specific files, folders or databases that require backup. With the Backup and Recovery advanced editions, the backup plan templates may be imported directly into the application, modified, exported and imported into other PCs running the advanced edition.

Data protection and disaster recovery in a single solution.

The Backup and Recovery advanced edition addresses both your backup and disaster recovery needs in a single application. Many other backup solutions require separate applications for backup and disaster recovery, unnecessarily complicating the solution and doubling the effort to install, use and manage the solution. By providing data and full image backup in a single application, you can protect your operating system, applications and files from everyday occurrences such as individual file loss all the way up to entire system failure due to natural disaster, human error or theft. By using Acronis' easy-to-use, patented disk imaging technology, servers and workstations can be recovered in minutes, not hours or days helping to keep your plant up and running.

Scalable architecture and functionality. Backup and Recovery will meet all of your data backup and disaster recovery needs. From the smallest system to the largest, multiple system facility, Backup and Recovery can scale from one to hundreds of PCs. And once you have installed Backup and Recovery in your plant, it is easy to add new workstations, servers or complete systems to your existing Backup and Recovery system architecture. Regardless of your system size, Backup and Recovery will grow with you with its integrated, easy-to-use software.

In addition to data backup and recovery, optional functionality is available to eliminate the dependency on a specific type of PC platform or PC hardware to recover your data, giving you the ability to replace a failed workstation or server with a current model. The Backup and Recovery advanced edition also includes an option to minimize data storage space and enhance backup performance by only storing the same piece of data one time.

Centralized and remote management. Backup and Recovery includes standalone and advanced editions to meet your specific data backup and recovery needs.

Choose the advanced edition if you need to back up and manage multiple servers and workstations from a central location or from one or more remote locations, or if you want to back up, search for and recover individual files, folders or single database items. With a central management server, you can simplify and control backup and recovery operations for hundreds of PCs.

Product Description

Backup and Recovery is an easy-to-use, easy-to-manage data backup and disaster recovery solution for your DeltaV, AMS Suite and other critical files, folders and databases. Sold and supported by Emerson, Backup and Recovery is based on the industry leading Acronis Backup & Recovery software. Backup and Recovery includes backup plan templates for the DeltaV system and the AMS Suite. The backup plan templates include all the data files, folders and databases required to back up and recover DeltaV workstations and the AMS Suite.

Backup and Recovery Editions

Backup and Recovery is available in two editions, **standalone** and **advanced**. Choose the **standalone edition** for use on systems where centralized software deployment and management is not required and/or where the flexibility to back up individual files and folders is not necessary. The standalone edition software is installed separately on each server and workstation of interest and the backup data is managed locally. The backup tasks configured using the standalone edition must back up the entire disk, and a full backup is performed each time the backup task is run. However, during the recovery process, individual files, folders or databases may be recovered in addition to the entire disk. In the standalone edition, backup plans may be manually created via the user interface.

The standalone edition is well suited for smaller systems or systems with only a few servers or workstations that require backup, although the standalone edition may be used to back up and recover any sized system.

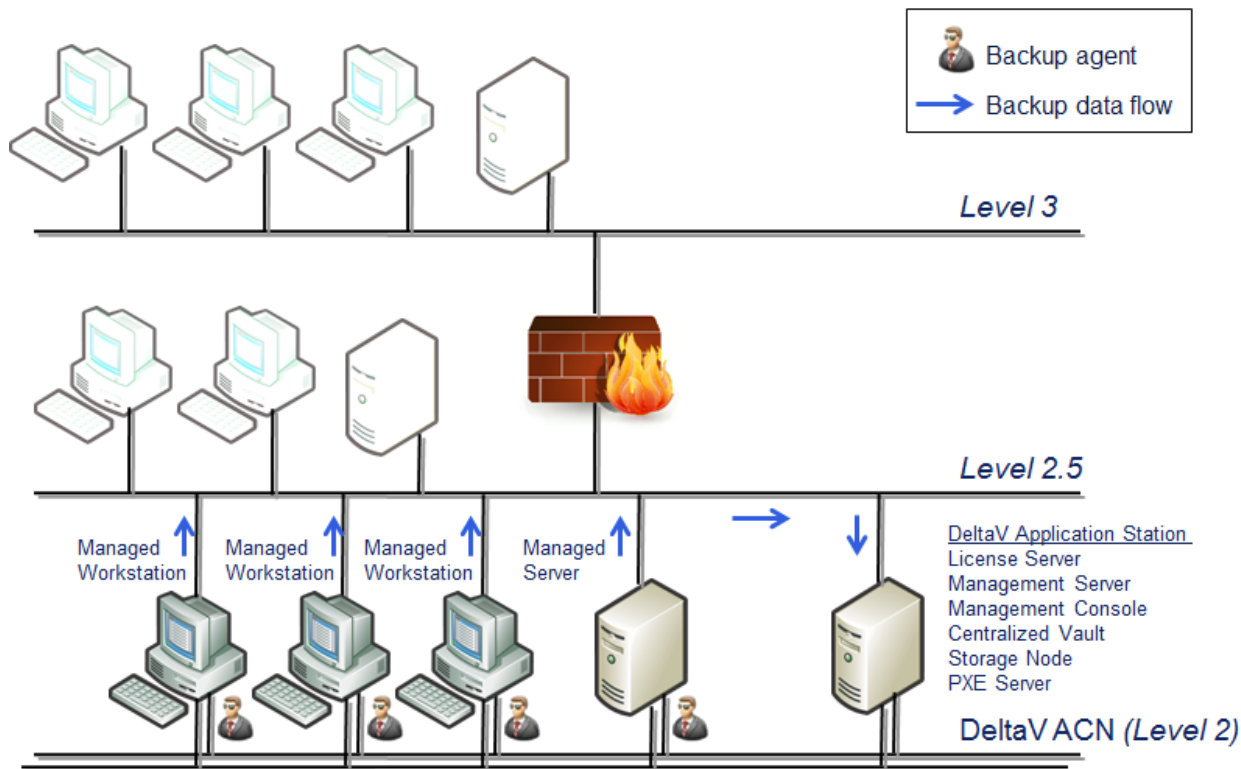


Figure 1. Backup and Recovery advanced edition: Management Server located on a DeltaV Application Station.

Choose the **advanced edition** for use on systems where centralized software deployment and management is desired or required, where the flexibility to back up individual files and folders is needed, when a full image backup is required or anytime these features provide added value. The advanced edition software may be deployed from a central location, easing the software installation process. With the advanced edition, each server and workstation being backed up may be managed from a central location and/or from any number of remote locations. The advanced edition also has the flexibility to create backup tasks where individual files, folders, databases may be backed up and recovered. In the advanced edition, the backup plan templates can be imported into the application via the user interface, avoiding the need to manually create them. In addition, once imported, the backup plan templates may be modified and exported for use on other systems.

The advanced edition is well suited for larger systems or systems with a large number of servers or workstations that require backup or on any system where centralized software deployment and management and/or flexible backup and recovery capability is valued.

Backup and Recovery includes two optional features to enhance your backup and recovery functionality. The first optional feature is **Universal Restore™**. Universal Restore allows you to recover all your data and applications onto a different make or model workstation or server than the one that was originally backed up. Universal Restore captures all your system parameters, so there's no need to reconfigure anything. Simply insert the required device drivers during the recovery process. Universal Restore will give you peace of mind knowing that data you back up on today's PC hardware can be recovered on tomorrow's PC hardware. Universal Restore is available for both the standalone and advanced editions.

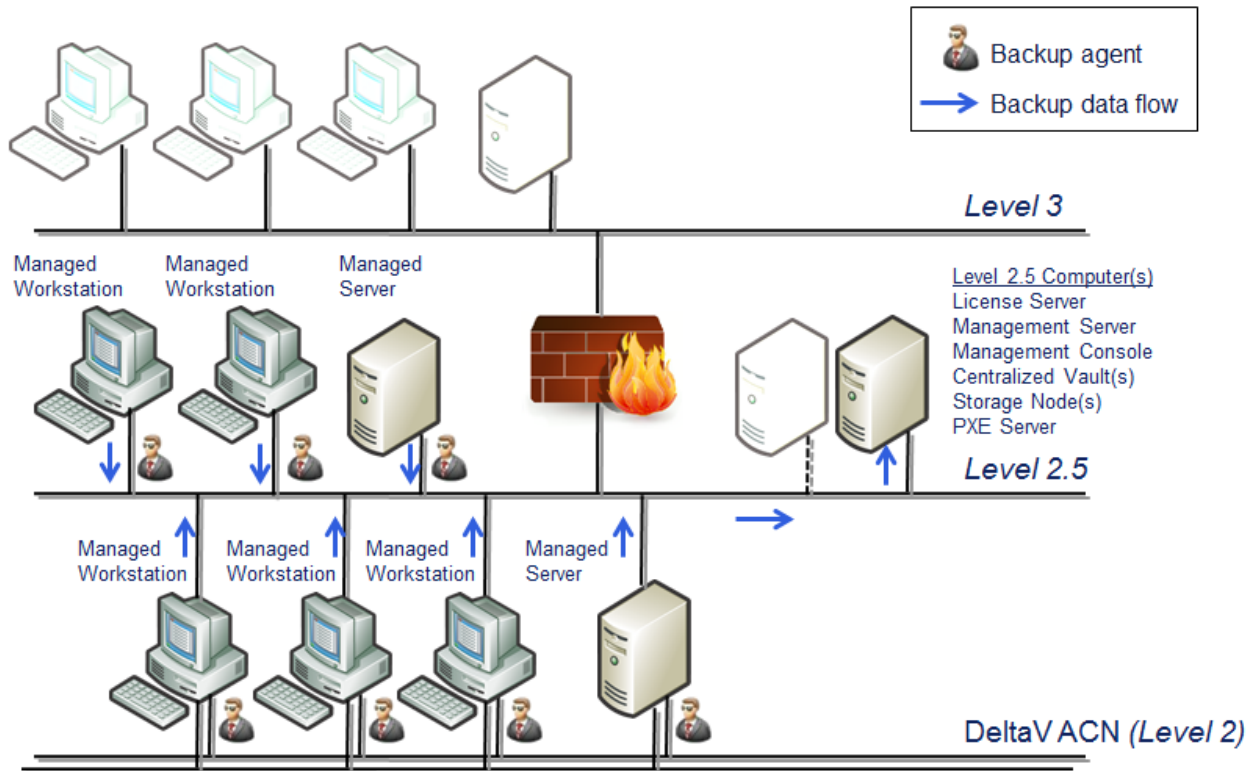


Figure 2. Backup and Recovery advanced edition: Management Server located on a Level 2.5 data backup network.

When backing up DeltaV system workstations and servers, you may find a lot of duplicated data; for example, backing up multiple Operator Stations. Over time, there might be huge amounts of duplicate files which can take up an enormous amount of storage space, not to mention the network bandwidth required to transfer all this duplicate data. **Deduplication** is another optional feature of Backup and Recovery. Deduplication allows you to store the same data only one time, regardless of how often the data is backed up across your workstations and servers. Deduplication may be applied at the workstation or server being backed up, at the storage node, or both. Apply Deduplication at the PC being backed up to avoid unnecessary network traffic; apply Deduplication at the storage node to increase the speed of the backup task. Deduplication is available only for the advanced edition.

The standalone and advanced editions provide different levels of backup and recovery functionality to meet your specific data backup and recovery needs. For a list of the features of the standalone and advanced editions, see Table 1.

The standalone and advanced editions are further defined by the operating system where the backup agent is installed. For a list of supported operating system versions, see the DeltaV System Version and Operating System Compatibility table shown below.

Backup and Recovery Architecture

Backup and Recovery includes several components: a License Server, a Management Console, and the backup agents that run on the workstations and servers being backed up. In addition, the advanced edition includes a Management Server, a PXE Server, centralized vault(s), and storage node(s). The License Server manages the Backup and Recovery licenses for both the standalone and advanced editions. The Management Console is the application user interface. The backup agents are installed on the workstations and servers and execute the backup tasks. The Management Server is used in the advanced edition to manage the backup agents and the data storage. The PXE Server is used in data recovery to boot PCs through the network. The centralized vault and storage node are where the backup data files are stored.

In the Backup and Recovery standalone edition, the backup agents are installed and managed locally. A Management Console can be installed with each backup agent to manage the agent and the backup data storage for a single PC. In the standalone edition, the Management Console can only be used with the local backup agent. However, a single License Server may be used to manage all of the standalone edition licenses. The License Server can be installed on the same PC as the backup agent or the License Server can be installed on a separate PC that has network connectivity to each PC being backed up.

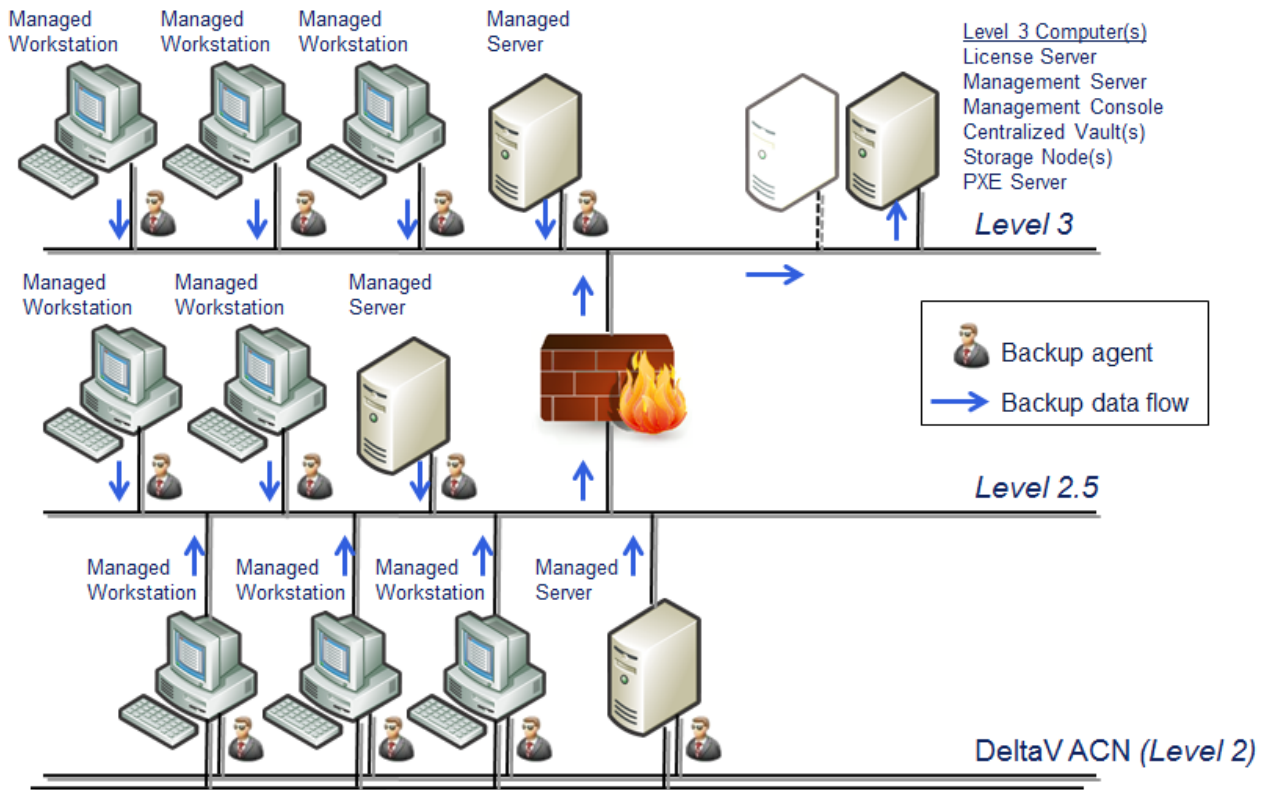


Figure 3. Backup and Recovery advanced edition: Management Server located on a Level 3 plant network..

With the Backup and Recovery advanced edition, there are three supported architecture options available; the options are defined by the location of the Management Server. In the first option, the Management Server is installed on a DeltaV Application Station and used to back up workstations and servers within the same DeltaV system. In this option, all of the Backup and Recovery components are installed on the Management Server PC. The DeltaV workstations are connected to the Management Server using a separate “backup network” created by configuring the third network interface card (NIC) in the DeltaV workstations and servers. This option may be desirable for small systems where only a few DeltaV workstations and/or the AMS Suite require backup and a dedicated Management Server is not required. See Figure 1.

In the second option, the Management Server is installed on a non-DeltaV PC located on the network level above the DeltaV area control network (“level 2.5”). The Management Server is located within the DeltaV system firewall and used to back up workstations and servers within a single DeltaV system or possibly multiple DeltaV systems that share the same level 2.5 network and reside within the same system firewall. In this option, all of the Backup and Recovery components may be installed on the Management Server PC or for larger systems; there may be the need to install the centralized vault(s) or storage node(s) on a separate PC or network storage device. The DeltaV workstations and servers are connected to the Management Server via the level 2.5 network created by configuring the third NIC in the DeltaV workstations and servers. This option may be desirable for larger systems where several DeltaV workstations, AMS Suite, and/or third-party workstations and servers on level 2.5 require backup. See Figure 2.

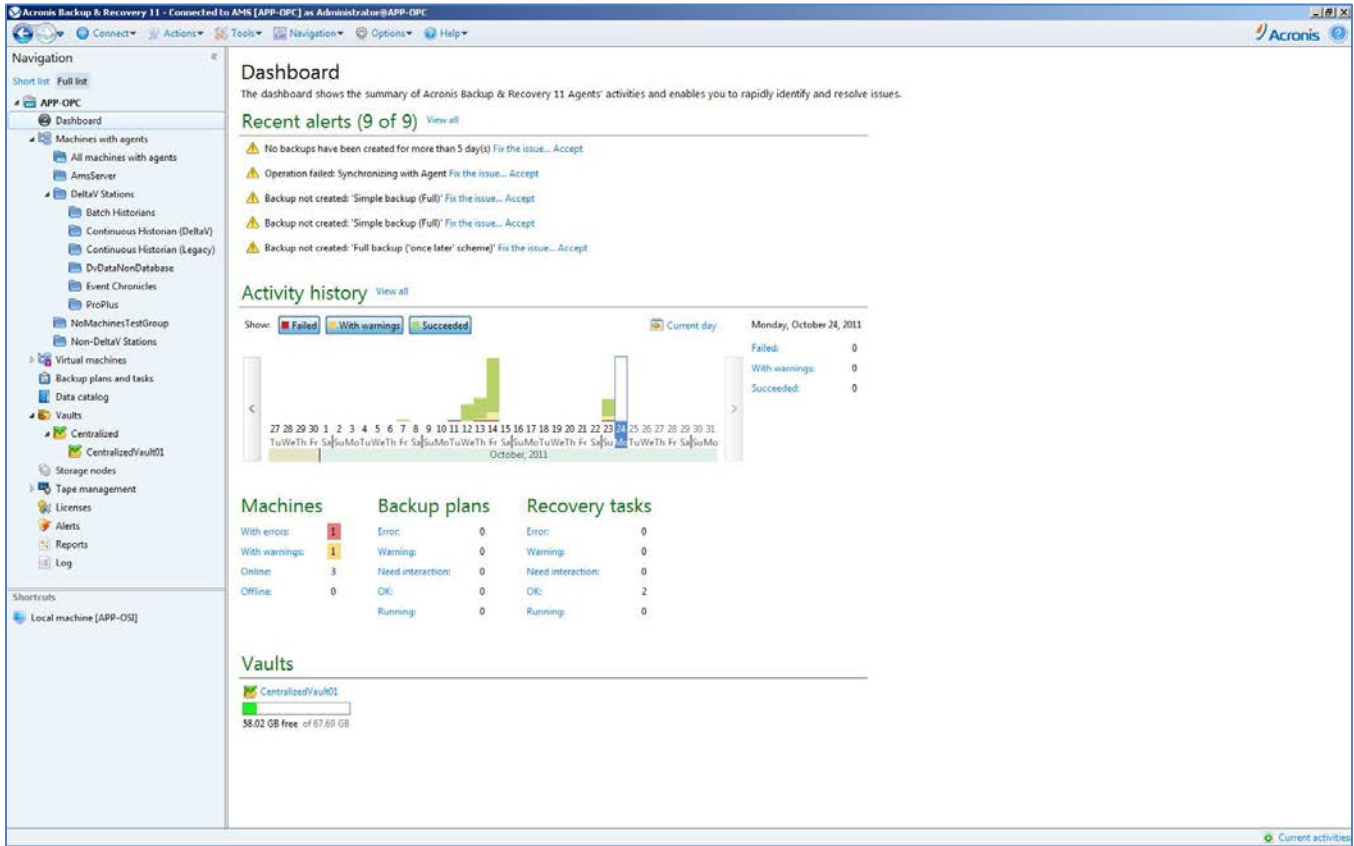


Figure 4. Backup and Recovery user interface Dashboard view.

In the third option, the Management Server is installed on a non-DeltaV PC located on the plant LAN (“level 3”). The Management Server is located outside the DeltaV system firewall and used to back up workstations and servers within a single DeltaV system or multiple DeltaV systems that are connected to the same level 3 network and/or AMS Suite and/or non-DeltaV workstations and servers on the level 2.5 and level 3 networks. In this option, all of the Backup and Recovery components may be installed on the Management Server PC or for larger systems; there may be the need to install the centralized vault(s) and storage node(s) on a separate PC or network storage device. The DeltaV workstations and servers are connected to the Management Server through the system firewall by configuring the third NIC in the DeltaV workstations and servers. This option may be desirable for large systems where one or more DeltaV systems, AMS Suite, and/or third-party workstations and servers on level 2.5 and/or level 3 require backup. See Figure 3.

In the advanced edition, a single License Server can be used to manage the licensing of all the backup agents. The License Server can be installed on the same PC as the Management Server or the License Server can be installed on a separate PC that has network connectivity to each PC being backed up.

In the advanced edition, a single Management Console can be used to manage all the backup agents, centralized vaults, and storage nodes in your system, providing centralized and remote management of your backup data. However, the Management Console can be installed on any number of PCs that have network connectivity to the Management Server and/or the backup agents. See Figure 4.

Backup and Recovery Licensing

Each backup agent requires a Backup and Recovery license. The license required is based on the desired edition of Backup and Recovery (standalone or advanced) and the operating system in use on the PC being backed up. In addition, the optional Universal Restore and Deduplication features are licensed per agent. The other Backup and Recovery components do not require a license. Thus, to properly license Backup and Recovery, you need to select the appropriate edition of Backup and Recovery (standalone or advanced), determine the number of workstations and server class PCs you want to back up, and determine which workstations and servers require Universal Restore and/or Deduplication. Standalone and advanced edition agents and agents with and without the optional features may be used in the same system and managed by a single License Server, as needed.

Key Feature	Standalone Workstation	Standalone Server	Advanced Workstation	Advanced Server
Backup Features				
Backup of Running System	Yes	Yes	Yes	Yes
Disk / Partition Backup	Yes	Yes	Yes	Yes
Files and Folders Backup	No	No	Yes	Yes
Image Backup	Yes	Yes	Yes	Yes
Backup Task Scheduling	Limited	Limited	Yes	Yes
Deduplication	No	No	Optional	Optional
Centralized Storage	No	No	Yes	Yes
Supported Storage:				
- Local Drives	Yes	Yes	Yes	Yes
- Network Shares	Yes	Yes	Yes	Yes
- External Storage (e.g. USB, Firewire)	Yes	Yes	Yes	Yes
- Dual Destination	No	No	Yes	Yes
- Local Tape Drives	Yes	Yes	Yes	Yes
- Tape Libraries	No	No	Yes	Yes
Restore Features				
Bootable Recovery Media	Yes	Yes	Yes	Yes
Restore Individual Files / Folders	No	Yes	Yes	Yes
Remote Restore	No	No	Yes	Yes
Bare Metal Restore	Yes	Yes	Yes	Yes
Universal Restore	Optional	Optional	Optional	Optional
User Interface Features				
Local Management Console	Yes	Yes	Yes	Yes
Centralized and Remote Management Console	No	No	Yes	Yes
Command Line Interface	Limited	Limited	Yes	Yes
Backup Plan Templates	No	No	Yes	Yes
Backup Catalog and Search	No	No	Yes	Yes
Security Features				
Backup Encryption	No	No	Yes	Yes
Encrypted Network Communications	No	No	Yes	Yes
User Security Groups for Remote Access and Management	No	No	Yes	Yes

Table 1. Backup and Recovery editions and features.

Ordering Information

Description	Model Number
Backup and Recovery, Standalone Workstation	VF1021R0
Backup and Recovery, Standalone Workstation with Universal Restore	VF1021R1
Backup and Recovery, Standalone Server	VF1022R0
Backup and Recovery, Standalone Server with Universal Restore	VF1022R1
Backup and Recovery, Advanced Workstation	VF1023R0D0
Backup and Recovery, Advanced Workstation with Universal Restore	VF1023R1D0
Backup and Recovery, Advanced Workstation with Universal Restore and Deduplication	VF1023R1D1
Backup and Recovery, Advanced Server	VF1024R0D0
Backup and Recovery, Advanced Server with Universal Restore	VF1024R1D0
Backup and Recovery, Advanced Server with Universal Restore and Deduplication	VF1024R1D1

DeltaV System Version and Operating System Compatibility

Backup and Recovery v1.1	DeltaV v10.3.1		DeltaV V11.3.1		Non-DeltaV Install	
	Win XP	Server 2003	Win 7	Server 2008	Win XP Win 7	Server 2003 Server 2008
Standalone Workstation	YES	NO	YES	NO	YES	NO
Standalone Server	NO	YES	NO	YES	NO	YES
Advanced Workstation	YES	NO	YES	NO	YES	NO
Advanced Server	NO	YES	NO	YES	NO	YES

Note: The backup agents and Management Server (advanced edition only) require the Microsoft Windows XP Professional SP3, Windows 7 Professional (32-bit), Windows Server 2003 SP2 (32-bit) or Windows Server 2008 SP2 (32-bit) Operating Systems.

Management Server Requirements

Software. See the DeltaV System Version and Operating System Compatibility chart for the operating system requirements for using Backup and Recovery on DeltaV and non-DeltaV PCs.

Hardware. A Dell R710 server with the following specifications is recommended for installing the Backup and Recovery advanced edition Management Server on a DeltaV or non-DeltaV PC.

CPU: Intel Xeon, 2.4 GHz (minimum)
RAM: 4 GB (minimum), 1333MHz UDIMM
Hard disk drive: 6 x 600 GB 15K RPM SCSI, RAID 10

Related Products

- **DeltaV System.**
- **AMS Suite.**

Prerequisites

- Backup and Recovery is available for use with DeltaV v10.3.1 and DeltaV v11.3.1 systems.
- A DeltaV Application Station if installing the Management Server in a DeltaV system.
- A Dell R710 server is recommended for use as the Management Server PC.
- Backup and Recovery server may require additional storage for the backup data. The additional storage is provided by others.

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North America, Latin America: +1 800.833.8314 or +1 512.832.3774

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