

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 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. The backup plan templates may be imported directly into the application, modified, exported and imported into other PCs running Backup and Recovery.

Data protection and disaster recovery in a single solution.

Backup and Recovery 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. Backup and Recovery 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 the ability to back up and manage multiple servers and workstations from a central location and from this same central location to deploy the backup agent software to the servers and workstations that require backup. 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 enterprise class 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 includes many standard features that you would expect in a best in class data backup and recovery solution. Centralized software deployment and management, flexible data backup options to allow full or incremental backups, the granularity to backup individual files and folders, and a full image backup are just a few of the features available. The benefits of Backup and Recovery are equally numerous. Backup and Recovery may be deployed from a central location, easing the software installation process. The data being backed up from each server and workstation may be managed from a central location and/or from any number of remote locations, and any missing or corrupted data can be restored from the same central or remote locations, easing the backup management process. The backup plan templates can be imported into the application via the user interface, and once imported, the backup plan templates may be modified and exported for use on other systems, easing the backup configuration process.

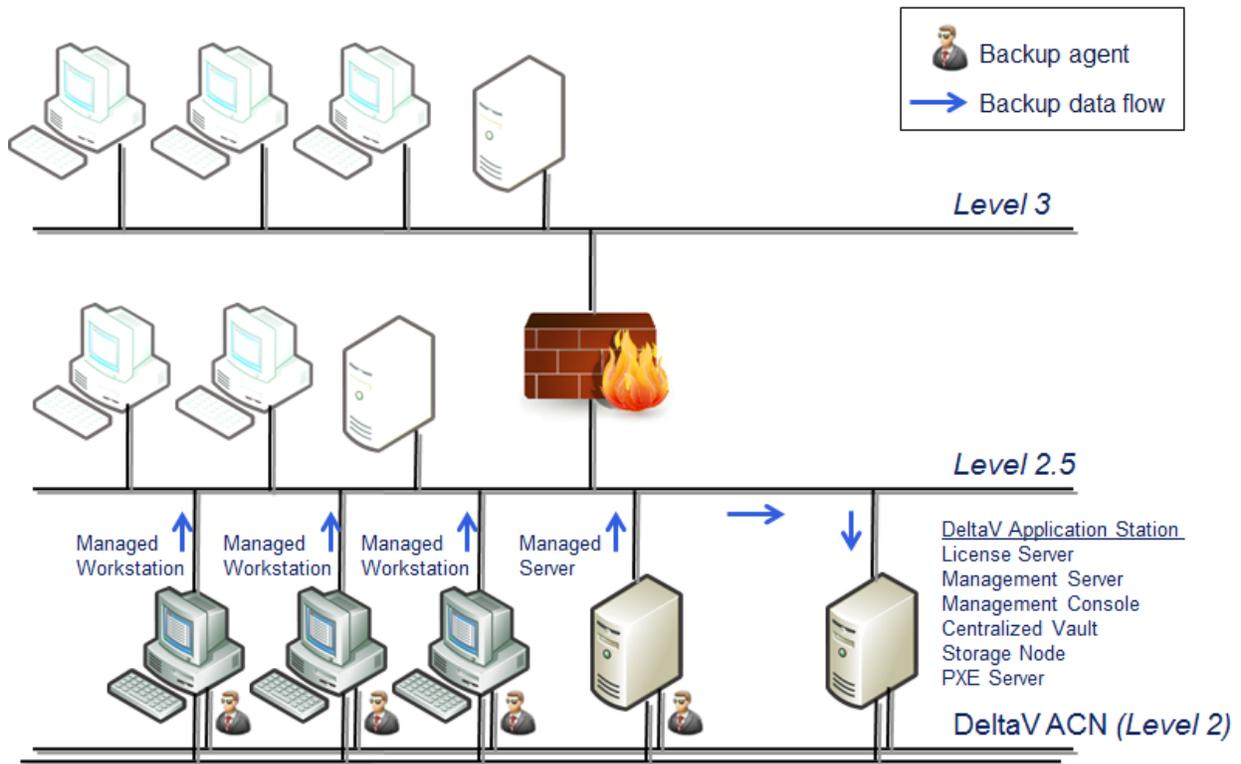


Figure 1. Backup and Recovery with Management Server located on a DeltaV Application Station.

Backup and Recovery Optional Features

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.

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.

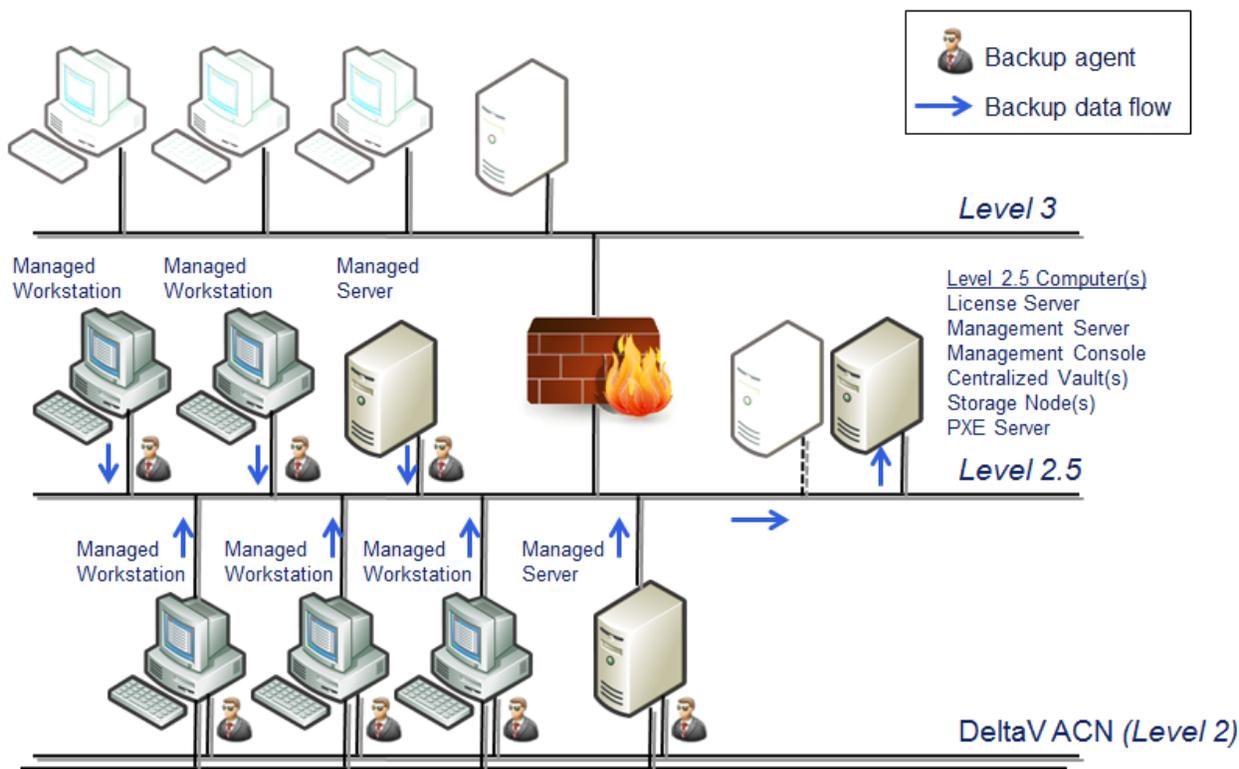


Figure 2. Backup and Recovery with Management Server located on a Level 2.5 data backup network.

Backup and Recovery Architecture

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

With Backup and Recovery 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.

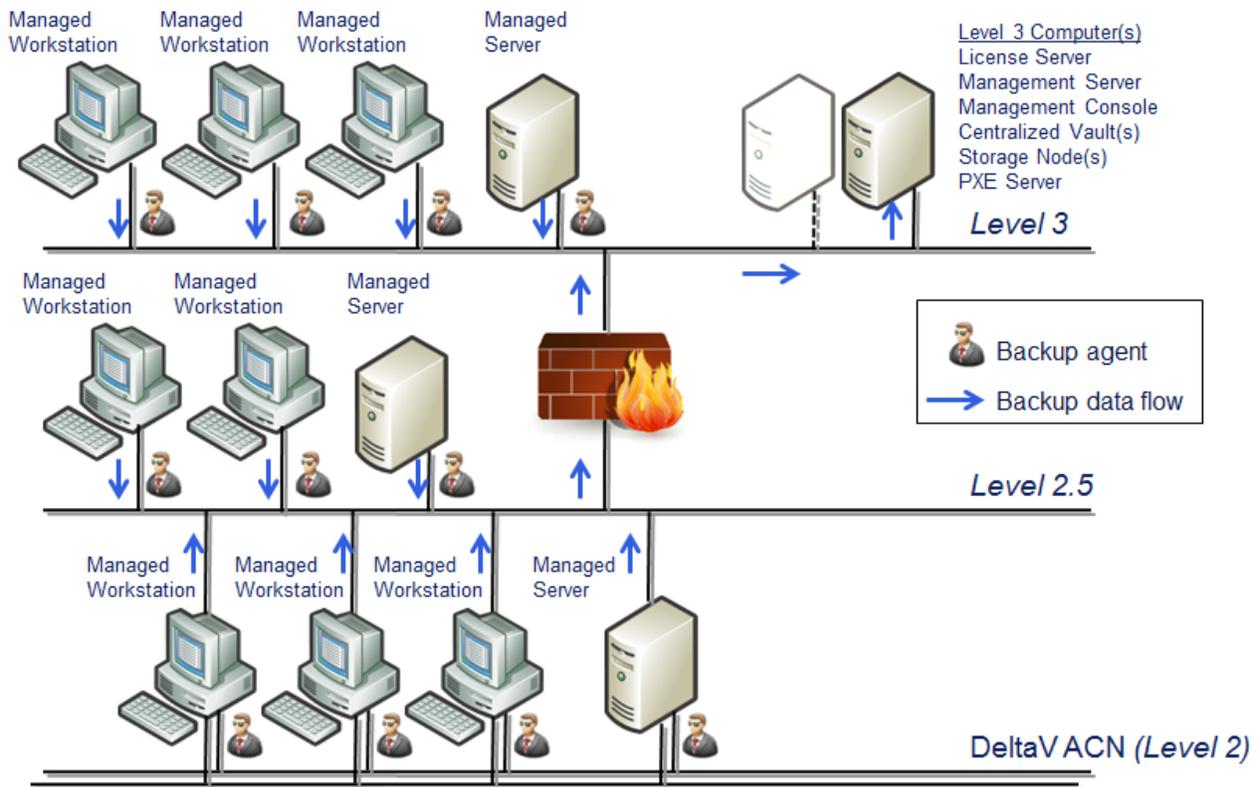


Figure 3. Backup and Recovery with Management Server located on a Level 3 plant network.

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.

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.

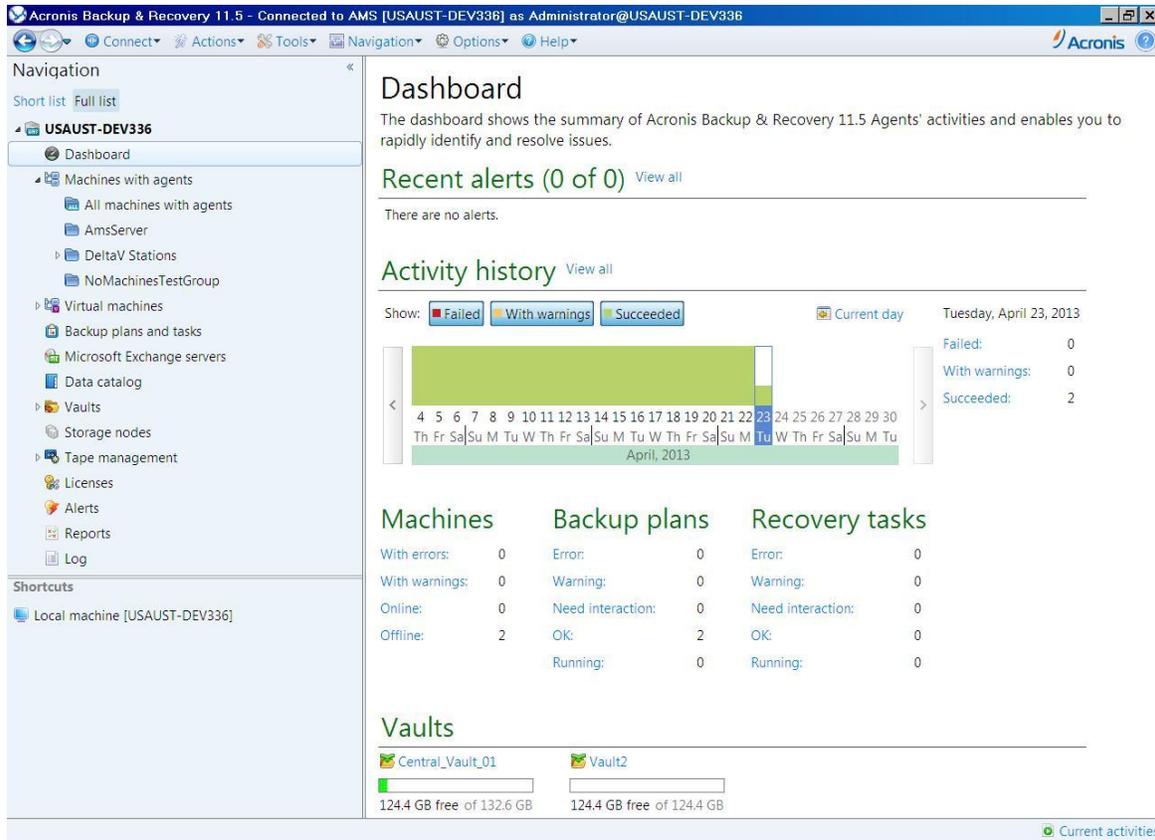


Figure 4. Backup and Recovery user interface Dashboard view.

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.

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 is available for use with several versions of the DeltaV system software and associated operating systems. For a list of supported DeltaV system and operating system versions, see the DeltaV System Version and Operating System Compatibility table shown below.

Backup and Recovery Licensing

Each backup agent requires a Backup and Recovery license. The license required is based on 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 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. Backup agents with and without the optional features may be used in the same system and managed by a single License Server, as needed.

A Backup and Recovery version upgrade license is required when upgrading from a current version of Backup and Recovery to a later version. The version upgrade license must match the current version license to retain the functionality of the current version. The version upgrade license and the current version license are used together to license the new version. When upgrading to a later version, a media pack for the later version is also required.

Ordering Information

| Description | Model Number |
|--|--------------|
| Backup and Recovery Workstation, License Pack Only. | VF1042R0D0 |
| Backup and Recovery Workstation with Universal Restore, License Pack Only. | VF1042R1D0 |
| Backup and Recovery Workstation with Universal Restore and Deduplication, License Pack Only. | VF1042R1D1 |
| Backup and Recovery Server, License Pack Only. | VF1043R0D0 |
| Backup and Recovery Server with Universal Restore, License Pack Only. | VF1043R1D0 |
| Backup and Recovery Server with Universal Restore and Deduplication, License Pack Only. | VF1043R1D1 |
| Backup and Recovery Server with Deduplication Evaluation, License and Media Pack ¹ . | VF1043R0D1E |
| Backup and Recovery, Media Pack Only ² . | VF1044 |
| Backup and Recovery Workstation – Version Upgrade ³ , License Pack Only. | VF21UPG001 |
| Backup and Recovery Workstation with Universal Restore – Version Upgrade ³ , License Pack Only. | VF21UPG002 |
| Backup and Recovery Workstation with Universal Restore and Deduplication – Version Upgrade ³ , License Pack Only. | VF21UPG003 |
| Backup and Recovery Server – Version Upgrade ³ , License Pack Only. | VF21UPG004 |
| Backup and Recovery Server with Universal Restore – Version Upgrade ³ , License Pack Only. | VF21UPG005 |
| Backup and Recovery Server with Universal Restore and Deduplication – Version Upgrade ³ , License Pack Only. | VF21UPG006 |

Notes:

1. The evaluation license provides a fully functional, 30-day time limited version of Backup and Recovery Server with Deduplication and can be used to evaluate the Backup and Recovery software on a PC running any of the supported Windows operating systems. To upgrade to the full version of Backup and Recovery, simply order the appropriate licenses and apply the new licenses to the license server. Up to three evaluation licenses may be ordered per site.
2. A Backup and Recovery Media Pack is required for a new installation of the Backup and Recovery software or to upgrade to a later version. The media pack includes the Backup and Recovery installation DVD and product documentation.
3. A Backup and Recovery version upgrade license is required when upgrading from a current version of Backup and Recovery to a later version. The version upgrade license must match the current version license to retain the functionality of the current version.

Ordering Process

The Backup and Recovery ordering process occurs in two steps. The first step is to place an order for the Backup and Recovery software and licenses. The second step is to provide information to Emerson for creation of your license keys.

For the first step, order the media pack and the number of workstations and servers that require backup, using the model numbers shown above. You will receive the Backup and Recovery media pack and a license certificate for each workstation and server license ordered. The media pack is required for installation of the Backup and Recovery software. For each Backup and Recovery order, it is expected that at least one copy of the media pack is ordered along with the licenses for the workstations and servers that require backup. Only one copy of the media pack is required, however, multiple copies of the media pack may be ordered as needed.

For the second step, using the media pack, install the Backup License Utility on the PC where you want to manage your Backup and Recovery licenses. Run the Backup License Utility to generate a license order code that is unique to the license server PC. Email the following information to Emerson at emailregistrationsystems@emerson.com to receive your license keys:

- The license order code
- The Emerson sales order number
- The DeltaV system ID
- The serial number of each license ordered as found on the license certificate

Within the next business day, you will receive by return email an encrypted license file containing your Backup and Recovery license keys. Copy the license file to the license server PC and re-run the Backup License Utility to export a decrypted license key text file to the license server PC. See below for backup system installation examples to help clarify the licensing process.

Detailed instructions on the Backup and Recovery software installation and licensing process are provided in the installation guide included in the Backup and Recovery media pack.

Backup system licensing examples

1. A single DeltaV system requires backup and recovery for the Professional Plus station and two Application Stations. You want a single license server due to the system size and you want the license server to reside on an Application Station. Order the Backup and Recovery media pack and three Backup and Recovery licenses, one for each DeltaV workstation, using the operating system in use by each DeltaV workstation. Install the Backup License Utility on the Application Station and run the Backup License Utility to obtain the license order code. Email the license order code, the Emerson sales order number, the DeltaV system ID, and the three license serial numbers to Emerson to receive an encrypted license file containing three Backup and Recovery license keys.
2. Two DeltaV systems require backup for the Professional Plus station, three Operator Stations, and one Application Station on each system and one central AMS Suite server. You want a single license server for both DeltaV systems to enable centralized license management and you want the license server to reside on a non-DeltaV workstation at level 2.5. Order the Backup and Recovery media pack and 11 Backup and Recovery licenses, one for each DeltaV workstation in each system and one for the AMS Suite server, using the appropriate operating system in use by each DeltaV workstation and AMS Server. Install the Backup License Utility on the non-DeltaV workstation and run the Backup License Utility to obtain the license order code. Email the license order code, the Emerson sales order number, the DeltaV system ID of whichever system you wish to associate Backup and Recovery technical support, and the 11 license serial numbers to Emerson to receive an encrypted license file containing 11 Backup and Recovery license keys.

DeltaV System Version and Operating System Compatibility

| Backup and Recovery v2.3 | DeltaV v9.3.1 | | DeltaV v10.3.1 | | DeltaV v11.3.1 | |
|--------------------------|---------------|-------------|----------------|-------------|----------------|-------------|
| | Win XP | Server 2003 | Win XP | Server 2003 | Win 7 | Server 2008 |
| Workstation | YES | NO | YES | NO | YES | NO |
| Server | NO | YES | NO | YES | NO | YES |

Note: The backup agents and Management Server require the Microsoft Windows XP Professional SP3, Windows 7 Professional SP1 (32-bit), Windows Server 2003 SP2 (32-bit) or Windows Server 2008 SP2 (32-bit) Operating Systems. For installation of Backup and Recovery on non-DeltaV servers and workstations, use any of the operating systems listed in the table above.

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 or later model server with the following specifications is recommended for installing the Backup and Recovery 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

- The Backup and Recovery Media Pack is required for installation of the Backup and Recovery software.
- Backup and Recovery v2.3 is available for use with DeltaV v9.3.1, 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 or later model 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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www.EmersonProcess.com/DeltaV

Or call us at:

Asia Pacific: 65.6777.8211

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