

# **CA ARCserve® Backup for Windows**

**Agent for Lotus Domino Guide**  
**r12**



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## CA Product References

This document references the following CA products:

- Advantage™ Ingres®
- BrightStor® ARCserve® Backup for Laptops and Desktops
- BrightStor® CA-1® Tape Management
- BrightStor® CA-Dynam®/B Backup for VM
- BrightStor® CA-Dynam®/TLMS Tape Management
- BrightStor® CA-Vtape™ Virtual Tape System
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- CA ARCserve® Backup for Windows Enterprise Option for IBM 3494
- CA ARCserve® Backup for Windows Enterprise Option for SAP R/3 for Oracle
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- CA ARCserve® Backup for Windows Image Option
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# Chapter 1: Introducing the Agent

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CA ARCserve Backup is a comprehensive storage solution for applications, databases, distributed servers, and file systems. It provides backup and restore capabilities for databases, business-critical applications, and network clients.

Among the agents CA ARCserve Backup offers is the CA ARCserve Backup Agent for Lotus Domino. This agent communicates with Lotus Domino and CA ARCserve Backup to back up the Lotus Domino database on a local or remote server. The agent handles all communication between CA ARCserve Backup and the Lotus Domino database server by transferring packets of data.

This guide covers the CA ARCserve Backup Agent for Lotus Domino. The agent uses the Lotus Domino Backup and Recovery Application Programming Interface (API), which can back up Lotus Domino databases and transaction logs. This guide provides information on using the CA ARCserve Backup Agent for Lotus Domino on the Windows platform. See the readme file for a list of currently supported Windows platforms and the hardware and software requirements to install the agent.

This section contains the following topics:

- [Agent Benefits \(see page 7\)](#)
- [Agent Features \(see page 8\)](#)
- [Agent Architecture \(see page 9\)](#)
- [Agent Overview \(see page 10\)](#)
- [Database Instance Identification \(DBIID\) \(see page 10\)](#)
- [Backup Strategies \(see page 11\)](#)

## Agent Benefits

The agent provides the following benefits:

- Flexible backup capabilities of a CA ARCserve Backup server to create and manage backups.
- Complete data protection for your Lotus Domino databases files and transaction logs.
- Incremental and differential backup of your Lotus Domino databases.
- Flexible scheduling capabilities. For example, you can submit a job for a date you specify and select a repeat method, or you can select a rotation scheme (a preset weekly backup strategy consisting of full backup jobs).

## Agent Features

CA ARCserve Backup Agent for Lotus Domino offers these features:

### **Full Backup**

CA ARCserve Backup Agent for Lotus Domino backs up all database files that belong to a Lotus Domino server to a tape or file system device through the CA ARCserve Backup server. The agent also backs up transaction log files if the Lotus Domino transaction log option is enabled and the log style is archive.

### **Incremental and Differential Backup**

CA ARCserve Backup Agent for Lotus Domino lets you select an incremental or differential backup method and schedule repeating jobs. For Lotus Domino servers with archived transaction log style, the incremental and differential jobs will backup the transaction log files and database files with a new database instance ID (DBIID) on your Lotus Domino server. For all other cases, the incremental and differential jobs will include all database files that were modified.

### **Restore**

CA ARCserve Backup Agent for Lotus Domino restores databases and transaction log files. The agent provides the capability to either restore these to their original location or to an alternate location.

### **Recovery**

CA ARCserve Backup Agent for Lotus Domino recovers a database after it has been restored. The recovery process uses the transaction logs to "roll forward" the database to its current state (full automatic recovery) or to a specified point in time (point-in-time automatic recovery).

**Note:** The recovery process is only applied to Lotus Domino servers with transaction logging.

### Agent Server

CA ARCserve Backup Agent for Lotus Domino operates as a Windows NT, Windows 2000, or Windows 2003 service and can be configured by Setup or the Control Panel Services applet to start automatically. This feature allows CA ARCserve Backup Agent for Lotus Domino to run without requiring a user to log into the server.

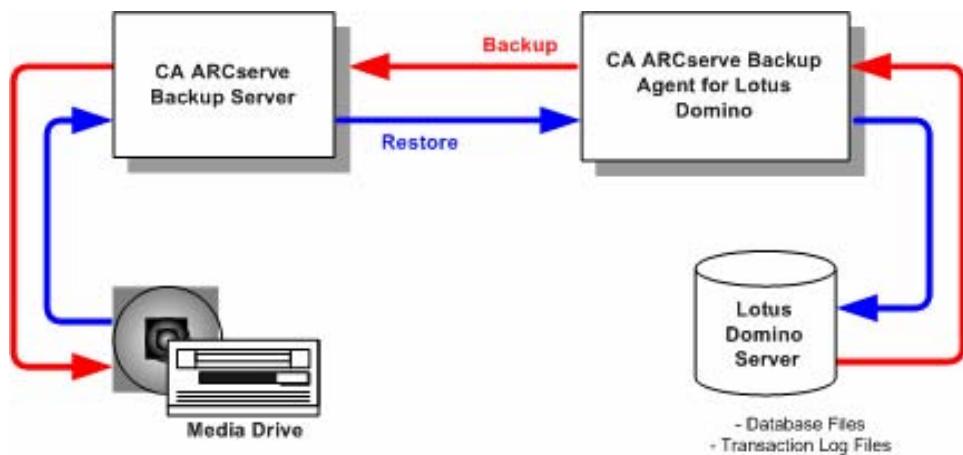
### Partitioned Servers

Partitioned servers is a feature of Lotus Domino that lets you operate multiple instances of Lotus Domino servers on a single computer. With this feature, all partitions share the same Lotus Domino program directory and the same set of executable files. However, each partition has its own unique data directory with its own copy of the Notes.ini file. CA ARCserve Backup Agent for Lotus Domino supports partitioned servers and allows you to browse, backup, and restore databases located on different Lotus Domino servers at the same time.

## Agent Architecture

CA ARCserve Backup Agent for Lotus Domino provides services that allow CA ARCserve Backup to back up and restore databases.

The following illustration shows the general overall relationship between CA ARCserve Backup and Lotus Domino:



## Agent Overview

CA ARCserve Backup Agent for Lotus Domino integrates with CA ARCserve Backup and provides backup and restore functionality for a Lotus Domino server environment while the system is online or offline. Performing online backups streamlines the process by eliminating the need to replicate the database and take the Lotus Domino server offline to back up the database. Because you can perform an online backup, you do not have to stop the Lotus Domino server. This online backup process is ideal for businesses that require continuous availability and operate every day, 24 hours a day.

CA ARCserve Backup Agent for Lotus Domino uses the Lotus Domino Native Backup and Recovery API. This API uses transactional log recovery. When transaction logging is enabled, the system captures database changes and writes them to the transaction log.

CA ARCserve Backup Agent for Lotus Domino supports incremental and differential backups, rather than always requiring full database backups, which makes your backup procedure run much faster than full backup jobs. If a system or media fails, you can use both the transaction logs and the full database backup to recover your databases.

## Database Instance Identification (DBIID)

When transaction logging is enabled, Lotus Domino assigns a database instance identification (DBIID) to each database. When Lotus Domino records a transaction in the log, it includes the DBIID. During recovery, Lotus Domino uses this DBIID to match transactions to databases.

Some database maintenance activities can cause Lotus Domino to assign a new DBIID to a database. After Lotus Domino assigns a new DBIID, all new transactions recorded in the log use this DBIID. However, any old transactions would still have the old DBIID and would no longer correspond to the new DBIID. As a result, Lotus Domino cannot apply these old transactions to the database. To avoid losing data, you should immediately perform a full database backup whenever a database receives a new DBIID. When you perform this backup, you capture all the database transactions up until that point and ensure that Lotus Domino needs only the new transactions (with the new DBIID) to restore the database.

## Backup Strategies

The goal of a good backup strategy is to prevent the loss of valuable data by ensuring that the data can be recovered from a combination of backup data and transaction log files. The key to any successful backup strategy is to perform regular backups. Although different Lotus Domino installations and databases often require different backup frequencies, all installations and databases should be backed up at regularly scheduled intervals.

**Important!** You should plan your backup and recovery strategies before you begin using the Lotus Domino server. If you do not plan these strategies before using the Lotus Domino server, you may not be able to recover your data if a disk failure occurs.

A typical backup strategy for Lotus Domino would be to perform full backups (database files and transaction log files) of the Lotus Domino server on a weekly basis. In addition, incremental backups (ready-to-archive logs and database files with newly assigned DBIID since the last backup) would be performed on a daily basis. The actual frequency of backups will depend upon the average number of transactions in the Lotus Domino server.

A transaction log is a listing of all the transactions that occurred on a database from a specific point in time. To ensure that backup files contain the most current transactions, you should back up your transaction logs more frequently than your databases. For example, you could back up a transaction log once a day and the entire database once a week. If you need to restore the database, the most recently backed up transaction would then be no more than twenty-four hours old. More frequent transaction log backups would give you files with transactions that are even more current.

## General Backup Considerations

Consider the following information when planning your backup strategy:

- The importance of each database
- The volatility of each database
- The size of each database
- The length of time you have available on any given day to perform backups (referred to as the backup window of opportunity)
- The time required to recover the database if a failure occurs

## Database Importance

The importance of a database is often the most crucial factor in determining the direction of your backup strategy. Important or critical databases should:

- Be backed up often.
- Archive the associated transaction log files so that they can be recovered up to the latest committed transaction.
- Archive the associated transaction log files often.

**Note:** When you archive transaction log files frequently, you reduce the number of transactions potentially lost if your database and transaction log files fail and have to be recovered.

## Database Volatility

The volatility of a database often determines your backup strategy. Volatile databases should be backed up more frequently to reduce the potential for data loss. You may also need to perform daily database backups to reduce the size of transaction log files and the time needed to roll forward through these log files during recovery.

## Database Size

The size of a database often affects when and how often you can back it up. For example, very large databases take a long time to back up. Because of the long backup time, you may need to back up very large databases only once a week, during weekends. If the size of a database indicates weekly backups, then it is vital that you archive the associated transaction log files more frequently than the database itself. If the database is also important, or volatile, you should back up the transaction log files daily.

## Backup Window of Opportunity

The backup window of opportunity you have available often determines when you can back up a database. For example, a database that is heavily used during the work day but little used after 6 p.m. gives you a 12- or 13-hour, nightly backup window of opportunity. In contrast, a database that is used heavily 24 hours a day, Monday through Friday, but not used on weekends gives you a two-day, weekend backup window of opportunity. In either case, you must adjust your backup strategy to accommodate the backup window of opportunity available to you.

## Length of Recovery Time

If your objective is to decrease the time needed to recover a database, you can:

- Try to reduce the size of the database before backing it up by using commands to reorganize indexes or reclaim unused index space.
- Back up the database more often. More frequent database backups result in smaller transaction log files that take less time to roll forward through.
- Keep archived transaction log files available on disk. If you keep transaction log files on disk, you will only need to recover the database's checkpoint but not its log files.
- Have a standby system that is ready, or nearly ready, to take over from your online system. For example, you can regularly recover the latest database and transaction log files to the standby system so that this standby system can quickly replace the online system if it fails.

## Automatic Repeat Backups

You can set backup jobs to run at repeating intervals. For example, to run a backup job every Sunday at midnight, set the repeating interval to seven days and, when you submit the job, schedule it to run on Sunday at midnight. After the backup completes, CA ARCserve Backup automatically reschedules the job to execute every Sunday at midnight. You can set the repeating interval on the Repeating Interval tab, which is displayed from the Schedule tab of the Backup Manager. When you set the repeating interval, set the Backup Method on the Repeating Interval tab to Full.



# Chapter 2: Installing the Agent

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This chapter provides the information you need to install and configure the CA ARCserve Backup Agent for Lotus Domino. The information in this chapter assumes you are familiar with the characteristics and requirements of the specified operating systems in general, and with administrator responsibilities on those operating systems in particular.

This section contains the following topics:

[Installation Prerequisites](#) (see page 15)

[Install the Agent](#) (see page 16)

[Configure the Agent](#) (see page 16)

[Uninstall the Agent](#) (see page 20)

## Installation Prerequisites

Before installing the CA ARCserve Backup Agent for Lotus Domino, verify the following:

- Verify that your system meets the minimum requirements needed to install the CA ARCserve Backup Agent for Lotus Domino. For a list of requirements, see the readme file.
- An additional 30 MB of hard disk space is available to install CA ARCserve Backup Agent for Lotus Domino.
- You have administrative privileges or the proper authority to install software on the computers where you will be installing the agent.
- To support transaction log backups, the transaction logging option must be enabled and the transaction log style must be archived.

When enabling transaction logging, Lotus Domino turns logging on automatically for most of the databases and templates. The Lotus Domino server administrator can turn logging on and off individually for each database using the Database Advanced Properties. The Lotus Domino server administrator can also specify the location where these files are created and the size of the transaction log.

## Install the Agent

The CA ARCserve Backup Agent for Lotus Domino follows the standard installation procedure for the system components, agents, and options of CA ARCserve Backup. For the detailed steps in this procedure, see the *Implementation Guide*.

After you complete the installation procedure, be sure to restart your computer when prompted.

**Important!** If you upgrade from a previous release of CA ARCserve Backup Agent for Lotus Domino, you should immediately schedule a full backup after the upgrade.

## Configure the Agent

Before you start configuring CA ARCserve Backup Agent for Lotus Domino, you must know the path that contains the Lotus Domino server notes.ini file.

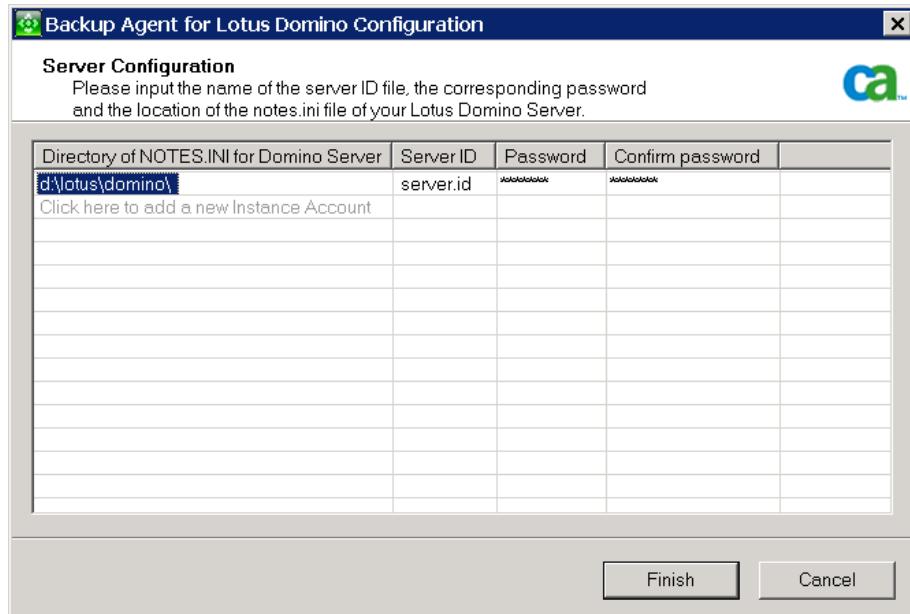
### Configure Access Rights to the Server

CA ARCserve Backup Agent for Lotus Domino needs to connect to the Lotus Domino server through the Lotus Application Programmer Interface (API). Therefore, for security reasons, it is important that a user is authorized and has access rights to connect internally to the Lotus Domino server to run the agent's components.

From the Backup Agent for Lotus Domino Configuration dialog, you can configure the access rights to the Lotus Domino server, which allows authorized users to perform backup and restore jobs.

#### To configure access right to the server

1. From the Start menu, select Programs, CA, ARCserve Backup Agents and choose Lotus Domino Agent Configuration to display the Backup Agent for Lotus Domino Configuration dialog as shown in the following example:



2. From this dialog, enter the location of the notes.ini file, the server ID file name, and the corresponding password to access the server ID file.

**Note:** Typically, for Lotus Domino partitioned servers, the notes.ini file is located in the Lotus Domino data path. For Lotus Domino single servers, the notes.ini file is located in the Lotus Domino home directory.

3. Click Finish to send the configuration information to the Registry Editor and complete the configuration.

## Configure the Registry Editor

Using the Registry Editor, you can configure the CA ARCserve Backup Agent for Lotus Domino for backing up databases.

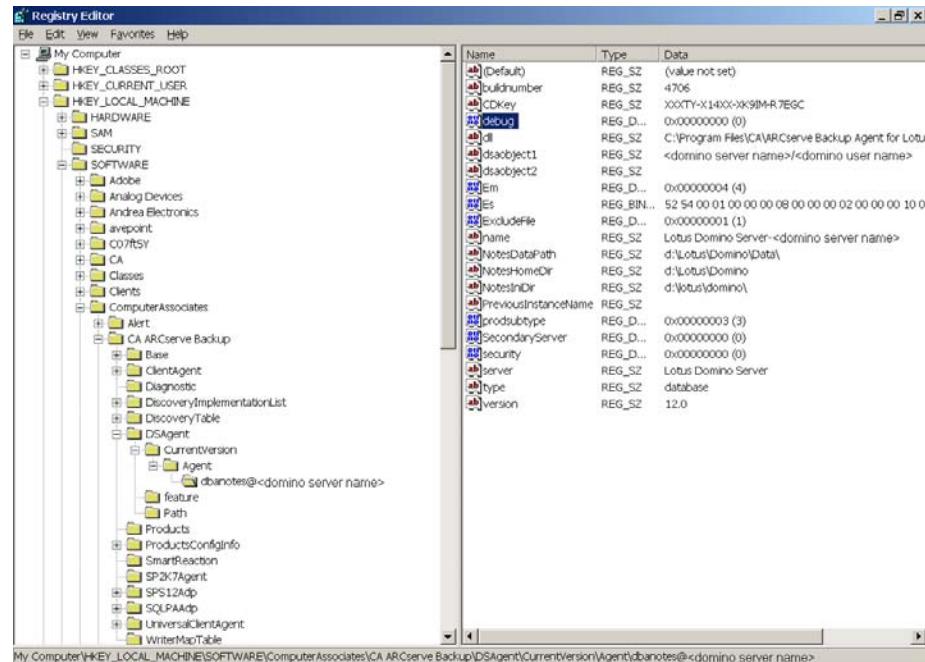
**Note:** You can modify options from the Registry Editor; however, you should not change any options unless specifically directed to do so by a Computer Associates technical support representative.

You can customize and modify several of the settings for CA ARCserve Backup Agent for Lotus Domino in the Windows Registry by using the Windows REGEDT32 utility, which is available for Windows NT, Windows 2000, and Windows 2003.

### To customize the agent settings in the Registry Editor

1. Open the Registry Editor.
2. Expand the tree in the browser of the Registry Editor by selecting the following:

HKEY\_LOCAL\_MACHINE\SOFTWARE\ComputerAssociates\CA ARCserve Backup\DSAgent\CurrentVersion\agent\dbanotes@(<Lotus Domino server name>)



3. Double-click the option you want to configure in the list area on the right side of the window. You can now modify the settings.
4. When you finish configuring options for the agent, close the Registry Editor and restart the CA ARCserve Backup Agent RPC server.

## Registry Parameter Modifications

The following registry parameters can be modified:

### **dll**

This parameter specifies location of the CA ARCserve Backup Agent for Lotus Domino executable file (dbanotes.dll).

### **NotesIniDir**

This parameter specifies the location of notes.ini file.

### **NotesHomeDir**

This parameter specifies the location of the Lotus Domino home directory (Lotus\Domino).

### **NotesDataPath**

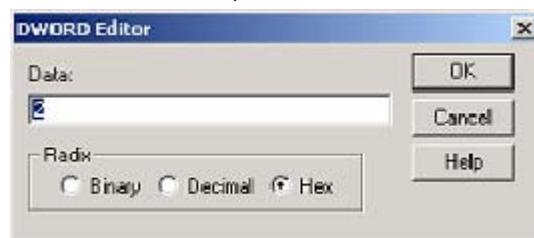
This parameter specifies the location of the Lotus Domino data path (Lotus\Domino\data).

### **dsaobject1**

This parameter specifies the location of the Lotus Domino ID file. For example, server.id.

### **debug**

This parameter specifies the debugging level or the extent of generated trace files for the corresponding Lotus Domino server (dbanotes@servername.trc). This trace file can include all notes, warnings, and errors that occur while running CA ARCserve Backup Agent for Lotus Domino and can be used to assist the CA technical support representatives during troubleshooting efforts. You can double click on the parameter to open the DWORD Editor dialog and enter the applicable debug level: 0 to generate no trace files, 1 to generate general trace files, or 2 to generate detailed trace files, as shown in the following example:



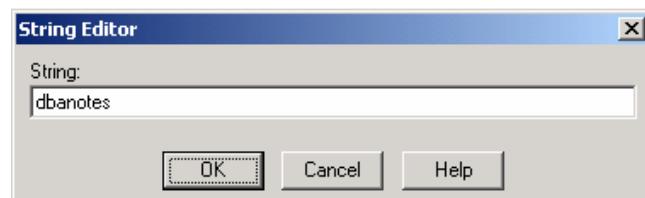
### **PreviousInstanceName**

This parameter is used to restore a Lotus Domino instance that no longer exists on the current host server. In this case, the settings for the current Lotus Domino instance will be used to attempt to restore and recover the non-existent Lotus Domino instance.

This scenario could occur if you upgrade from a previous release of the agent to the current release and the Lotus Domino server has also been upgraded to a partitioned server or if you already have the current release of the agent and the name of the Lotus Domino server has been changed since the last backup.

- If the data to be restored was backed up using a previous release of the agent, the previous instance name will always be dbanotes.
- If the data to be restored was backed up using the current release of the agent, the instance name will be dbanotes@servername. (Server name will be the actual name of the Lotus Domino server.)

You can double click on the parameter to open the String Editor dialog and enter the previous instance name, as shown in the following example:



**Important!** Do not change the name of the Lotus Domino server after a backup has been performed. Any restore job will always try to use the settings for the same Lotus Domino server that was backed up. If the name of the Lotus Domino server is changed, you will have to manually set the PreviousInstanceName registry key to perform a restore.

**Important!** If you upgrade from a previous release of the agent, you should immediately schedule a full backup after the upgrade.

## Uninstall the Agent

To remove the agent from your computer, follow these steps:

1. Open the Windows Control Panel.
2. Double-click the Add or Remove Programs icon.
3. Select CA ARCserve Backup Agent for Lotus Domino.
4. Click Remove. The Add or Remove Programs dialog appears.
5. When asked whether you want to remove this agent, click Yes.

# Chapter 3: Using the Agent

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This chapter describes how to perform backups and restores with CA ARCserve Backup Agent for Lotus Domino. For an overall description of the backup and restore features, see the *Administration Guide*.

This section contains the following topics:

[Use the Agent to Perform Backups](#) (see page 21)

[Use the Agent to Perform Restores](#) (see page 33)

[Use the Agent to Perform a Disaster Recovery](#) (see page 44)

## Use the Agent to Perform Backups

Using CA ARCserve Backup Agent for Lotus Domino and the Backup Manager, you can select and submit a backup job, choosing any Lotus Domino server as your source and a tape device connected to a CA ARCserve Backup server as your destination. You can back up a complete Lotus Domino server or individual objects (database files and transaction log files) within the Lotus Domino server.

### How to Prepare of a Backup

Before you submit a backup job, you should verify that the following preconditions have been performed:

- Verify the integrity of the data in the database. To verify data integrity, open the database in a Lotus Domino client and review the contents for any discrepancies or errors.
- Specify the logon information for the CA ARCserve Backup Agent for Lotus Domino.
- Create a configuration file in the CA ARCserve Backup server home directory.
- Start Lotus Domino

## Specify Logon Information

Before you back up Lotus Domino data on a NAS device or network-shared device, perform the following:

### **To specify logon information for the CA ARCserve Backup Agent for Lotus Domino**

1. Make sure that the logon credentials for the NAS device or the network-shared device are the same as the logon credentials for the host server that contains CA ARCserve Backup Agent for Lotus Domino.
2. From the Start menu, select Settings, Control Panel, Administrative Tools, Services and from the displayed list, double click CA ARCserve Backup Agent RPC Server. The CA ARCserve Backup Agent Server Properties dialog opens.
3. Click the Log On tab and select the This account option to display the corresponding logon credentials.
4. Enter the same logon information that has been set to logon to the NAS device or network shared device.

## Create a Configuration File

Before you back up Lotus Domino data, perform the following.

### **To create a configuration file**

For the CA ARCserve Backup server, create a configuration file in the CA ARCserve Backup server home directory. The configuration file name is NotesNetShare.cfg. The following is an example of a NotesNetShare.cfg file format:

```
\server213\d$  \server100\lotus
```

In this example, server213 is the host server (machine) where CA ARCserve Backup Agent for Lotus Domino is installed, d\$ is the mapped driver to NAS share lotus, server100 is the NAS server name, and lotus is the NAS share. The following is another example of a NotesNetShare.cfg file format:

```
\123.456.789.1\f$  \123.456.789.2\d$
```

In this example, 123.456.789.1 is the host server (machine) where CA ARCserve Backup Agent for Lotus Domino is installed, f\$ is the mapped driver to the network-shared device, and \123.456.789.2\d\$ is where the Lotus Domino data directory is located.

## Start Lotus Domino

The 6.x and 7.x versions of Lotus Domino are not virtual-session aware. Therefore, prior to backing up data using CA ARCserve Backup Agent for Lotus Domino you must start Lotus Domino using one of the following modes:

- Start Lotus Domino in the Service Mode.
- Start Lotus Domino in the Application Mode by logging in through the console (instead of through a virtual session).

**Important!** If you login through a virtual session to start Lotus Domino in the Application Mode, Lotus Domino may experience some difficulties when you attempt to browse, backup, or restore using CA ARCserve Backup Agent for Lotus Domino.

## Backup Manager Overview

The Backup Manager provides detailed information about your CA ARCserve Backup job and lets you easily select the objects that you want to back up and the location where you want them backed up. The Backup Manager also lets you customize your backup jobs using filters, options, and scheduling. For more information about the Backup Manager, see the *Administration Guide*.

## Backup Manager Tabs

Each backup job requires a specified source, destination (media), and schedule or method. The Backup Manager screen provides three tabs to customize these specifics of your backup job:

### Source Tab

Displays all Lotus Domino servers that have been properly configured in the Backup Agent for Lotus Domino Configuration dialog. Browsing the particular Lotus Domino server displays the list of objects located on that particular Lotus Domino server. You can browse through the directories of Lotus Domino servers just as you would any other CA ARCserve Backup supported host or client.

### Staging Tab

Used to enable or disable staging backup operations and set staging policies and configuration parameters.

### Destination Tab

Displays all device groups as they were defined in the CA ARCserve Backup Device Configuration (dvconfig.exe) file. Data from a Lotus Domino server can be backed up to the selected device.

### Schedule Tab

Used to select the schedule and method of the backup process. From this tab, you can either select a predefined backup strategy or customize a backup strategy to meet the needs of your environment.

## Lotus Domino Backup Methods

The backup methods for CA ARCserve Backup Agent for Lotus Domino are displayed on the Schedule tab of the Backup Manager.

### Full (Keep Archive Bit)

All selected items are backed up (full backup). You can select the entire Lotus Domino server (database files and transaction log files), specific database files, or transaction log files.

### Full (Clear Archive Bit)

All selected items are backed up (full backup). You can select the entire Lotus Domino server (database files and transaction log files), specific database files, or transaction log files.

**Note:** For CA ARCserve Backup Agent for Lotus Domino, both the Full (Keep Archive Bit) and the Full (Clear Archive Bit) methods generate the same full backup. The Keep Archive Bit and Clear Archive Bit features are not applied to this agent.

### **Incremental**

For Lotus Domino servers that have the archived-style transaction logging option enabled, the incremental backup will include only transaction log files and files with a new DBIID assigned since the last full or incremental backup. For Lotus Domino servers without transaction logs or that have the archived-style transaction logging option disabled, the incremental backup will include only files that were modified since the last full or incremental backup.

### **Differential**

For Lotus Domino servers that have the archived-style transaction logging option enabled, the differential backup will include only transaction log files and files with a new DBIID assigned since the last full backup. For servers without transaction logs or that have the archived-style transaction logging option disabled, the differential backup will include only files that were modified since the last full backup.

**Note:** It is possible that there were no transaction log files backed up during a job because there were no log files previously archived. In addition, by default the active transaction log file is also not backed up because the content of this file is volatile. For information on backing up the active log file, see [Prepare to Back Up the Active Transaction Log File](#).

## **Perform a Backup**

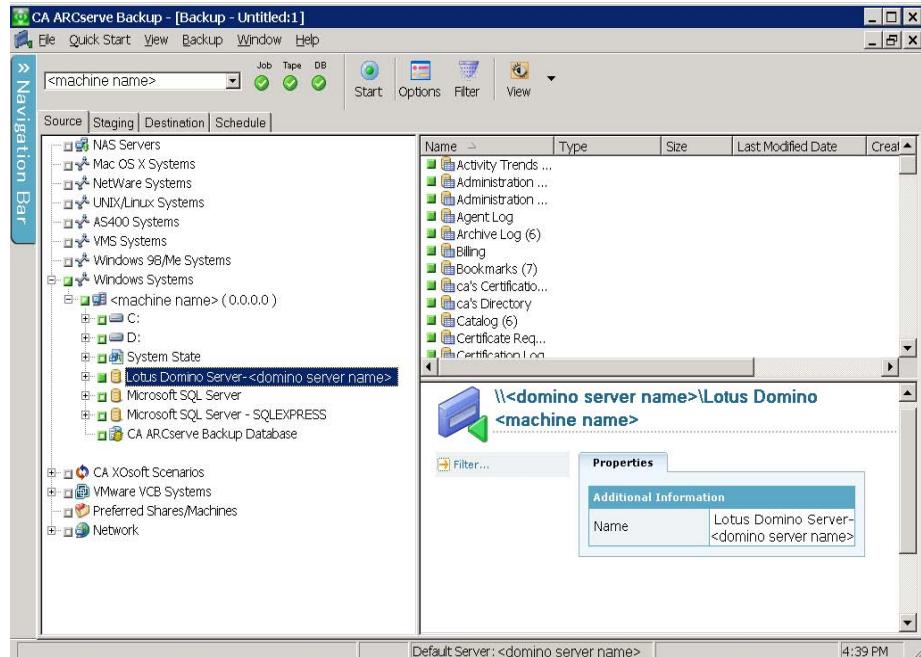
A backup job must have a data source (source) from which data is extracted and a storage device (destination) on which to store the extracted data. To back up data from Lotus Domino, you need to submit a backup job using the Backup Manager, choosing the Lotus Domino server objects as the source and the CA ARCserve Backup device as your destination.

**Note:** The Agent for Lotus Domino does not support data encryption and data compression at the agent server.

### **To back up data**

1. From the CA ARCserve Backup Home Page, click the Backup Manager icon. The Backup Manager main window opens.

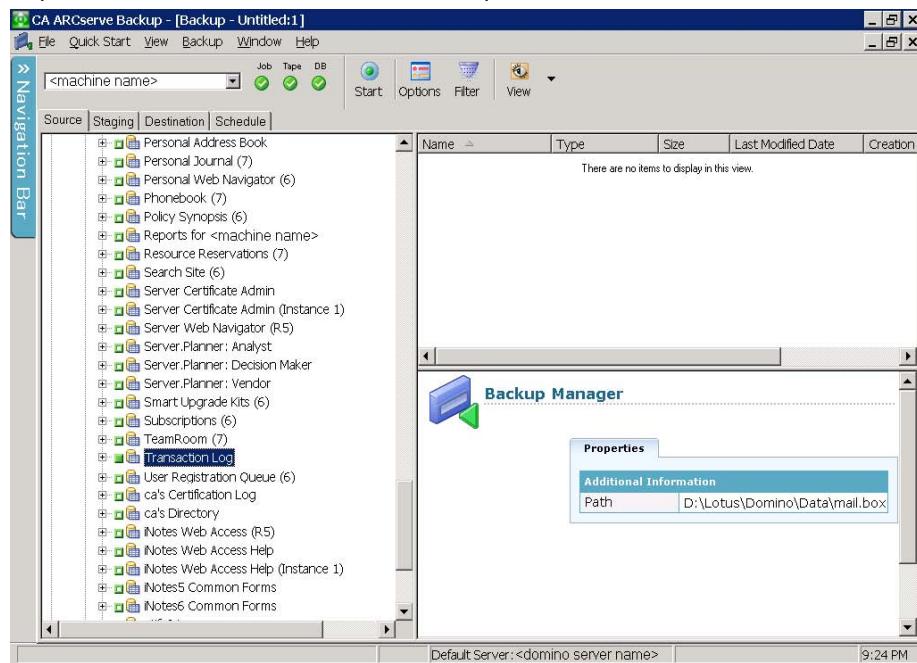
2. From the Source tab, select and expand the host server that contains the Lotus Domino server you are backing up. The corresponding tree expands to display the servers available for backup as shown in the following example:



**Note:** If the length of your Lotus Domino server name is more than 30 characters, CA ARCserve Backup will automatically truncate the additional characters that exceed the 30-character limit and replace the last 2 remaining characters of the string (characters 29 and 30) with 01. If there is another Lotus Domino server with the same name, CA ARCserve Backup will again truncate the name down to 30 characters and replace the last 2 characters of the string with 02. For Example:

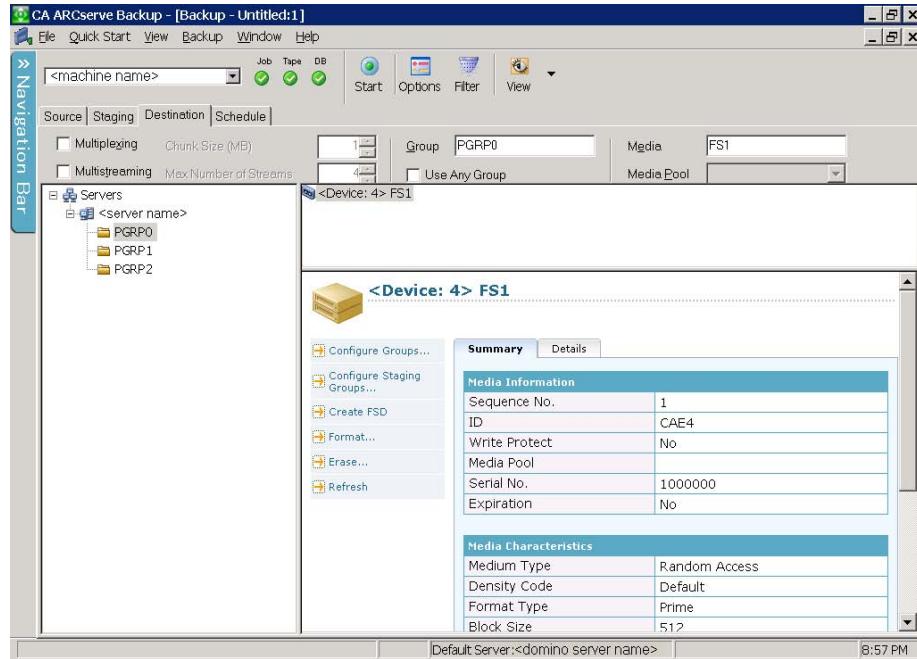
- If the Lotus Domino server name is  
"User12233344445555666667777777" (32 characters)
- CA ARCserve Backup will truncate the name down to 30 and modify the last 2 remaining characters as follows:  
"User1223334444555566666777701" (30 characters)
- If you create another Lotus Domino server with the same name as the previous one, then CA ARCserve Backup will modify the name as follows:  
"User1223334444555566666777702" (30 characters)

3. From the list of available servers, click on the applicable Lotus Domino server containing the database to be backed up. The corresponding tree expands to display a list of available databases on the selected Lotus Domino server. In addition, if the Lotus Domino transaction logging option is enabled and the archived-style transaction logging option is selected, an icon for transaction logs will also be included (alphabetically) in the expanded Lotus Domino tree. An example is shown next:



4. From the list of available databases, select the applicable Lotus Domino database by clicking the corresponding marker until it is solid green (full backup). You can select the full Lotus Domino server or the individual objects within that server (databases and transaction logs).

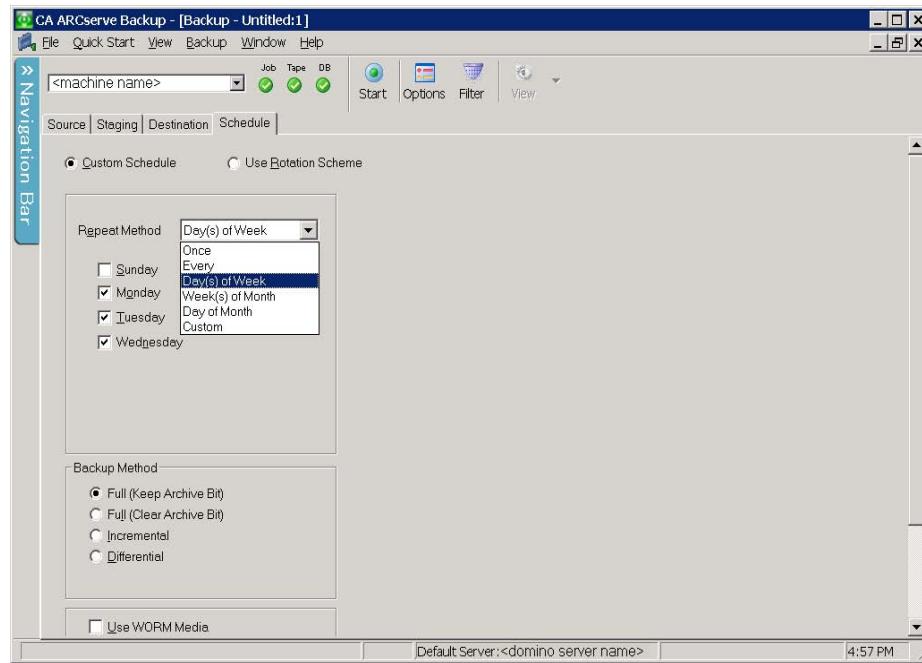
5. Click the Destination tab to display the destination options, and then select the applicable Backup Group that you want to direct the backup data to and the corresponding media information. An example is shown next:



6. Click the Schedule tab to display the schedule and backup method options.

7. For the schedule option, select either Custom Schedule or Use Rotation Scheme:

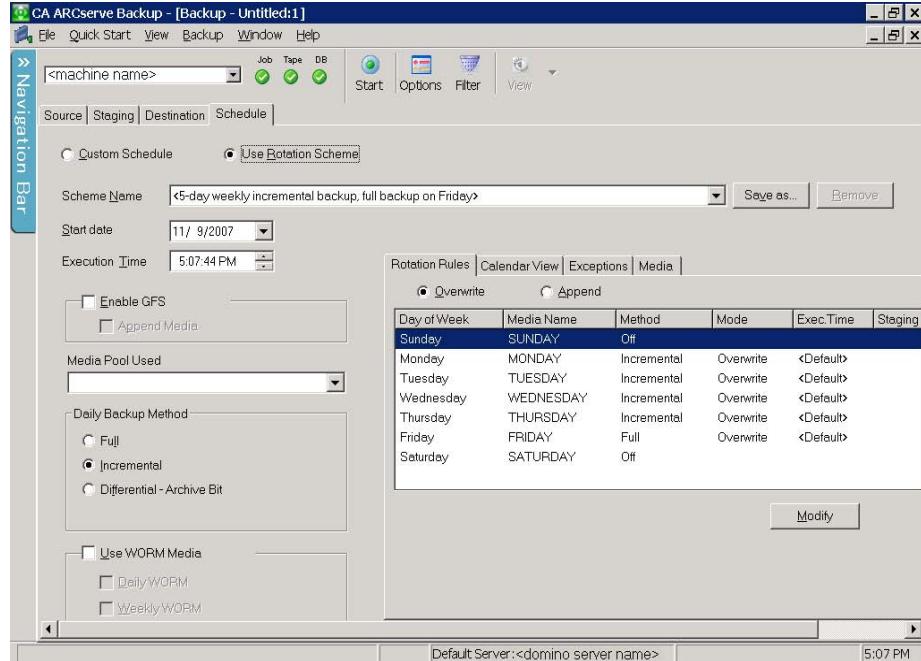
- The Custom Schedule option allows you to run a backup job once or on a specified, repeating basis. If Custom Schedule is selected, the following window is displayed:



- From the Repeat Method drop down list, select Once or the applicable repeat method (Every, Days of the Week, Weeks of the Month, Day of the Month, or Custom).
- Select the applicable Backup Method (Full, Incremental, or Differential). If the archived-style transaction logging option is enabled, the incremental backup option will only back up the transaction log files and any files with a new DBIID assigned since the last full or incremental backup. If the archived-style transaction logging option is disabled, the incremental backup option will only back up the database files that changed since the last full or incremental backup.

For more information about these options, see the *Administration Guide*.

b. The Rotation Scheme option allows you to run a backup job on a customized five to seven day cycle using a combination of different backup methods. If the Use Rotation Scheme option is selected, the following window is displayed:



- Select the applicable scheme options, as follows:

**Scheme Name**—The type of rotation job being submitted.

**Start Date**—The date when the backup starts.

**Execution Time**—The time when the backup starts.

**Retry Missed Targets**—The specific time that the backup job repeats in order to back up any missed target drives.

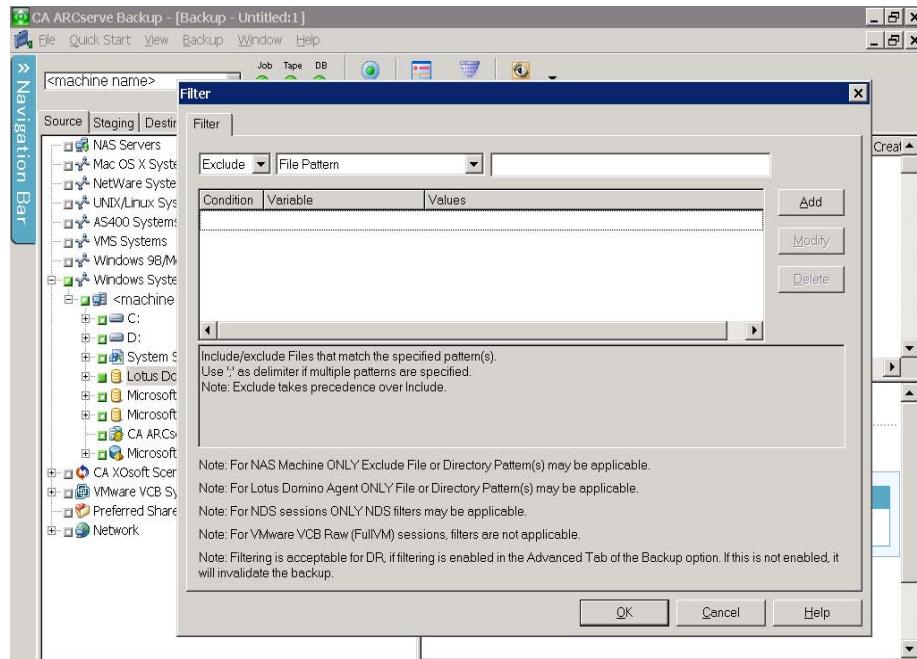
**Enable GFS**—Allows you to select from predefined Grandfather-Father-Son (GFS) rotation schemes.

**Media Pool Name Prefix**—An identifier for the media pool daily, weekly, and monthly backups.

- Select the applicable Backup Method (Full, Incremental, or Differential).

For more information about these options, see the *Administration Guide*.

8. (Optional) Filter the backup job by selecting the Source tab, right-clicking on the applicable Lotus Domino server, and selecting Filter to display the Filter dialog. Select the filtering options and click OK. An example is shown next:



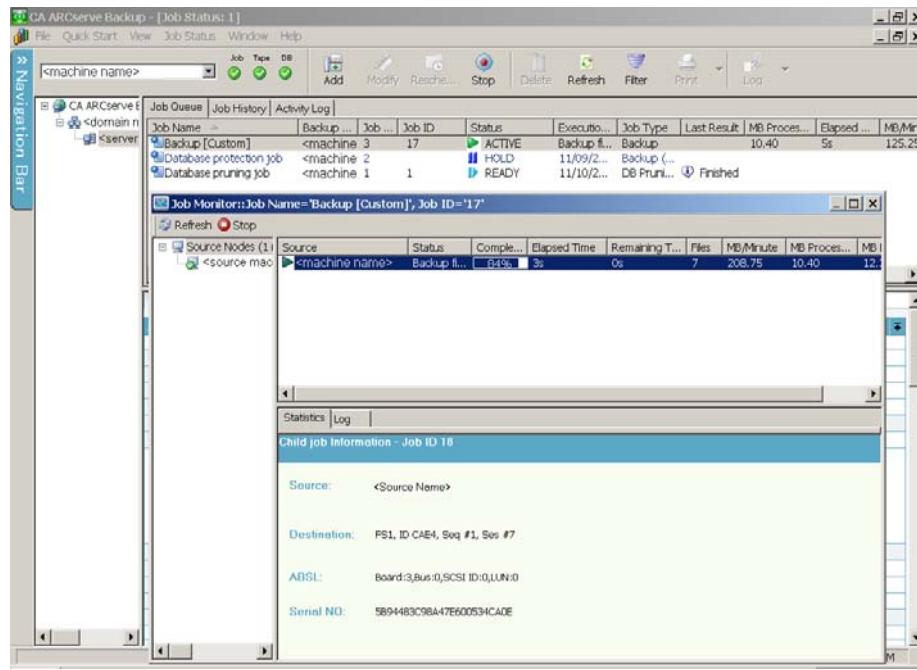
**Note:** CA ARCserve Backup Agent for Lotus Domino only supports File Pattern Filters and Directory Pattern Filters. With these filters you can specify whether to include or exclude files or directories from a job based upon a particular file name or file pattern, or upon a particular directory name or directory pattern. (The File Date Filters are not available for this agent). For more information about filter options, see the online help.

9. Click Start to initiate the backup process after all the backup job attributes have been finalized. The Security and Agent Information dialog opens.
10. Provide the security information (user name and password) for the selected server host. For more information about the security options, see the online help.

**Important!** The Security and Agent Information dialog is used to enter information only for a remote Windows NT, Windows 2000, and Windows 2003 servers. Users must have a minimum of backup rights to proceed with the job. If you are backing up the Lotus Domino database on a local machine, you do not have to enter any information on this dialog.

11. Click OK. The Submit Job dialog appears, displaying a summary of the job type, the source directory of the database files, and information about the destination. If necessary, enter a description of the job in the Job Description field.

12. Select the Job Execution Time, choosing either Run Now (to run the backup immediately) or Run On (to define the date and time for the backup) and click OK to submit the backup job. The Job Status screen appears, displaying the Job Queue and Job Detail. You can also view more detailed Job Properties information by right-clicking on the server name and selecting Properties. The Job Properties window appears, displaying details and status of the backup process. An example is shown next:



13. When the backup job is complete, a status window opens, indicating the final status (successful or failed) of the backup job. Click OK to close the status window.



## Use the Agent to Perform Restores

Using CA ARCserve Backup Agent for Lotus Domino and the Restore Manager, you can configure and submit a restore job. You can restore a complete Lotus Domino database or individual objects (database files and transaction log files) within the database.

### Prepare for a Restore

To recover from media failure, use CA ARCserve Backup Agent for Lotus Domino to first restore the archived log files (if the archived log files do not already exist), and then restore the databases. Restore all the transaction logs starting from the last full backup and ending at the point of failure.

If any transaction log files are no longer valid (deleted or corrupted) and you select the Perform Recover option, you must restore any transaction log files that were archived between the time of the last database backup and the time of this restore job prior to restoring the database.

**Note:** Only restore the transaction logs that have been deleted from the server. If the archived logs are still present in the log directory, there is no need to restore them from tape. The restore of transaction logs only applies to Lotus Domino servers with the archived-style transaction logging option enabled.

If shared mail needs to be restored, you must take the Lotus Domino server offline prior to restoring the shared mail as follows:

1. Start the Lotus Domino server.
2. Take the shared mail offline.
3. Shut down the Lotus Domino server.

**Note:** The Lotus Domino server must be shut down prior to restoring database files.

### Restore Manager Overview

The Restore Manager provides detailed information about your CA ARCserve Backup job and lets you easily select the objects that you want to restore and the location where you want them restored to. The Restore Manager also lets you customize your restore jobs using options and scheduling. For more information about the Restore Manager, see the *Administration Guide*.

## Restore Manager Tabs

Each restore job requires a specified source (media and session) and destination. The Restore Manager screen provides three tabs to customize these specifics of your restore job:

### Source Tab

Displays a list of Lotus Domino objects that were previously backed up either through a restore by tree or restore by session method.

### Destination Tab

Displays a list of locations that the backed up objects can be restored to.

### Schedule Tab

Use the Schedule tab to select the schedule and method for the restore process.

## Lotus Domino Restore Methods

The restore methods for CA ARCserve Backup Agent for Lotus Domino are displayed from a drop-down list available from the Source tab of the Restore Manager. When a Lotus Domino server is selected for restore, the available methods are:

### Restore By Tree Method

The Restore By Tree method lets you select objects for restore jobs based on the source machine from which the data was backed up. If you select this method, you cannot restore the entire contents of the server as a whole but instead must select all subordinate objects individually. Use this method when you do not know which media contains the data you need but you have a general idea of what you need to restore and which machine it came from. It is the default method for the Restore Manager.

### Restore By Session Method

This method displays a list of all media used in backups and the files contained on them. The Restore By Session method lets you select objects for restore jobs based on backup sessions.

### Restore By Query Method

This method is not supported by the agent.

### Restore By Image/Serverless Method

This method is not supported by the agent.

### Restore By Backup Media Method

This method is not supported by the agent.

**Note:** The default for all methods is to restore data to the original database unless instructed otherwise.

## Lotus Domino Restore Options

The restore options for CA ARCserve Backup Agent for Lotus Domino are displayed in the Backup Agent Restore Options dialog. To access this dialog, select the applicable Lotus Domino server, right click, and select Agent Options.



The available options are:

### Perform Recovery

Recovers the database to the current date and time (latest recovery).

### Point-in-Time Recovery

Recovers the database up to the specified point in time (date and time). Recovery is the process of applying database changes that occurred after the database was backed up. The recovery returns the database to a more recent state. Point-in-time recovery gives you further flexibility by allowing you to bring the state of the database to a particular point in time.

## Perform a Restore

A restore job must have a data source from which backup files are extracted and a destination into which the backup files are restored. To restore data from Lotus Domino, you need to configure and submit a restore job using the Restore Manager.

### To restore backed-up data

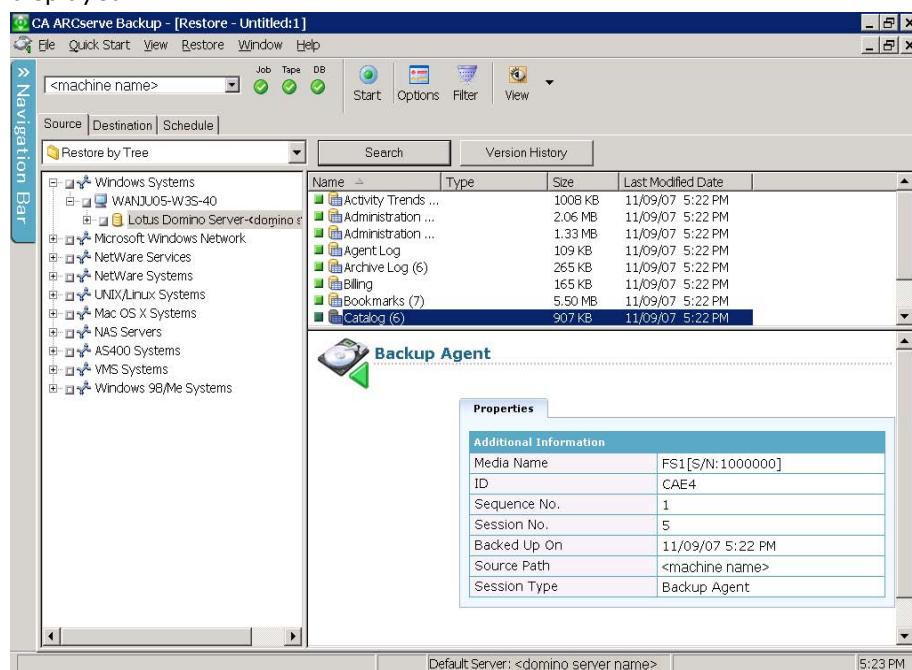
1. From the CA ARCserve Backup home page, click the Restore Manager icon. The Restore Manager main window opens.

**Important!** If you select the Restore by Tree method, you cannot restore the entire contents of the Lotus Domino server as a whole, but instead must select all subordinate objects individually. (The corresponding server marker is gray or disabled.) If you select the Restore by Session method, you can then restore the entire contents of the Lotus Domino server as a whole, without selecting all subordinate objects individually. (The corresponding server marker is green or enabled.)

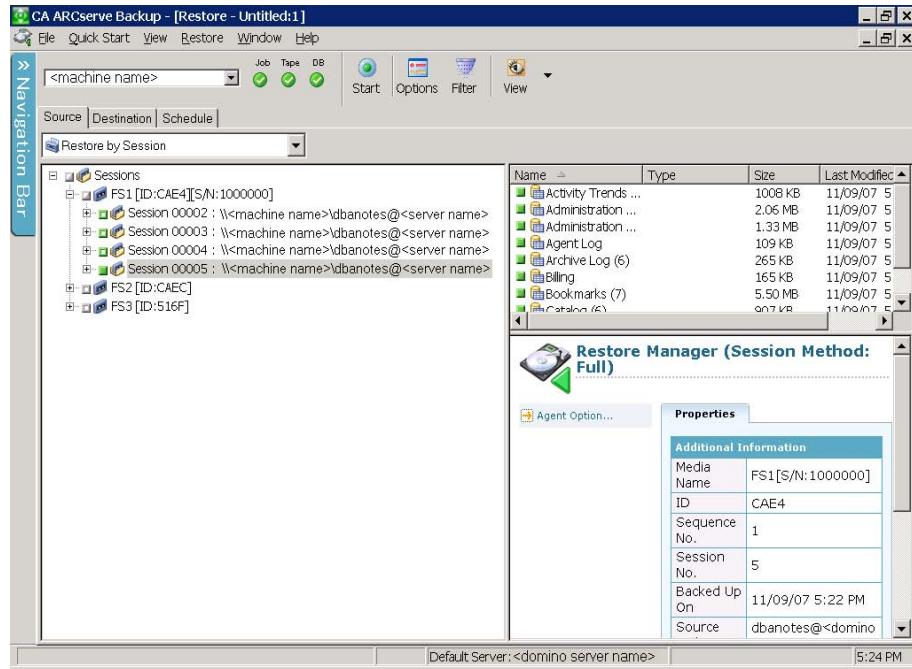
2. From the Source tab drop-down menu, select the applicable restore method. The options displayed in the corresponding source tree depend upon the method selected.

**Note:** CA ARCserve Backup Agent for Lotus Domino only supports the Restore by Tree and Restore by Session methods.

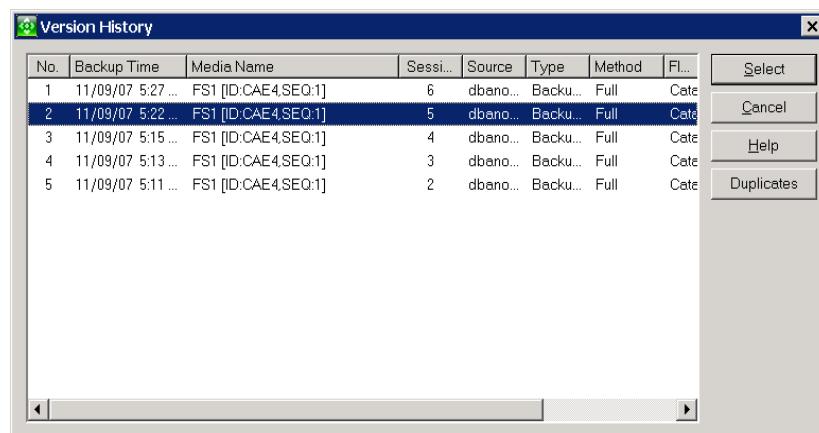
If you select the Restore by Tree method, the following screen is displayed:



If you select the Restore by Session method, the following screen is displayed:



3. (Optional) With the Restore by Tree method selected, the tree will only display the last completed backup job. If you want to restore a different backup job other than the most recent, highlight the applicable server name to enable the Version History option, then click Version History to display the Version History dialog. The Version History dialog opens, displaying a list of all versions of the database that were previously backed up. Highlight the version to be restored and click Select. An example is shown next:



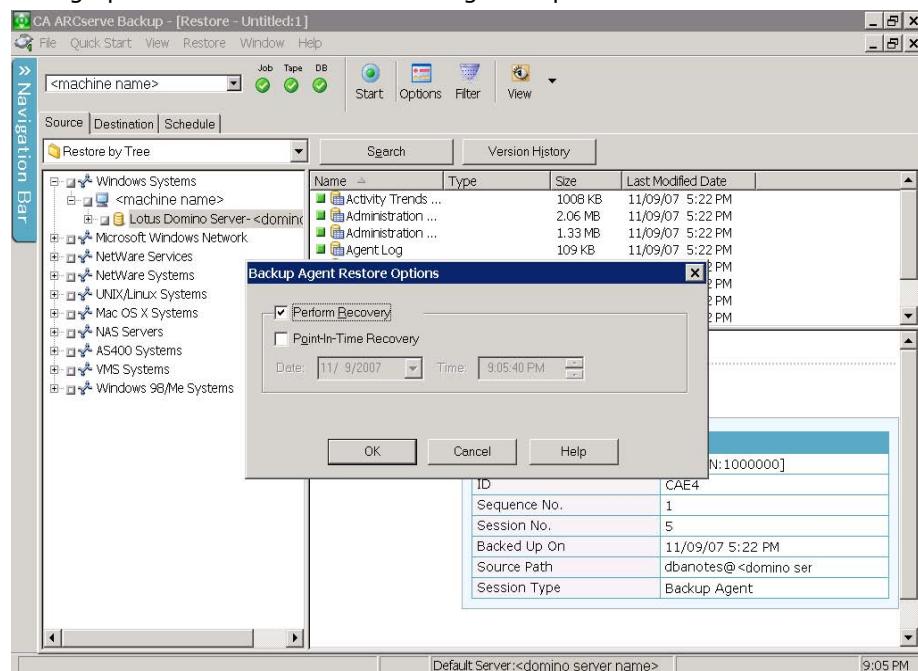
4. From the source tree, select and expand each level as necessary until the applicable Lotus Domino server that contains the objects to be restored is displayed. Information about each database is displayed in the right pane of the browser.

**Note:** If the Lotus Domino archived-style transaction logging option was enabled during the backup, the Transaction Log icon will be the first object displayed on the expanded Lotus Domino server tree. However, if no log files were previously archived, the Transaction Log icon will not be displayed at all.

5. Select the object to be restored by clicking the corresponding marker until it is solid green (full restore).

If the Restore By Session method was selected, the entire Lotus Domino server can be restored as a whole by clicking the corresponding marker next to the server name until it is green. To restore individual database files or transaction log files, they must be selected individually by clicking the corresponding marker next to the each object name until it is green.

6. Right click on the Lotus Domino server name that contains the objects to be restored and select Agent Options. The Backup Agent Restore Options dialog opens as shown in the following example:



7. From the Backup Agent Restore Options dialog, select the applicable Restore Option (Perform Recovery or Point-In-Time Recovery) and click OK.

**Note:** To select Point-in-Time recovery, you must select both the Perform Recovery option and the Point-in-Time Recovery option. To select full recovery, you can select the Perform Recovery option only. The Backup Agent Restore Options only apply to a Lotus Domino server with transaction logging enabled.

8. Click the Destination tab on the Restore Manager main window to display the Destination tab page after you have finished selecting the restore method and objects.

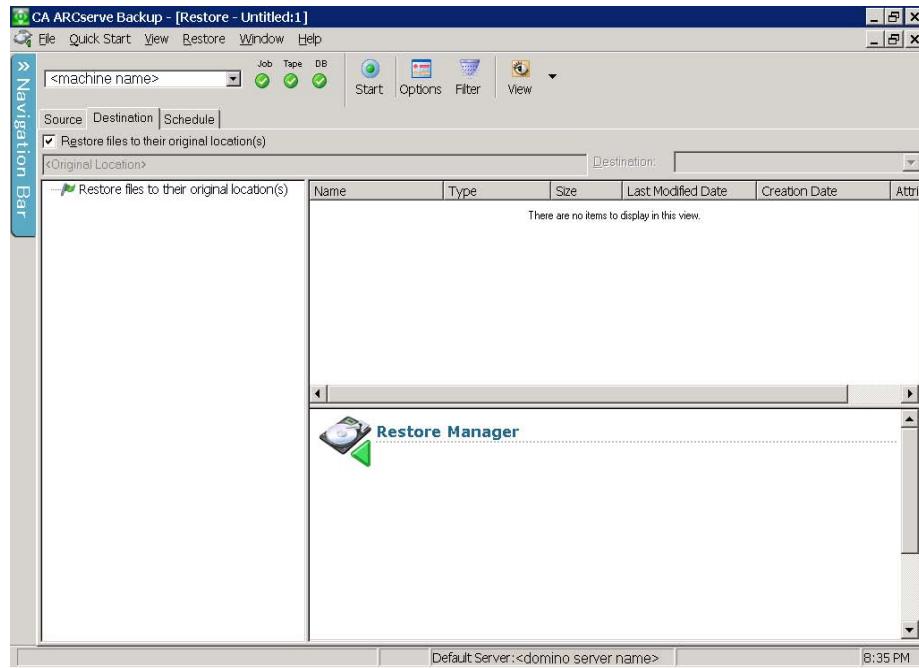
**Note:** CA ARCserve Backup Agent for Lotus Domino provides two destination options to either restore data to its original locations (default option) or to use a corresponding object tree to restore data to different locations. Data from one Lotus Domino server can be restored to its original location or to a different location, but not to another Lotus Domino server.

**Important!** Do not change the name of the Lotus Domino server after a backup has been performed. Any restore job will always try to use the settings of the same Lotus Domino server that was backed up. If the name of the Lotus Domino server is changed, you have to manually set the registry key PreviousInstanceName to restore.

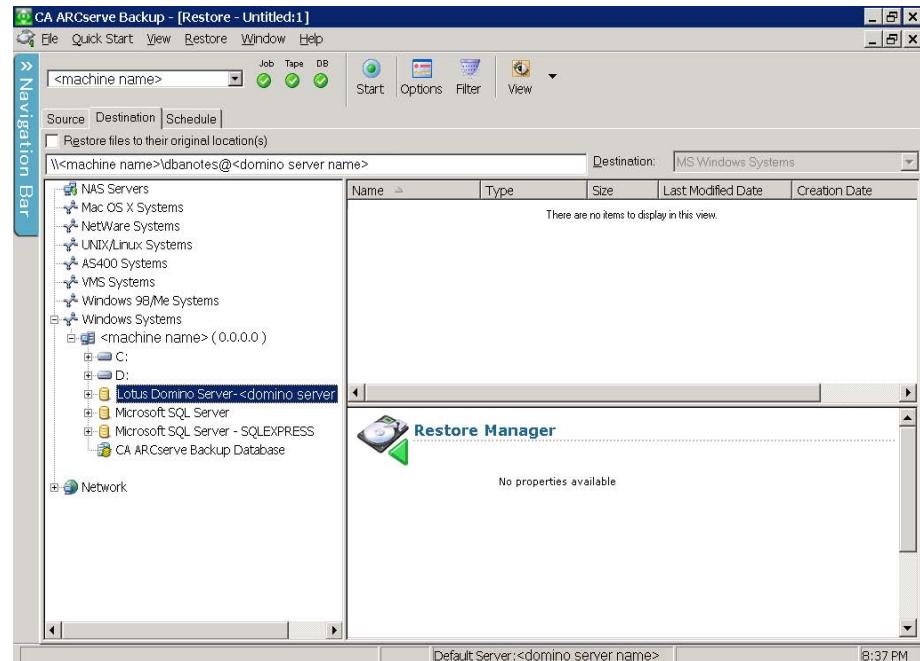
**Note:** If the length of your Lotus Domino server name is more than 30 characters, CA ARCserve Backup will automatically truncate the additional characters that exceed the 30-character limit and replace the last 2 remaining characters of the string (characters 29 and 30) with 01. If there is another Lotus Domino server with the same name, CA ARCserve Backup will again truncate the name down to 30 characters and replace the last 2 characters of the string with 02. For Example:

- If the Lotus Domino server name is "User1223334444555556666667777777" (32 characters)
- CA ARCserve Backup will truncate the name down to 30 and modify the last 2 remaining characters as follows: "User12233344445555566666677701" (30 characters)
- If you create another Lotus Domino server with the same name as the previous one, then CA ARCserve Backup will modify the name as follows: "User12233344445555566666677702" (30 characters)

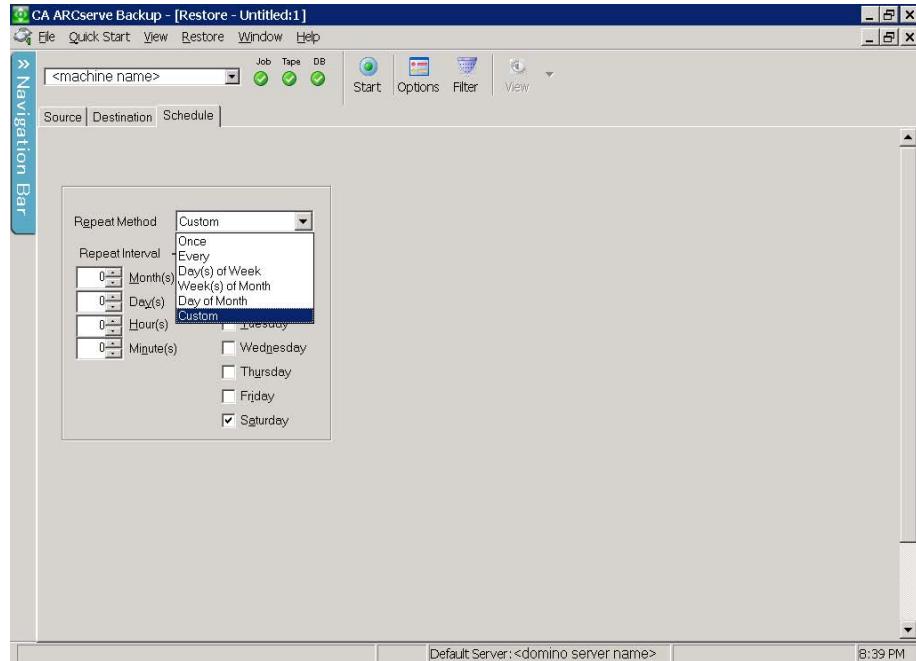
9. Select a destination for the restored data. You can either restore data to its original location or to a different location.
  - a. To restore database files to their original locations, click the **Restore files to their original location(s)** check box. The destination window automatically displays a **Restore files to their original location** entry as shown in the following example:



b. To use the destination object tree to restore database files to different locations, uncheck the Restore files to their original location(s) check box, and select the destination that you want to restore the data to. An example is shown next:



10. Click the Schedule tab, and from the Repeat Method drop down list, select Once or the applicable repeat method (Every, Days of the Week, Weeks of the Month, Day of the Month, or Custom) as shown in the following example:

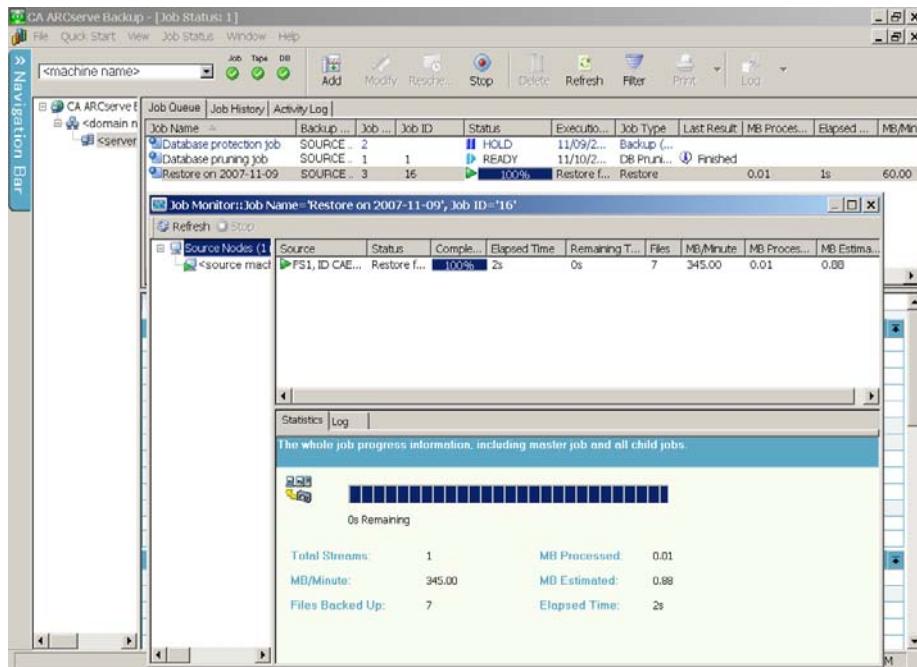


11. Click Start to initiate the restore process after all the restore job attributes have been finalized. A Session User Name and Password dialog opens for the host from which you are trying to run the restore.

**Note:** A session password is required only if a session password was specified during the backup process.

12. Provide the necessary security access information (user name and password) for the selected server host and backup session (if applicable). For more information about session options, see the online help. For a local restore job, the security information is not required.

13. Click OK. The Submit Job dialog appears, displaying a summary of the job type and the destination directory. If necessary, enter a description of the job in the Job Description field.
14. Select the Job Execution Time, choosing either Run Now (to run the restore immediately) or Run On (to define the date and time for the restore) and click OK to submit the restore job. The Job Status screen appears, displaying the Job Queue and Job Detail. You can also view more detailed Job Properties information by right-clicking on the server name and selecting Properties. The Job Properties window appears, displaying details and status of the restore process. An example is shown next:



15. When the restore job is complete, a status window opens, indicating the final status (successful or failed) of the restore job as shown in the following example. Click OK to close the status window.

## Restore Data with an Incremental Backup

### **To perform a complete restore job from a full backup with incremental backup sessions**

1. Restore all transaction logs from the full backup session.
2. Restore the transaction logs from all subsequent incremental backup sessions up to the specified time.
3. Restore all database files (do not include transaction logs) from the full backup session.
4. Restore all database files (do not include transaction logs) from all subsequent incremental backup sessions up to the specified time.

**Note:** The incremental backup session may be empty if no archived log files exist and if no new DBIID has been assigned for a Lotus Domino server with the archived-style transaction logging option enabled.

## Restore Data with a Differential Backup

### **To perform a complete restore job from a full backup with differential backup sessions**

1. Restore all transaction logs from the full backup session.
2. Restore the transaction logs from the last differential backup session.
3. Restore all database files (do not include transaction logs) from the full backup session.
4. Restore all database files (do not include transaction logs) from the last differential backup session.

## Use the Agent to Perform a Disaster Recovery

The most important thing you can do to minimize the risk of losing data after a disaster is to maintain current backups of all of your servers and workstations. If you do not maintain regular backups, CA ARCserve Backup Agent for Lotus Domino is limited in its ability to recover your Lotus Domino data after a disaster, such as a hard disk failure. Be sure to create a media rotation schedule to frequently update and maintain current full backups. If disaster does occur, CA ARCserve Backup Agent for Lotus Domino provides you with the ability to recover your Lotus Domino server quickly and efficiently. For information about disaster recovery of a Windows system, see the *Disaster Recovery Option Guide*.

The method of using the agent to perform a disaster recovery varies depending on how the Lotus Domino server was configured.

## Perform a Disaster Recovery with Archived Transaction Logging Enabled

If a disaster occurs and the Lotus Domino archived-style transaction logging option was enabled, you can recover your Lotus Domino server databases by performing the following steps.

### To recover a Lotus Domino server database with archived transaction logging enabled

1. Restore or reinstall your Lotus Domino server program directory. You may need to reboot the server.

**Important!** Depending on the extent of the data loss, it may be necessary to install and configure a new Lotus Domino server. Make sure the new installation is configured in the same way as the damaged server, with the same directory structure, location, and log directory path, but do not launch the new server at this time.

2. Restore the latest notes.ini, cert.id, and server.id files preserved prior to the data loss. You may need to reboot the server.
3. Prepare the log directory (logdir). Verify that the logdir defined in the notes.ini file exists and that it does not contain any old files. Any transaction log control files (nlogctrl.lfh) and log files (.txn) from a previous installation must be removed for the disaster recovery process to be successful.
4. Restore the database files to the Lotus Domino data directory using CA ARCserve Backup Agent for Lotus Domino, but without transaction log. Do not select the Perform Recovery option.

**Note:** Restore the database files under full session backup first, then restore database files under subsequent incremental session backups or restore from the last differential session backup. Be sure the Perform Recovery option is unchecked.

5. Restore the archived log events. You can recover the backup files to the last committed transaction in the most recently archived transaction log extent.

**Note:** Restore the transaction log files under subsequent incremental session backups or restore from the last differential session backup. There is no need to restore log files under the full session backup.

6. Check the log directory (logdir).

- a. If the log directory is empty, be sure the following parameter in the notes.ini file is set and then go to step 11:  
`TRANSLOG_Recreate_Logctrl = 0`

- b. If the log directory is not empty, facilitate the creation of a new control file by setting the following parameter in the notes.ini file:  
`TRANSLOG_Recreate_Logctrl = 1`

7. Restart the Lotus Domino server, then shut it down.
8. Disable the creation of a new control file by changing the parameter value in the notes.ini file as follows:

```
TRANSLOG_Recreate_Logctrl = 0
```

**Note:** Alternately, you can also disable the creation of a new control file by removing the following parameter from the notes.ini file:

```
TRANSLOG_Recreate_Logctrl = 1
```

9. If shared mail also needs to be restored, perform the following steps prior to restoring the shared mail:
  - a. Start the Lotus Domino server.
  - b. Take the shared mail offline.
  - c. Shut down the Lotus Domino server.

**Note:** The Lotus Domino server must be shut down prior to restoring database files.

10. To recover the database files, restore the database files to the Lotus Domino database directory again using CA ARCserve Backup Agent for Lotus Domino but this time with the Perform Recovery option selected.

**Note:** Recover the database files under full session backup first, then recover database files under subsequent incremental session backups only if there are archived log files backed up after that incremental session. There is no need to recover database files under the differential session backup.

11. Launch the new Lotus Domino server. When the disaster recovery process is complete, it is now safe to start the Lotus Domino server and execute server tasks and functions.

## Perform a Disaster Recovery with Circular Transaction Logging Enabled

If a disaster occurs and the Lotus Domino circular-style transaction logging option was enabled, you can recover your Lotus Domino server databases by performing the following steps.

### **To recover a Lotus Domino server database with circular transaction logging enabled**

1. Restore or reinstall your Lotus Domino server program directory. You may need to reboot the server.

**Important!** Depending on the extent of the data loss, it may be necessary to install and configure a new Lotus Domino server. Make sure the new installation is configured in the same way as the damaged server, with the same directory structure, location, and log directory path, but do not launch the new server at this time.

2. Restore the latest notes.ini, cert.id, and server.id files preserved prior to the data loss. You may need to reboot the server.
3. Prepare the log directory (logdir). Any transaction log control files (nlogctrl.lfh) and log files (.txn) from a previous installation must be removed for the disaster recovery process to be successful.
4. Facilitate the creation of a new control file by setting the following parameter in the notes.ini file:

TRANSLOG\_PATH = LOGDIR

5. Restore the database files to the Lotus Domino data directory using CA ARCserve Backup Agent for Lotus Domino. Do not select the Perform Recovery option.
6. Launch the new Lotus Domino server. When the disaster recovery process is complete, it is now safe to start the Lotus Domino server and execute server tasks and functions.

## Perform a Disaster Recovery without Transaction Logging Enabled

If a disaster occurs and the Lotus Domino transaction logging option was not enabled, you can recover your Lotus Domino server databases by performing the following steps:

### **To recover a Lotus Domino database without transaction logging enabled**

1. Restore or reinstall your Lotus Domino server program directory. You may need to reboot the server.

**Important!** Depending on the extent of the data loss, it may be necessary to install and configure a new Lotus Domino server. Make sure the new installation is configured in the same way as the damaged server, with the same directory structure, location, and log directory path, but do not launch the new server at this time.

2. Restore the latest notes.ini, cert.id, and server.id files preserved prior to the data loss. You may need to reboot the server.
3. Restart the CA ARCserve Backup Agent RPC server.

**Note:** The Lotus Domino server must be shut down prior to restoring database files.

4. Restore the database files to the Lotus Domino data directory using CA ARCserve Backup Agent for Lotus Domino.
5. Launch the new Lotus Domino server. When the disaster recovery process is complete, it is now safe to start the Lotus Domino server and execute server tasks and functions.

# Appendix A: Troubleshooting

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CA ARCserve Backup Agent for Lotus Domino includes an Activity log to list information about the status of each backup or restore job. For Windows NT, Windows 2000, and Windows 2003 platforms, the backup agent log file (dbanotes.log) is located in the CA ARCserve Backup Agent for Lotus Domino home directory. If any errors appear in the CA ARCserve Backup job logs, you should check this agent log for more specific information about the errors.

This section contains the following topics:

[Enable the Debug Option](#) (see page 49)  
[Common Error Messages](#) (see page 50)

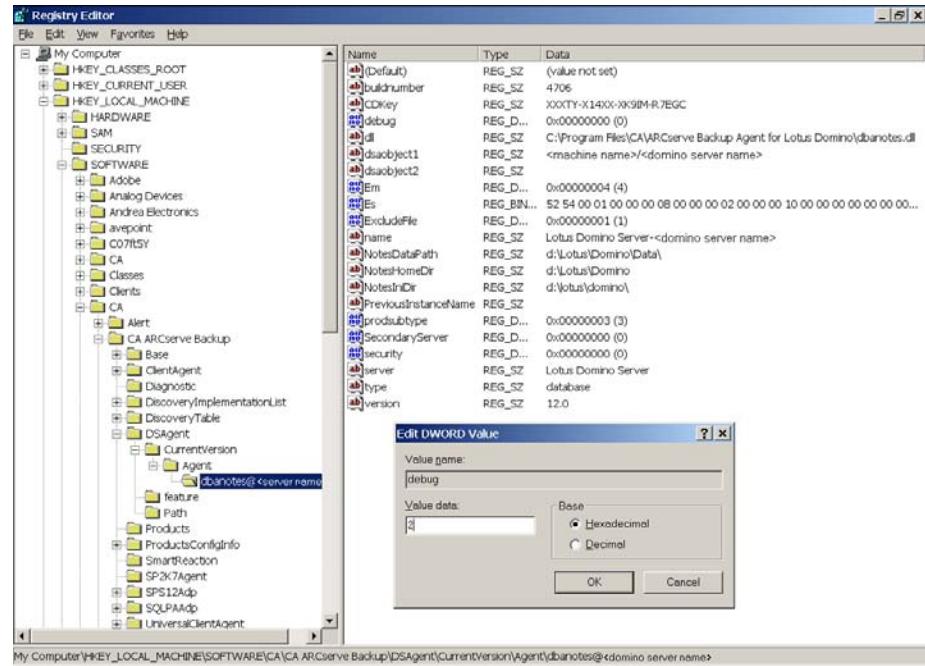
## Enable the Debug Option

CA ARCserve Backup Agent for Lotus Domino can be configured to receive more debugging information. This is done through the Registry Editor by enabling the debug option and setting the corresponding parameter value. When the debug option is enabled, the program will generate trace files (in the corresponding working directory). The trace file name will be dbanotes@servername.trc, where server name is the actual name of the selected Lotus Domino server. For instance, the trace file generated for server213 will be dbanotes@server213.trc.

The debug parameter can be set to specify the debugging level or the extent of generated trace files. These trace files can include all notes, warnings, and errors that occur while running CA ARCserve Backup. The trace files can be used to assist the CA technical support representatives during troubleshooting efforts.

### To enable the debug option and set the parameter value

1. From the Registry Editor, open the `dbanotes@servername` directory for the applicable Lotus Domino server.
2. Select and double-click the `debug:REG_DWORD` option. The DWORD Editor dialog opens. An example is shown next:



3. Set the debug parameter value to 2 to generate detailed trace files.

**Note:** If the debug parameter value is set to 1, general trace files will be generated. If the debug parameter value is set to 0, no trace files will be generated.

4. Click OK.

## Common Error Messages

This section provides common error troubleshooting information for CA ARCServe Backup Agent for Lotus Domino on the Windows NT, Windows 2000, and Windows 2003 platforms.

**E8601**

**Failed to connect to agent. (AGENT=agent name, EC=error message or code)**

**Reason: 1**

The CA ARCserve Backup Agent RPC server is not running on the target server.

**Action: 1**

Verify that the CA ARCserve Backup Agent RPC server is not running on the target server.

**Reason: 2**

The target database server is stopped or inaccessible.

**Action: 2**

Verify that the target database server is running on the target server or the target database server can be brought online without any error.

**Reason: 3**

The target server may be unreachable over the network.

**Action: 3**

Verify all network connections.

**Reason: 4**

Windows error 1326 – Machine authentication failure may have occurred because an incorrect user name or password was entered, or the user name was specified without a domain or machine name qualifier, and this qualifier is needed for this particular user on the target machine.

**Action: 4**

Check user name and password for machine login. Specify a domain qualifier for the user name used to log in to the database. For a domain user, use this format:

Domain\User name

**Reason: 5**

Windows error 1385 – Machine authentication failure may have occurred because the specified user does not have sufficient rights to perform a backup.

**Action: 5**

Check that the user either has the Backup files and Directories rights in the Local Security Policies of the database server machine or is a member of a group that has this right. This right is typically held by the Administrators group and the Backup Operators group.

**Reason: 6**

Windows error 1387 – Machine authentication failure may have occurred because the user name or password is missing.

**Action: 6**

Check user name and password for machine login. Specify a domain qualifier for the user name used to log in to the database. For a domain user, use this format:

Domain\User name

**Reason: 7**

Windows error 1314 – Machine authentication failure may have occurred because the CA ARCserve Backup Agent RPC server is running as a user who does not have sufficient privileges to log in to Windows.

**Action: 7**

In the control panel, under Services (for Windows NT) or Administrative Tools, Services (for Windows 2000, Windows XP, or Windows 2003), check that the CA ARCserve Backup Agent RPC server is running as a Local System, or as a user who is a member of the Backup Operators group.

If the CA ARCserve Backup Agent RPC server is running as a user who is a member of the Backup Operators group, make sure that the Backup Operators group has the Act as part of the Operating System rights in the Local Security Policies for the database host server computer.

**Note:** To verify the host server logon credentials for database backups on a NAS device or network-shared device, see Prepare for a Backup in the chapter "Using the Agent."

**Reason: 8**

A failure to load the agent DLL into memory may have occurred because there is insufficient memory available, the agent DLL does not exist in the agent home directory, or the DLL path is incorrect in the registry.

**Action: 8**

Verify that the target server has sufficient free memory available.

**Reason: 9**

A failure to access the notes.ini file.

**Action: 9**

Check the registry key NotesIniDir under CA, CA ARCserve Backup, DSAgent, CurrentVersion, agent, dbanotes@servername. Make sure the path is valid and accessible.

**Reason: 10**

A failure to launch the dbanotesag.exe file.

**Action: 10**

From task manager, check if the corresponding dbanotesag.exe file is running. Check if the Lotus Domino server is running properly or if it can be started offline. Restart CA ARCserve Backup Agent RPC server.

**E8602****Failed to read from database. (DBNAME=object name, EC=error message or code)****Reason: 1**

An internal or communication error occurred when the agent attempted to read a backup object from the database server or from the database server to CA ARCserve Backup.

**Action: 1**

Perform the following steps on the server that is running the agent:

1. Confirm that the database agent is running.
2. Make certain no other backup or restore jobs are running on the database instance you are attempting to back up.
3. Restart the Backup Agent RPC Server service.
4. Resubmit the backup job.

If the problem reoccurs, check the network connections. If the problem persists, contact CA Technical Support.

**Reason: 2**

A network error has occurred.

**Action: 2**

Check all possible network related issues, such as inconsistent communication, time outs, drivers, and settings on all network-related hardware.

**Reason: 3**

The drive containing the Lotus Domino data directory is not shared.

**Action: 3**

From Windows explorer, access the sharing properties dialog for the drive containing the Lotus Domino data directory and verify the drive is set to allow sharing.

**E8603**

**Failed to write to database. (DBNAME=object name, EC=error message or code)**

**Reason: 1**

This error occurs when the agent writes data streams from CA ARCserve Backup to a target object (DBNAME=object name) in the Database server.

**Action: 1**

Check the agent log file for details.

**Reason: 2**

A Lotus Domino server incremental or differential session failed to restore.

**Action: 2**

Restore the latest full backup session before you restore an incremental or differential backup.

**Reason: 3**

Cannot restore online because the database is in use. This error corresponds to a sharing violation and indicates the database is open.

**Action: 3**

If the error occurs again, wait approximately 30 minutes and attempt to resubmit the restore job. If this does not resolve the problem, you should consider stopping the Lotus Domino server and restoring the database offline. Shared mail has to be taken offline through Lotus Domino Administrator before restoring.

**Reason: 4**

The agent was unable to establish a Named Pipe connection to the CA ARCserve Backup Manager interface.

**Action: 4**

Perform the following steps on the server that is running the agent:

1. Restart the Backup Agent RPC Server service.
2. If possible, disable your Antivirus software to determine if it is conflicting and disable Named Pipe scanning to prevent possible conflicts.
3. Disconnect all open shares to the agent machine (by name or IP) and run the backup again. To disconnect open shares from the machine where the CA ARCserve Backup Manager interface is installed, right-click My Computer and select Disconnect Network Drive or use the net use command at the command prompt.

**E8604****Failed to start backup (DBNAME=object name, EC=error message or code)****Reason: 1**

Windows error 1326— Machine authentication failure may have occurred because an incorrect user name or password was entered, or the user name was specified without a domain or machine name qualifier and this qualifier is needed for this particular user on the target machine.

**Action: 1**

Check user name and password for machine login. Specify a domain qualifier for the user name used to log in to the database. For a domain user, use this format:

Domain\User name

**Reason: 2**

Windows error 1385 – Machine authentication failure may have occurred because the specified user does not have sufficient rights to perform a backup.

**Action: 2**

Check that the user either has the Backup files and Directories rights in the Local Security Policies of the database server machine or is a member of a group that has this right. This right is typically held by the Administrators group and the Backup Operators group.

**Reason: 3**

Windows error 1387 – Machine authentication failure may have occurred because the user name or password is missing.

**Action: 3**

Check user name and password for machine login. Specify a domain qualifier for the user name used to log in to the database. For a domain user, use this format:

Domain\User name

**Reason: 4**

Windows error 1314 – Machine authentication failure may have occurred because the CA ARCserve Backup Agent RPC server is running as a user who does not have sufficient privileges to log in to Windows.

**Action: 4**

In the control panel, under Services (for Windows NT) or Administrative Tools, Services (for Windows 2000, Windows XP, or Windows 2003), check that the CA ARCserve Backup Agent RPC server is running as a Local System, or as a user who is a member of the Backup Operators group.

If the CA ARCserve Backup Agent RPC server is running as a user who is a member of the Backup Operators group, make sure that the Backup Operators group has the Act as part of the Operating System rights in the Local Security Policies for the database host server computer.

**Note:** To verify the host server logon credentials for database backups on a NAS device or network-shared device, see Prepare for a Backup in the chapter "Using the Agent."

**Reason: 5**

Failed to backup a database that is currently being backed up.

**Action: 5**

This error indicates that the database file is locked by an application. Reschedule one of the backup jobs to avoid the conflict if two CA ARCserve Backup Manager interfaces are attempting to back up the same Lotus Domino database simultaneously. Otherwise, you maybe need to recycle the Lotus Domino server.

**Reason: 6**

Two CA ARCserve Backup Manager interfaces are attempting to back up the same Lotus Domino database simultaneously.

**Action: 6**

Reschedule one of the backup jobs to avoid the conflict.

**Reason: 7**

Failed to open the Lotus Domino database or directory. Cannot open id file.

**Action: 7**

Make sure the correct server id file (typically server.id) is used. If necessary, reconfigure CA ARCserve Backup Agent for Lotus Domino. For more information about configuring the agent, see Configure Access Rights to the Server in the chapter "Installing the Agent."

**E8605****Failed to start restore (DBNAME=object name, EC=error message or code)****Reason: 1**

Windows error 1326 – Machine authentication failure may have occurred because an incorrect user name or password was entered, or the user name was specified without a domain or machine name qualifier and this qualifier is needed for this particular user on the target machine.

**<s> 1**

Check user name and password for machine login. Specify a domain qualifier for the user name used to log in to the database. For a domain user, use this format:

Domain\User name

**Reason: 2**

Windows error 1385 – Machine authentication failure may have occurred because the specified user does not have sufficient rights to perform a restore.

**<s> 2**

Check that the user either has the Restore files and Directories rights in the Local Security Policies of the database server machine or is a member of a group that has this right. This right is typically held by the Administrators group and the Backup Operators group.

**Reason: 3**

Windows error 1387 – Machine authentication failure may have occurred because the user name or password is missing.

**<s> 3**

Check user name and password for machine login. Specify a domain qualifier for the user name used to log in to the database. For a domain user, use this format:

Domain\User name

**Reason: 4**

Windows error 1314 – Machine authentication failure may have occurred because the CA ARCserve Backup Agent RPC server is running as a user who does not have sufficient privileges to log in to Windows.

**<s> 4**

In the control panel, under Services (for Windows NT) or Administrative Tools, Services (for Windows 2000, Windows XP, or Windows 2003), check that the CA ARCserve Backup Agent RPC server is running as a Local System, or as a user who is a member of the Backup Operators group.

If the CA ARCserve Backup Agent RPC server is running as a user who is a member of the Backup Operators group, make sure that the Backup Operators group has the Act as part of the Operating System rights in the Local Security Policies for the database host server computer.

**Note:** To verify the host server logon credentials for database backups on a NAS device or network-shared device, see Prepare for a Backup in the chapter "Using the Agent."

**E8617**

**Failed to end restore (DBNAME=object name, EC=error message or code)**

**Reason: 1**

The agent failed to recover the database server after a restore job. This is an indication that an internal error has occurred in either the agent or the database server.

**Action: 1**

Check the agent log file for details.

**Reason: 2**

Failed to perform point-in-time restore and recovery. Need log file to perform recovery.

**Action: 2**

Restore the required transaction log file first, then perform point-in-time recovery again.

**Reason: 3**

The database is not the latest copy.

**Action: 3**

The database file DBIID is changed. A point-in-time recovery is not possible with this error. A full backup job should be scheduled immediately whenever the DBIID is changed.

**Reason: 4**

Backup was later than the specified recovery point in time.

**Action: 4**

Verify that the specified point-in-time date and time is set correctly. This restore option is displayed in the Backup Agent Restore Options dialog. To access this dialog, select the applicable Lotus Domino server, right click, and select Agent Option.

**8617a****Failed to enumerate databases.****Reason:**

This error indicates that the Lotus Domino server is not running.

**Action:**

Start the Lotus Domino server.



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