

# Backup Cisco ICM Database in Microsoft SQL 2000

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## **Introduction**

### **Prerequisites**

Requirements

Components Used

Conventions

### **Background**

### **Backup Devices**

### **ICM Database Backup**

Create a New Disk Dump Device

Create a Database Backup

### **ICM Configuration and Script Data Backup**

### **NetPro Discussion Forums – Featured Conversations**

### **Related Information**

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## **Introduction**

This document demonstrates how to perform a complete Cisco Unified Intelligent Contact Management (ICM) Enterprise database backup by running Microsoft Database Backup Wizard, in a ICM version 5 and Microsoft SQL 2000 environment.

## **Prerequisites**

### **Requirements**

Readers of this document should have knowledge of these topics:

- Cisco ICM
- Microsoft SQL

### **Components Used**

The information in this document is based on these software and hardware versions:

- Cisco ICM version 5.x and later
- Microsoft SQL 2000

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

### **Conventions**

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

# Background

It is important to understand the differences between full, differential, transaction log, and ICM configuration and script data backups.

- **Full Backup** Backs up all data in the database, regardless of whether there have been changes since the last backup.
- **Differential Backup** Records only the changes made to the database since the last full backup. This option uses less space on the backup media and finishes faster. This type of backup is best as a supplement to regular full backups. Before you restore a differential backup, you must restore the last full backup.
- **Transaction Log** Backs up transactions written to the transaction log since the last transaction log backup. Use this type of backup to safeguard data for short intervals. In order to restore a transaction log backup, you must apply the last full backup, followed by the last differential backup, then you can restore all transaction log backups made since the differential backup.
- **Configuration and Script Data Backup** Configuration data describes the contact center enterprise and includes all the peripherals, services, dialed numbers, routes, and peripheral targets. Script data is also kept on both Loggers and contains all call routing and administrative scripts the ICM software uses in call routing (both current and previous versions). In duplexed Central Controller systems, configuration data is kept duplexed on both Loggers. It is always resynchronized when a Logger is restarted.

## Backup Devices

A backup is stored on backup devices. There are two options, disk devices and tape devices.

- **Disk Devices** Disk devices are a storage medium such as a hard disk. These devices may be located on a remote server. Never place a backup on the same disk where the ICM database resides.
- **Tape Devices** Dealing with tape devices is essentially the same as dealing with disk devices. The only differences are, it does not support a remote tape drive and when a tape is full you are prompted for another tape.

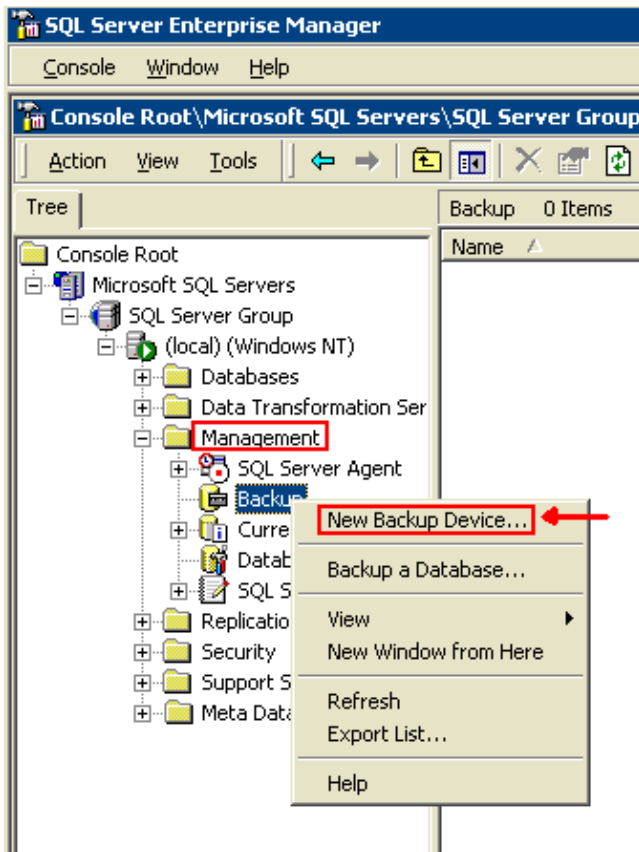
## ICM Database Backup

### Create a New Disk Dump Device

The backup device can be referred to by either a physical name or logical name. A *physical name* is the file name of a disk device. A *logical name* is an alias for the physical name, which is created from within SQL server before using the backup device. This is the procedure to create a logical device:

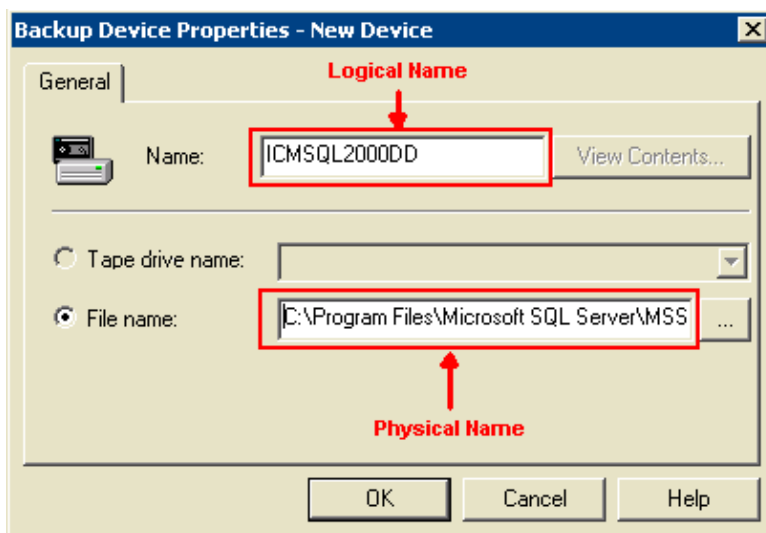
1. Open SQL Server Enterprise Manager, select **Start > Programs > Microsoft SQL Server > Enterprise Manager**.
2. Connect to the SQL Server where the ICM database is stored.
3. Open the **Backup** container below the **Management** node, as shown in Figure 1.

**Figure 1: Backup Container under Management Node**



4. Right-click **Backup**.
5. Select **New Backup Device**. The Backup Device Properties dialog box appears, as shown in Figure 2.

**Figure 2: Backup Device Properties – New Device**



6. Enter a logical name, for example, **ICMSQL2000DD** .

**Note:** It is helpful to use a logical name, such as the default storage location and filename (it can be a location or filename of your choice).

7. If you are using a tape device instead of disk device, select **Tape drive name**, instead of File name in step 5.
8. Click **OK** to create the new backup device.

A single backup device can be used to store multiple backups. It is not limited to creating backup devices using SQL Server Enterprise Manager. SQL Server also comes with the **sp\_addumpdevice** stored procedure

that allows you to create backup devices from Query Analyzer. The syntax of this stored procedure is as follows:

```
sp_addumpdevice {'device_type', 'logical name', 'physical name'}
```

**Note:** The first parameter is the device type, either disk or tape. Next, the device logical name, followed by the physical name.

## Create a Database Backup

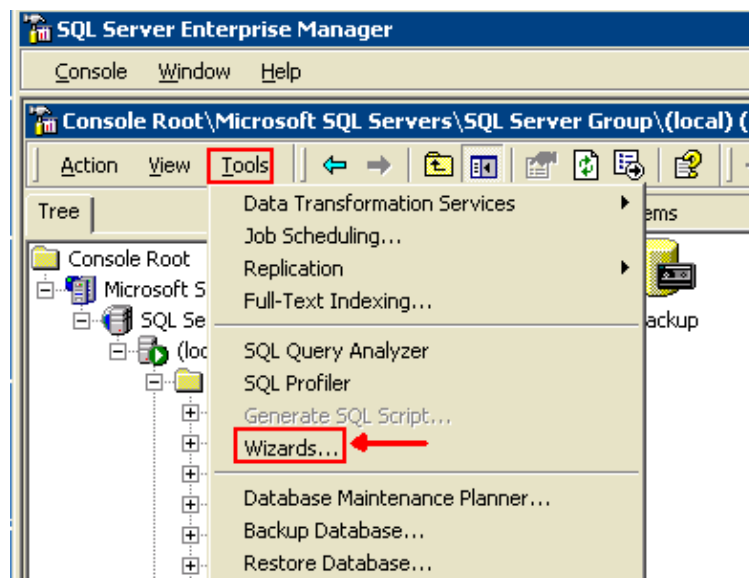
Make sure to take the following items into consideration when preparing for an ICM database backup. First, make sure the backup is scheduled during a time that impacts productivity the least. Second, in order to protect data integrity, do not perform these actions during the ICM database backup:

- Create or delete database files
- Create indexes
- Perform an operation that will not be logged
- Shrink the database

This is the procedure to create a new ICM database backup for an ICM database:

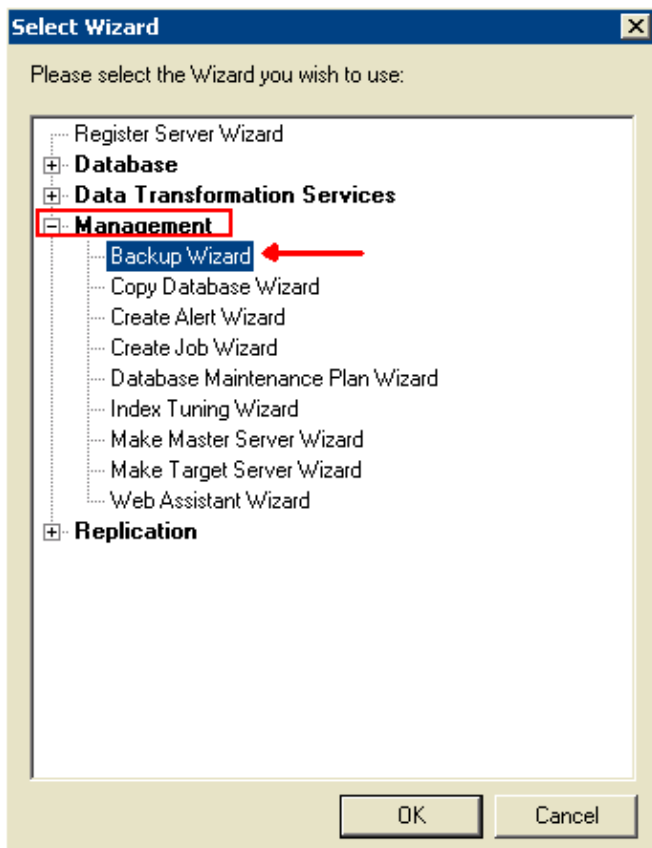
1. Open SQL Server Enterprise Manager, select **Start > Programs > Microsoft SQL Server > Enterprise Manager**.
2. Connect to the SQL Server containing the ICM database.
3. Select **Tools > Wizards**, as shown in Figure 3.

**Figure 3: SQL Server Enterprise Manager --- Tools**



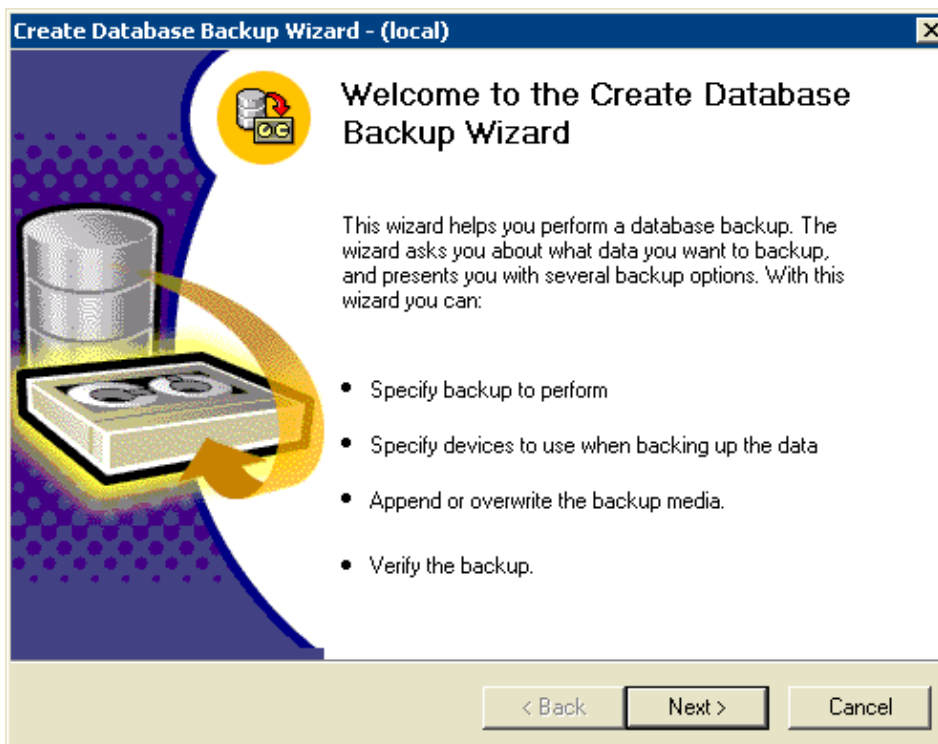
4. Click to expand **Management**.
5. Select **Backup Wizard**.
6. Click **OK**, as shown in Figure 4.

**Figure 4: Select Wizard**



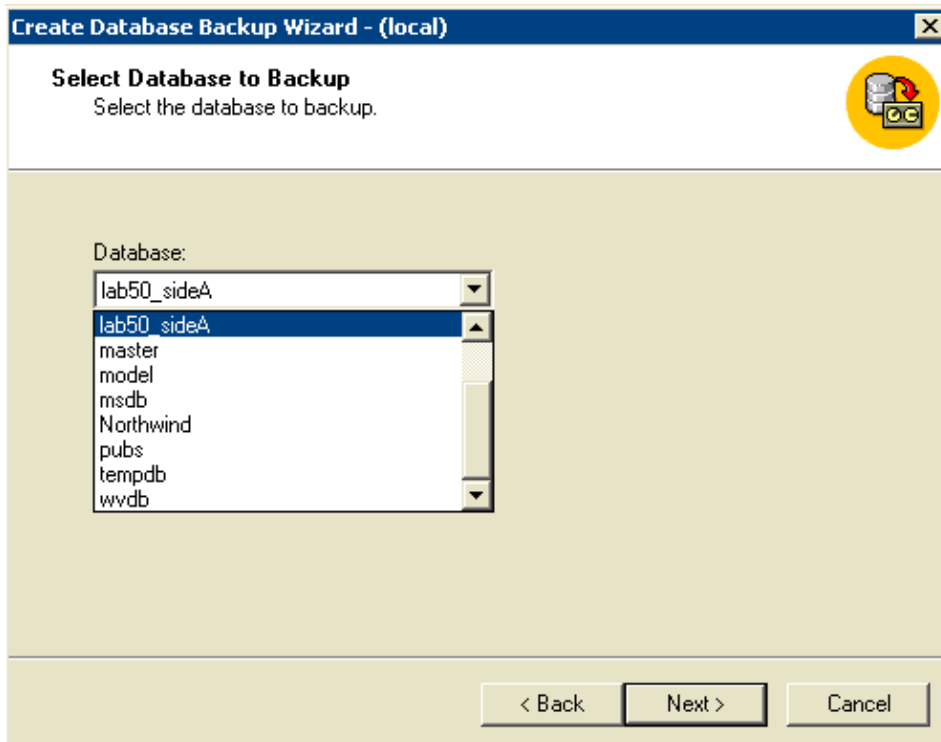
The Create Database Backup Wizard screen opens, as shown in Figure 5.

**Figure 5: Create Database Backup Wizard**



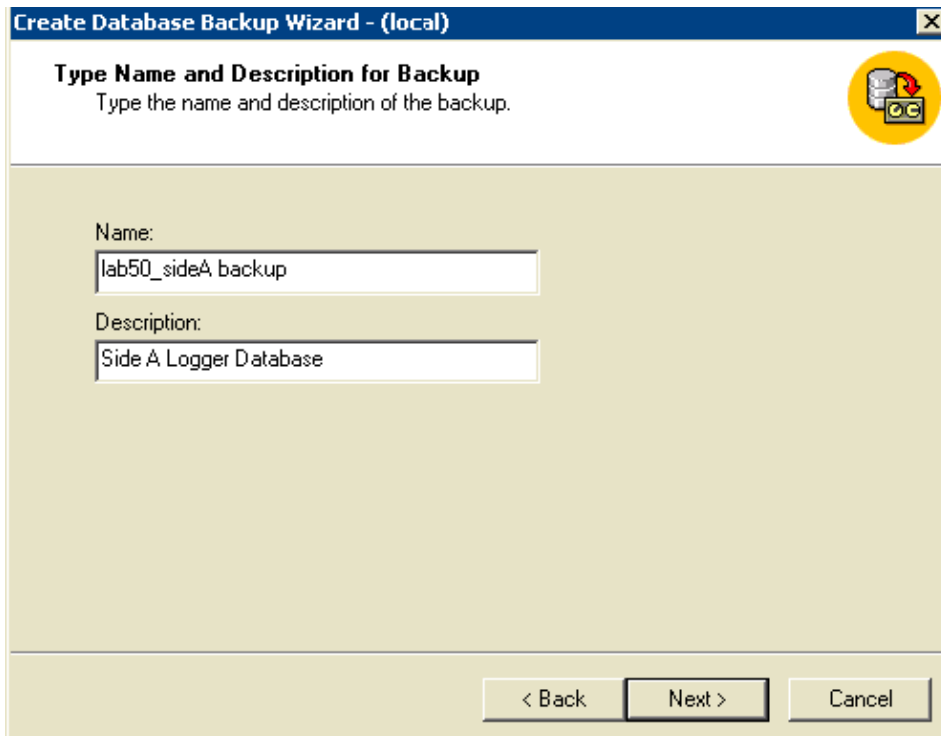
7. Click **Next**, Figure 6 appears.

**Figure 6: Select Database to Backup**



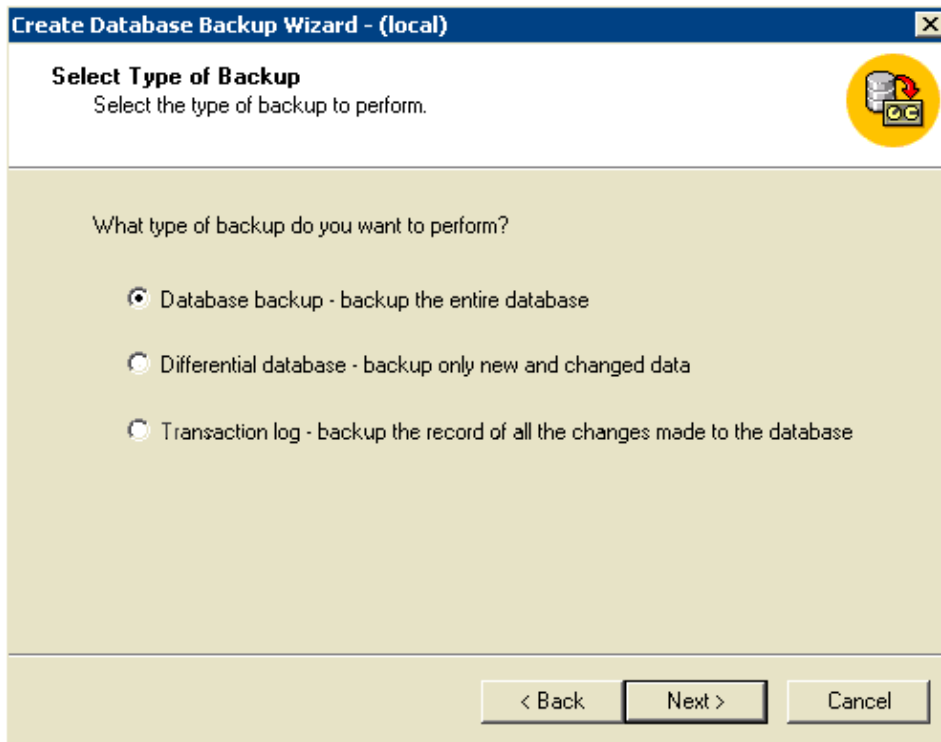
8. Click the down arrow and select the ICM database you want to back up.
9. Click **Next**.

**Figure 7: Type Name and Description for Backup**



10. Provide a **Name** and **Description** for the backup.
11. Click **Next**.

**Figure 8: Select Type of Backup**

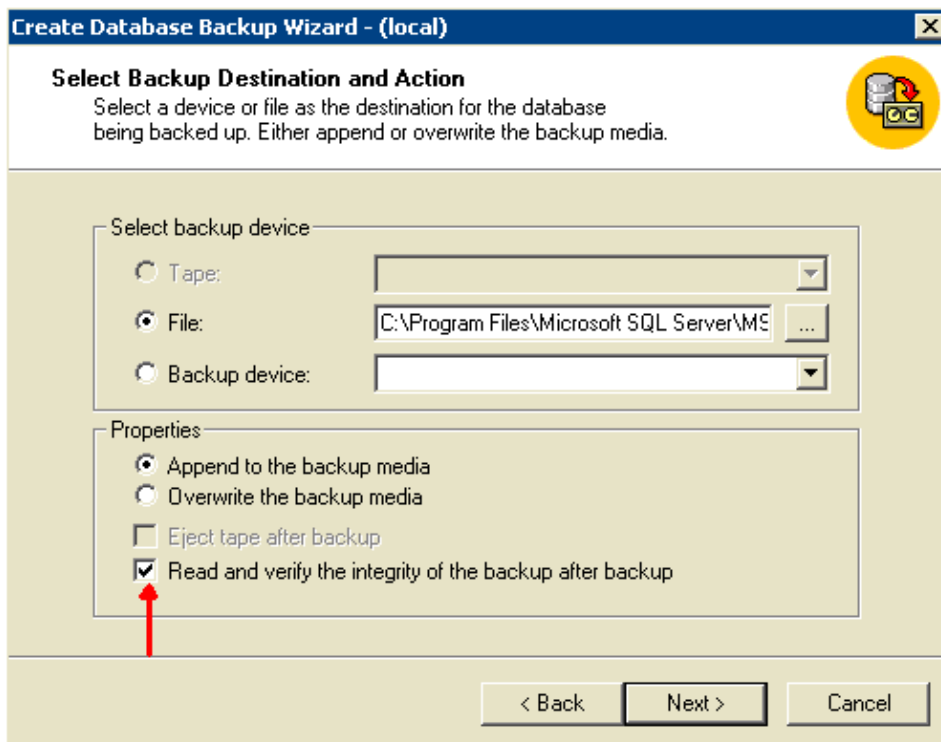


12. In the **Select Type of Backup** screen, select the type of backup you want to create.

**Note:** The default is a full ICM database backup.

13. Click **Next**.

**Figure 9: Select Backup Destination and Action**

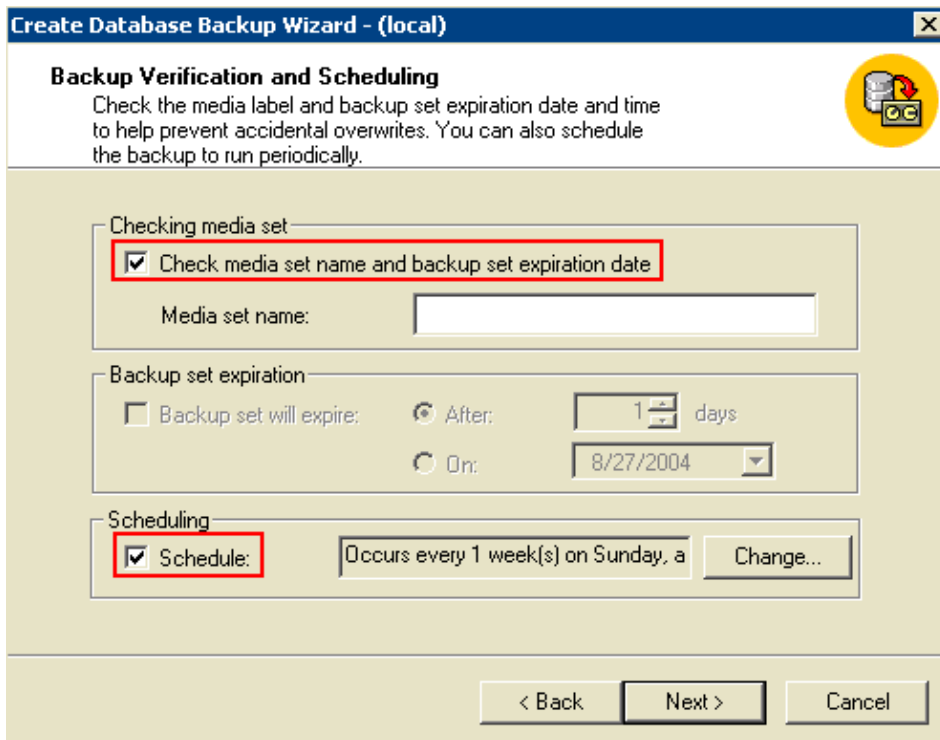


14. Select the backup device, **Tape**, **File**, or **Backup** device.

15. Select **Read and verify the integrity of the backup after backup**.

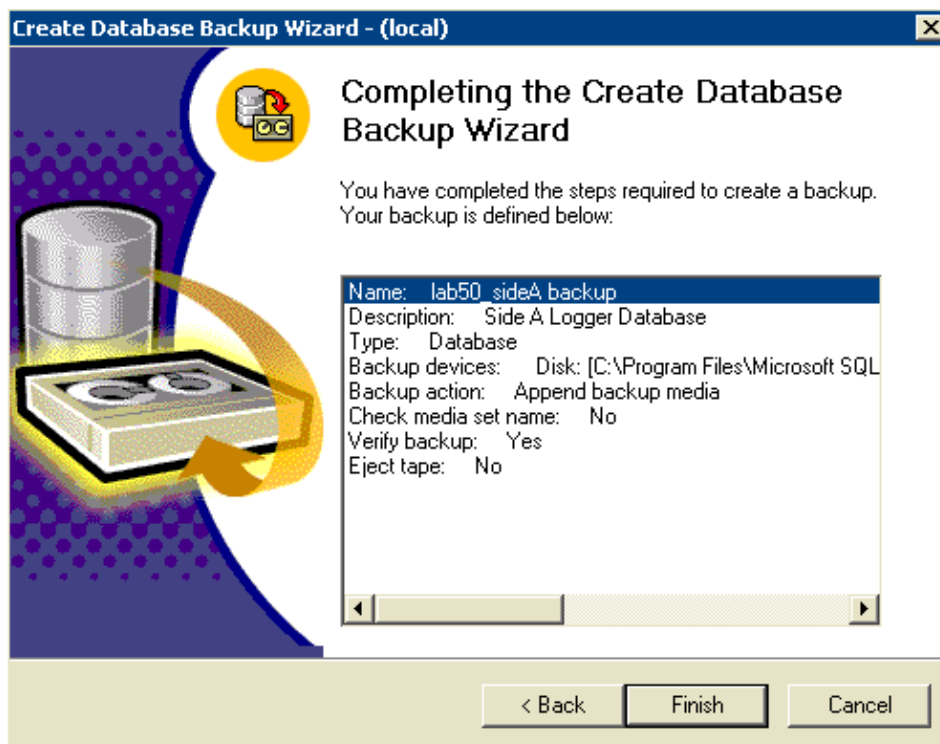
16. Click **Next**.

**Figure 10: Backup Verification and Scheduling**



17. You should select **Check media set name and backup set expiration date**, so a later backup does not accidentally overwrite an existing backup.
18. You can also set up a schedule for regular backup operations.
19. Click **Next**.

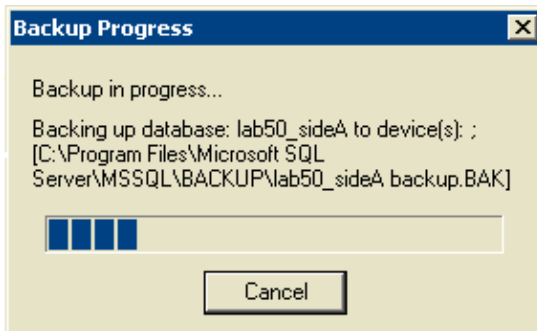
**Figure 11: Completing the Create Database Backup Wizard**



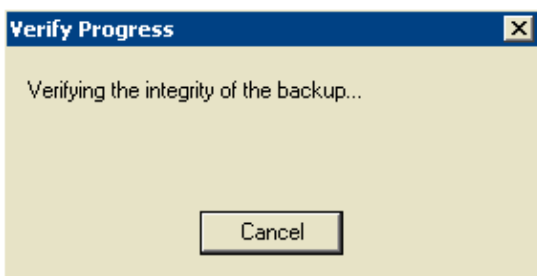
- This is a summary of the selected options you have selected.
20. Click **Finish**.
  21. The backup is created and verified.

**Note:** During the backup process, these three boxes appear. These messages represent the backup, verification, and completion of the backup.

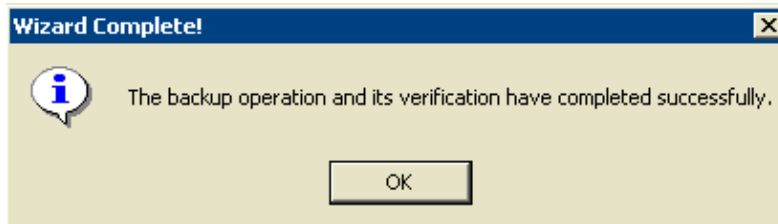
**Figure 12: Backup Progress**



**Figure 13: Verify Progress**



**Figure 14: Wizard Completed**



The Backup Wizard is an easy way to create a database backup. However, when connecting to a remote server, it is faster to issue a T-SQL batch that implements the backup function. The command to perform a full and differential backup is **BACKUP DATABASE**. For details, refer to SQL Server Books Online and search for "Backup Database".

In order to verify the backup, run the **RESTORE VERIFYONLY** command:

```
restore verifyonly from disk='physical name'
```

## ICM Configuration and Script Data Backup

Depending on the size of your database, restoring the entire database from backup devices can take a long time. For fast recovery, it is feasible to back up only ICM configuration and script data without historical data. ICM uses the ICMDBA utility to back up configuration and script data. For a detailed procedure, refer to Backing up the ICM Configuration Database using ICMDBA.

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IP Communications and Video: Contact Center
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## Related Information

- [Backing up the ICM Configuration Database using ICMDBA](#)
- [Technical Support – Cisco Systems](#)

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