

Reestablishing a Broken CallManager Cluster SQL Subscription with Cisco CallManager

Document ID: 46100

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Introduction

The replication of the SQL database is a core function of Cisco CallManager clusters. The server with the master copy of the database is called the publisher, while the servers that replicate the database are called subscribers.

In the event that your subscriber stops replicating data from the publisher, you need to rebuild the publisher and subscriber relationships. This involves going into the SQL Server database and manually rebuilding the subscription.

Symptoms

This is a list of possible symptoms if the subscriber stops replicating from the publisher:

- Changes that are made on the publisher are not reflected on phones that are registered with the subscriber.
- Outbound calls fail on phones registered with the subscriber. As soon as you dial 9, you hear a re-order tone.
- Call Forward All (CFwdALL) does not work.
- IP phone displays Error Database.

This document explains the procedures to reestablish a broken Cisco CallManager cluster SQL subscription with Cisco CallManager 3.3. This also applies to CallManager 4.x.

Note: Refer to Using DBLHelper to Reestablish a Broken Cisco CallManager Cluster SQL Subscription for more information.

Prerequisites

Requirements

This document assumes the SQL Administrator (SA) account password is available for both the publisher and the subscriber.

Components Used

The information in this document is based on Cisco CallManager 3.3.x and 4.x.

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

Refer to Cisco Technical Tips Conventions for more information on document conventions.

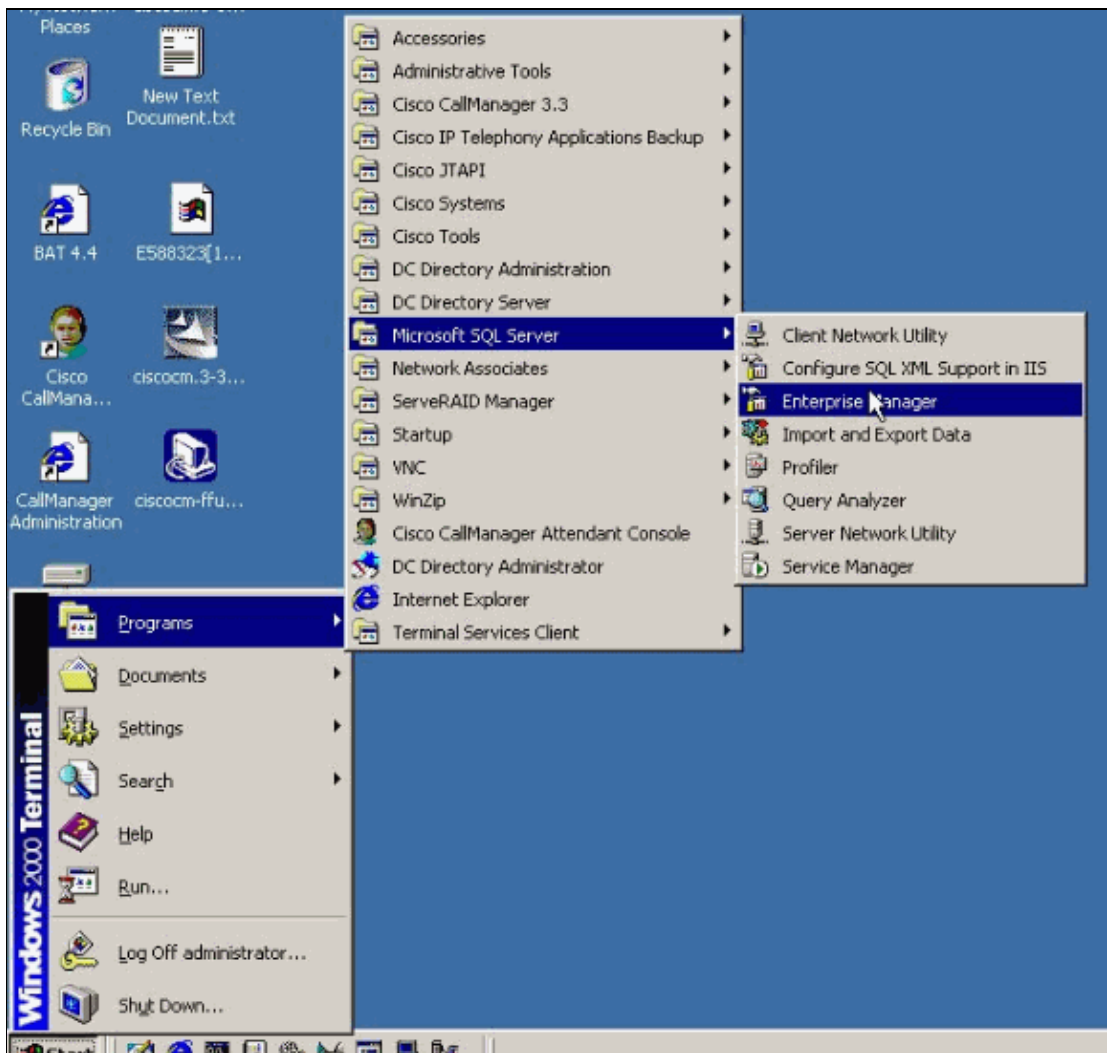
Reestablish the Relationship Between the Publisher and the Subscriber

Complete the steps in these sections to reestablish the relationship between the two systems. First, the subscription for the subscriber needs to be recreated on the publisher system. Then, the subscription needs to be deleted and recreated on the subscriber system.

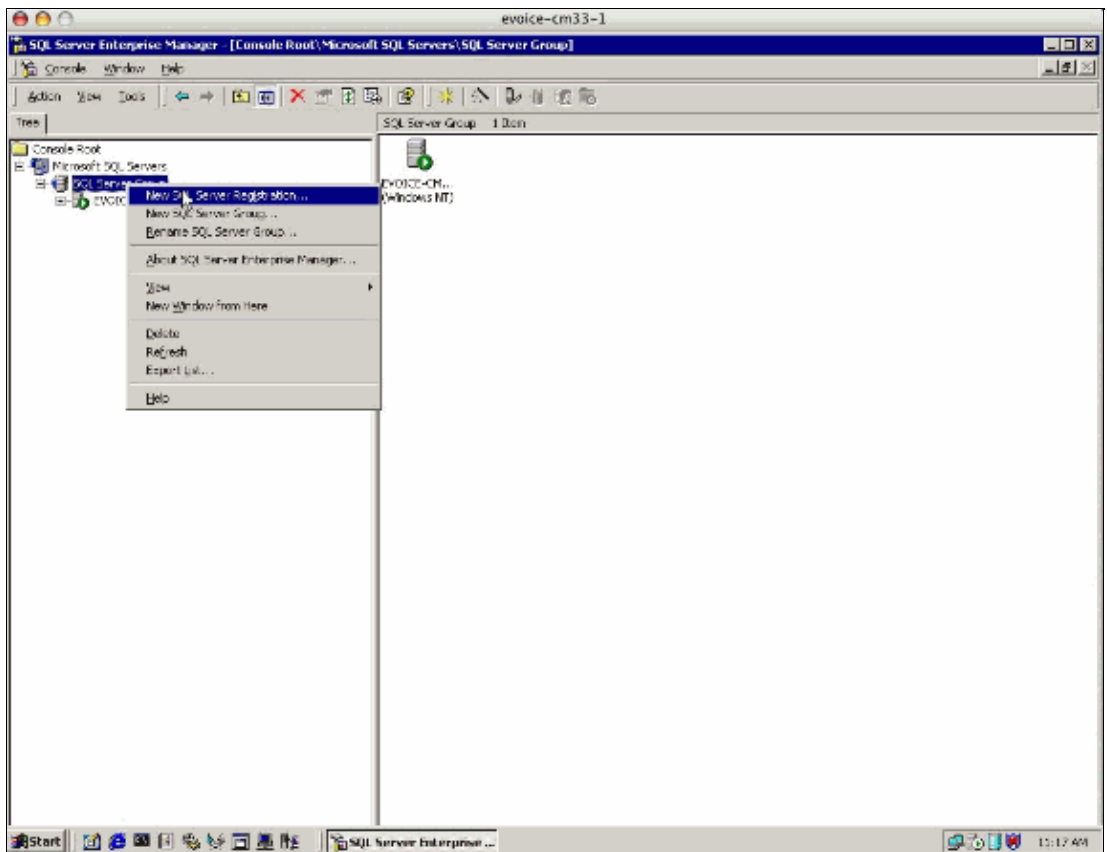
Recreate the Subscription on the Publisher

Complete these steps to recreate the subscription on the publisher.

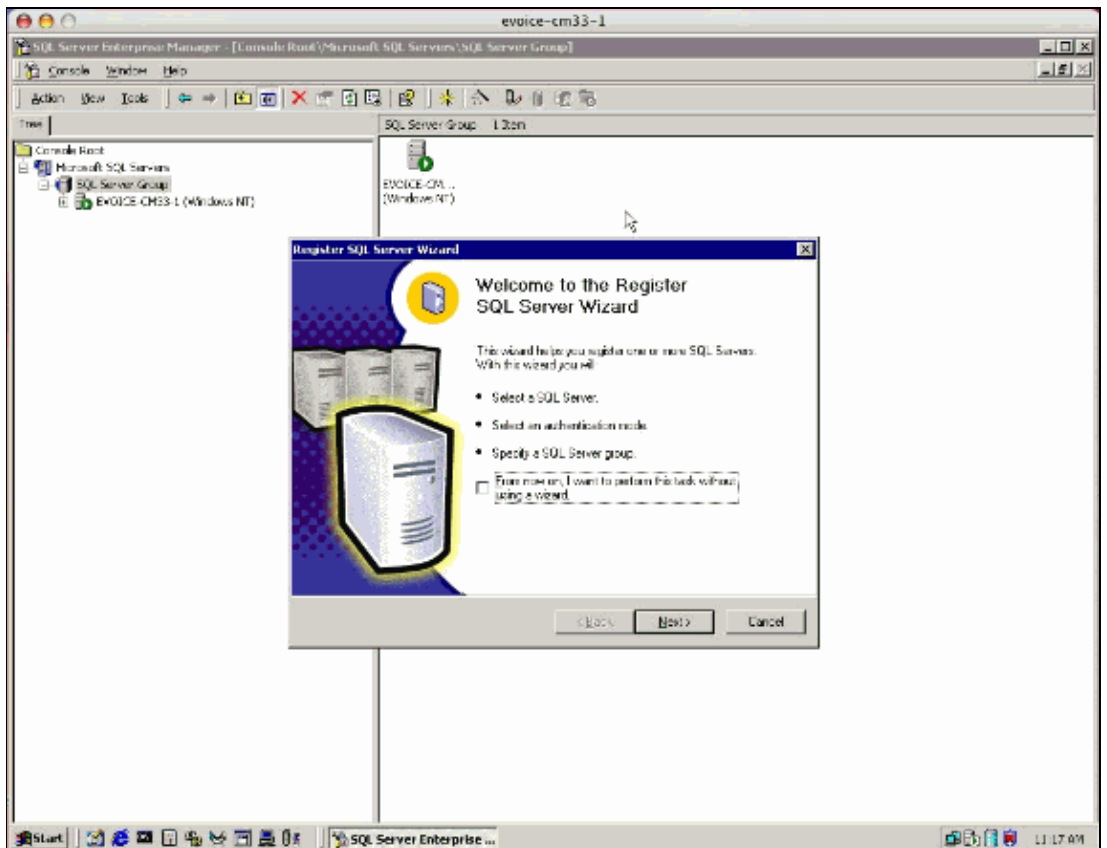
1. On the publisher, select **Start > Programs > Microsoft SQL Server > Enterprise Manager** to start the SQL Enterprise Manager.



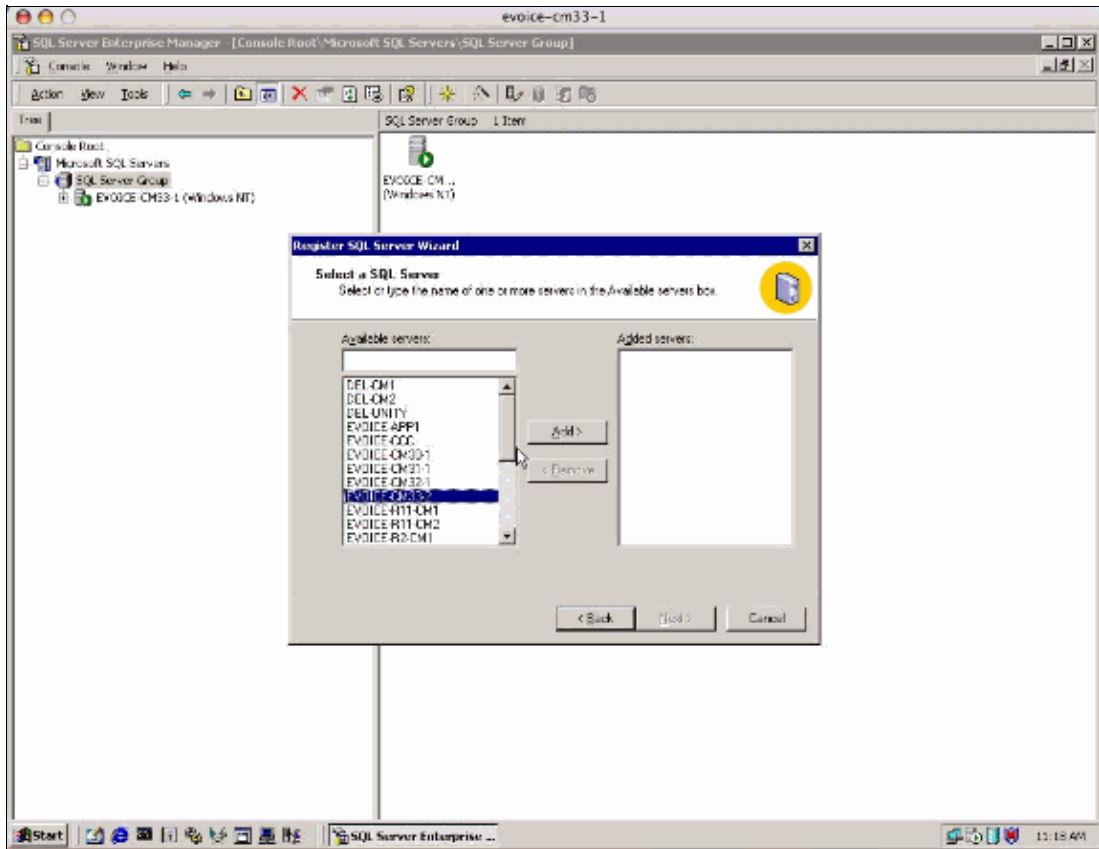
2. Right-click **SQLServerGroup** and click **New SQL Server Registration** under Microsoft SQL Servers.



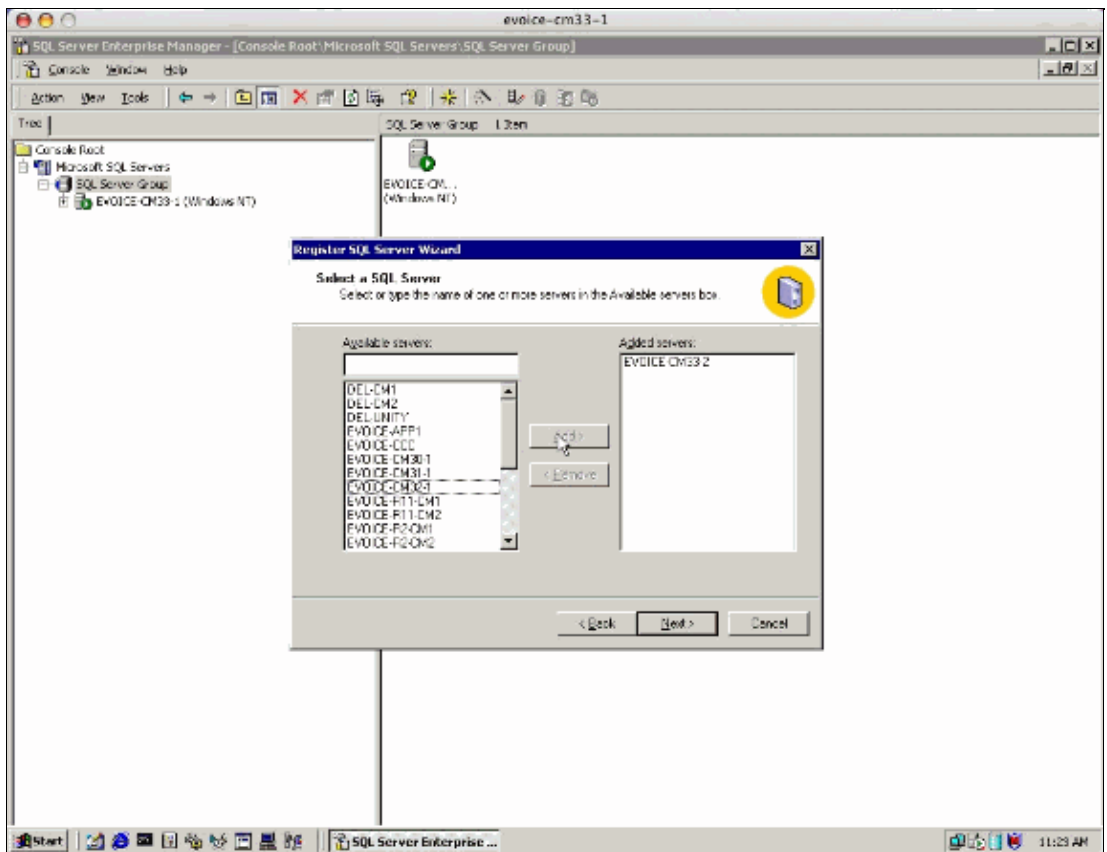
3. When the Register SQL Server Wizard appears, make sure the **From now on I want to perform this task without using a wizard** check box is not checked and click Next.



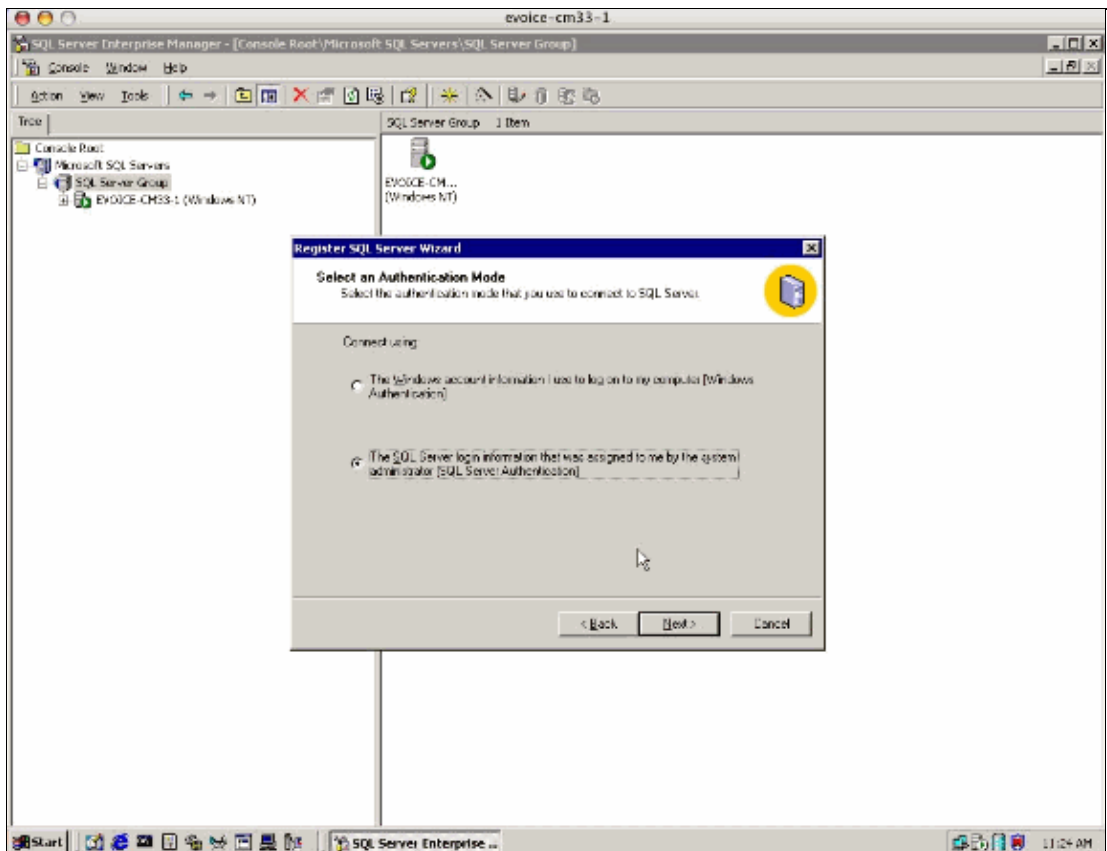
The other SQL servers that reside on the Cisco CallManagers should appear in the Available servers list box.



4. Select the server or servers that you would like to move over to the Added servers list box, then click on the **Add** button to move them.

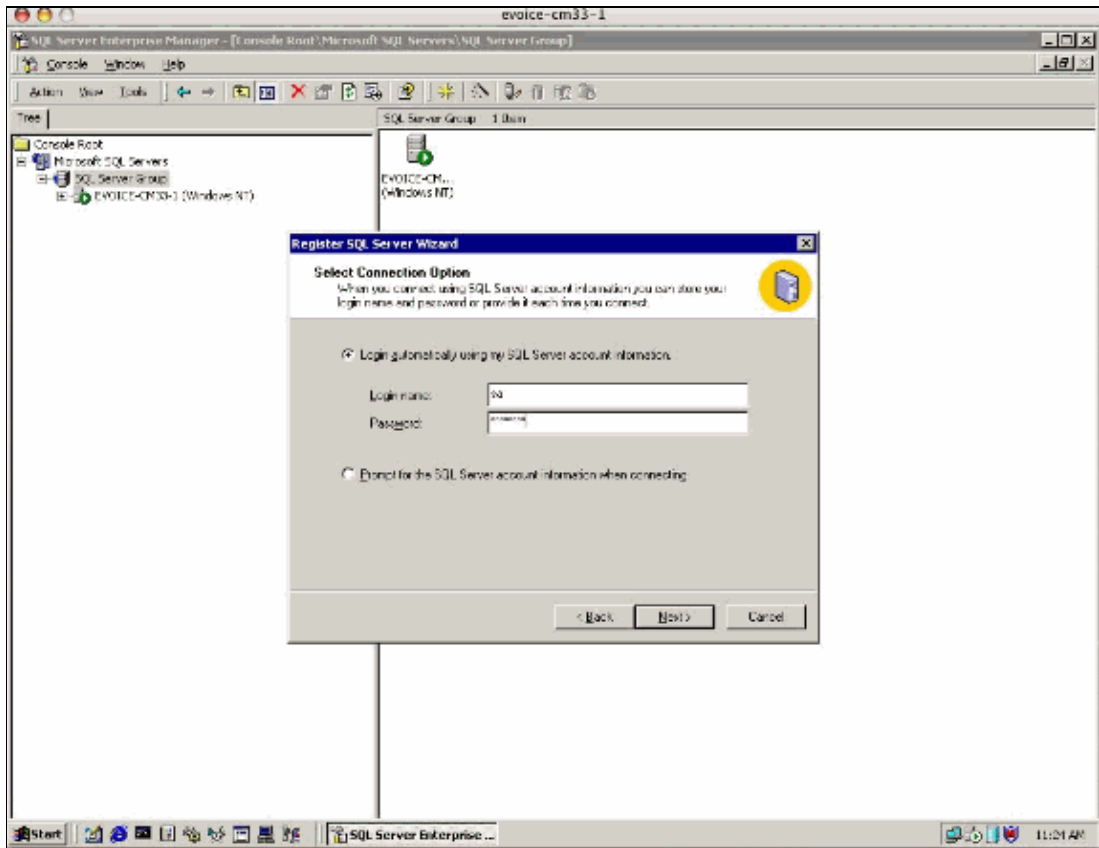


5. Click **Next**.
6. Click the **The SQL Server login information that was assigned to me by the system administrator (SQL Server Authentication)** radio button and click **Next**.

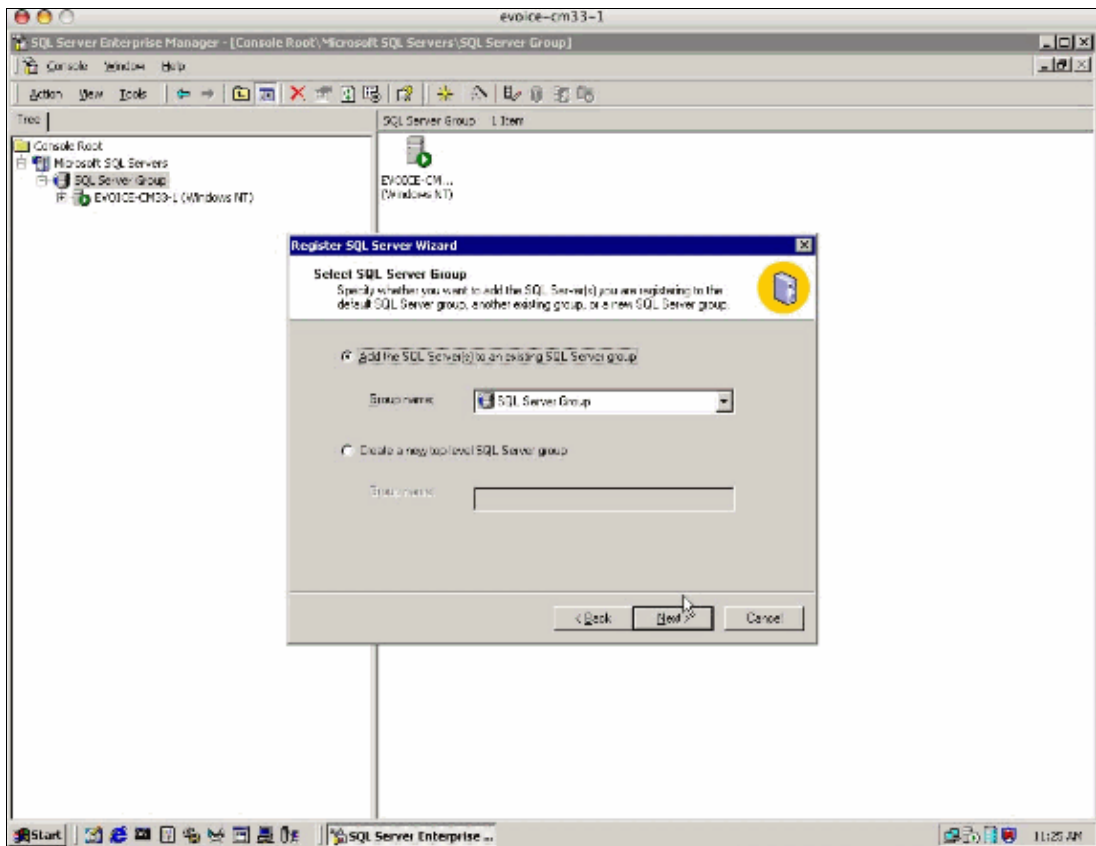


7. On the next dialog box, click the **Login automatically using my SQL Server account information** radio button, enter the SA Login name and Password for the subscriber system, and click **Next**.

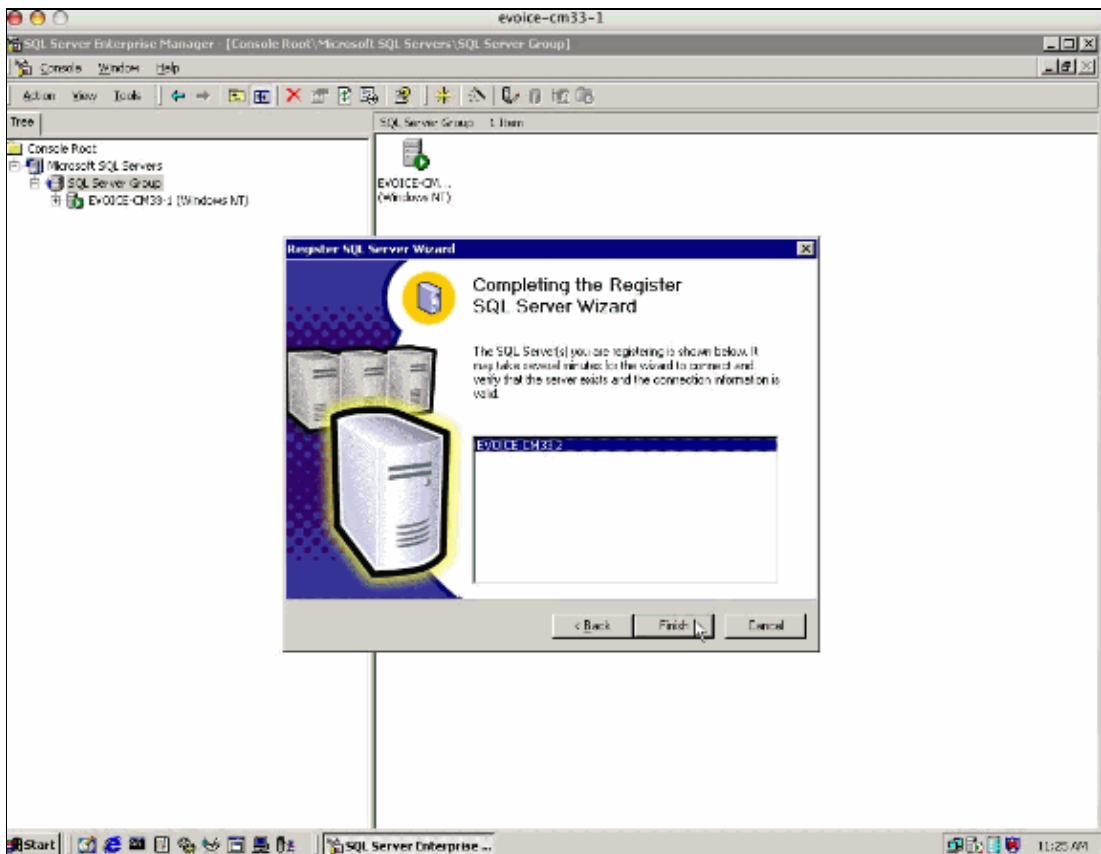
Note: Use the SA account and password for the subscriber system. The password was selected when the subscriber system was installed.



8. In the Select SQL Server Group dialog box, click the **Add the SQL Server(s) to the existing SQL Server group** radio button and set the Group name to **SQLServerGroup**.

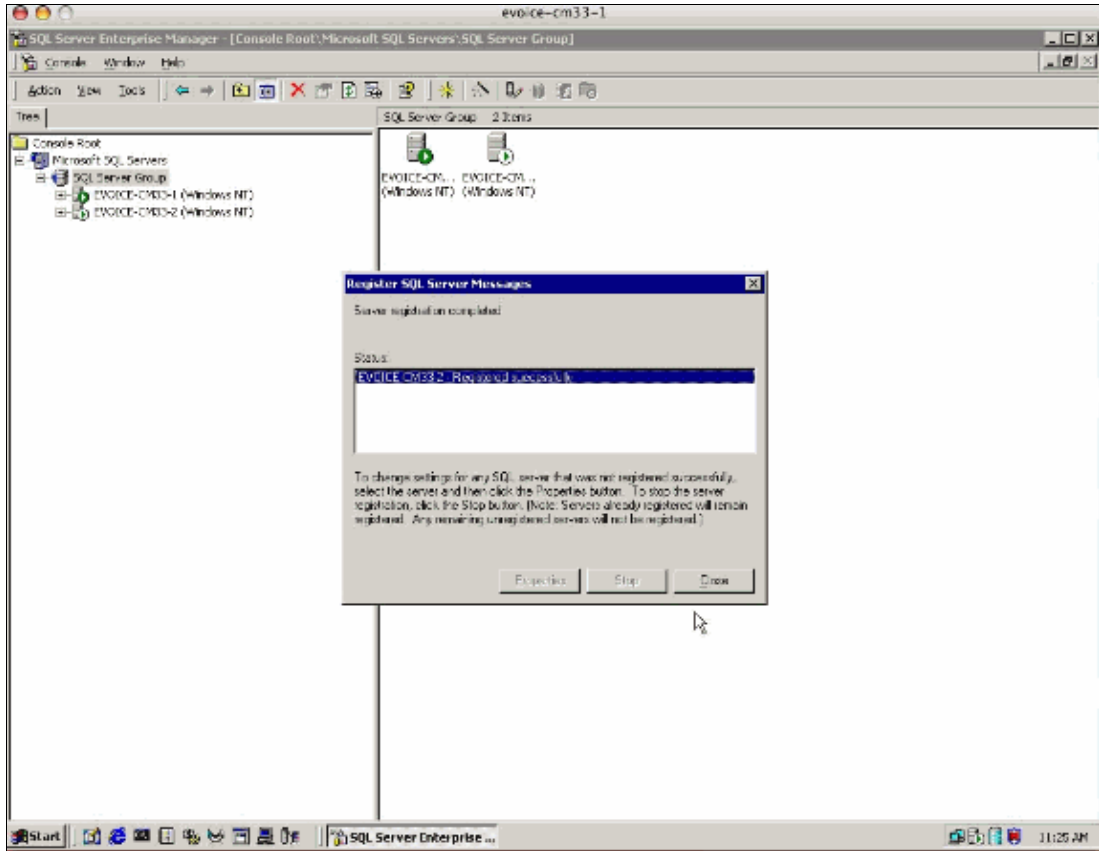


9. Click **Finish** on the next dialog box.

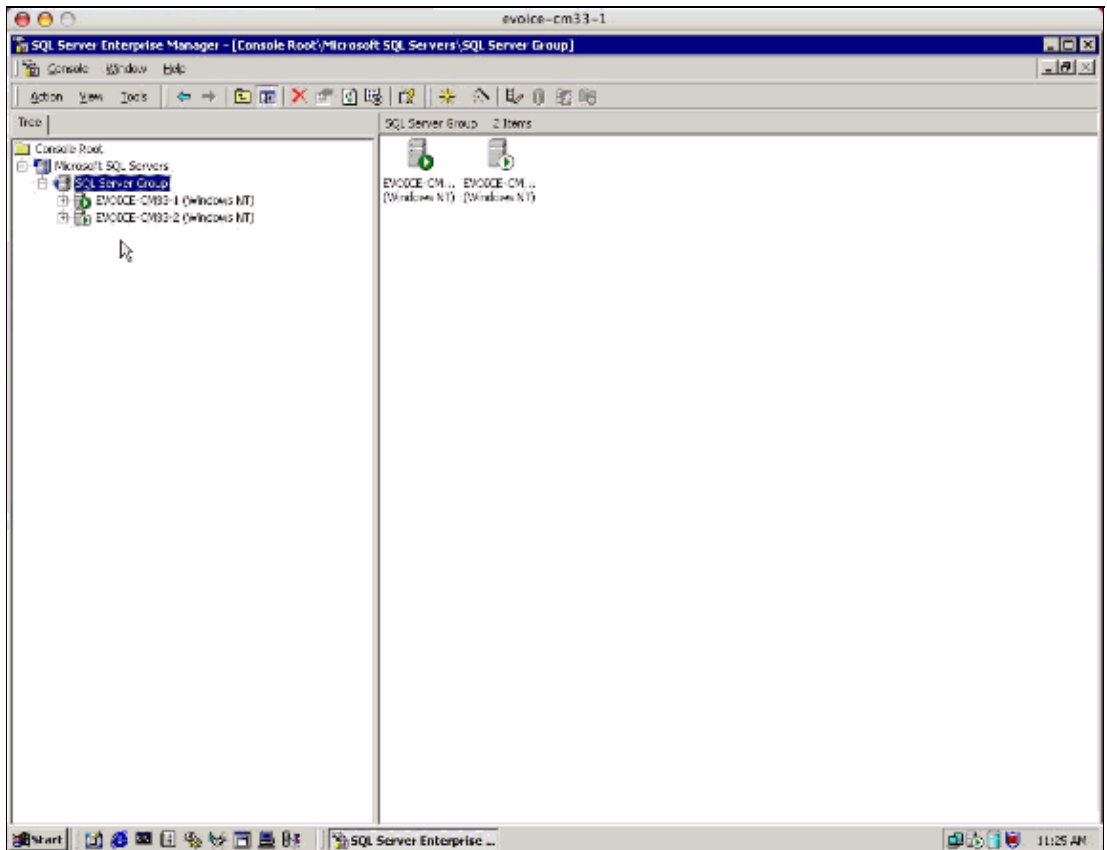


The Wizard displays the status of the added server or servers and should show them as "Registered

- successfully."
10. Click **Close**.



A window similar to this appears.



If you can see the two servers listed, then they are recognized by the publisher and data can be shared with them.

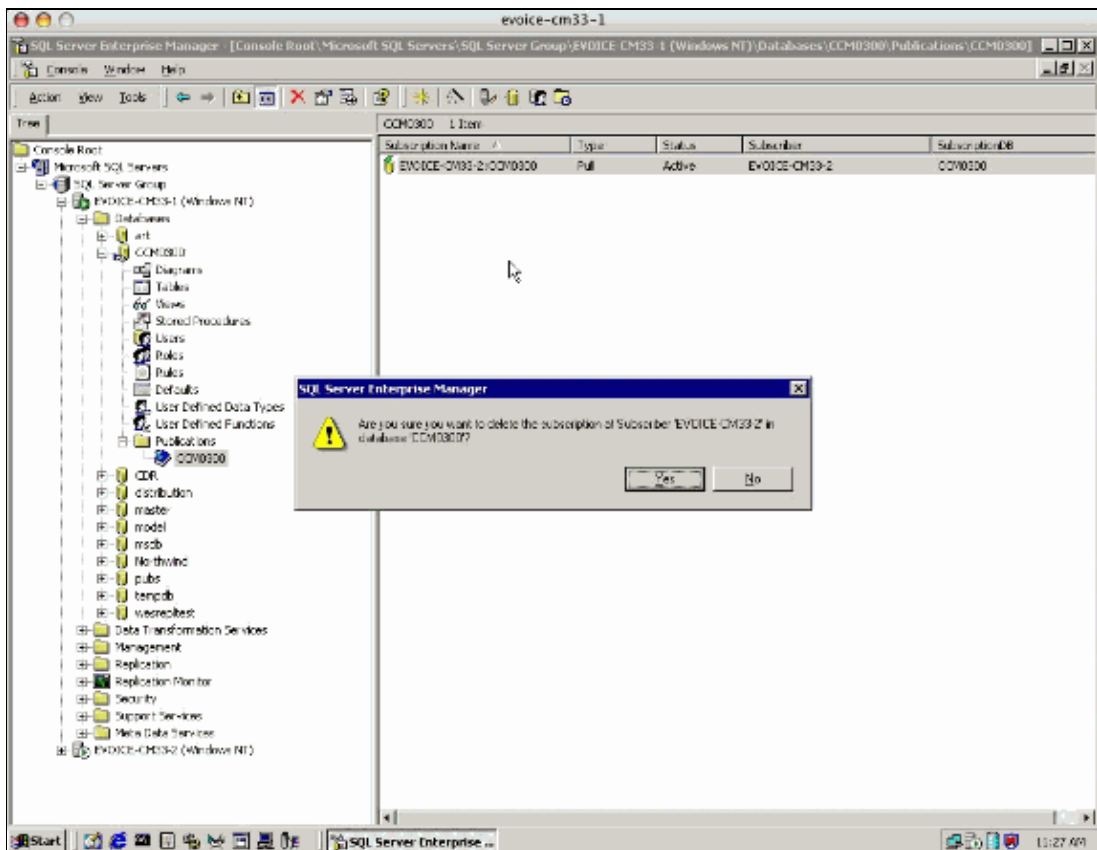
Delete the Subscription on the Publisher

Complete these steps to delete the subscription on the publisher.

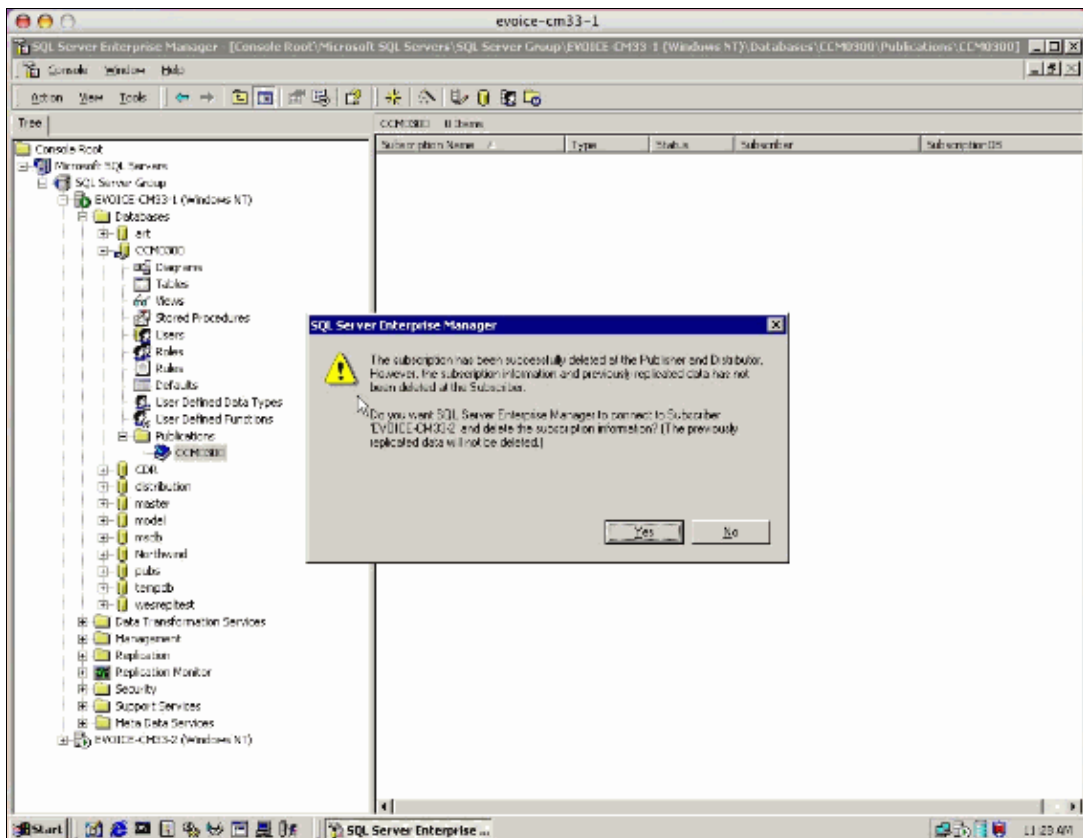
1. Using Enterprise Manager, navigate the SQL Server tree and locate the Publication for the CCM0300 database by choosing **Microsoft SQL Servers > SQL Server Group > machine_name > Databases > CCM0300 > Publications**.
2. Select the Cisco CallManager subscription that fails and delete the entry.



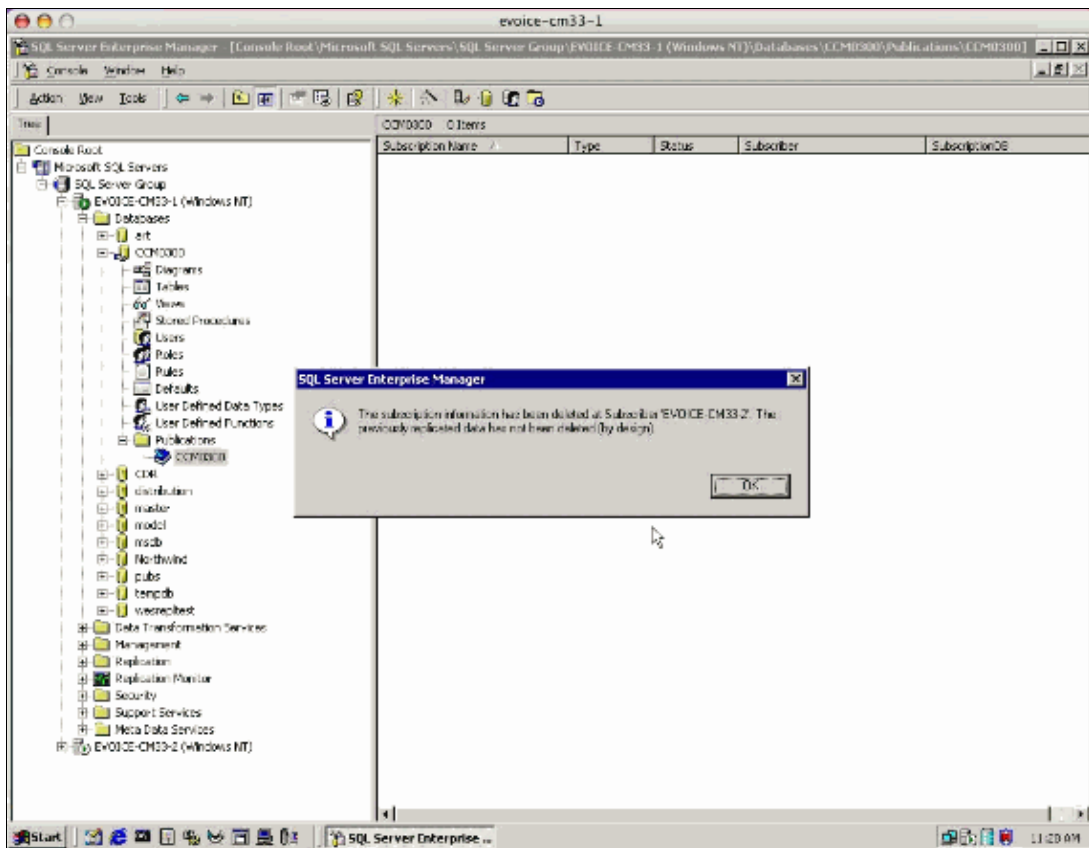
Caution: Select the subscription in the right pane, shown by the arrow below. Right-click the listed Subscription Name and select **Delete**. *Do not* delete the book icon in the Tree pane on the left.



3. A warning dialog box appears which indicates that the subscription has been removed at the publisher but not at the subscriber. If you want to connect to the subscriber and delete the subscription there, click **Yes**.



4. The next message indicates that the subscription has been deleted but the data has not. Click **OK**.



Recreate the Subscription on the Subscriber

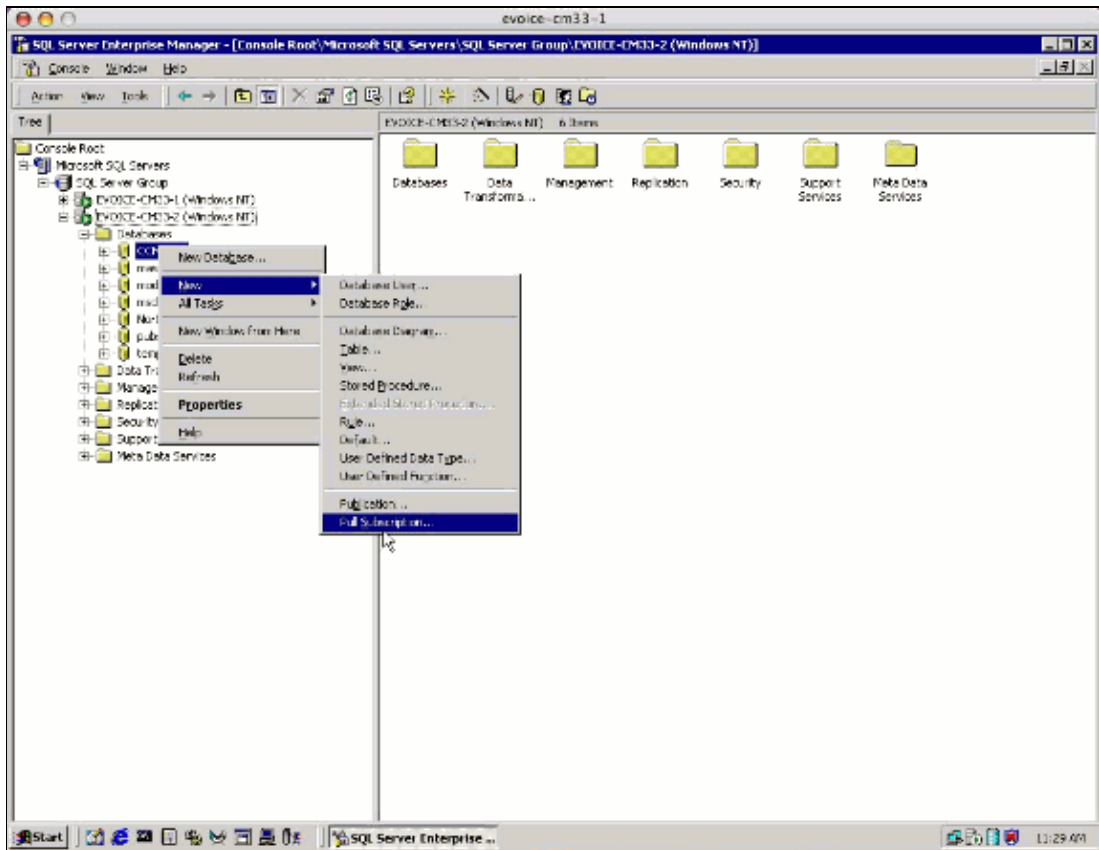
Complete these steps to recreate the subscription on the subscriber.

1. Select the SQL server name of the subscriber that you deleted from the publisher in the Delete the Subscription on the Publisher section of this document.

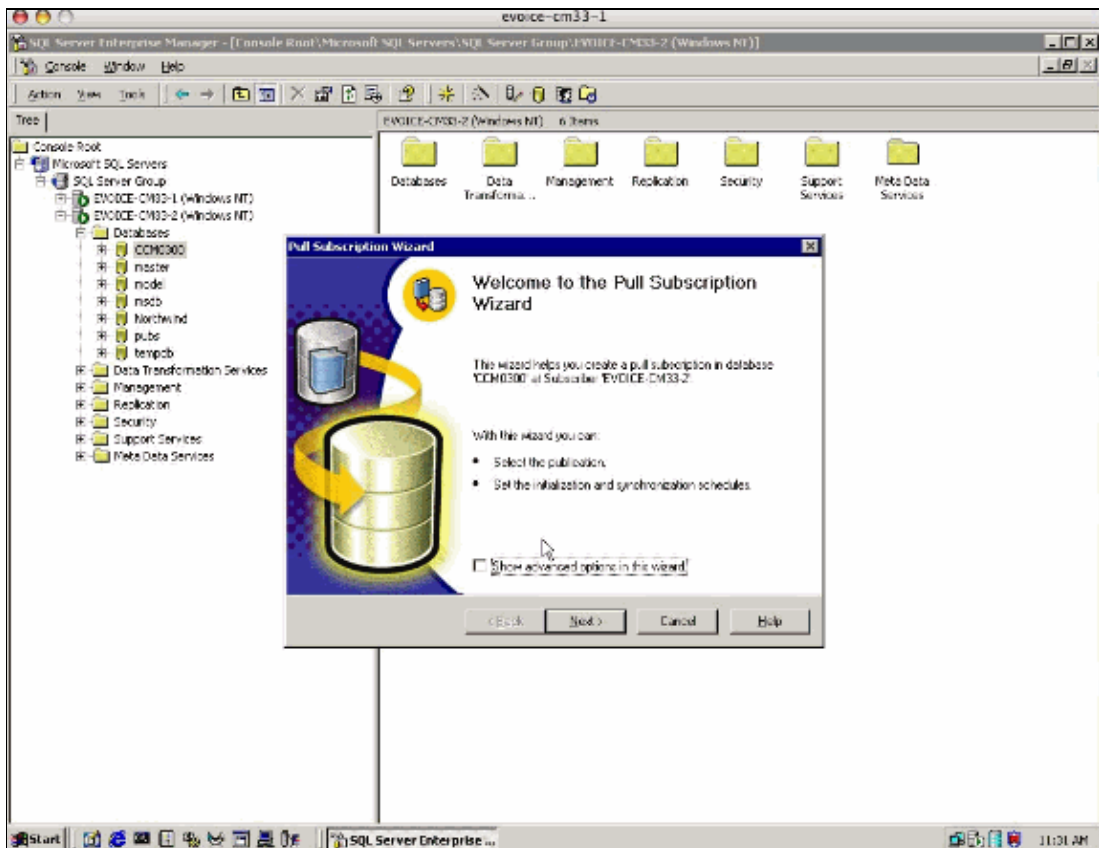
Note: In this configuration, the publisher is **EVOICE-CM33-1** and the subscriber is **EVOICE-CM33-2**. The **EVOICE-CM33-2** subscription has just been deleted from the **EVOICE-CM33-1** publication.

2. Select the **EVOICE-CM33-2 (Windows NT)** SQL server and select the **CCM0300** database to resubscribe to the publication.
3. Right-click the **CCM0300** database and choose **New > Pull Subscription**.

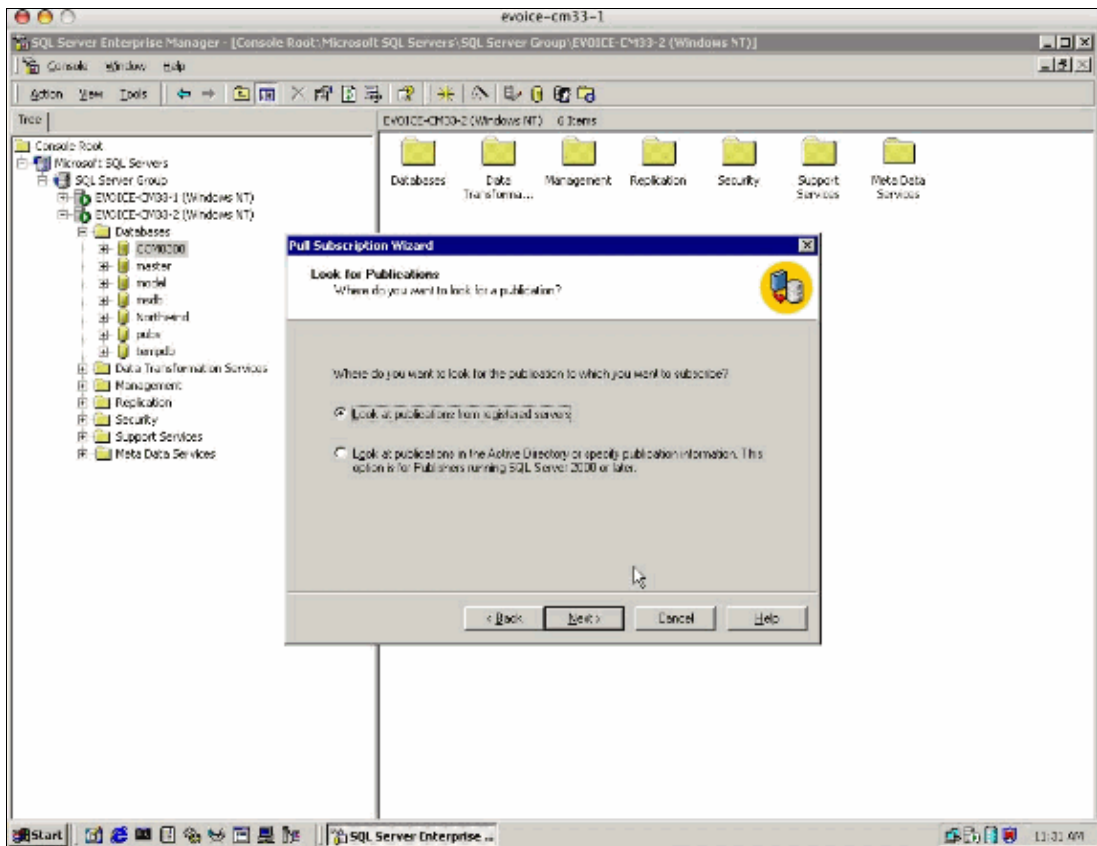
Note: Always choose the most recent version of the database. (In this example, **CCM0300** is the only available database.)



4. Click **Next** when the Pull Subscription Wizard appears.

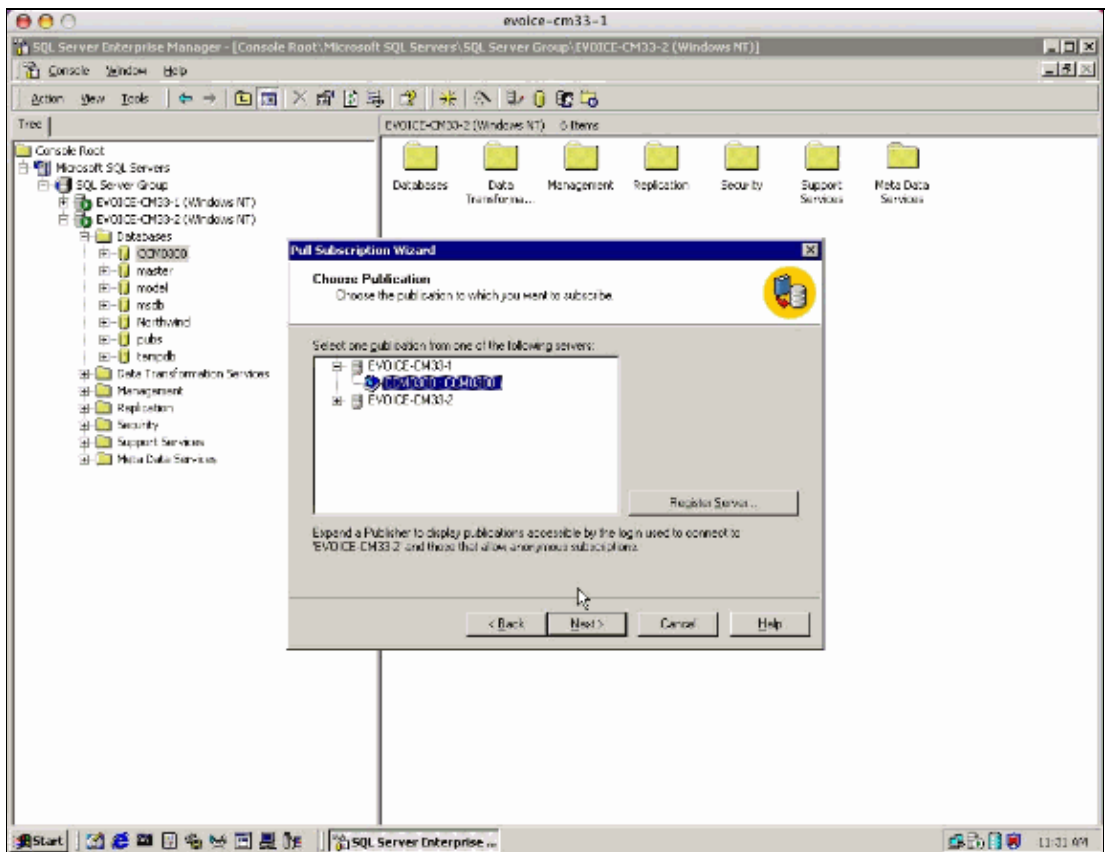


5. On the Look for Publications dialog box, click the **Look at publications from registered servers** radio button and click **Next**.



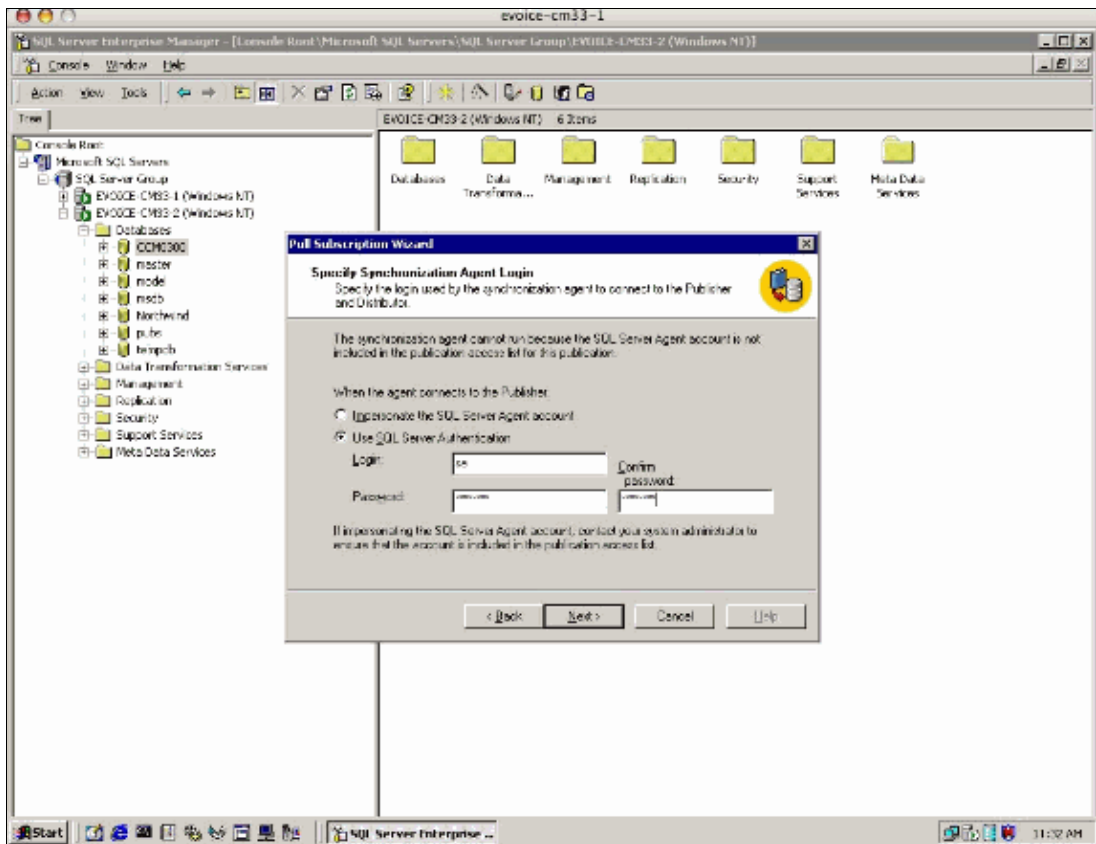
6. On the Choose Publication dialog box, expand the publisher (which should be listed), select the **CCM0300** database, and click **Next**.

Note: If you have upgraded the Cisco CallManager operating system multiple times, the database name may include a number higher than **0300** (for example, CCM0302, CCM0303, and so forth).

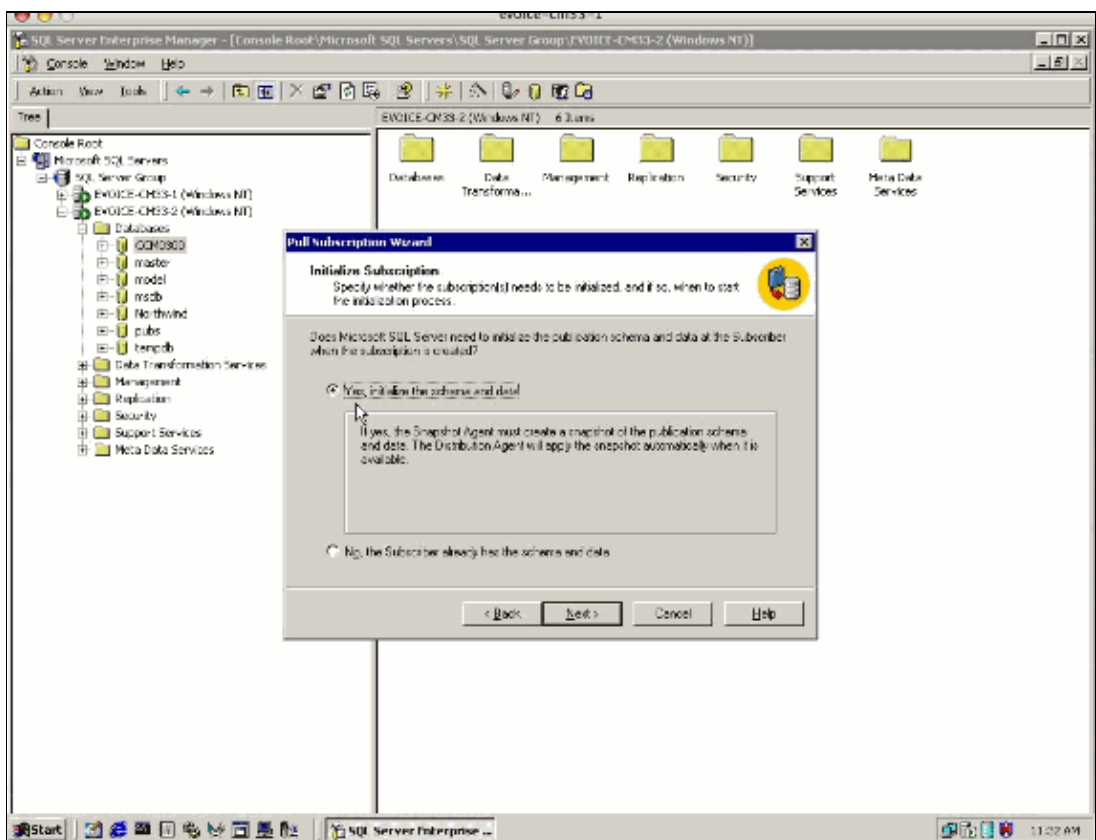


7. On the Specify Synchronization Agent Login dialog box, click the **Use SQL Server Authentication** radio button, enter the required Login and Password, and click **Next**.

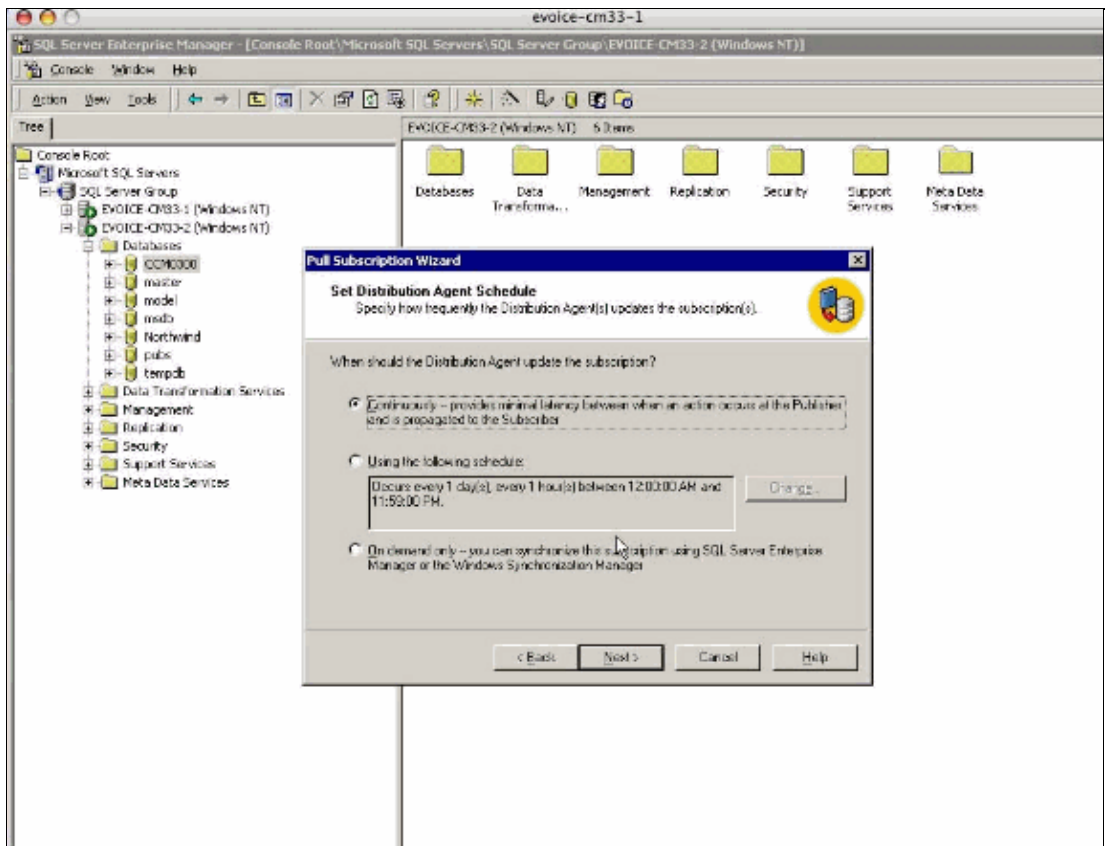
The Login is **sa** and the Password is the password for the publisher's SA account.



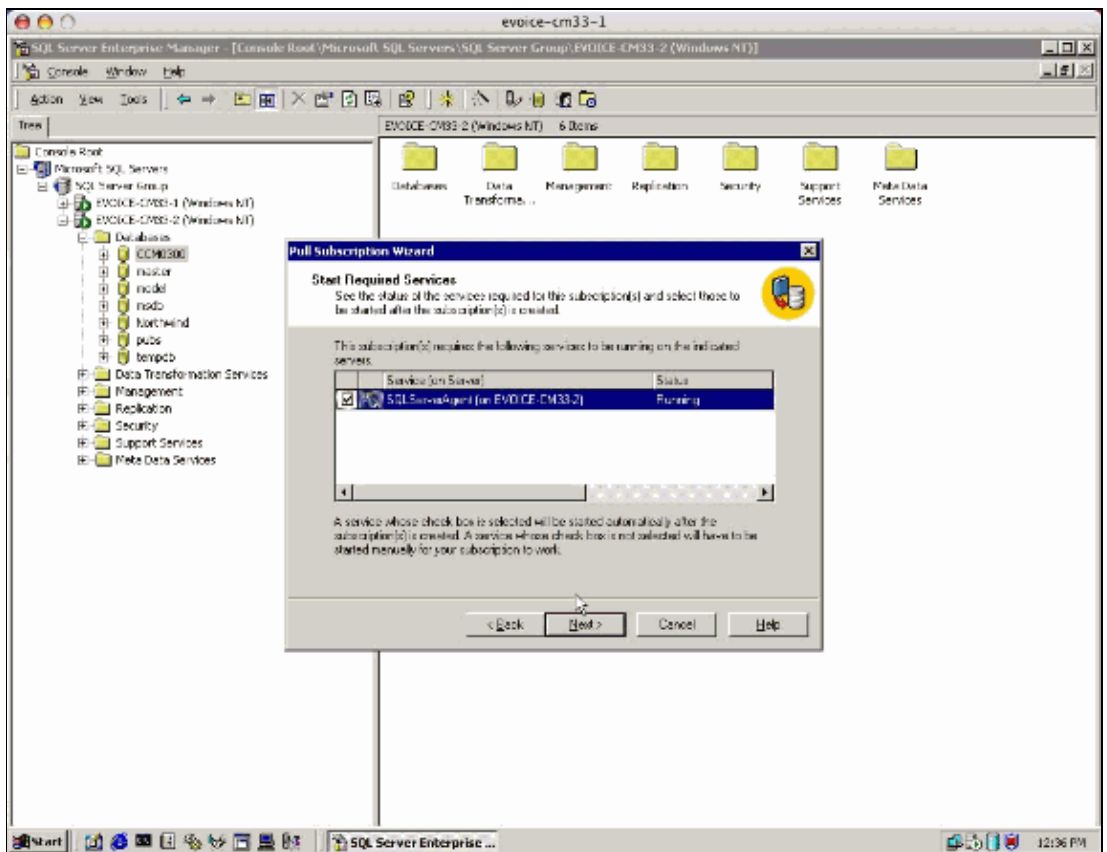
8. On the Initialize Subscription dialog box, click the **Yes, initialize the schema and data** radio button and click **Next**.



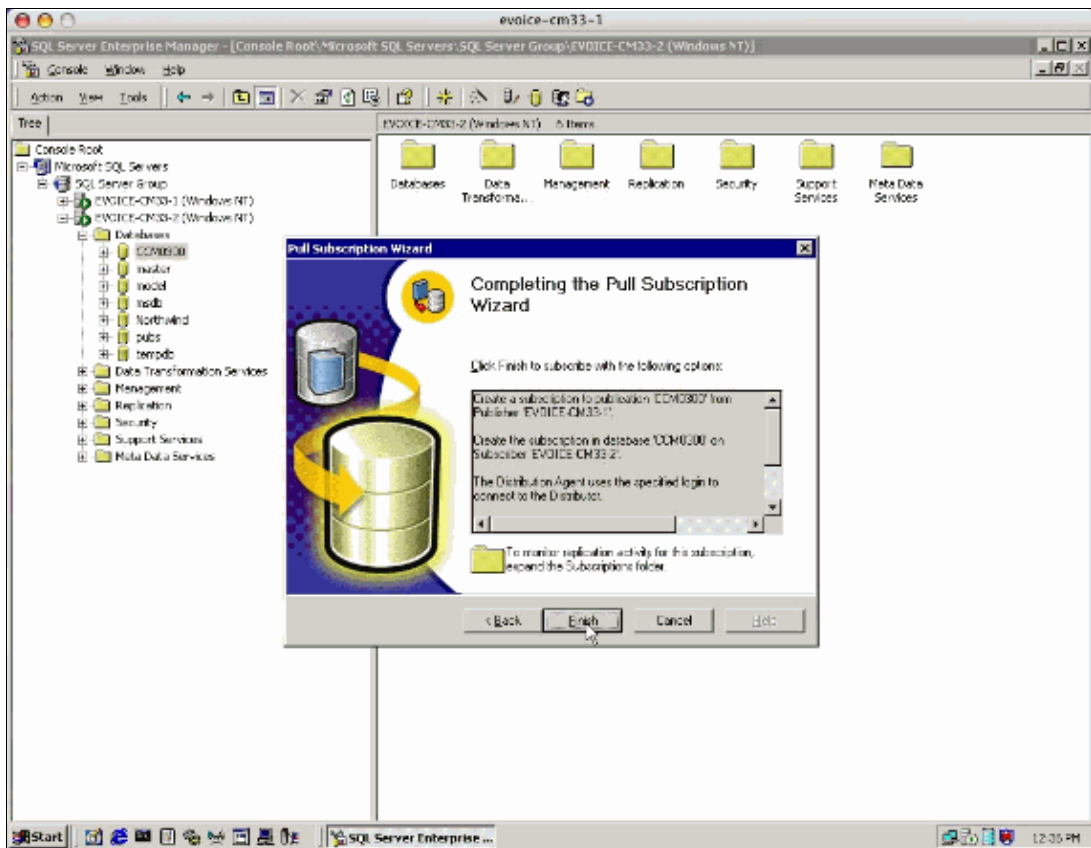
9. On the Set Distribution Agent Schedule dialog box, click the **Continuously** & radio button and click **Next**.



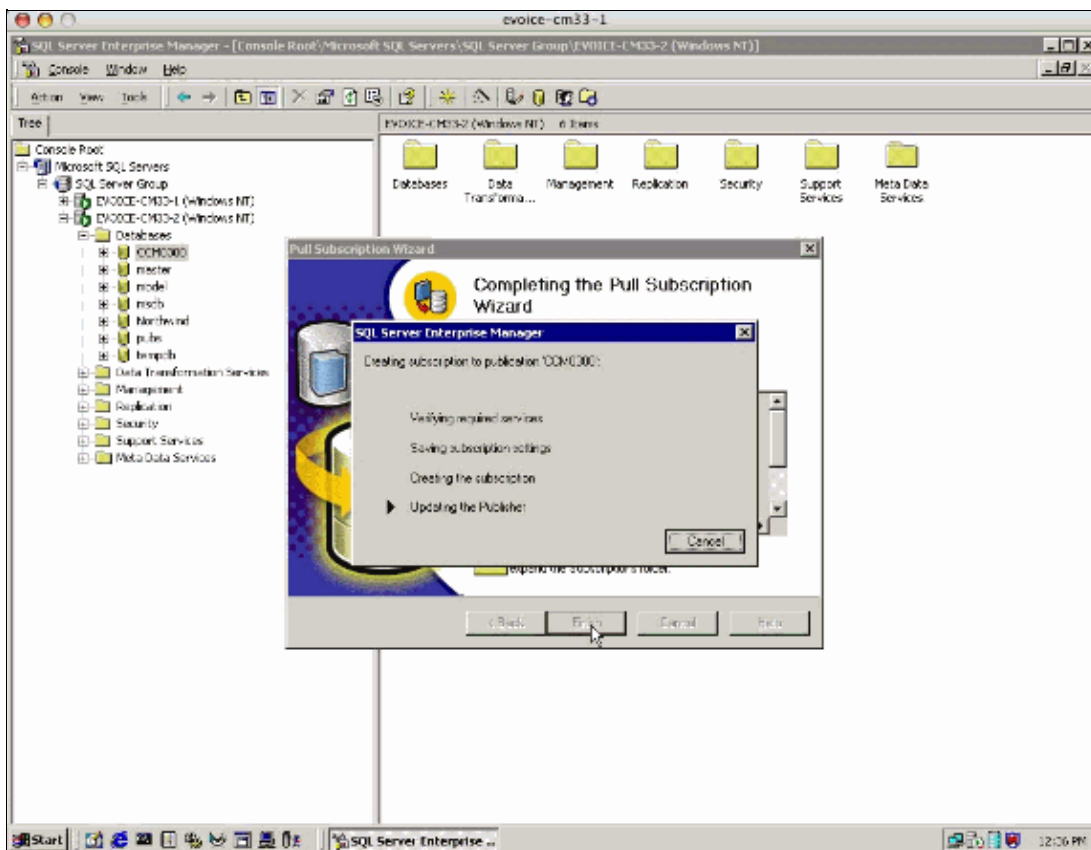
10. The next dialog box verifies that the SQLServerAgent service is running. Click **Next**.



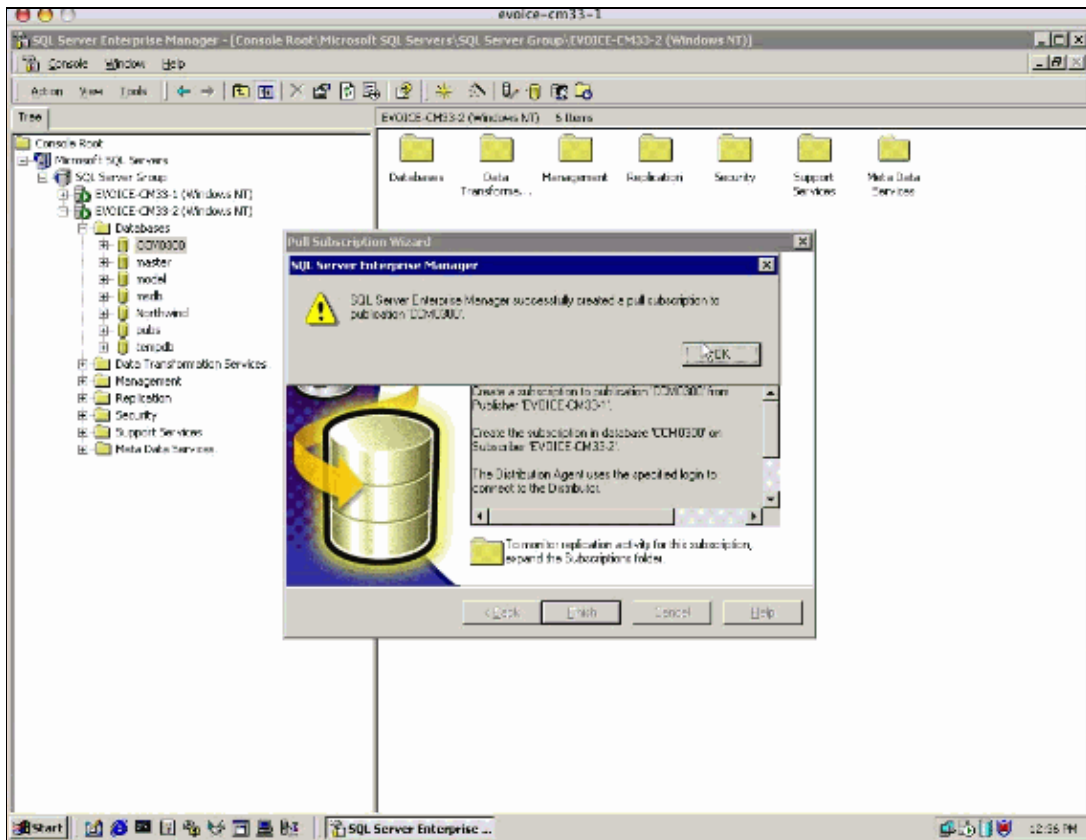
11. On the Completing the Pull Subscription Wizard dialog box, click **Finish**.



The Wizard sets up the subscription, as shown below.



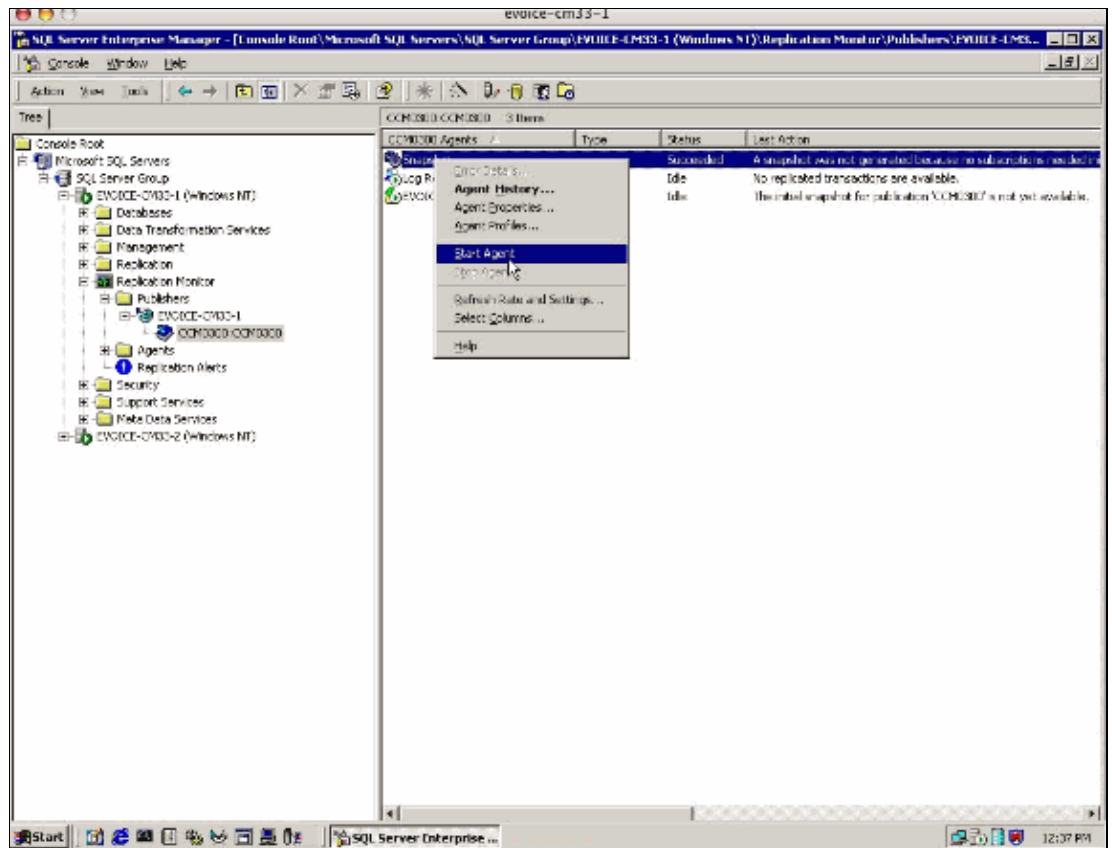
A message indicating success appears when the process is completed.



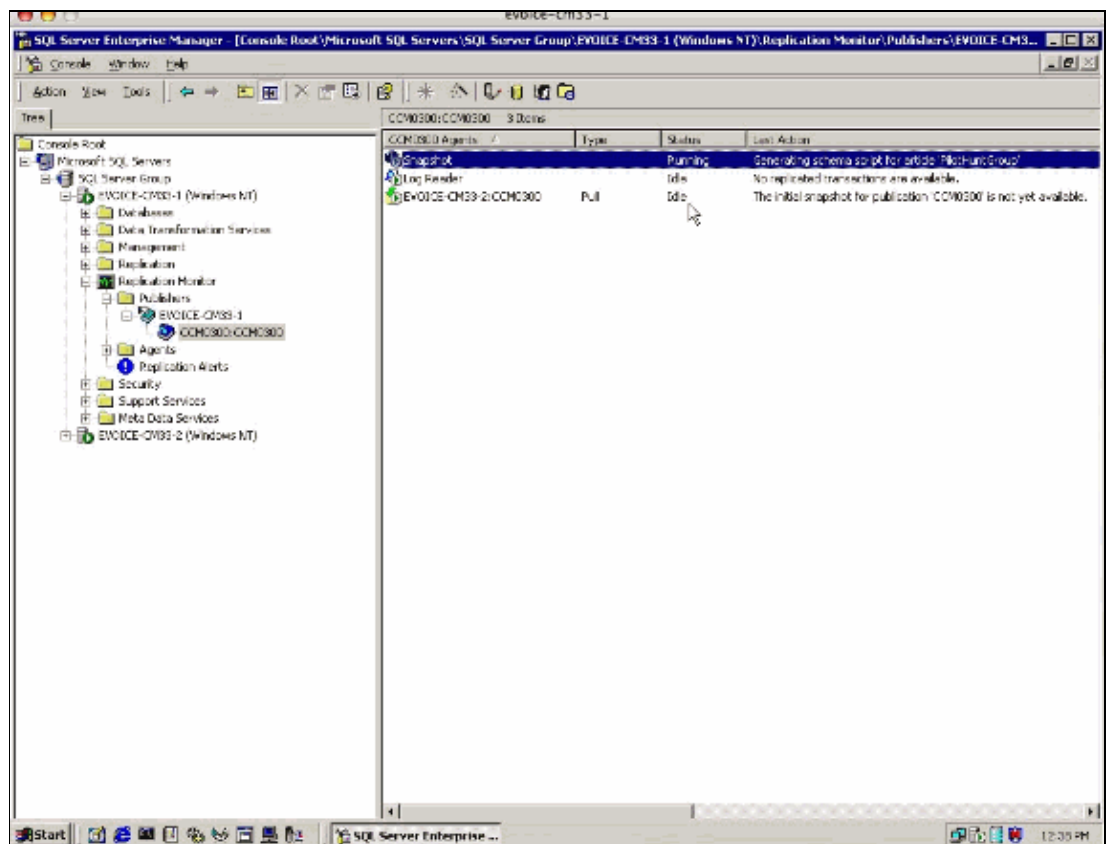
12. After the subscription is created, the snapshot agent must be run to get the data out to the subscriber for synchronization.

Select the publisher SQL server and navigate to **Replication Monitor > Publishers > *machine_name* > CCM0300 subscription.**

- a. Right-click on the **Snapshot** entry and choose **Start Agent.**

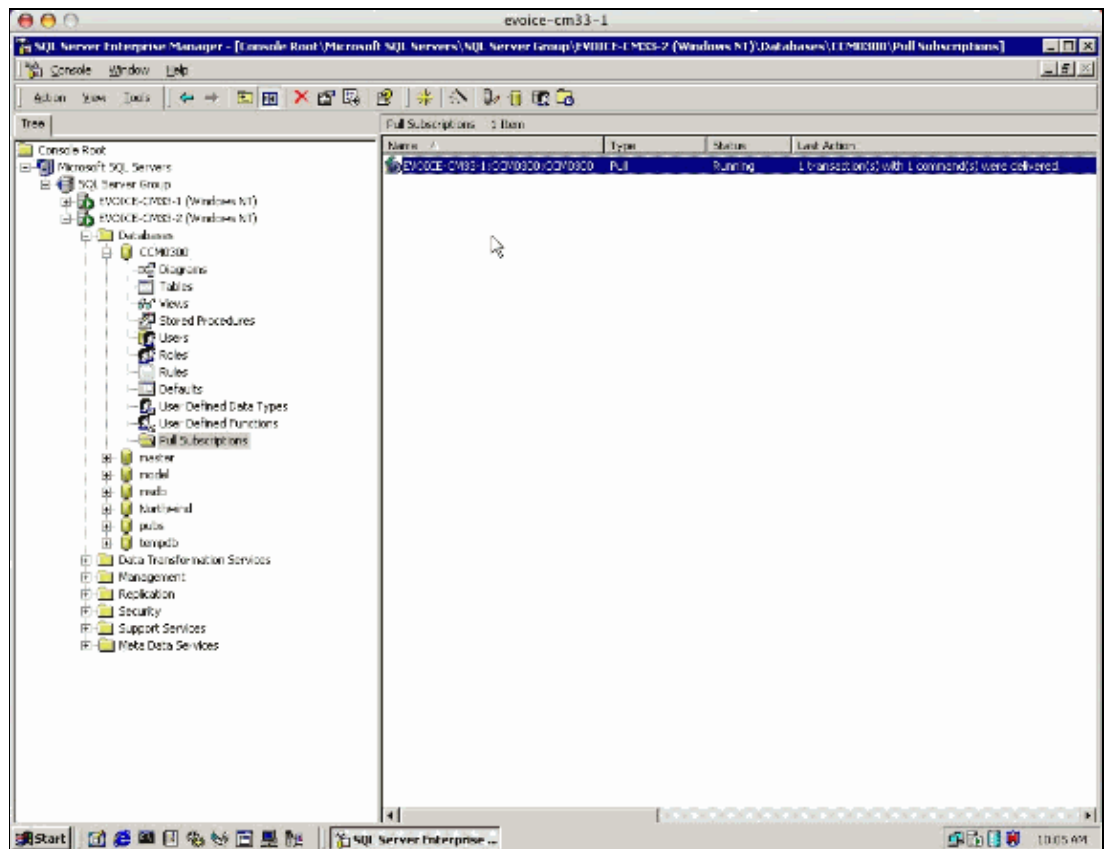


The snapshot agent runs at this point and takes about three to five minutes to complete the task. Once the snapshot agent finishes, the pull agent starts to apply the snapshot to the subscriber. This takes another 3 to 5 minutes.



- b. Once the pull subscription has completed, on the publisher, select the subscriber SQL server and open the pull subscriptions for the CCM0300 database. The subscription should be in a running state and waiting for updates.

Note: If the last action still reads Waiting for snapshot agent to become available, press **F5** to refresh the screen.



At this time, the subscriber is now resynchronized with the publisher and updates are getting recorded in the local subscriber SQL database.

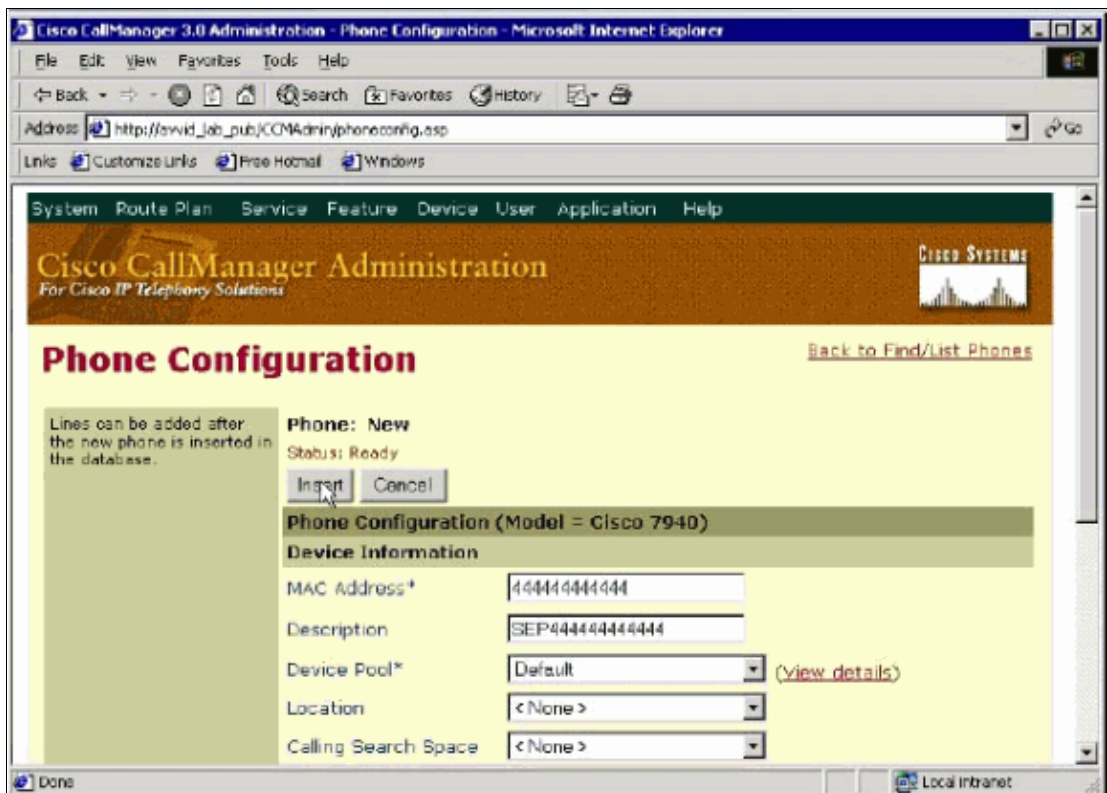
Note: If you make numerous changes to the user database (for example, if you use the Bulk Administration tool), the SQL server can go out of synchronization. This can result in a DC Directory hang. In order to resolve this issue, reset the DC Directory services on all Cisco CallManager servers and re-run the SQL agent.

Verify that the SQL Subscription Works

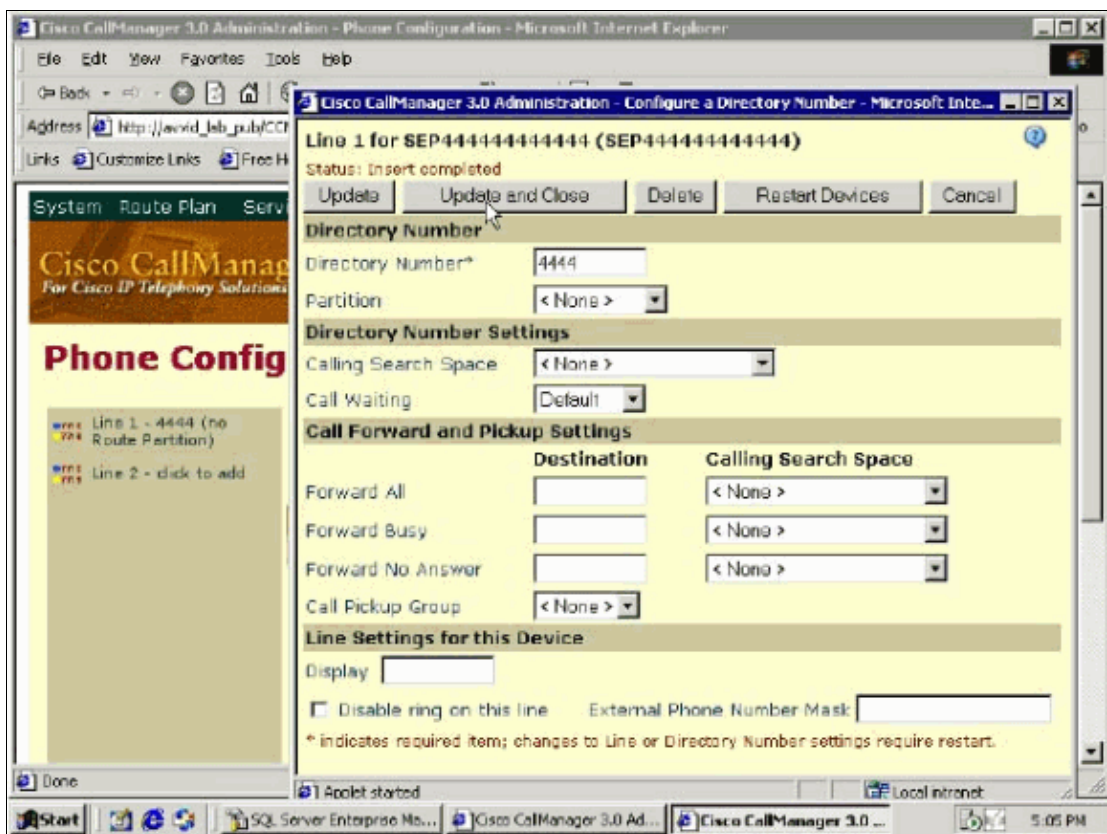
Complete these steps to verify that the SQL subscription works.

1. Create a device on the publishing server that is easy to recognize and click **Insert** to test the propagation of data.

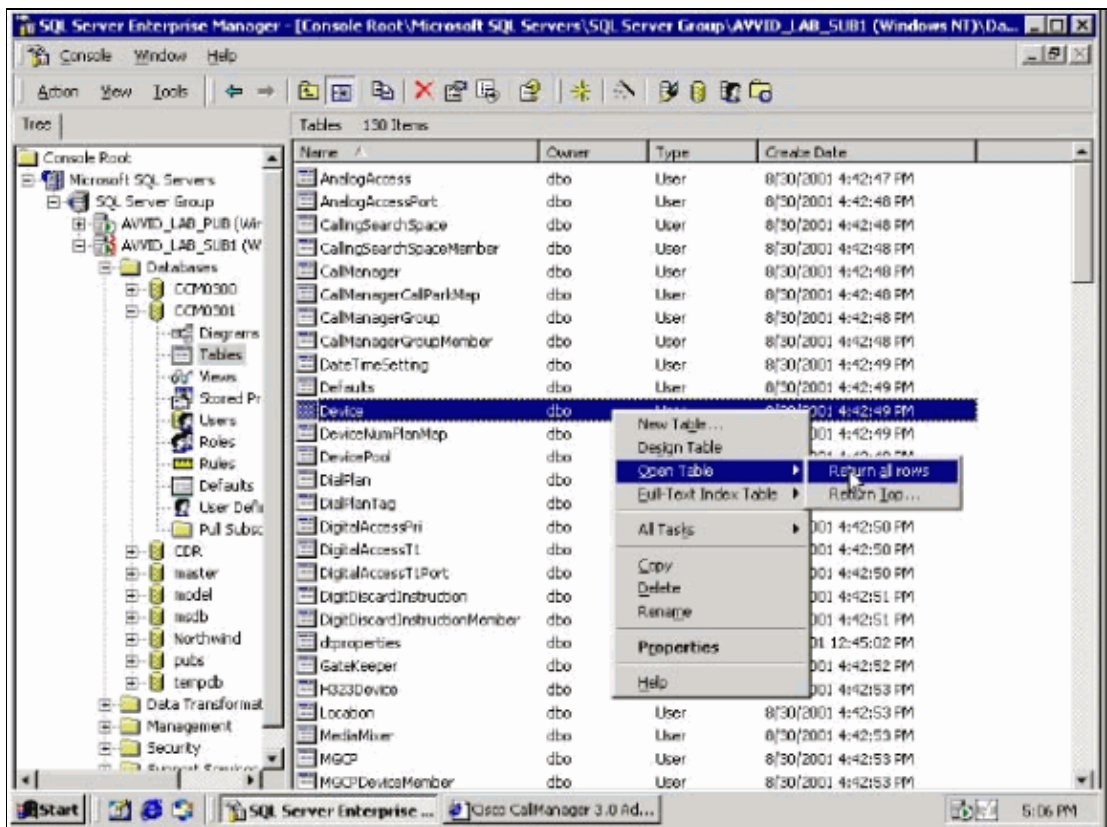
Note: The device does not need to be functional.



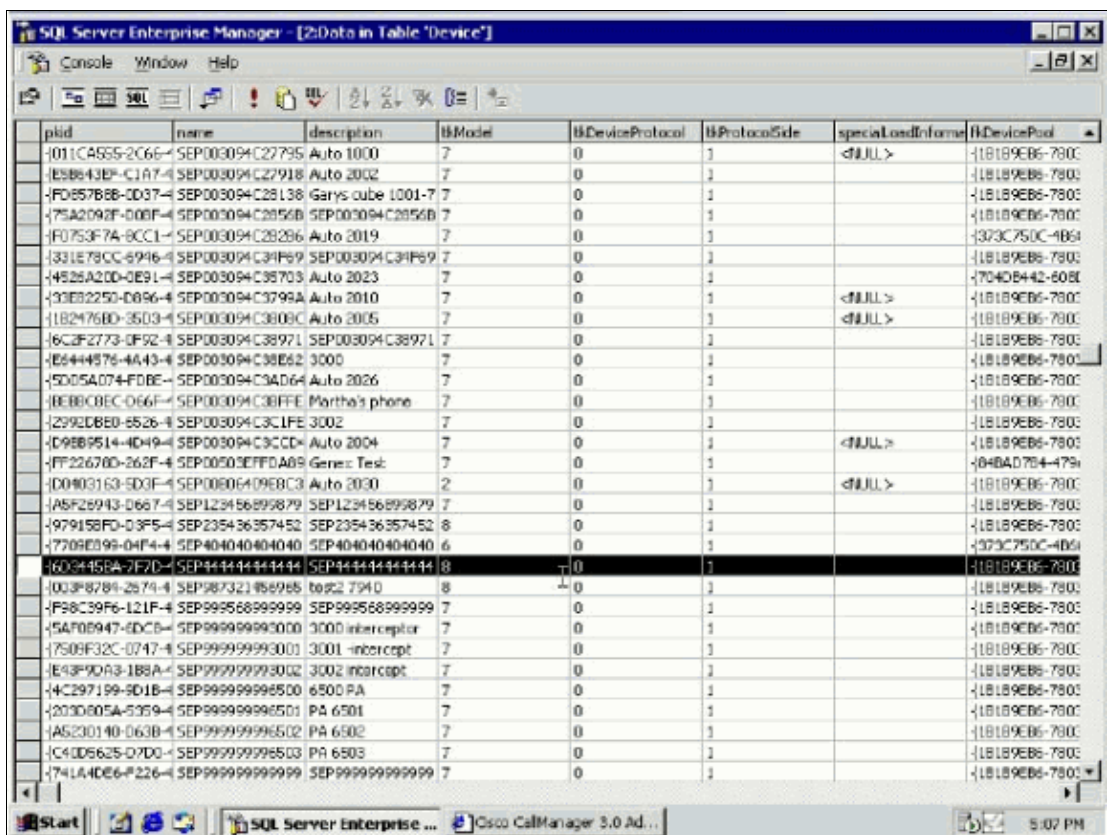
2. Click **Update and Close**.



3. Go into the SQL Enterprise Manager, expand the SQL subscriber in question, and look in the database table to see if the new device is present.



The more recognizable the device is, the easier it is to find.



Related Information

- **Voice Technology Support**
 - **Voice and Unified Communications Product Support**
 - **Recommended Reading: Troubleshooting Cisco IP Telephony**
 - **Technical Support & Documentation – Cisco Systems**
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