



Certified Intronis Partner Engineer

Disabling Circular Logging in Exchange

A warning message in your backup set reads “Circular logging is enabled. Forcing a full backup.” This is then followed by a full backup of your Exchange Information Store.

Overview

Circular logging is a feature of Microsoft Exchange that allows self-truncation of mail transaction logs. Microsoft’s own Exchange Team describes circular logging in this way:

“When you configure an Exchange database with circular logging turned on, Exchange doesn’t wait until a backup occurs to truncate transaction log files. Rather, as soon as the log files have been played forward into the database, Exchange is free to delete those transaction logs.”

The benefit of circular logging is that Exchange’s normally sizable system footprint is smaller, but this comes at the expense of disaster recovery capability as it completely degrades the ability of VSS to properly operate.

As a result of the problems caused by the interaction between circular logging and VSS, full backups are triggered when inconsistencies in the Exchange logs are detected. This can also occur when individual log files are missing or out of chronological order.

Solutions

To resolve this issue, circular logging needs to be disabled on the Exchange database(s) exhibiting the messages listed above. Instructions on how to do this follow:

Exchange Server 2007

The process of disabling circular logging on Exchange 2007 can be done one of two ways:

Exchange Management Console Method

1. In the console tree, navigate to Organization Configuration ☸ Mailbox.
2. In the result pane, on the Database Management tab, select the database you want to configure.
3. In the action pane on the right side of the console, under the database name, click Properties.
4. Click on the Maintenance tab.
5. Clear the “Enable circular logging” check box.
6. Click the OK button to save your changes and exit the window.

To finalize the changes to the circular logging settings and apply them to the database, you can either restart the Microsoft Exchange Information Store service, or dismount and then mount all of the databases in the storage group.



Exchange Management PowerShell Method

To apply the change, open up the Microsoft Exchange PowerShell (located in the Exchange folder within the Programs section of the Start Menu) and run the following command

```
Set-MailboxDatabase -Identity "<Database Name>" -CircularLoggingEnabled  
$false
```

Note: Replace <Database Name> with the actual name of the store you are attempting to modify.

When done, dismount and remount the database to finalize changes or restart the Exchange Information Store service.

Microsoft Tech Note:

<http://technet.microsoft.com/en-us/library/EXCHG.80.aspx>

Exchange Server 2010:

Like Exchange 2007, circular logging can be disabled in 2010 through either the Exchange Management Console or through its PowerShell implementation.

Exchange Management Console

1. In the console tree, navigate to Organization Configuration ► Mailbox.
2. In the results pane, on the Database Management tab, select the database you want to configure.
3. In the action pane, under the database name, click Properties.
4. Click on the Maintenance tab.
5. Clear the Enable circular logging check box.
6. Click the OK button to save changes and exit.

To finalize the changes to the circular logging settings and apply them to the database, you can either restart the Microsoft Exchange Information Store service, or dismount and then mount all of the databases in the storage group.

Exchange Management Shell

In the Exchange PowerShell environment, enter in the following command to disable circular logging:

```
Set-MailboxDatabase -Identity "<Database Name>" -CircularLoggingEnabled  
$false
```

Note: Replace <Database Name> with the actual name of the store you are attempting to modify.

When done, either restart the Microsoft Exchange Information Store service or dismount and remount the databases you are attempting to change.

Microsoft Tech Note:

<http://technet.microsoft.com/en-us/library/EXCHG.80.aspx>



Miscellaneous Information

The information store service must be restarted because when it starts, it reads configuration information from the Active Directory. The Active Directory attribute associated with the circular logging setting is called MSExeESEParamCircularLog. When circular logging is enabled, this attribute is set to 1. When circular logging is disabled, it is set to 0.

Solution Verification

The fastest and easiest way to verify that the problem is fixed is to retry the backup operation manually. Alternatively, you could wait until the next scheduled period. Instructions for the manual method follow.

Running the Backup Manually from the Local Monitor

1. Open the local monitor on the system.
2. Click on the "Backup Sets" tab to display the available sets.
3. Highlight the Exchange Information Store backup set you wish to run.
4. Click the Run Button.
5. Follow the prompts as necessary.

If circular logging has been successfully disabled, the error message mentioned in the initial part of this document should no longer occur.