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Introduction

General Statement

The enclosed documents include important information regarding backups of your RFMS system. Backups are probably one of the most important aspects of all computer systems. Because you are a registered user of the SQL version of RFMS, you need to be aware that the backup processes are different for SQL databases than for the Pervasive databases. Please check to be sure that your organization is properly performing valid backups on a daily basis. To assist you in confirming this, please read the enclosed documentation and follow the outlined instructions if applicable.

With previous versions of RFMS, the data and program files were stored within the RFMS Folder. With Version 10, only the PROGRAM files are stored in the RFMS folder. The database is stored in the Microsoft SQL predefined location. This is done primarily for security by Microsoft. Another security feature is the inability to simply copy your SQL Database off of the server. The following information will give your IT Professional the necessary information concerning backing up RFMS SQL Databases and our recommendations on testing.

Backing up a SQL Database: General Information

This document is to assist your IT Professional in making a backup of your SQL Database. Once you have this configured and a Windows Scheduled Task set up to run these, your IT Professional will need to ensure that the Backup Solution is backing up the folder specified later in this document. If you are running Microsoft SQL Express, follow this document, to configure backups of the RFMS Database (Pay special attention to Step 6). The other versions of Microsoft SQL contain a Maintenance Option that you can configure for your backup solution. You may also use the SQL Agent on any backup software you might have.

Your Local Computer Technician should perform the following steps, since it involves configuring both your SQL settings on the server and configuring and testing a backup routine. The following document discusses configuring Microsoft SQL Express 2005, modifying batch files and SQL files, running SQL Scripts, and setting up scheduled tasks.

It is imperative that your computer technician not only backup to the server, but to a separate device (i.e....tape drive). RFMS is not responsible for performing daily backups, maintaining the backup schedule, or performing integrity checks of the tapes / jobs. **RFMS also recommends multiple backup sets, rather than having one media and overwriting every day; as well as, testing your backups periodically to ensure stability of your Backup Solution.** Your Computer Technician should be able to assist with this procedure.

It is imperative that you are backing up your SQL Database Properly. Failure to run the Logbackup.bat file will result in the Transaction Log File filling up the Free Space on your Hard Drive. Failure to backup in general will result in no backups to go back to in the case of a System Failure

If running Microsoft SQL Standard or Workgroup, configure the Maintenance Plan to run both the Log backup (transaction) and the Full backup. Additionally, if you have a backup solution that can successfully backup SQL Databases, you can use that. Otherwise, we recommend using one of the below methods.

Ways to Perform a SQL Backup

There are different ways of backing up a SQL Database; here we are going to discuss three of them.

1. **Backup Program with SQL Agent:** If running a Backup Program with a SQL Agent, your technician can configure the Backup Job to backup the Databases and Program Files and pull to an external device (ie... tape drive).
2. **Microsoft SQL Maintenance Plan and Backup Program:** If running Microsoft SQL Workgroup or Microsoft SQL Standard, your technician can set up Maintenance Plans. The Maintenance Plans can be configured to do a Full Backup and a Transaction Backup. Once a Scheduled Task is set up to run both the Full Backup and Transaction Backup, you can use your Backup Program to back up both the Program Files and Program Files and pull to an external device (ie... tape drive).
3. **Non Microsoft SQL Maintenance Plan and Backup Program:** If running Microsoft SQL Express, there is no Maintenance Plan. However, we provide a way to do the same process with the configuration of a few files and setting a scheduled task to run. Then you can use your Backup Program to back up both the Program Files and Program Files and pull to an external device (ie... tape drive).

Note: It is imperative to make sure that your Backup Solution is performing both a Full Backup and the Transaction Backup. Failure to backup the full database will result in RFMS data not being backed up. Failure to backup the transaction log will result in the SQL Log file building in size daily until the hard drive runs out of space.

Note: Some setups of Scheduled Tasks require Administrator User Information under the Security Section. This being said, if you change your Administrator Password, you will have to change this on the Scheduled Task(s).

SQL Data Backup Verification

In addition to backing up your RFMS database and Program Files, it is a good idea to check that the files are being backed up to tape properly. This quality control function will give you the peace of mind knowing that your backups are running and being put to tape on a regular basis. We recommend the following:

1. A report generation showing that the backup completed successfully (this can be done through most backup programs. If you can't run the report, then get your IT Professional to show you a way to browse the backup confirmation log or tape to ensure that your files are being backed up.
2. We also recommend that you test your tapes periodically. For example, pull a tape out of rotation, restore that tape to a blank database and launch that test database to confirm that your data is there. It is **IMPERATIVE** to restore to the TEST DATA BASE and not to the real/actual/working data base. If this procedure is not followed, you will overwrite your current data base.

Questions and Answers

Question: Why do I have to Backup my SQL Database in addition to my RFMS Folder?

Answer: There are a couple reasons for this.

1. The SQL Database is not natively stored in the RFMS Folder as in previous versions.
2. Microsoft SQL locks the database so that it cannot be copied/deleted while in use by SQL therefore requiring one of the methods in section 1.2

Question: How do i Backup my Database?

Answer: You need to use either a Backup Program with SQL Agent, Microsoft SQL Standard/Workgroup running SQL Maintenance Plans or using our Backup Files

Question: Should i take my backup offsite?

Answer: We actually recommend having a backup tape taken offsite; in fact it doesn't hurt to have a couple off site (say for example current backup tape and previous tape)

Question: Should I have multiple backups?

Answer: Yes, we recommend multiple tape backup rotation system. 1 Week minimum, 2 Week recommended. We also recommend that you test your backup tapes periodically to ensure that they are good.

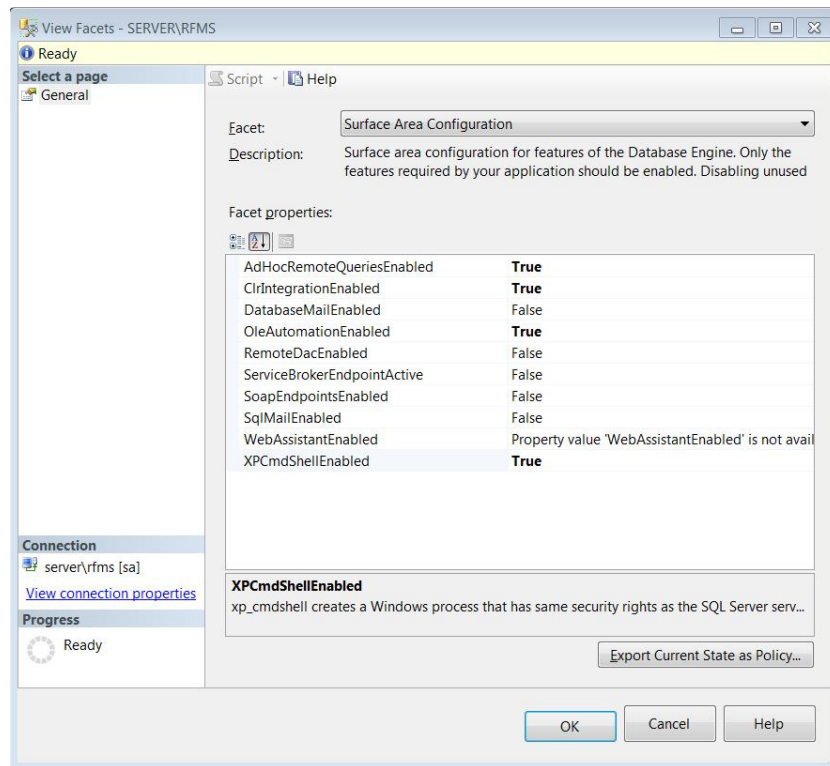
Question: What happens if my server hardware crashes and I have no backups?

Answer: If you have no backups and your server crashes, the only choice will be to start over

RFMS Version 10 Backup Process (option 3 from Ways to Perform a SQL Backup)

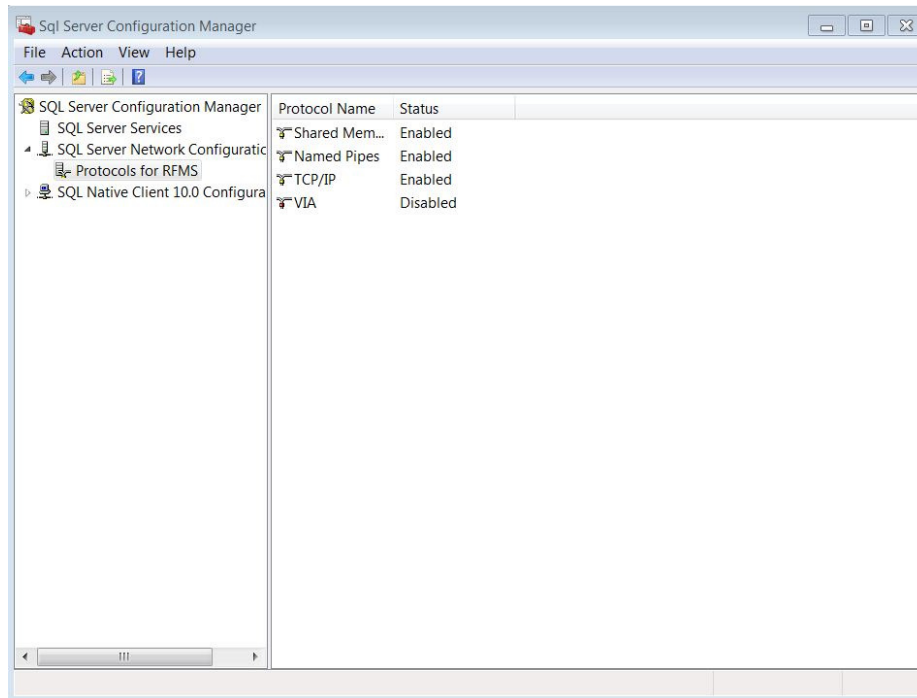
Configuring and Automating the SQL Backup Process

1. Go to SQL Management Studio and Login
2. Right click on Server Name and choose “Facets”
3. On the Facet Menu choose “Surface Area Configuration” and configure as shown

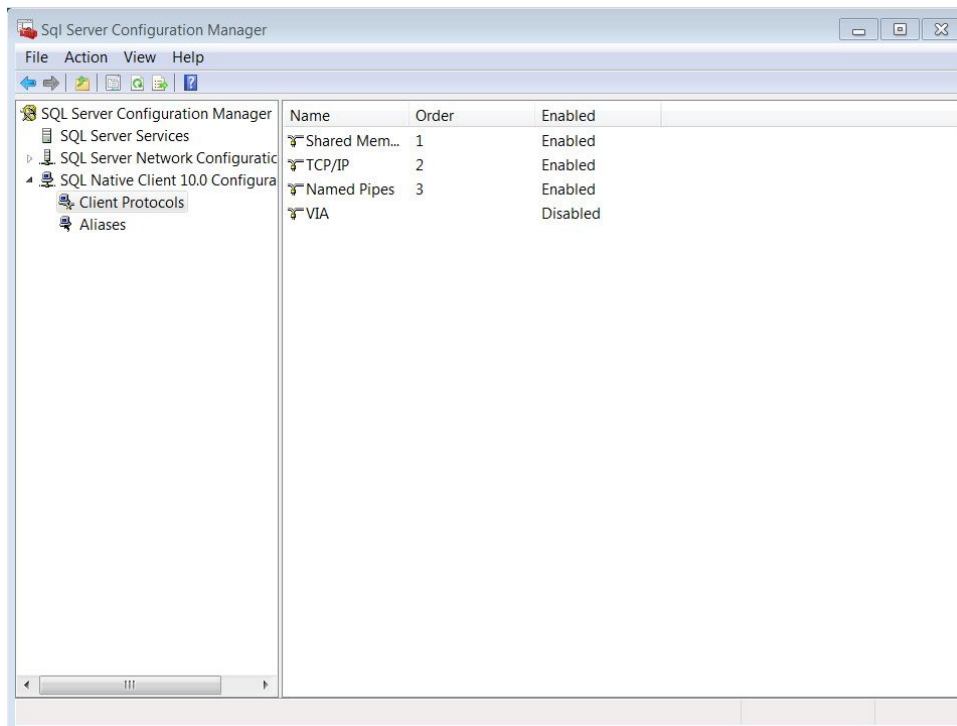


4. Hit “ok” and then right click on the Server Name and select “Restart”

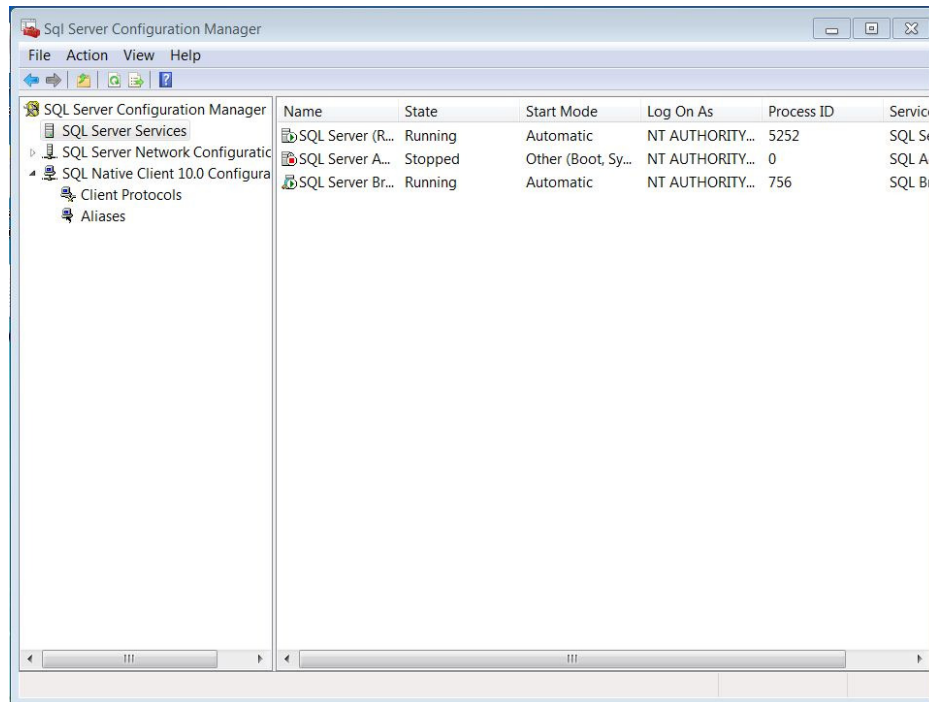
- Next go to Start – Programs – Microsoft SQL Server 2008 – Configuration Tools – SQL Server Configuration Manager. Expand SQL Server Network Configuration and click on “Protocols for Instance”, here we used RFMS Instance. Change the screen as shown.



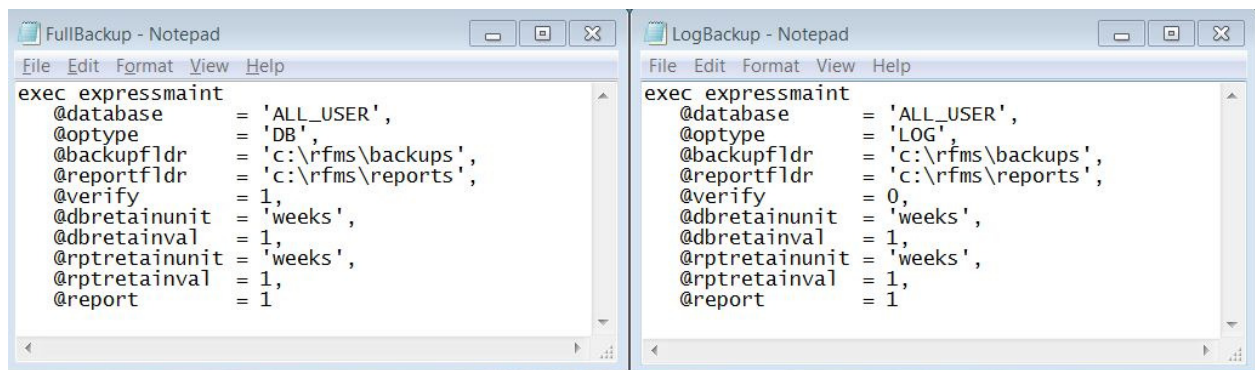
- Next expand SQL Native Client Configuration and click on “Client Protocols”. Change the screen as shown



- The last step to this section is to click on the SQL Server Services as shown. Modify as shown below and then right click on both that are running and select "restart".



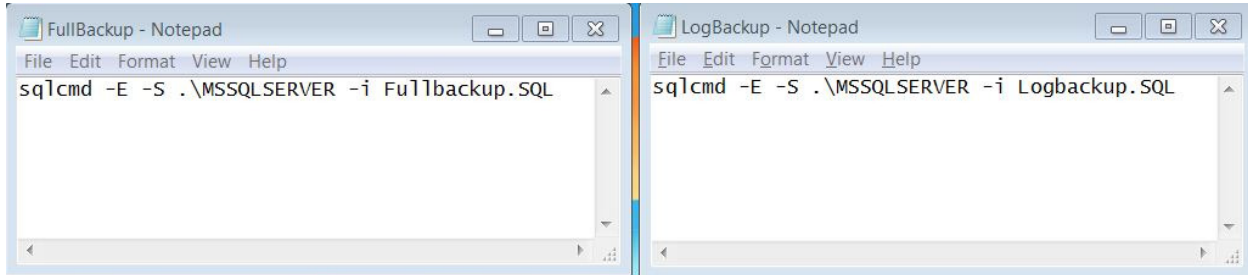
- Once the last section is completed, you need to create two folders called *Backups* and *Reports*. You can put these anywhere you would like. The path to where you created them will be used in the next step.
- Open the RFMS Folder and find the *fullbackup.sql* file and the *logbackup.sql* file. If prompted for what program to open the file with, choose notepad. Then modify the **@backupfldr** and **@reportfldr** to reflect where you want the backup to store these files. Use the path created in the previous step. Make sure that your Tape Backup Program knows to backup this folder. Do the same for the *logbackup.sql* file. The screens will be similar to below.



Note: Our RFMS folder is located at *c:\rfms*, and we created the backup folder inside of it, so the new lines would be *c:\rfms\backups* and *c:\rfms\reports*. Once done, go to file and select save. Then go to file and select exit.

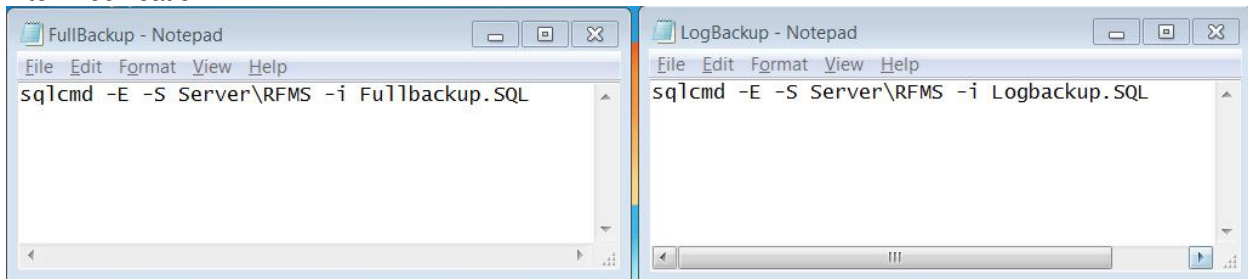
- Next, you will need to look at the *fullbackup.bat* and *logbackup.bat* file. By default, it will look like below.

Before Modification



Note: The only section of the line that needs modified is the “.MSSQLSERVER”. This needs to be modified to match the Server Information from Step 19 in the “Installation of SQL Express Section”. Since our Server Name was Server and our SQL Instance was RFMS, we used Server\RFMS

After Modification



- Next browse to the RFMS Folder and launch *expressmaint.sql* by double clicking on the file. It should open with SQL Management Studio Express Tools. If it doesn't close it down and right click on the file. Choose Open With and choose SQL Management Tools from the list. Login using windows authentication and then once everything is loaded hit Execute. If this file is not in the RFMS folder, check your Backup folder and move from there to the RFMS folder. If it is not there or this does not launch, contact RFMS Support for assistance.
- Next set up a Windows Scheduled Task to run both the *fullbackup.bat* and *logbackup.bat* files. The *fullbackup.bat* will backup the Database and the *logbackup.bat* will backup the transaction logs. Set a scheduled task to run these two files. We recommend running the *fullbackup.bat* after hours and prior to your Tape Backup Software and running the *logbackup.bat* file every hour of operation. This will get a backup of the Transactions through the day and assist the *fullbackup.bat* in data restores. These files will place the backups in the folder specified in step 9 of this document. Once done, check to make sure that they both run by right clicking on each of the backup batch files and selecting run. Then when complete check the Backups folder you created in step 9

Note: The fullbackup.bat must be run in order to have a SQL DB Backup. The logbackup.bat must be run to have Transaction DB Backups. Additionally, if the logbackup.bat is not run, it will build in size and thus take up hard drive space and if the Fullbackup.bat file is not run, you will not get a backup of the SQL Database..

13. Set your Backup Program to run after these backups are scheduled to run. Make sure that it is backing up the files stored in the backups and reports folder that you set in step 9, as well as, the RFMS Folder. This way you have both the SQL Database and the RFMS program files.

Note: It is a good idea to check your backups and reports folders to make sure that your scheduled tasks are running when designated to run. In addition to this, it is a good idea to do a Quality Control Check from time to time of your Backup Tapes to make sure that everything is getting backed up properly. Make sure that this Quality Control Method is done in a Separate Folder than your RFMS Folder.