

Manitou Failover Process

This document covers the Manitou Failover Process.

Manitou Failover Process – What to do When

Vocabulary

Term	Definition
Database Server	Computer that houses the Manitou Database.
Replication	The process that writes data from the Active database to the standby database(s)
SQL	Structured Query Language - The language databases speak.
Logger	The software service that tracks all software to database communications.
Broker	The "Brains" of Manitou - Most Manitou services need the Broker in order to run.
FEP	Front End Processor - Software service that acknowledges the Receiver when an event arrives.
FEP Commander	Software that displays the status of each receiver and the number of signals received

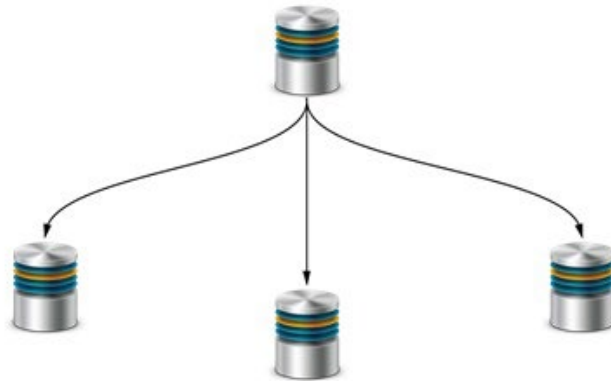
The managed failover process is completed in three stages:

- **Before Failover:** Replication is verified to be running and making a one-time backup of the database.
- **During Failover:** All services are stopped on the active server and starting the services on the standby server.
- **After Failover:** Confirmation that everything is working and alarms are continuing to process, then rebuild replication.



Before Failover

Verify Replication



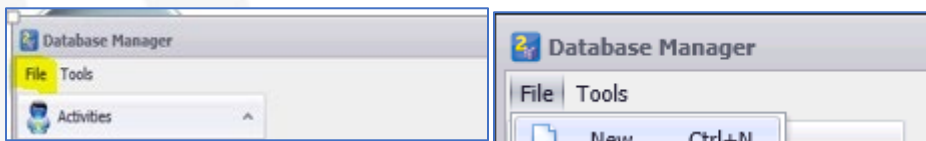
Making sure the database is healthy.

1. Remote Desktop to the server where the DB Manager is located.
2. Once logged into the Server, double click the DB Manager icon on the desktop.

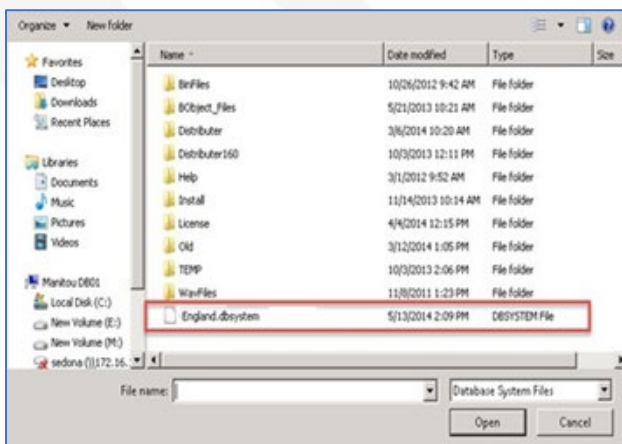


3. When the DB Manager loads, open the DB System file.

- Click **File** – then **Open**.

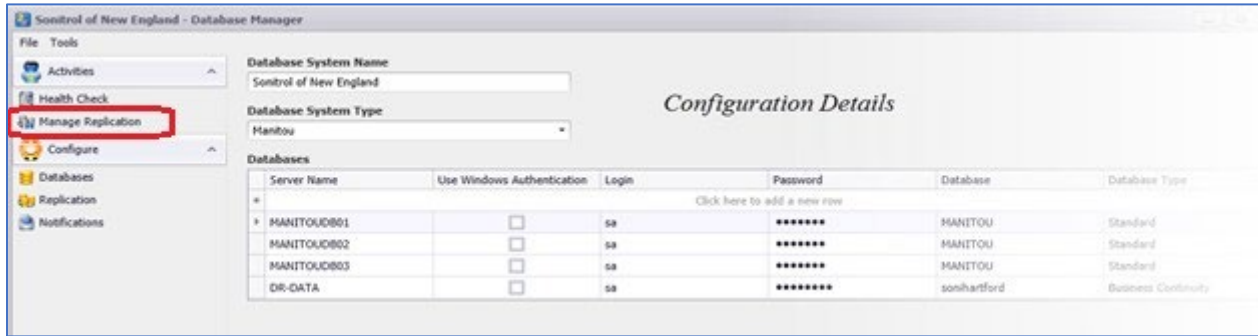


- The default folder should have the DBSYSTEM file (this example reads **England.dbsystem**).



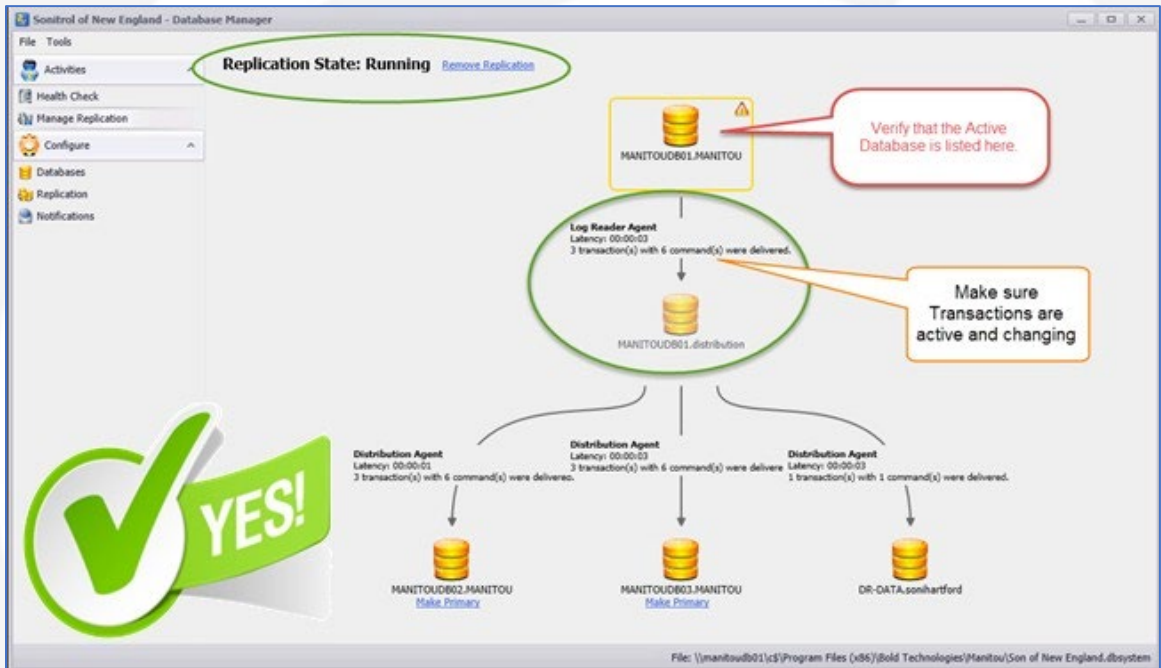
- Click **Open**.

4. To check the database status, click **Manage Replication**.



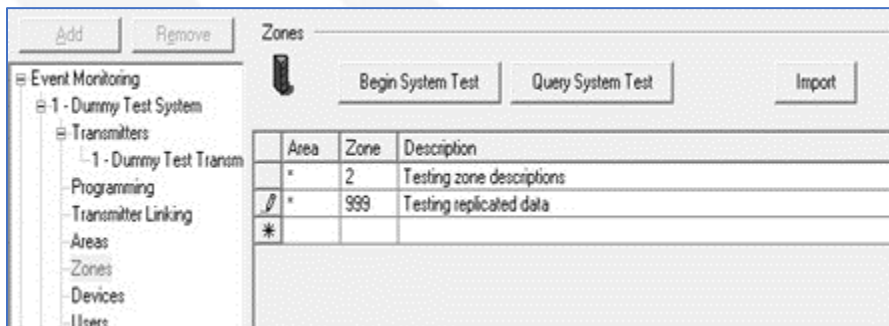
5. The replication display takes a few moments to load. When it does:

- o Verify that the **ACTIVE** database is at the top of this tree.
- o Verify that all transactions change as it is being watched.

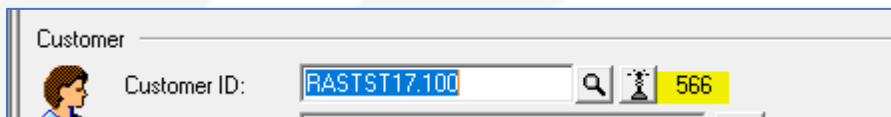
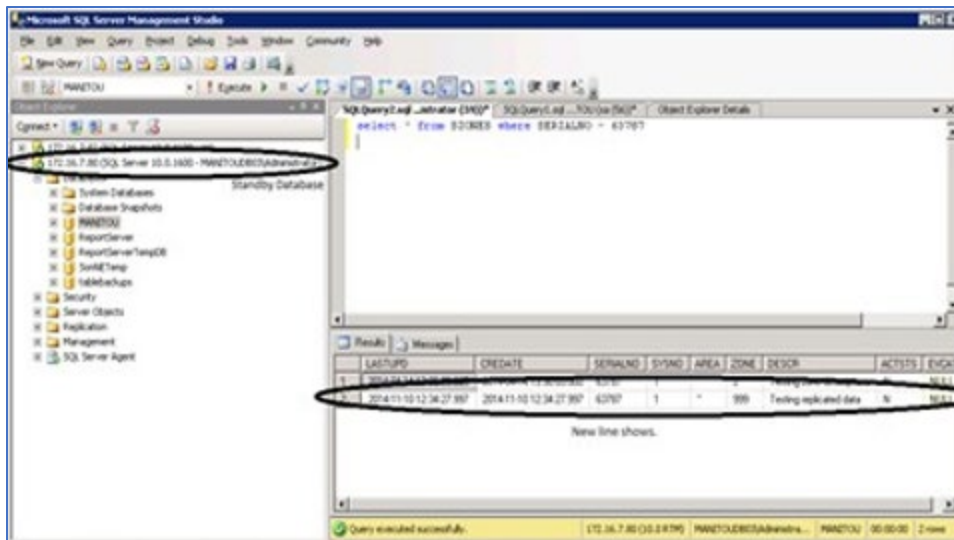


Test Replication to verify data is going to all servers:

1. Add data into Manitou – can add a zone to an account transmitter.



2. Query the standby databases: select * from szones where serialno = 566 (this is found on the customer Jump To page). This is to verify that the information replicated into the standby database.



3. The next step will be to back up the Active Database after verifying data is being replicated.

Back up the Active Database

Using the Start Menu: Launching Microsoft SQL Server Management Studio

1. Find Microsoft SQL Server Management Studio (MSSQL – SSMS)

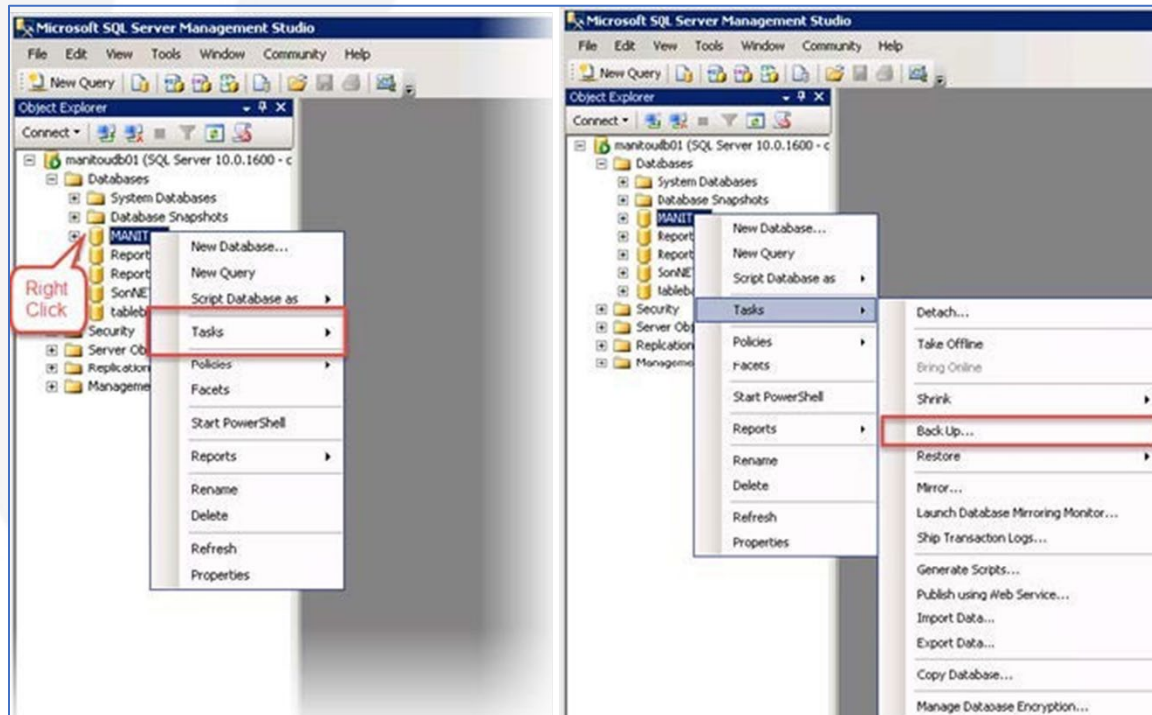


2. Connect to the Database (Local Security Policy determines how the user will log into the Database Server).



- a. Server name – Active Server name (here it shows the server name 172.16.7.80 (manitoub01), if DB 02 is active, it should read 172.16.7.81 (manitoub02).
- b. Authentication should be Windows Authentication.
- c. There will be no need to enter a username or password.
- d. Set a “line in the sand” (time at which the failover is to occur).

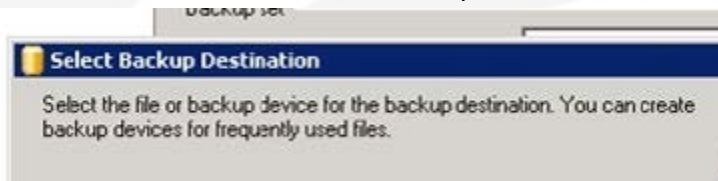
3. Once SSMS is connected to the Active Server, navigate to the Manitou database>right click and choose Tasks>Back Up...



- a. Set the backup expiration to 3 days.

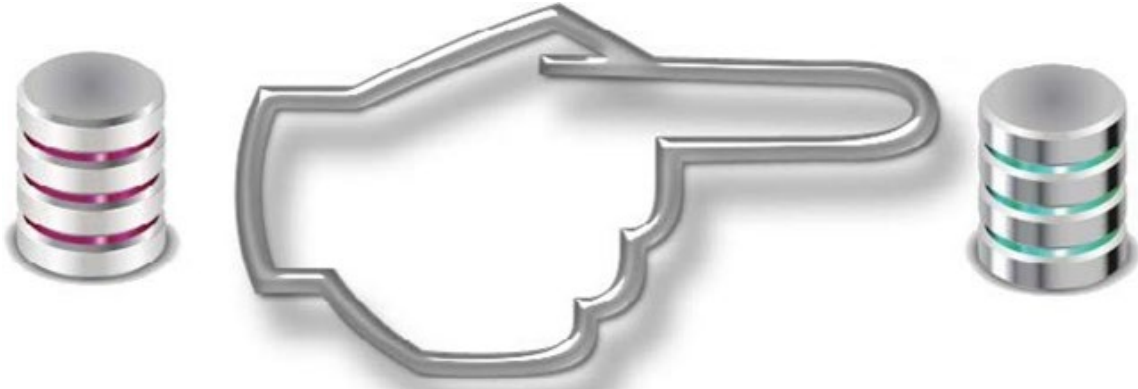


- b. Remove the old database from the destination section.
- c. Click **Add**.
- d. Browse to the destination for the backup.



- e. The folder will default to the SQL backups folder, previously used for other backups.
- f. Name the file PREYYMMDDFO.bak (Naming conventions can vary from organization to organization, so it is important to ensure that the name matches the appropriate convention and is easy to find. This name makes it very easy to find PRE20200215FO.bak indicates the date and the backup was made).
- g. Click **OK** all the way back to the backup form.
- h. Click **OK** one more time to launch the backup.
- i. The backup begins.
- j. When completed (this can take minutes to hours depending on the database size and server speed). There will be a dialog stating it completed successfully.

During Failover

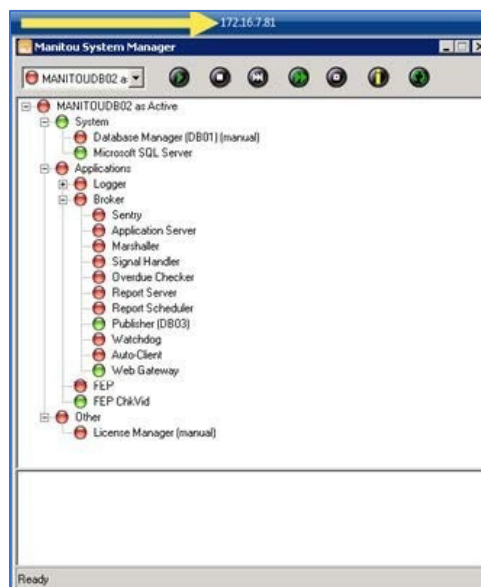


Moving from ACTIVE to STANDBY servers

It is recommended to log in to both the Active and Standby servers via remote sessions to have access to both servers on the same workstation.



Active Server



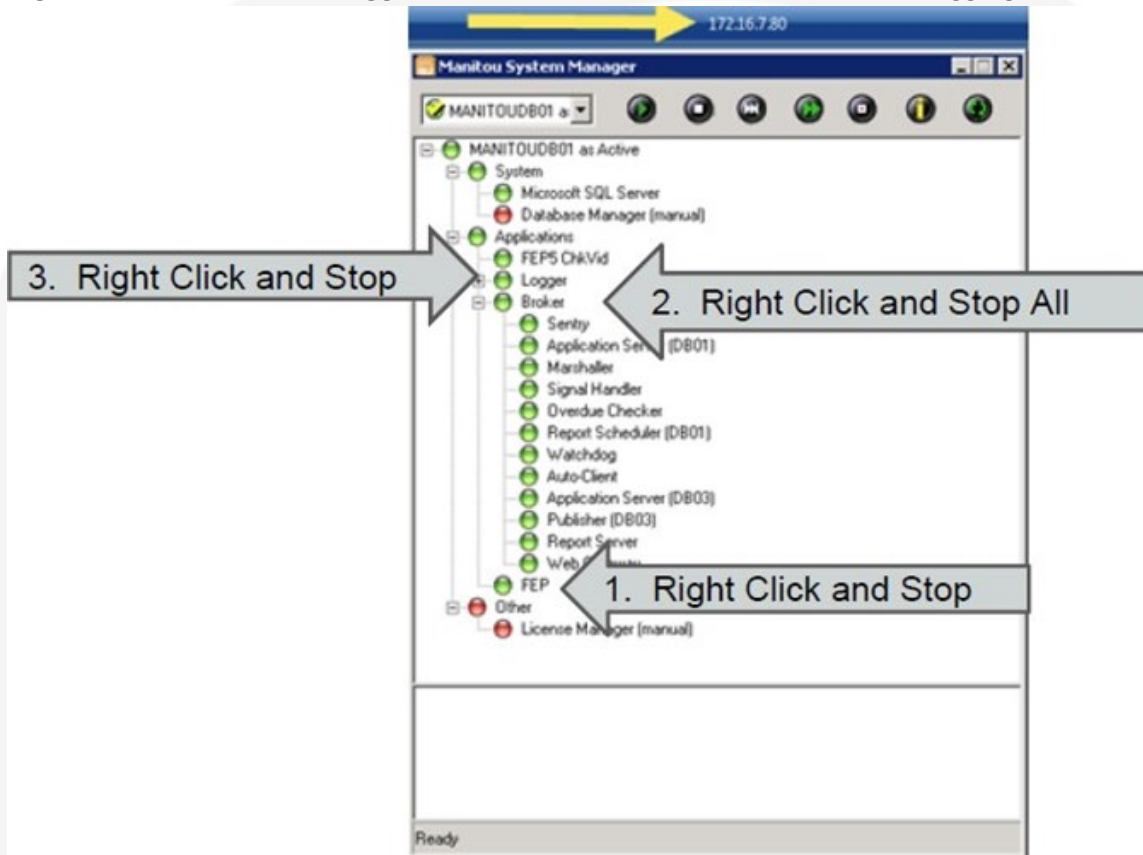
Standby Server

Be sure that all staff members are ready to failover, that no one is handling a high priority event. Give everyone notice that the failover process is starting and that this will impact operations temporarily.

Stop Active Server - From the BOTTOM UP

When ready to fail over on the ACTIVE Server:

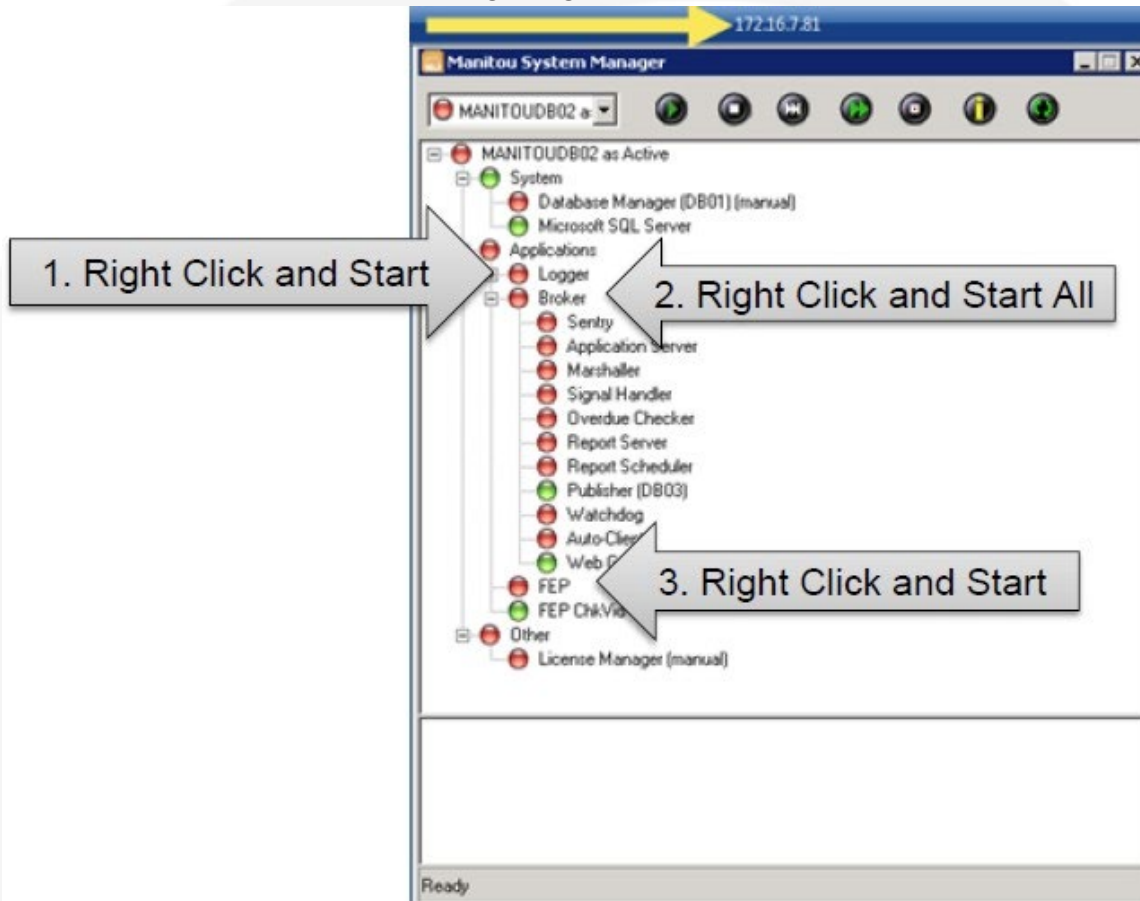
1. **Right-click and STOP the FEP.** The receiver will begin to indicate the break between the receiver and automation.
2. **Right-click and STOP ALL on the Broker.** This stops all Manitou related services underneath it.
3. **Right-click and STOP the Logger.** This is the last to close out to ensure all logging happens.



Start the Standby Server – From the TOP DOWN

When ready to fail over, on the STANDBY Server:

1. **Right-click and START the LOGGER.**
2. **Right-click and START ALL on the Broker.**
3. **Right-click and START the FEP.** The receiver will stop complaining about the break in communications at this point. Check the FEP Commander for signaling.



Operators may log back into Manitou and begin processing alarms again.

VERIFY Signaling

Verify all receivers are UP and sending signals into Manitou.

1. Double-click the FEP commander icon on the new Active server.
2. Let all the receivers have a moment to receive signals and confirm their status.



ID	Thread Type	Thread Status	Driver Name	Driver Status	Rec No	Signals Sent	Last Send
01	Listen	Started					
02	Standby	Started					
03	Log	Started					
04	Delivery	Started				0	0
05	Driver	Started	ADEMCO	Up	2	31845	06/11 19:33:58 GMT
06	Driver	Started	ADEMCO	Up	3	120	06/11 12:36:30 GMT
07	Driver	Started	MLR2000	Up	4	1	05/14 16:24:30 GMT
15	Driver	Started	MLR2000	Up	5	352385	06/11 19:34:21 GMT
08	Driver	Started	MLR2000	Up	6	1	05/14 16:24:24 GMT
09	Driver	Started	MLR2000	Up	7	1	05/14 16:24:23 GMT
0A	Driver	Started	MLR2	Up	8	330	06/11 13:27:43 GMT
08	Driver	Started	ITI	Up	9	2372	06/11 18:45:42 GMT
0C	Driver	Started	ITI	Up	10	3676	06/11 19:15:03 GMT
0D	Driver	Started	KPRADIO	Up	11	14817	06/11 19:32:29 GMT
0E	Driver	Started	AES7701-ADM	Up	12	49544	06/11 19:33:47 GMT
0F	Driver	Started	AES7701-ADM	Up	13	59	06/03 05:03:23 GMT
10	Driver	Started	ITI	Up	14	1073	06/11 18:36:20 GMT
11	Driver	Started	KPRADIO	Up	17	40446	06/11 19:32:55 GMT
12	Driver	Started	TELDAT IP	Up	19	327	06/11 13:24:56 GMT
13	Driver	Started	TELDAT IP	Up	20	1	05/14 16:25:24 GMT
14	Driver	Started	RSIFRONTE...	Up	21	2073	06/11 17:42:15 GMT
1C	Driver	Started	MLR2000	Up	23	19	06/09 16:59:39 GMT
34	Control	Started					

After Failover

VERIFY History and Signaling in Manitou

Be sure to pick the new FEP on the Active system - 1 = FEP 1, 2 = FEP 2, etc...

Date/Time	FEP No	Rec No	Line No	Rec Code	Event Data
06/20/2014 13:1453	2	5	999	MLR,000	502112 1817216 000000 (+) 402112 072960770714
06/20/2014 13:1453	2	5	999	MLR,000	606660 03978 E (+) 406660 039780260775
06/20/2014 13:1451	2	5	999	MLR,000	508532000000N0102 (+) 408532 000040 7222407
06/20/2014 13:1425	2	17	4	MPR,400	04 0721 F1
06/20/2014 13:1426	2	5	999	MLR,000	501518 140586 000000 (+) 401518 405860770202
06/20/2014 13:1433	2	5	999	MLR,000	542142800000N1100 (+) 402143 000000 821822
06/20/2014 13:1430	2	5	999	MLR,000	102017 1529 9 (+) 402017 152900407179
06/20/2014 13:1426	2	12	1	AES70140M	25 1170 18 0402 000000
06/20/2014 13:1424	2	5	999	MLR,000	508532000000N0102 (+) 408532 000040 7222407
06/20/2014 13:1421	2	18	28	STI	11 RCY 23AA
06/20/2014 13:1419	2	5	999	MLR,000	507794 184852 407002 (+) 407794 408580007 800
06/20/2014 13:1413	2	12	1	AES70140M	25 1170 18 0402 000000
06/20/2014 13:1407	2	5	999	MLR,000	101078 5081 F (+) 401078 508107400202
06/20/2014 13:1358	2	5	999	MLR,000	508532000000N0102 (+) 408532 000040 7222407
06/20/2014 13:1354	2	5	999	MLR,000	542532040771M,000 (+) 402532 477208040100
06/20/2014 13:1381	2	5	999	MLR,000	102017 1529 9 (+) 402017 152900407179
06/20/2014 13:1343	2	5	999	MLR,000	1070140236004607000
06/20/2014 13:1341	2	5	999	MLR,000	606660 03978 E (+) 406660 039780260775
06/20/2014 13:1341	2	5	999	MLR,000	507942 186254 000000 (+) 407942 040000000000
06/20/2014 13:1337	2	5	999	MLR,000	106067 0860 9 (+) 406067 086000407147
06/20/2014 13:1337	2	12	1	AES70140M	25 1170 18 0402 000000
06/20/2014 13:1318	2	5	999	MLR,000	10703047180718 111 407030 107030407180
06/20/2014 13:1318	2	5	999	MLR,000	1114000000000000000 (+) 4014 000000000000
06/20/2014 13:1313	2	5	999	MLR,000	106067 0860 9 (+) 406067 086000407147

Once signals are being received and Operators are handling alarms again, it is time to “gut check” the customer history to ensure that current and past history shows properly. Find and load a customer record containing a lot of historical activity and load the activity log. Verify history back: 1 month, 6 months, and 1 year.

Customer ID: 59191
Name: Control Office Rocky Hill
Type: Commercial
Address: 65 ... Road, ...
City: ...
State: Connecticut
Zip Code: 06106
Monitoring Status: Active
Start Date: 05/29/2006

- Customer
- Details
- Options
- Systems
- Services
- D/C Schedules
- Contact List
- Call Lists
- Alerts
- Permits
- Comments
- Action Patterns
- General Schedules
- Plans
- Reverse Comms
- User Defined
- Reports
- On Test Status
- Zone Status
- Reverse Send
- Maintenance Issues
- Activity Log
- Active Control

Now that the historical data has been confirmed going as far back as 1 year is there, the failover can be considered a success and Replication can be rebuilt.

Restarting Replication the other direction

NO NEED TO RUSH! Take a breather. Let things settle for a moment. Now that the system is safely and confidently switched over, replication is broken by SQL Server. The DB Manager 2 will show this is the case. It is not necessary to rush to restart replication. Let things run for a bit and see that there are no other challenges from the failover. Then start rebuilding replication.

To rebuild replication:

1. Return to the DB Manager 2 and load the configuration again if the application was closed.
2. Find the new Active database in the list.
3. Click Make Primary.



4. There is no other action to take after Make Primary. It is just good practice to keep an eye on it as it processes.