**-AlwaysOn Stretch Setup-**

**AlwaysOn New node prep:**

1. Setup all logins
2. Run config checks and be sure ALL config matches (Enable CLR!?!?)
3. Recreate all jobs
4. Add PNOSQL03 to existing production Normal Windows cluster
5. Enable AlwaysOn on PNOSQL03\
6. Pause/Disable DPM backups for PNOSQL01 & 02
7. Add additional listener IP: 2620:115:9006:c104::1:c to all nodes
8. Make sure the endpoint url is set to use the network and not a local connection
9. Make sure all nodes are using the same service account (if in the same domain)
10. Backup databases on PNOSQL01 (~2 hours) 01:57 HH:MM
    1. Start Job ‘DBA Backup and Copy (Migration)’
11. Copy database backups to PNOSQL03 (~15+ hours) 14:12 HH:MM
    1. Step 2 of ‘DBA Backup and Copy (Migration)’
12. Restore full backups PNOSQL03 & 04 (norecovery) 01:02 HH:MM
    1. EXEC sp\_RestoreFromAllFilesInDirectory\_NORECOVERY 'H:\Temp03\'
       1. Check and run generated restore scripts
    2. Copy database backups: [\\PNOSQL03\Temp03](file:///\\PNOSQL03\Temp03) to [\\PNOSQL04\Temp04](file:///\\PNOSQL04\Temp04)
    3. Manually Move backups from PNOSQL03: “H:\Temp03” to “H:\SQLBackup”
    4. EXEC sp\_RestoreFromAllFilesInDirectory\_NORECOVERY 'H:\Temp04'
       1. Check and run generated restore scripts
    5. Manually Move backups from PNOSQL04: “H:\Temp04\” to “H:\SQLBackup”
13. Take differential backup of production databases 00:15 HH:MM
    1. Step 1 of ‘DBA Diff Backup and Copy (Migration)’
14. Copy differential backups to new servers (~1.5 hours ) 01:16 HH:MM
    1. Step 2 of ‘DBA Diff Backup and Copy (Migration)’
15. Restore differential backups to PNOSQL03 & 04 (norecovery)
    1. EXEC sp\_RestoreFromAll\_DIFF\_FilesInDirectory\_NORECOVERY ‘H:\Temp03\'
       1. Check and run generated restore scripts
    2. Copy Diff database: \\PNOSQL03\Temp03 to [\\PNOSQL04\Temp04](file:///\\PNOSQL04\Temp04)
    3. Manually Move Diff backups from PNOSQL03: “H:\Temp03” to “H:\SQLBackup”
    4. EXEC sp\_RestoreFromAllFilesInDirectory\_NORECOVERY 'H:\Temp04'
       1. Check and run generated restore scripts
    5. Manually Move backups from PNOSQL03: “H:\Temp03” to “H:\SQLBackup”
16. Take final T-Log backups PNOSQL01
    1. Step 1 of ‘DBA Logs Backup and Copy (Migration)’
17. Copy T-Log backups to new servers
    1. Step 2 of ‘DBA Logs Backup and Copy (Migration)’
18. Copy T-Log backups from [\\PNOSQL03\Temp03](file:///\\PNOSQL03\Temp03) to [\\PNOSQL04\Temp04](file:///\\PNOSQL04\Temp04)
19. Restore to PNOSQL03 & 04
    1. EXEC sp\_RestoreFromAll\_LOG\_FilesInDirectory\_NORECOVERY '\\PNOSQL03\Temp03\'
       1. Check and run generated restore scripts
    2. EXEC sp\_RestoreFromAll\_LOG\_FilesInDirectory\_NORECOVERY '\\PNOSQL04\Temp04\'
       1. Check and run generated restore scripts
20. Add new nodes to production AlwaysOn PnoSQL03 & 04 wi. join only

**Day Before:**

1. Double check all logins, configs and jobs are up to date to the latest version on the new instances (enable CLR, any other obscure configs)

**Night Of:**

1. Set PNOSQL03 to synchronous
2. Failover LeadsSqlHA to PNOSQL03
3. Set PNOSQL02 to asynchronous & manual failover
4. Set PNOSQL04 to synchronous
5. Set PNOSQL01 to manual failover
6. Set PNOSQL03 and PNOSQL04 to be automatic failover nodes
7. Enable all SQL jobs
8. Change Always On backup priority for DPM backups to use Spokane secondary node

\*Note remember to either enable multisubnetfailover option in the connection string settings or adjust the windows cluster parameters to not push dns entries: <https://blogs.msdn.microsoft.com/alwaysonpro/2014/06/03/connection-timeouts-in-multi-subnet-availability-group/>

**Change of plans:**

1. Create new LeadsSqlHA2 group and move Leadalerts databases into the new group
   1. ASPState
   2. DoNotCall
   3. LeadAlerts\_Q
   4. LeadAlerts\_S
   5. SignalQ\_LeadAlerts\_Campaigns
2. Create new listener
   1. Tierpoint IP = 2620:115:9001:C104::D
   2. Spokane IP = 2620:115:9006:C104::D

**-Backup Normal Database Migration Process-**

The day before production migration

1. Pause DPM backups for PNOSQL01 & 02
2. Backup databases on PNOSQL01 (~2 hours) 01:57 HH:MM
   1. Start Job ‘DBA Backup and Copy (Migration)’
3. Copy database backups to PNOSQL03 (~15+ hours) 14:12 HH:MM
   1. Step 2 of ‘DBA Backup and Copy (Migration)’
4. Manually Move backups on PNOSQL01 from “H:\HATemp\migration” to “H:\SQLBackup”
5. Restore full backups PNOSQL03 (norecovery) 01:02 HH:MM
   1. EXEC sp\_RestoreFromAllFilesInDirectory\_NORECOVERY 'H:\Temp03\'
      1. Check and run generated restore scripts
6. Copy database backups: [\\PNOSQL03\Temp03](file:///\\PNOSQL03\Temp03) to [\\PNOSQL04\Temp04](file:///\\PNOSQL04\Temp04)
7. Manually Move backups from PNOSQL03: “H:\Temp03” to “H:\SQLBackup”
8. Restore full backups PNOSQL04 (norecovery) 01:02 HH:MM
   1. EXEC sp\_RestoreFromAllFilesInDirectory\_NORECOVERY 'H:\Temp04'
      1. Check and run generated restore scripts
9. Manually Move backups from PNOSQL04: “H:\Temp04” to “H:\SQLBackup”

T-minus ~2 hours

1. Take differential backup of production databases 00:15 HH:MM
   1. Start Job ‘DBA Diff Backup and Copy (Migration)’
2. Copy differential backups to new servers (~1.5 hours ) 01:16 HH:MM
   1. Step 2 of ‘DBA Diff Backup and Copy (Migration)’
3. Archive backup files to H:\SQLBackup
   1. Step 3 of ‘DBA Diff Backup and Copy (Migration)’
4. Restore differential backups to PNOSQL03 & 04 (norecovery)
   1. EXEC sp\_RestoreFromAll\_DIFF\_FilesInDirectory\_NORECOVERY '\\PNOSQL04\Temp\'
      1. Check and run generated restore scripts
5. Copy Diff database: \\PNOSQL03\Temp03 to [\\PNOSQL04\Temp04](file:///\\PNOSQL04\Temp04)
6. Manually Move backups from PNOSQL03: “H:\Temp03” to “H:\SQLBackup”
7. Restore Diff backups PNOSQL03 (norecovery) 01:02 HH:MM
   1. EXEC sp\_RestoreFromAllFilesInDirectory\_NORECOVERY 'H:\Temp04'
      1. Check and run generated restore scripts
8. Manually Move backups from PNOSQL04: “H:\Temp04” to “H:\SQLBackup”

Downtime start

1. Limit input to production databases
2. Take final T-Log backups PNOSQL01
   1. Step 1 of ‘DBA Logs Backup and Copy (Migration)’
3. Copy T-Log backups to new servers
   1. Step 2 of ‘DBA Logs Backup and Copy (Migration)’
4. Copy T-Log backups from [\\PNOSQL03\Temp03](file:///\\PNOSQL03\Temp03) to [\\PNOSQL04\Temp04](file:///\\PNOSQL04\Temp04)
5. Restore to PNOSQL03 (wi. recovery)
   1. EXEC sp\_RestoreFromAll\_LOG\_FilesInDirectory\_RECOVERY 'H:\Temp03\'
      1. Check and run generated restore scripts
6. Restore to PNOSQL04 (wi. no recovery)
   1. EXEC sp\_RestoreFromAll\_LOG\_FilesInDirectory\_NORECOVERY 'H:\Temp04\'
      1. Check and run generated restore scripts
7. Setup AlwaysOn from PNOSQL03 with join to PNOSQL04
   1. Add second listener IP: 2620:115:9006:C104::1:C
8. Manually Move backups from PNOSQL03: “H:\Temp03” to “H:\SQLBackup”
9. Manually Move backups from PNOSQL04: “H:\Temp04” to “H:\SQLBackup”
10. Enable SQL DPM backups for PNOSQL03 & PNOSQL04