objective – SQL Server Migration Document

# Introduction

# This document provides step by step process to migrate / upgrade Database from SQL 2008SP3 or above

SQL 2016 Supports below In-place Upgrade on the existing Instance (Overwrite)

\* SQL Server 2008 SP3 or later

\* SQL Server 2008 R2 SP2 or later

\* SQL Server 2012 SP2 or later

\* SQL Server 2014 or later

# Pre-Migration Analysis:

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| **Check source and Destination SQL Server Collation** | SELECT CONVERT (varchar, SERVERPROPERTY('collation')); |
| **Check Existing SQL Version is supported for direct migration or not** |  |
| **Analyze the disk space of the target server for the new database, if the disk space is not enough add more space on the target server** | Procedure to check disc space:  exec master..xp\_fixeddrives  To Check database size:  use [dbName] select str(sum(convert(dec(17,2),size)) / 128,10,2) + 'MB' from dbo.sysfiles GO |
| **Check for application connectivity using DNS alias \ Instance Name** |  |
| **Collect the information of database Server logins, users and their permissions.** | sp\_help\_revlogin |
| **Check the database for the Orphan users if any** | EXEC sp\_change\_users\_login 'Report' |
| **Check the SQL Server for any dependent objects (SQL Agent Jobs and Linked Servers)** | Linked Server :select \* from sys.sysservers Jobs:  Use msdb  select distinct name,database\_name from sysjobs sj INNER JOIN sysjobsteps sjt on sj.job\_id = sjt.job\_id. |
| **Check, if the database is part of any maintenance plan** |  |
| **Check For SSIS Package** |  |

# Migration

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| **Step 1** | **Stop Application** |  |
| **Step 2** | **Change the database to read-only mode (Optional)** | -- Script to make the database readonly  USE [master]  ALTER DATABASE [AdventureWorks2008R2] SET READ\_ONLY  GO |
| **Step 3** | **Take Database Copy\_only Full Backup** | We have taken Database backup using TSQL :  Backup Database [AdventureWorks2008R2] to DISK='C:\CR#\AdventureWorks2008R2\_FULL\_COPY\_ONLY.bak' with Copy\_Only  Go  Note:Any drive can be used to take the backup. |
| **Step 4** | **Copy Backup File to destination Server.** | Copy backup file from Source o destination server |
| **Step 5** | **Restore Database** | USE [master]  RESTORE DATABASE [HV\_Repl\_DBA] FROM DISK = N'C:\2008backup.bak' WITH FILE = 1, MOVE N'HV\_Repl\_DBA' TO N'J:\DA\SQLD001\USER\_DATA\HV\_Repl\_DBA.mdf', MOVE N'HV\_Repl\_DBA\_log' TO N'K:\DA\SQLD001\USER\_LOGS\HV\_Repl\_DBA\_log.ldf', NOUNLOAD, STATS = 5  GO |

# Post Migration Activity:

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| **Check Orphan user and create necessary login** | Check Orphan Users:  EXEC sp\_change\_users\_login 'Report',  Check the ouput of 'sp\_help\_revlogin ' and execute create statement |
| **Fix Orphan Users** | sp\_change\_users\_login @Action='update\_one', @UserNamePattern='Databaseuser', @LoginName='Loginname'; |
| **Update DB owner to 'OldDBASA'** | Use [DBName] EXEC sp\_changedbowner 'OldDBASA'  Note : Please grant db\_owner access to application user if it is owner of the database in source environment. |
| **Change COMPATIBILITY\_LEVEL** | ALTER DATABASE [Databasename] SET COMPATIBILITY\_LEVEL = 110/120  **Note: 110-SQL 2012,120-SQL server 2014,130-SQL Server 2016** |
| **Database Consistency Check** | Use [DBName] DBCC CHECKDB |
| **Update Statistics** | Use [DBName] Sp\_updatestats |
| **Create maintenance plan if Any** |  |
| **Check the SQL Server Error Log for login failures and other errors** | EXEC xp\_readerrorlog 0,1,"Error",Null |
| **Once the application team confirms that application is running fine take the databases offline on the source server or make them read only** | Script to make the database readonly USE [master] GO ALTER DATABASE [DBName] SET READ\_ONLY  GO  Script to take the database offline ALTER DATABASE [DBName] SET OFFLINE WITH ROLLBACK IMMEDIATE |

# **Issue Reported:**

No issue reported while migrating database from below mentioned server to SQLServer 2016

\* SQL Server 2008 SP3 or later

\* SQL Server 2008 R2 SP2 or later

\* SQL Server 2012 SP2 or later

\* SQL Server 2014 or later

# **Back out Plan:**

* Make source database read write
* Inform application to point to Old database.