

REPLICATION

REPLICATION IS A SET OF TECHNOLOGIES FOR COPYING AND DISTRIBUTING DATA AND DATABASE OBJECTS FROM ONE DATABASE TO ANOTHER AND THEN SYNCHRONIZING BETWEEN DATABASES TO MAINTAIN CONSISTENCY. IT WORKS COMPLETELY BASED ON JOBS. MEANS AGENT IS COMPULSARY REPLICATION STARTED FROM 7.0

PUBLISHER SENDS A TABLE TO DISTRIBUTOR, DISTRIBUTOR WILL SEND IT TO SUBSCRIBER.

REPLICATION HAS 5 AGENTS TO TRANSFER DATA FROM PUBLISHER TO SUBSCRIBER.

ALL AGENTS WILL LOCATED IN DISTRIBUTOR

4 TYPES OF REPLICATIONS ARE THERE

SNAPSHOT(UNI DIRECTIONAL-PUBLICATIONS WILL SEND FROM PUBLISHER TO SUBSCRIBER)

TRANSACTIONAL(UNI DIRECTIONAL)

MERGE(BIDIRECTIONAL)(PUBLISHER TO SUBSCRIBER AND SUBSCRIBER TO PUBLISHER PUBLICATIONS WILL SEND)

PEER TO PEER(BI DIRECTIONAL)

PUBLISHER PUBLISHES PUBLICATION, PUBLICATION CONTAINS ARTICLES(TABLES)

WHAT AGENTS WILL DO IN REPLICATION

SNAPSHOT AGENT –HE WILL TAKE THE SNAPSHOT OF ARTICLE AND SCRIPT IT. HE IS COMPULSORY FOR ALL TYPES OF REPLICATION.

THE SNAPSHOT AGENT IS TYPICALLY USED WITH ALL TYPES OF REPLICATION. IT PREPARES SCHEMA AND INITIAL DATA FILES OF PUBLISHED TABLES AND OTHER OBJECTS, STORES THE SNAPSHOT FILES, AND RECORDS INFORMATION ABOUT SYNCHRONIZATION IN THE DISTRIBUTION DATABASE. THE SNAPSHOT AGENT RUNS AT DISTRIBUTOR. SNAPSHOT FILES CAN BE SEEN IN ROOT FOLDER OF DISTRIBUTOR INSTANCE, IN ROOT, REPL DATA FOLDER WILL BE THERE. SNAPSHOT WILL BE TAKEN TO THIS FOLDER. WE CAN KEEP THIS REPL FOLDER ANY WHERE BUT IT SHOULD BE SHARED.

DISTRIBUTION AGENT: THE DISTRIBUTION AGENT WILL PICK UP THE SNAPSHOT AND APPLIES IT ON THE SUBSCRIBER. THE DISTRIBUTION AGENT IS USED WITH SNAPSHOT REPLICATION AND TRANSACTIONAL REPLICATION. IT APPLIES THE INITIAL SNAPSHOT TO THE SUBSCRIBER AND MOVES TRANSACTIONS HELD IN THE DISTRIBUTION DATABASE TO SUBSCRIBERS. THE DISTRIBUTION AGENT RUNS AT EITHER DISTRIBUTOR FOR SUBSCRIBERS. THE DISTRIBUTION AGENT RUNS AT EITHER THE DISTRIBUTOR FOR PUSH SUBSCRIPTIONS OR AT THE SUBSCRIBER FOR PULL SUBSCRIPTIONS.

IN A PUSH SUBSCRIPTION, THE DISTRIBUTOR DIRECTLY UPDATES THE DATA IN THE SUBSCRIBER DATABASE. IN A PULL SUBSCRIPTION, THE SUBSCRIBER ASKS THE DISTRIBUTOR REGULARLY IF ANY NEW CHANGES ARE AVAILABLE, AND THEN UPDATES THE DATA ITSELF.

SNAPSHOT REPLICATION IS NOT A GOOD REPLICATION. EXTRA LOAD WILL BE THERE.

DEMO

THREE NODES AND ONE AD

PUBLISHER NODE, DISTRIBUTOR NODE, SUBSCRIBER NODE

LOGIN TO PUBLISHER NODE, SAME DBA TEAM

OPEN SSMS IN , LOGIN WITH DBA TEAM MEMBER, CREATE 2 SERVICE ACCOUNTS FOR ALL THREE INSTANCES.

CONNECT DISTRIBUTOR AND SUBSCRIBER IN THE SAME SSMS

GOTO DISTRIBUTOR INSTANCE, EXPAND REPLICATION. R.CLICK ON REPLICAITON , CONFIGURE REPLICATION. IF REPLICATION COMPONENTS ARE NOT INSTALLED WE HAVE TO ADD FEATURES.

OPEN INSTALLATION CENTER, INSTALLATION, NEW SQL SERVER STANDLAONE , ADD FEATURES. , ADD FEATURES, , CHECK SQL SERVER REPLICATION FEATURE . TO KNOW WHETHER THAT FEATURE ALREADY INSTALLED OR NOT, IN THE INSTALLATION CENTER , SELECT TOOLS, IN THAT PAGE U CAN SEE DISCOVER (SECOND OPTION)

NOW R.CLICK ON REPLICATION, SELECT CONFIGURE REPLICAITON.

SELECT "DISTRIBUTOR WILL AST AS ITS OWN DISTRUBUTOR.. . FIRST OPTION"

NEXT, PATH OF SNAPSHOT FOLDER, WE CAN CHANGE IF U WANT BUT THAT SNAPSHOT FOLDER SHOULD BE SHARED IF WE CHANGE THE LOCATION OF SNAPSHOT FOLDER(REPL DATA).DEFAULT PATH DOESNOT SUPPORT PULL SUBSCRIPTION.

NEXT, GIVE THE NAME OF THE DISTRUBUTOR DATABASE NAME. THE ONLY SYSTEM DB ALLOWS TO CHANGE THE NAME IS DISTRIBUTION DATABASE.

PUBLISHERS UNCHECK DISTRIBUTOR. ADD PUBLISHER, NEXT

GIVE THE PWD FOR DISTRIBUTOR. WE HAVE TO GIVE NEW PWD. IT IS USED TO CONNECT PUBLISHER TO DISTRIBUTOR. , NEXT, CHECK DISTRIBUTOR... NEXT FINISH.ONCE WE CONFIGURE DISTRIBUTION, ONE LOGIN DISTRIBUTION_ADMIN LOGIN WILL CREATE. THIS LOGIN HAS SYS ADMIN RIGHTS BY DEFAULT. WE ALREADY GAVE PWD IN THE BEGINIG, THAT IS FOR THIS ADMIN ONLY.

NOW

OPEN PUBLISHER INSTANCE

EXPAND REPLICATION

SELECT CONFIGURE DISTRUBUTION, NEXT(WE HAVE TO TELL ABOUT DISTRIBUTOR TO PUBLISHER, SO WE HAVE TO AGAIN CONFIGURE DISTRIBUTION)

SELECT THE SECOND OPTION.ALREADY DISTRIBUTOR IS CONFIGURED SO SELECT SECOND OPTION

NEXT GIVE THE PWD WHICH U CREATED IN DISTRIBUTION, NEXT, CHECK CONFIGURE DISTRIBUTION, NEXT FINISH.

GO TO PUBLISHER INSTANCE, CREATE A DATABASE. CREATE TABLES. EXPAND REPLICATION, SELECT LOCAL PUBLICATION, R.CLICK ON THAT AND SELECT , NEW PUBLICATION, NEXT, SELECT THE DATABASE ON WHICH U R CONFIGURING REPLICATION, , SELECT SNAPSHOT PUBLICATION, SELECT THE TABLE U WANT TO REPLICATE, U CAN DO FILTER COLUMNS AND U CAN SKIP THE COLUMNS IN THE TABLE IF U DON'T WANT REPLIATE THAT COLUMNS. MEANS WE CAN REPLICATE PARTICULAR COLUMNS IN A TABLE, NEXT, WE CAN SEE CLOLUM FILTER AND ROW FILTER , U CAN SELECT WHICH COLUMNSA U WANT, NEXT, CHECK CREATE A SNAPSHOT IMMEDIATELY... , (WE CAN ALSO PUT SCHEDULR FOR

SNAPSHOT), NEXT, SNAP SHOT AGENT, SELECT SECURITY, SELECT RUN UNDER THE FOLLOWING WINDOWS ACCOUNT, GIVE THE AGT NAME, AT PROCESS ACCOUNT, HERE U NEED TO GIVE THE AGENT WHICH U CREATED IN THE DOMAIN OF AD FOR PUBLICATION AGENT. ,IN THE BELOW U CAN SEE BY IMPERSONATING PROCESS ACCOUNT,, SELECT CREATE PUBLICATION, GIVE THE PUBLICATION NAME: FINISH.

GO TO SUBSCRIBER INSTANCE,

GOTO REPLICATION, EXPAND , SLECT LOCAL SUBSCRIPTIONS, R. CLICK, NEW SUBSCRIPTIONS, , NEXT, PUBLISHER,DROP DOWN, SELECT FIND SQL SERVER PUBLISHER , U CAN SEE PUBLICAITONS, SELECT THE CREATED PUBLICATION, SELECT PUSH, (FIRST OPTION), NEXT, GIVE THE SUBSCRIPTION DATABASE NAME,, NEXT, GIVE THE SERVICE ACCOUNT OF SUBSCRIBER. CONNECT TO THE DISTRIBUTOR... BY IMPERSONATING,, BELOW ALSO SAME BY IMPERSONATING, NEXT, SLECT DEFUNE SCHEDULRE IN THE SYNCHRONIZATION SCHEDULE SCREEN, NEXT, INITIALIZE SUBSCRIPTIONS, CHECK INITILIZE, SLECT INISTIALE IMMEDIATELY,NEXT, CHECK CREATE SUBSCRIPTION, NEXT, IF WE CLICK FINISH WARNIG WILL COME SNAPSHOT AGENT,

GOTO , PUBLISHER, SECURITY, LOGINS, DOUBLE CLICK ON SNAPSHOT AGENT, SERVER ROLES, SYSADMIN RIGHTS,

GOTO SUBSCRIBER, LOGIN, CREATE A LOGIN, AS SYSADMIN

GOTO DISTRIBUTOR , CREATE TWO LOGINS, (MEANS THESRE 2 ARE SERVICE ACCOUNTS, IF U HAVE ONLY TWO SERVICE ACCOUNTS, GIVE THAT 2 SERVICE ACCOUNTS AS SYSADMIN IN DISTRIBUTOR INSTANCE.

NOW OPEN REPLICATION MONITOR, ADD PUBLISHER, IF THE AGENT IS NOT STARTING, CHANGE THE AUTHENTICATION MODE TO MIXED FOR DISTRUBUTOR, GOTO REPLDATA FOLDER, R. CLICK PROPERTIES, SECURITY, ADD SNAP SHOT AGENT AND GIVE FULL CONTERL, AND GIVE DISTRUBUTION AGENT READ PERMISSON ON THIS FOLDER. NOW PUBLISHER, GOTO AGENT TAB, R.CLICK START. IF U GET ANY ERROR WE CAN DIX THERE. THEN START. IN THIS WAY WE CAN CONFIGURE THE REPLCAITON.

4 FILES WILL CREATE IN

TABLE NAME.PRE (PRESCRIPT, IT WILL DROP THE TABLE EVERY TIME WHEN DISTRIBUTION AGENT RUNS)

TABlename.SCH(IT WILL CREATE A NEW TABLE AND ITS STRUCTURE .

TABLE NAME.BCP(THIS WILL CONTAIN DATA)

TABLE NAME.IDX(IF ANY IDX IS THERE ON THE TABLE WE CAN SEE THAT INDEX IN THIS FILE)

NOW GOTO SUBSCRIBER, REPLICATON, LOCLA SUBSCRIPTION, NOW U CAN SEE THAT SUBSCRIPTION.

TO SEE THE BACKGROUND EXE FILES IN THE DISTRIBUTION INSTANCE.

C:\PROGRAMME FILES\MICROFOST SQL SERVER\110\COM\ THERE U CAN SEE DIST...EXE, SNAPSHOT.EXE, REPLMERG.EXE WILL RUN THE BACKGROUND

--ALL REPLICATION AGENTS WILL BE THERE IN DISTRIBUTOR ONLY.
--PER DATABASE THERE WILL BE ONLY ONE LOG READER AGENT WILL BE THERE
--ONLY DISTRIBUTOR AGENT WILL GOT O SUBSCRIBER DIRECTLY
--LOG READER AGENT, SNAPSHOT AGENT WILL NOT GOTO SUCSRIBER DIRECTLY
IN REPLICATION PUBLICATION CAN BE ANY VERSION, SUBSCRIBER CAN BE ANY VERSION
--NEED TO CREATE A LOGIN FOR SNAPSHOT AGENT (IF U R USING SAME AGENT ACCOUNT IN ALL PUBLICATION, DISTRIBUTION, SUBSCRIBER GIVE THE SAME ACCOUNT IN THE LOGIN) IN ALL THREE INSTANCES AND GIVE SYSADMIN RIGHTS TO THAT LOGIN.
--WE NEED TO GIVE READ WRITE PERMISSIONS ON THE REPL FOLDER THAT IS THERE IN THE DISTRIBUTOR TO THE SNAPSHOT AGENT. MEANS GOTO DISTRIBUTOR , C:PROGRAMME FILES, MSSQL SERVER, ,MSSQL11.NAME OF THE INSTANCE, MSSQL, REPLDATA, RIGHT CLICK ON THIS FOLDER AND PROPERTIES, SECURITY, ADD THE SNAPSHOT AGET HERE AND GIVE READ WRITE PERMISSION. IN THE ORGANIZATION SNAP SHOT AGENT IS THE SAME SQL SERVER AGENT.

TRANSACTIONAL REPLICATION

FOR TRANSACTIONAL REPLICATION ATLEAST ONE COLUMN IN THE TABLE HAVE PRIMARY KEY .IF WE CREATE PRIMARY KEY ON ANY COLOMN AUTOMATICALLY CLUSTERED INDEX WILL BE CREATED ON THAT PARTICULAR COLOMN.

HOW TO MONITOR REPLICATION

GOTO ANY INSTANCE THAT ARE PARTICIPATING IN REPLICATION, , R.CLICK ON REPLICATION, LAUCH REPLICATION MONITOR, CONNECT TO WHICH INSTANCE U WANT TO MONITOR,MEANS U CAN MONITOR PUBLISHER, SUSCRIBER, DISTRIBUTOR WITH THIS TOOL.

WHERE CAN U SET ALERTS IN THE REPLICATION?

IN THE RELICATION MONITOR WE CAN CONFIGURE ALERTS

IN TRANSACTION REPLICATION , IF WE OPEN REPLICAITON MONITOR WE CAN SEE ONE MORE OPTION CALLED TRACER TOKENS

TRACER TOKEN IS NOTHING BUT HOW MUCH TIME TO SEND AN EMPTY PACKET FROM PUBLISHER TO THE SUBSCRIBER.

FOR TROBLESHOOTING ALSO WE UST THIS REPLICATION MONITOR . RIGHT CLICK ON ANY AGENT , SELECT VIEW DETAILS, THERE U CAN SEE THE ERRORS.

--if we add colomns on the publisher table it will reflect in the subscriber table. If we make any changes on the table on publisher it will reflect on subscriber table. But remember if we change the datatype of any colomn it will not allow to change the datatype.

MERGE REPLICATION

ONLY SNAPSHOT AGENT AND MERGE AGENT WILL BE THERE IN MERGE REPLICATION. IN MERGE REPLICATION A NEW COLOMN WILL BE ADDED TO THE TABLE CALLED ROW GUID. A COLUMN NAMED ROWGUID I SAADED TO EACH PUBLISHED TABLE . IN ADDITION TO THIS THREE MORE TABLES WILL BE CREATED AT PUBLISHER AND SUBSCRIBER. UPDATE, DELETE, INSERT(MSMERGE_DEL_GUID,MSMERGE_UPD_GUID, MSMERGE_INS_GUID)

MERGE REPLICATION

MERGE IS BI DIRECTIONAL REPLICATION

GOTO NODE1, REPLICATION, PUBLICAITON, R. CLICK AND SELECT ADD PUBLICATION, SELECT THE DATABASE, NEXT, SELECT THE MERGE REPLICATION, NEXT CHECK THE 2008 OPTION, SELECT THE TABLE OR TABLES, NEXT NEXT, RUN IMMEDIATELY, AGENT SQL SERVER AGENT, NEXT CREATE PUBLICATION, NAME OF THE PUBLICATION, FINISH.

GOTO SUBSCRIBER,

REPLICAION, NEW SUBSRIBPTION, IT WILL ASK PUBLICATION INSTANCE, NEXT NEXT, ONLY MERGE AGENT OTHER THAN SNAPSHOT AGENT, NEXT RUN CONTINUOUSLY, IMMEDIATELY, NEXT SERVER, PRIORITY FOR CONFLICT RESLOUTIN
CONFLICT DETECITON, CONFLICT RESOLUTION.

MEANS AT SUBSRICBER AND PUBLICATION IF THE DATA IS INSERTING OR CHANGING AT A SAME TIME THEN IT MAY CONFLICT, SO WE HAVE TO GIVE PRIORITY, ANY HOW PUBLISHER HAS 100 PRIORITY, SO THIS PRIORITY IS FOR MULTIPLE SUBSCRIBERS THIS IS USE FULL.

IN THE REPLICATION ALL THE LOAD WILL BE ON DISTRIBUTION ONLY.

SO IF U EXPAND DISTRIBUTION INSTANCE, GOTO SQL SERVER AGENT AND EXPAND JOBS, U CAN SEE SO MANY JOBS THAT ARE RELATED TO THE REPLICATION

IF U WANT TO SEE ALL THE AGENTS ARE RUNNING OR NOT, WE CAN SELECT THAT PARTICULAR JOB AND R.CLICK VIEW DETIALS THERE U CAN SEE WHETHER THAT AGENT IS CONTINUOUSLY RUNNING OR NOT. HOW MANY REPLICATIONS WE HAVE THAT MANY JOBS ARE THERE IN THE SQL SERVER AGENT. OTHER THAN THAT WE HAVE MANY JOBS.

AGENT HISTORY CLEASN UP :DISTRIBUTION DB NAME, IT WE GOTO THE PROPERTIES OF THIS JOB, STEPS U CAN SEE RETENTION PERIOD IS 48 HOURS

DISTRIBUTION CLEAN UP:DISTRIBUTION DB NAE

SAME AS ABOVE THE RETENTION PERIOD FOR THIS IS 72 HOURS, THAT MEANS FOR EVERY 72 HOURS OR 3 DAYS IT WILL CLEAR THE TRANSACTIONS THAT OR OLDER THAN 72 HOURS IF THEY ARE APPLIED ON SUBSRPTION.

GO TO PUBLICATION INSTANCE, SELECT TRAN REPLICATION(IF U CONFIGURED) GO TO THE PROPERTIES OF THAT REPLICATION, THERE U CAN SUBSCRIPTION EXPIRY

FOR EVERY AGENT THERE WILL BE A JOB OTHER THAN THAT SOME IMPORTANT JOBS ARE

AGENT HISTORY CLEANUP

DISTRIBUTION CLUEANUP

EXPIERED SUBSCRIPTION

REPLICATION AGENTS CHECKUP

PUBLICATION, RIGHT CLICK ON ANY REPLICATION, PROPERTIES, GENERAL PAGE, ARTICLES PAGE THERE U CAN SEE HOW MANY ARTICLES ARE PARTICIPATING IN THE REPLICATION.

IF WE WANT TO ADD ANOTHER ARTICLE TO THE EXISTING REPLICATION, R.CLICK ON PUBLISHER INSTANCE, GOTO THE REPLICATION IN WHICH U WANT TO ADD THE ARTICLE, PROPERTIES, ARTICLES PAGE, THERE U CAN SEE ALL THE ARTICLE THAT ARE PARTICIPATING IN THE REPLICATION, BESIDE UNCHECK THE SHOW... THEN U CAN SEE ALL THE TABLES IN THAT DATABASE, CHECK THE ARTICLE U WANT TO ADD. IN THIS WAY WE CAN ADD ARTICLE.

FOR THIS WE HAVE TO ENABLE TWO MORE SETTINGS
ALLOW ANONYMOUS AND IMMEDIATE SYNC.

PAL :PUBLICATION ACCESS LIST IS THE LIST OF PEOPLE OR LOGINS WHO CAN INITIALIZE OR CAN CREATE SUBSCRIBERS.

--ONE PUBLISHER CAN HAVE ONLY ONE DISTRIBUTOR.BUT WE CAN ADD MULTIPLE DISTRIBUTION DATABASES, IF WE HAVE SPACE ISSUES U CAN ADD ANOTHER DISTRIBUTION DATABASE WE CAN ADD.

GOTO DISTRIBUTOR, R.CLICK ON REPLICATION, DISTRIBUTOR PROPERTIES, THERE U CAN ADD ONE MORE DISTRIBUTION DATABASE.

REMOVING REPLICATION

FIRST REMOVE SUBSCRIPTION, NOW DELETE PUBLICATION, THEN R.CLICK ON REPLICATION OF PUBLICATION DISABLE PUBLISHING AND DISTRIBUTION. THEN GO TO THE DISTRIBUTOR, R. CLICK ON THE REPLICATION DISABLE PUBLICATION AND DISTRIBUTION.

PEER TO PEER

IT S AN EXTENSION TO TRANSACTION REPLICATION. FIRST TAKE THE DATABASE FULL BACKUP IN PUBLICATION AND RESTORE THE DATABASE IN THE DISTRIBUTION AND SUBSCRIBER WITH RECOVERY. EVERY NODE IN THE PEER TO PEER IS DISTRIBUTOR, EVERY NODE IS THE PUBLISHER.EVERY NODE IS THE SUBSCRIBER. R.CLICK ON REPLICATION, CONFIGURE DISTRIBUTION, NEXT, NEXT, FINISH. DO THE SAME THING IN ALL THE 3 NODES. NOW GO TO PUBLICATION , R. CLICK, CONFIGURE REPLICATION, AFTER CONFIGURING PUBLICATION, R. CLICK ON THE PUBLICATION NAME, CONFIGURE PEER TO PEER TOPOLOGY. .R.CLICK ON THE WHITE SPACE ADD NEW PEER, AND GIVE THE NODE NAME , CONNECT, GIVE THE NAME, AND NO. ADD ALL THE NODES THAT U WANT TO CREATE PUBLICATION.NOW R. CLICK ON ANY DATABASE, SELECT CONNECT TO ALL DISPLAYED NODES. DO THE SAME THING UNTILL 3 DATABASES ARE CONNECTED. NEXT CREATE LOG READER AGENT FOR NODE 2 AND 3 AND CREATE DISTRIBUTION AGENTS FOR THREE NODES. NEXT NEXT FINISH. NO NEED TO CREATE ANY SUBSCRIBER. IT WILL CREATE SUBSCRIPTION IN ALL THE THREE NODES.

HOW TO REMOVE PEER TO PEER

GO TO PUBLICATION , REPLICATION, CONFIGURE REPLICATION, NEXT , THOSE 3 BIG DATABASES WILL COME, R.CLICK ON ANY DATABASE AND REMOVE NOW REFRESH EVERY NODE. NOW REMOVE OR DISABLE REPLICATION.

MERGER REPLICATION

IT IS TRIGGER BASED (TRIGGER WILL HELP TO PUT CONDITIONS ON A TABLE. TWO TYPES OF TRIGGERS, DDL TRIGGER, DML TRIGGER)

IT USES ONLY MERGE AGENT OTHER THAN SNAPSHOT AGENT

IT COULD BE SET TO TRACK COLUMN CHANGES INSTEAD OF ROW CHANGES

IT COULD OPTIMIZE THE FINAL CHANGES PRODUCED AT SYNCHRONIZATION TIME.

IT IS RICH IN CONFLICT DETECTION AND RESOLUTION USING WEIGHTAGE VALUE.

THIS IS PERFECT FOR SERVER-CLIENT ESTABLISHMENT.

PEER TO PEER

IT WILL USES STORED PROCEDURES

IT IS ONLY ENTERPRISE EDITION FEATURE

IT IS TRANSACTION LOG BASED

IT NEEDS LOG READER + DISTRIBUTION AGENT OTHER THAN SNAPSHOT AGENT

ADDING ARTICLE

WE CAN ADD ARTICLE IN 2 WAYS.

CREATE A TABLE WITH PRIMARY KEY IN PUBLICATION. GOTO CREATED PUBLICATION PROPERTIES. GOTO ARTICLES PAGE, UNCHECK SHOW.... THEN U CAN SEE THE NEWLY CREATED TABLE, SELECT IT AND ADD THE ARTICLE. THEN IF U REINITIALIZE THE SNAPSHOT IT WILL AGAIN TAKE THE SNAPSHOT OF ALL THE DATABASE BUT IF MULTIPLE BIG TABLES ARE THERE IT WILL TAKE TIME TO TAKE THE SNAPSHOT OF THE WHOLE DATABASE. THIS IS ONE WAY.

TO AVOID THE ABOVE WAY WE CAN TAKE SNAPSHOT OF ONLY THAT NEWLY CREATED TABLE BY DISABLING TWO OPTIONS. THOSE ARE

ALLOW ANONYMOUS

IMMEDIATE SYNC

WE NEED TO MAKE THESE TWO SETTINGS AS FALSE.

GOTO PUBLICATION

`SP_CHANGE PUBLICATION 'PUBLICATION NAME', 'ALLOW_ANONYMOUS', 'FALSE'`

`SP_CHANGE PUBLICATION 'PUBLICATION NAME', 'IMMEDIATE_SYNC', 'FALSE'`

REPLICATION TOPOLOGIES

CENTRAL PUBLISHER

CENTRALISED PUBLISHER WITH REMOTE DISTRIBUTOR

CENTRALISED SUBSCRIBER

CENTRALISED DISTRIBUTOR

PUBLISHING SUBSCRIBER

INTERVIEW QUESTIONS

WHAT TYPE OF LOCKS ARE GENERATED DURING SNAPSHOT REPLICATION?

IN SNAPSHOT REPLICATION, THE SNAPSHOT AGENT LOCKS THE OBJECT DURING THE ENTIRE SNAPSHOT GENERATION PROCESS.

IN TRANSACTIONAL REPLICATION, LOCKS ARE ACQUIRED INITIALLY FOR A VERY BRIEF TIME AND THEN RELEASED

IN MERGE REPLICATION, NO LOCKS ARE ACQUIRED DURING THE SNAPSHOT GENERATION PROCESS.

ISSUES

DATA IS NOT BEING DELIVERED TO SUBSCRIBERS, WHAT CAN BE THE POSSIBLE REASONS?

1. AGENTS ARE NOT RUNNING
2. PERMISSIONS ON SHARED FOLDER(REPL DATA) FOR THE SNAPSHOT AGENT
3. SERVICE LOGIN MAPPED TO THE DISTRIBUTOR/SUBSCRIBER ARE NON FUNCTIONAL/NOT MAPPED.
4. SQL SERVER AGENT DOWN
5. SQL SERVER JOBS(REPLICATION AGENT RELATED ARE DISABLED)

HOW TO MONITOR LATENCY IN REPLICATION?

TRACER TOKEN: TRACER TOKENS WERE INTRODUCED WITH SQL SERVER 2005 TRANSACTIONAL REPLICATION AS A WAY TO MONITOR THE LATENCY OF DELIVERING TRANSACTIONS FROM THE PUBLISHER TO THE DISTRIBUTOR AND FROM THE DISTRIBUTOR TO THE SUBSCRIBER(S).

A TRACER TOKEN SENDS SMALL PIECE OF DATA

WHERE CAN WE FIND TABLES INFORMATION IN DISTRIBUTION DATABASE RELATED TO AGENTS HISTORY?

DBO.MS<AGENTNAME>_AGENTS(U CAN SEE THESE TABLES IN SYSTEM TABLES OF DISTRIBUTION DB)
DBO.MS<AGENTNAME>_HISTORY

SOME CRITICAL META TABLES IN THE DISTRIBUTION DATABASE.

DBO.MSREPL_VERSION

THOSE TABLES WHICH ARE MSREPL IS CRITICAL TABLES

DBO.MSREPL_TRANSACTIONS

DBO.MSREPL_COMMANDS

DBO.MSREPL_ERRORS

IF REPLICATION MONITOR CRASHED WE DON'T HAVE OTHER OPTION. WE HAVE TO SEE THE TABLES.

WHAT IS PUBLICATION ACCESS LIST?

THIS IS THE LIST OF LOGINS WITH PERMISSIONS TO INITIALIZE OR SYNCHRONIZE SUBSCRIBERS.

HOW CAN WE IMPROVE REPLICATION PERFORMANCE?

1. DEDICATED SERVICE ACCOUNTS
2. CREATING MULTIPLE DISTRIBUTION DATABASES
3. PUTTING DATA AND LOG FILES OF DISTRIBUTION DATABASE IN DIFFERENT DRIVES.
4. PUT DISTRIBUTION IN A SEPARATE INSTANCE
5. COMPRESS SNAPSHOTS GENERATED TO IMPROVE PERFORMANCE
6. MAXBCP THREADS
7. IF MULTIPLE PUBLICATIONS ARE THERE, THEN CHANGE THE REPLDATA DIRECTORY FOR EACH PUBLICATION TO DIFFERENT DRIVES.
8. FINE TUNING THE PARAMETERS OF AGENT PROFILES CAN ALSO IMPROVE PERFORMANCE
U CAN DO THIS BY GOING INTO THE PROPERTIES OF PUBLICATION, AGENTS, R.CLICK ON ANY AGENT , AGENT STATUS, ADD NEW PROFILE, THERE U CAN FINE TUNE THE VALUES.

ALL REPLICATION AGENTS FUNCTION AS PROGRAMS AT OS LEVEL (JUST LIKE LOG SHIPPING BACKGROUND PROCESS IS SQLLOGSHIP.EXE)

IN REPLICATION EVERYTHING THEY WILL WORK IN THE .EXE AT THE BACKGROUND. THOSE EXES ARE PRESENT IN THE C:\PROGRAM FILES\MICROSOFT SQL SERVER\110\COM DIRECTORY HAS ALL THE AGENTS (DISTRIB, LOGREAD, QDRSVC, REPLMERG, SNAPSHOT).

LINKED SERVERS

REPLICATION BY DEFAULT CREATES LINKED SERVERS TO CONNECT TO THE PUBLISHER AND SUBSCRIBER. WE CAN ACCESS THE DATA OF OTHER SERVER SITTING IN ONE SERVER IF WE CONFIGURE LINKED SERVER BETWEEN SERVERS.

LINKED SERVER

GOTO SERVER OBJECTS, LINKED SERVERS , R.CLICK , CREATE LINKED SERVER, GIVE THE NAME OF THE SERVER TO WHICH U WANT TO CONNECT. IF THE SOURCE THAT U R CONNECTING IS SQL SERVER SELECT SQL SERVER, OR ANY OTHER SERVER LIKE ORACLE SELECT THAT OPTION, NOW GOTO SECURITY PAGE ONE LOGIN SHOULD BE THERE AT THE SOURCE TO WHICH U WANT TO LINK. SO SELECT SECURITY FOR THAT LOGIN, BE MADE USING SQL LOGIN....GIVE THE LOGIN NAME, BEFORE THAT CREATE A LOGIN IN NODE 3 OR AT DESTINATION, MAKE SURE THAT DESTINATION SERVER IS IN MIXED MODE AUTHENTICATION. IF U CREATE A LINKED SERVER WITH COMPUTER NAME, U CAN NOT CREATE ONE MORE LINKED SERVER WITH THE SAME COMPUTER NAME. SO IF U WANT TO CREATE ANOTHER LINKED SERVER TO THE SAME COMPUTER , SELECT OTHER DATA SOURCE, PROVIDE IS SQL SERVER NATIVE CLIENT 11.0 OR USE OLE DB....

ONCE CREATED U CAN ACCESS THE TABLES OF NODE3 FROM NODE 1 BUT U HAVE TO GIVE FULL NAME LIKE

SELECT *FROM [LINKEDSERVERNAME].FULLTABLENAME. IN THIS WAY WE CAN SEE THE DATA IN THE IF ALREADY LINKED SERVER CONFIGURATION IS THERE WE CAN SCRIPT IT AND CHANGE THE NAME AND

RUN IT AGAIN TO CREATE ONE MORE LINKED SERVER.
R.CLICK ON LINKED SERVER SCRIPT IT.