Interbase Replication Suite Comparison

Editor:

Tomáš Mandys, tomas.mandys@2p.cz (2p plus)
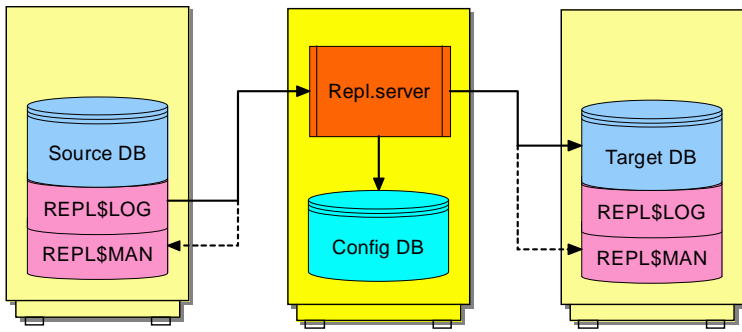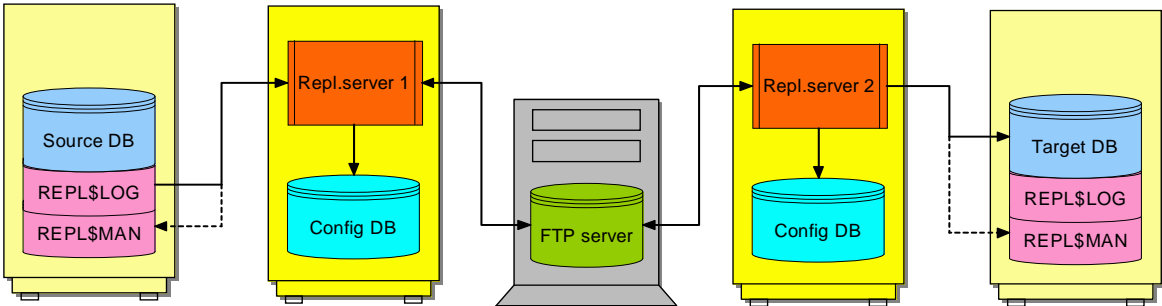
Home site:

http://www.2p.cz

Document status:

Version 1.0   First release

Interbase Replication Suite Comparison	both side connection number of servers	
Online record replication	1	✓

One replication server establishes connection to both databases, reads *REPL$LOG* table of the source database and replicates changes to the target database. Conflicting records are logged optionally to the source or to the target *REPL$MAN* table*.*

☺ the best solution for instant replication when permanent network connection is established
☺ changes are replicated to target databases as soon as possible

☹ weak performance when connection has limited bandwidth
☹ requires firewall hole to connect remote SQL server

Offline record replication	2	✗

The first replication server establishes connection to the source database, reads its *REPL$LOG* table, prepares offline package and put it on a drop-off location (e.g. FTP server). The second replication server reads packages, replicates records to the target database and results put in another offline package that put back to the drop-off location. Conflicting records are logged optionally to the source or to the target *REPL$MAN* table.

☺ independent source and target databases
☺ high security, no hole through firewall
☺ performance, no SQL commands performed on remote database

☹ pending packages in drop-off location
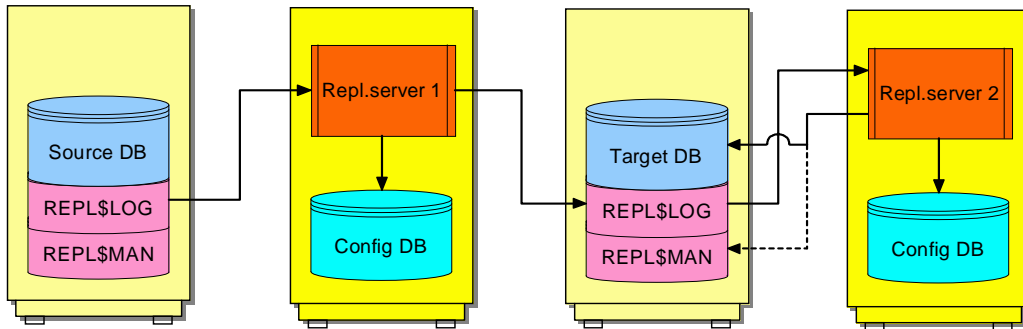☹ plenty of changes generate large drop-off packages

Online log replication	2	✓

The first replication server establishes connection to the source database, reads *REPL$LOG* table and replicates its records to the target *REPL$LOG* table. The second replication server connects to the target database and replicates *REPL$LOG* table. The server can process replication records of more schemes, records are processed in order of timestamp when was created in source database. Note that Universal Time Coordinates should be used if source databases are located in different time zones. Conflicting records are logged optionally to the target *REPL$MAN* table.


☺   enables replication grouping changes from more source databases
☺   fast, no time consuming SELECT SQL commands performed to remote database

☹   reason of conflict cannot be transferred back to source database

Offline log replication	3	✖

The first replication server establishes connection to the source database, reads its *REPL$LOG* table, prepares offline package and put it on a drop-off location (e.g. FTP server). The second replication server reads packages and replicates records to the target *REPL$LOG* table. The third replication server connects to the target database and replicates *REPL$LOG* table. See *Online log replication* and *Offline log*.
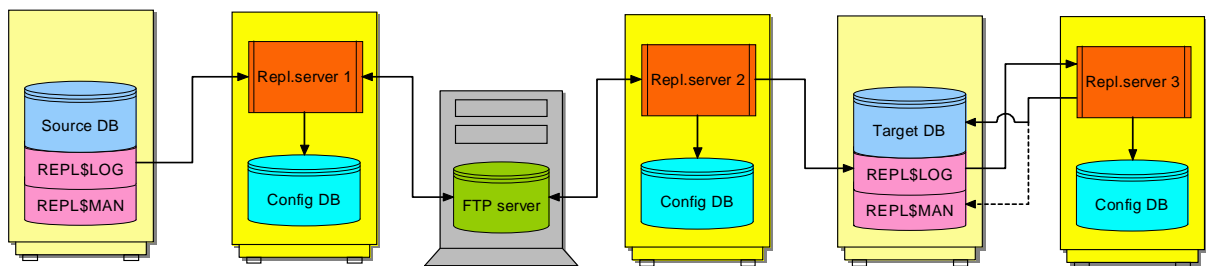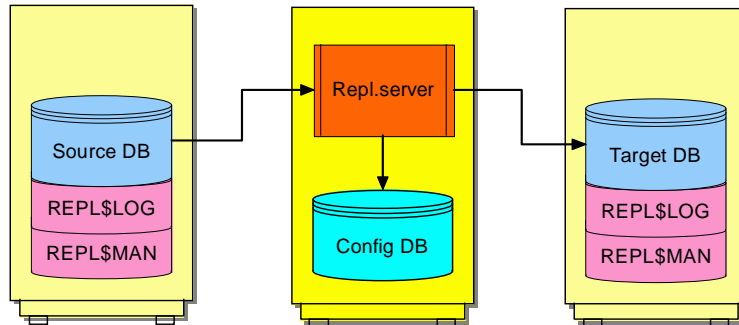
Interbase Replication Suite Comparison

Synchronization	1	✓

One replication server establishes connection to both source and target databases, compares source and target tables according primary key and synchronize differences.


- ☺ no replication objects in source database
- ☺ synchronization in any state of database
- ☺ useful for source database cloning
- ☺ synchronization enables synchronization according a condition, e.g. synchronize records that were created in last hour, it accelerates synchronization process

- ☹ slow if tables contain a lot of records
- ☹ requires exact configuration to keep referential integrity during synchronization

Record history	0	✗

Triggers in source database catch data changes and log it to *REPL$HISTORY* table.
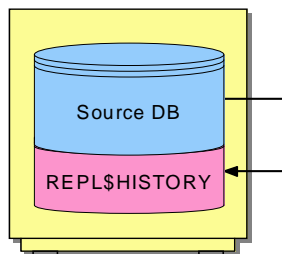
- ☺ no external running program

- ☹ size of the source database is growing