

# IBM Rational Software Development Conference 2008

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## Using rsync to move VOBs

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# First things first!

## How actually it reduce the lock time?

- rsync can be executed on live file system, to copy most of the data onto destination server. VOBs need not be locked during this time.
- rsync can be run several times to make sure that only small amount of difference exists between source and destination.
- In a downtime, when VOB is actually locked, re-running rsync will only copy the changed and new files, plus deletes the files which is no more present at source.



## How VOBs are moved today?

1. Lock vobs for all users.
2. Stop clearcase service on source vob host.
3. `tar cvf – project.vbs | (cd /target_fs ; tar xpf - )`
4. Kill all vob\_server processes referring to old *.vbs* (*if step 2 not done!*)
5. Re-register the vob.
6. Re-tag the vob.
7. Unlock the vob.

## *ClearCase db files..*

**DATABASE FILES:** vob\_db.d01, vob\_db.d02, vob\_db.d03, vob\_db.dbd.

These are the data files for the VOB. If lost, these files cannot be regenerated.

**KEY FILES:** vob\_db.k01, vob\_db.k02, vob\_db.k03, vob\_db.k04

These are key files, and if lost or corrupted (in most cases) can be regenerated (using keybuild tool)

**STRING FILE:** vob\_db.str\_file

This file contains string data for comments (that exceed 64 characters) and Configuration Records (CR's) for Clearmake created Derived Objects (DO's).

**SCHEMA VERSION FILE:** vob\_db\_schema\_version

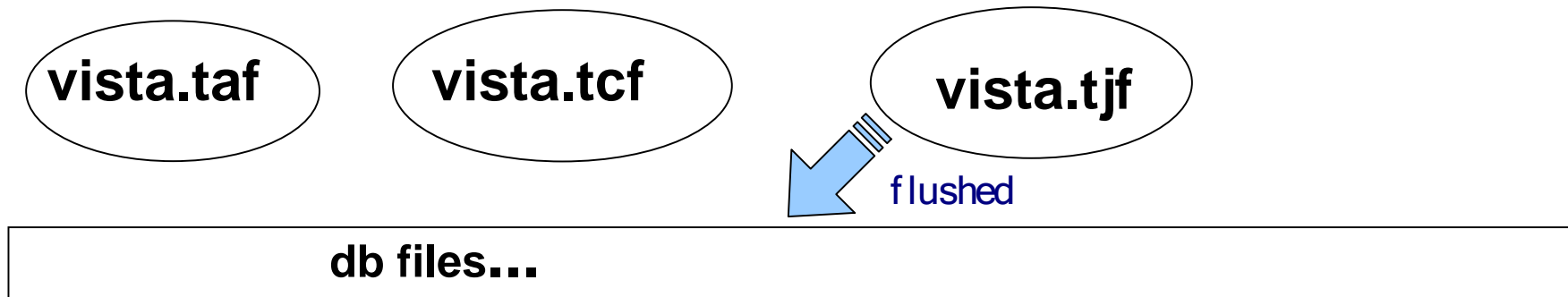
This is a text file that contains the schema version for the VOB database, and should contain either "53" or "54". This file can be replaced if missing.

**VISTA FILES** (vista.taf, vista.tcf, vista.tjf)

These are journal files and can be automatically regenerated if missing.



*What happens when VOB is locked for all.*



***vista.taf:*** cache file, *contains the names of database files* which relate to in-progress transactions.

***vista.tjf:*** *contains a list of completed transactions*, which have not yet been replayed (committed) into the database. Database files are periodically updated with these transactions. **Locking the VOB for all will force transactions to be replayed and will empty out the tjf and tcf files.**

***vista.tcf:*** This file *contains the names of database files* which need to be updated with transactions which have completed, but are currently waiting to be replayed from ***vista.tjf***.

## *rsync arguments for VOB movement*

- *--whole-file, any change in file, copy the entire while. Don't use delta!*
- *--numeric-ids, numeric group and user IDs are used. No mapping to username and group name done.*
- *--exclude-from, contains list of files that has to be excluded for clearcase vobs movement.*
- *--archive, archive mode. Preserves permissions,ownerships,timestamps,sym links.*
- *--delete, delete files at destination which no more exists at source. Can be cltxt files, which got scrubbed overnight!*
- *--stats, display the file transfer stats*





# Screenshots





## *rsync in action*

- With VOB in unlock stats, execute the below command. ( in business hours)

```
/usr/bin/rsync -v --stats --whole-file --numeric-ids \n\n--archive -exclude=~/.rsync_exclude.txt \n\n/vob_store/PROJ_A.vbs /vob_store2
```

- *Now with VOB locked for all and ClearCase service stopped, rerun the above rsync command with '--delete' option.*

```
/usr/bin/rsync --delete -v --stats --whole-file \n\n--numeric-ids --archive -exclude=~/.rsync_exclude.txt \n\n/vob_store/PROJ_A.vbs /vob_store2
```

- Finally re-register and re-tag the VOB on new server and kill all stale processes referring to old .VBS (i.e., vob\_server, vobrpc\_server..)





## *rsync in action..contd*

```
[2011]mpuccadm@blrmpucc> /usr/bin/rsync -v --delete --stats --whole-file --numeric-ids -a --exclude=/home/dilipm/tmp/rsync_exclude.txt /vob_store/NMTS_WINCE.vbs /vob_store2/vob_stg
building file list ... done
NMTS_WINCE.vbs/db/almd
NMTS_WINCE.vbs/db/logs/
NMTS_WINCE.vbs/db/vista.taf
NMTS_WINCE.vbs/db/vista.tcf
NMTS_WINCE.vbs/db/vista.tjf
NMTS_WINCE.vbs/db/vob_db.d01
NMTS_WINCE.vbs/db/vob_db.d02
NMTS_WINCE.vbs/db/vob_db.d03
NMTS_WINCE.vbs/db/vob_db.k01
NMTS_WINCE.vbs/db/vob_db.k02

Number of files: 76092
Number of files transferred: 9
Total file size: 2978174309 bytes
Total transferred file size: 327207054 bytes
Literal data: 327207054 bytes
Matched data: 0 bytes
File list size: 3350528
Total bytes sent: 330597944
Total bytes received: 200

sent 330597944 bytes  received 200 bytes  2887320.03 bytes/sec
total size is 2978174309  speedup is 9.01
```

Only changed  
files gets copied





# QUESTIONS





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