



Cisco Support Community Presents
Tech-Talk Series

Understanding CUCM dbreplication runtimestate

With,

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Agenda

- ✓ What could possibly break Replication
- ✓ Confusion on how to fix Replication, and when!
- ✓ Understanding RTMT Settings and Replication Status
- ✓ Database Improvements in CUCM 9.0
- ✓ Questions from the Cisco Support Community

What could possibly break Replication?

- **Connectivity issues** between nodes
- Host Files **Mis-match**
- Communication on **UDP** port 8500, not in phase 2
- **DNS** not configured properly (forward/reverse lookup)
- **NTP** not reachable / timedrift between servers
- '**A Cisco DB**' and '**A Cisco DB Replicator**' not running/working
- Cisco Database Layer Monitor (**Dbmon**) hung/stopped

DB Replication Troubleshooting

- How do we **verify** if replication is broken
- **Commands** to diagnose and fix replication
- If you cannot fix it, what **trace files** do we collect?
Refer to: supportforums.cisco.com/docs/DOC-13672

Confused on how to fix replication, and when!

- `utils dbreplication setrepltimeout`
- `utils dbreplication repair`
- `utils dbreplication repairtable / repairreplicate`
- `utils dbreplication stop`
- `utils dbreplication reset`
- `utils dbreplication clusterreset`
- `utils dbreplication dropadmindb`
- `utils dbreplication status`
- `utils dbreplication runtimestate`

Summary Text and Cluster Detailed View

admin:utils dbreplication rntimestate

```
DB and Replication Services: ALL RUNNING
Forcedatasyncsub State: NOT RUNNING
Cluster Replication State: Replication status command started at: 2011-11-01-13-33
  Replication status command COMPLETED 0 tables checked out of 567
  No Errors or Mismatches found.
  Use 'file view active log cm/trace/dbl/sdi/ReplicationStatus.2011_11_01_13_33_06.out' to see the details
DB Version: ccm9_0_0_96000_123
Number of replicated tables: 567
```

Summary Text

Cluster Detailed View from PUB (18 Servers):

| SERVER-NAME | PING IP ADDRESS | REPLICATION (msec) | RPC? | REPL. STATUS | DBver& REPL. | REPLICATION QUEUE | REPL. TABLES | REPLICATION LOOP? (RTMT) & details |
|-------------|--------------------|-----------------------|------|-----------------|-----------------|----------------------|-----------------|---------------------------------------|
| nw104a-131 | 10.89.96.131 | 0.157 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-136 | 10.89.96.136 | 0.164 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-139 | 10.89.96.139 | 0.121 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-168 | 10.89.96.168 | 0.042 | Yes | Connected | 0 | match | Yes | (2) PUB Setup Completed |
| nw104a-140 | 10.89.96.140 | 0.152 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-134 | 10.89.96.134 | 0.162 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-145 | 10.89.96.145 | 0.164 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-130 | 10.89.96.130 | 0.178 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-146 | 10.89.96.146 | 0.144 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-141 | 10.89.96.141 | 0.161 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-135 | 10.89.96.135 | 0.146 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-133 | 10.89.96.133 | 0.182 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-142 | 10.89.96.142 | 0.144 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-137 | 10.89.96.137 | 0.114 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-138 | 10.89.96.138 | 0.161 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-143 | 10.89.96.143 | 0.142 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-144 | 10.89.96.144 | 0.144 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |
| nw104a-132 | 10.89.96.132 | 0.152 | Yes | Connected | 0 | match | Yes | (2) Setup Completed |

Summary
Table of
Servers

Summary Table of Servers

Cluster Detailed View

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RTMT Settings

RTMT Setting: 0

Definition: Replication set-up in progress

Cause: CLIs reset, rebuild, auto-recovery

Fix ?

RTMT Setting: 1

Definition: Number of Replicates not correct

Cause: Mismatched number of replicates on the pub and / or sub

Fix ?

RTMT Setting: 2

Definition: Replication Set-up completed successfully.

Cause: Reset CLIs run to completion, rebuild to completion, auto-recovery to completion.

Fix ?

RTMT Settings (Contd...)

RTMT Setting: 3

Definition: Real-Time replication not occurring on replication dynamic table

Cause: Intra-cluster communication issues will cause all servers to go to 3 (if only one is affected).

Fix ?

RTMT Setting: 4

Definition: Replication set-up failure

Cause: Network connection, intra-cluster communication, timing of a reboot, stop, reset, rebuild or forcedatasync cli.

Fix ?

Replication Status Definitions

Status: **Connected**

Queue: 0 or changing

Definition: Server is up and connected to the current server

Status: **Connecting**

Queue: Blank

Definition: The connection is being established

Status: **Dropped**

Queue: Accumulating

Definition: Cluster Manager denying access/DB down/Entire server down

Status: **Disconnect**

Queue: Accumulating

Definition: Replication is down on the target server.

Replication Status Definitions (Contd...)

Status: **Disconnected / Error / Failed / Local / Timeout**

Queue: N/A

Definition: No Data for CUCM

Status: **Deleted / Suspended**

Queue: N/A

Definition: No Data for CUCM

Status: **Active**

Queue: Processing

Definition: Normal connected state

Status: **Quiescent**

Queue: N/A

Definition: Transitional state during set-up or teardown.

Database Improvements in CUCM 9.0

- ❖ Re-engineered CLI `forcedatasyncsub all` – Lightning fast!
- ❖ New CLI rebuild is a stop, drop and reset all in one! **And faster...**
- ❖ New CLI utils replication status table/replicate
- ❖ **Better Log** Collection
- ❖ Faster and more accurate **Runtimestate** CLI



Q & A

Thank you.

