

Storage Engine, Replication Stopped Working in PLDB

Ericsson Centralized User Database

OPERATING INSTRUCTION

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1 Introduction

This document provides the description and troubleshooting steps to take for the Storage Engine, Replication Stopped Working in PLDB alarm.

1.1 Description

This alarm is raised when replication stops working in the Processing Layer Database (PLDB) Storage Engine. The alarm is raised as a result of the periodical execution of the `cudbCheckReplication` command. For further information, refer to *CUDB Node Commands and Parameters*, Reference [1].

The alarm is issued in the following situation:

- The reallocation process is ongoing.
- The replication delay exceeds the time limit.
- Mastership change during `cudbCheckReplication` execution.
- Replication malfunction.

The possible alarm causes and the corresponding fault reasons, fault locations, and impacts are described in Table 1.

Table 1 Alarm Causes

Alarm Cause	Description	Fault Reason	Fault Location	Impact
The reallocation process is ongoing.	Reallocation is in progress, and the replication lag exceeds the time limit set for <code>cudbCheckReplication</code> .	Due to the reallocation process, data replication time exceeds the defined amount of seconds set for <code>cudbCheckReplication</code> .	Temporary replication delay. No fault.	No impact.
The replication delay exceeds the time limit.	No reallocation was executed, but the replication delay exceeds the time limit set for <code>cudbCheckReplication</code> .	High write rate/load on PLDB. Slow network link between master and slave.	Temporary replication delay. No fault.	No impact.
Mastership change during <code>cudbCheckReplication</code> execution.	A mastership change occurred while <code>cudbCheckReplication</code> was running preventing the script to work properly.	A mastership change occurred while <code>cudbCheckReplication</code> was running preventing the script to work properly.	No fault.	No impact.



Alarm Cause	Description	Fault Reason	Fault Location	Impact
Replication malfunction.	The active replication channel between the local slave replica and the master one is not working properly.	The slave replica has problems connecting the master PLDB.	PLDB cluster.	There might be service impact for the Front Ends (FE)s connecting to the affected slave PLDB cluster. Problems in replication could potentially trigger data inconsistency issues.
		Replication down inconsistencies on both replication channels.		
		Network issues, unstable link between master and slave.		

The alarm attributes are listed and explained in Table 2.

Table 2 Alarm Attributes

Attribute Name	Attribute Value
Auto Cease	NO
Application Id	STORAGE-ENGINE
Error Code	18
Timestamp First	Date and time when the alarm was raised for the first time.
Repeated Counter	Number which indicates how many times the alarm was raised.
Timestamp Last	Date and time of the most recent alarm raise.
Model Description	Replication stopped working, Storage Engine.
Active Resource Id	1.3.6.1.4.1.193.169.1.1.18
Active Description	Storage Engine (PLDB): Replication stopped working.
Alarm Event Type	communicationsAlarm (2)
Probable Cause	communicationsSubsystemFailure (505)
Severity	major (4)
Originating source IP	Node IP where the alarm was raised.
Sequence Number	Number which indicates the order in which the alarms are raised.

For further information about attribute descriptions, refer to *CUDB Node Fault Management Configuration Guide*, Reference [2].

1.2 Prerequisites

This section provides information on the documents, tools, and conditions that apply to the procedure.



1.2.1 Documents

Before starting this procedure, ensure that you have read the following documents:

- *CUDB Node Fault Management Configuration Guide*, Reference [2], regarding alarm configuration.
- The section on the `cudbCheckReplication` command in *CUDB Node Commands and Parameters*, Reference [1].
- *CUDB Subscription Reallocation*, Reference [3], regarding the reallocation feature.
- *Storage Engine, Replication Channels Down in PLDB*, Reference [4] for related alarm information.
- *Storage Engine, Unable to Synchronize Cluster in PLDB, Major*, Reference [5] for related alarm information.
- *System Safety Information*, Reference [7].
- *Personal Health and Safety Information*, Reference [8].

1.2.2 Tools

Not applicable.

1.2.3 Conditions

Not applicable.



Storage Engine, Replication Stopped Working in PLDB



2 Procedure

This section describes the procedure to follow when this alarm is received.

2.1 Actions for the Reallocation Process is Ongoing

Do the following:

1. Run the `cudbCheckReplication` command, refer to *CUDB Node Commands and Parameters*, Reference [1] for more information.
2. If it reports that the replication is working properly in PLDB (DSG 0) on the CUDB node where the alarm was raised, then clear the alarm manually, as described in *CUDB Node Fault Management Configuration Guide*, Reference [2].

2.2 Actions for the Replication Delay Exceeds the Time Limit

Do the following:

1. Check network connections.
2. Run the `cudbCheckReplication` command, refer to *CUDB Node Commands and Parameters*, Reference [1] for more information.
3. If it reports that the replication is working properly in PLDB (DSG 0) on the CUDB node where the alarm was raised, then clear the alarm manually, as described in *CUDB Node Fault Management Configuration Guide*, Reference [2].

2.3 Actions for Mastership Change During `cudbCheckReplication` Execution

Do the following:

1. Run the `cudbCheckReplication` command, refer to *CUDB Node Commands and Parameters*, Reference [1] for more information.
2. If it reports that the replication is working properly in PLDB (DSG 0) on the CUDB node where the alarm was raised, then clear the alarm manually, as described in *CUDB Node Fault Management Configuration Guide*, Reference [2].

2.4 Actions for Replication Malfunction

Do the following:



1. Check network connections.
2. Check if the following alarms are raised:
 - *Storage Engine, Replication Channels Down in PLDB*, Reference [4].
 - *Storage Engine, Unable to Synchronize Cluster in PLDB, Major*, Reference [5].

If yes, follow the procedures in the corresponding documents above.

3. Run the `cudbCheckReplication` command, refer to *CUDB Node Commands and Parameters*, Reference [1] for more information.
4. If it reports that the replication is working properly in PLDB (DSG 0) on the CUDB node where the alarm was raised, then clear the alarm manually, as described in *CUDB Node Fault Management Configuration Guide*, Reference [2].
5. If the problem still exists, consult the next level of maintenance support. Further actions are outside the scope of this operating instruction.



Glossary

For the terms, definitions, acronyms and abbreviations used in this document, refer to *CUDB Glossary of Terms and Acronyms*, Reference [6].





Reference List

Ericsson Documents

- [1] *CUDB Node Commands and Parameters*
- [2] *CUDB Node Fault Management Configuration Guide*
- [3] *CUDB Subscription Reallocation*
- [4] *Storage Engine, Replication Channels Down in PLDB*
- [5] *Storage Engine, Unable to Synchronize Cluster in PLDB, Major*
- [6] *CUDB Glossary of Terms and Acronyms*

Other Ericsson Documents

- [7] *System Safety Information*
- [8] *Personal Health and Safety Information*