

# Storage Engine, Out Of Memory In DS

Ericsson Centralized User Database

Operating Instructions

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# 1 Introduction

This instruction concerns alarm handling for the Storage Engine, Out Of Memory In DS alarm.

## 1.1 Alarm Description

The alarm is issued when the Data Store Unit Group (DSG) cluster in the CUDB node runs out of memory.

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
No free space in DS cluster.	The DS cluster has run out of available memory.	The DS cluster contains too much subscriber data, and has reached its maximum capacity.	Affected DS cluster.	Subscriber data that is newly added (through provisioning or otherwise) may be rejected.

The alarm attributes are listed and explained in [Table 2](#):

Table 2 Alarm Attributes

Attribute Name	Attribute Value
Auto Cease	Yes
Module	STORAGE-ENGINE
Error Code	4
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 raised.
Resource ID	.1.3.6.1.4.1.193.169.1.2.4.<DG>
Alarm Model Description	Out of memory, Storage Engine.
Alarm Active Description	Storage Engine (DS-group #<DG>): out of memory (<DET>)
ITU Alarm Event Type	processingErrorAlarm (4)
ITU Alarm Probable Cause	outOfMemory (162)
ITU Alarm Perceived Severity	(4) - Major
Originating Source IP	Node ID where the alarm was raised.
Sequence Number	Number which indicates the order in which alarms were raised.

In [Table 2](#), the indicated variables are as follows:

- <DG> is the DSG identifier this cluster belongs to.



- <DET> is a text string providing further details on the out-of-memory error, if available.

For further information about attribute descriptions, refer to CUDB Node Fault Management Configuration Guide.

## 1.2 Prerequisites

This section lists the prerequisites to meet before performing the below procedure.

### 1.2.1 Documents

This instruction references the following documents:

- CUDB Node Commands and Parameters
- CUDB Node Fault Management Configuration Guide
- CUDB System Administrator Guide

### 1.2.2 Tools

Not applicable.

### 1.2.3 Conditions

Not applicable.



## 2 Procedure

In case the alarm is raised, do the following:

### Steps

1. Perform a defragmentation in the affected DSG. Refer to [CUDB System Administrator Guide](#) for more information.
2. Check if the alarm is cleared. If it is not cleared, continue with the below steps.
3. Use the `cudbDsgProvisioningManage` command with the `--disable` option to prevent the newly distributed data from being added to the referred DSG. For more information, refer to [CUDB Node Commands and Parameters](#).
4. `cudbReallocate` command. Either specify the percentage of distributed data to be moved with the `--entriespercentage` option, or export the data and use the `--list` option. Refer to [CUDB Node Commands and Parameters](#) for more information on the `cudbReallocate` command and its options.
5. Perform a defragmentation again in the affected DSG. Refer to [CUDB System Administrator Guide](#) for more information.
6. Check if the alarm is cleared, and depending on the result, perform one of the below steps:
  - a. If the alarm is cleared, then use the `cudbDsgProvisioningManage` command with the `--enableMov` option to allow the newly distributed data to be added to the referred DSG again. For more information, refer to [CUDB Node Commands and Parameters](#).
  - b. If the alarm remains, check Scale-out policy to see if scale-out is the appropriate action. Refer to [Creating New DSG](#) for more information.
7. If the alarm does not cease, contact 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