

# CSCF Credit Control Answers Indicate Permanent Failures

Call Session Control Function

OPERATING INSTRUCTIONS

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# 1 Alarm Description

The threshold alarm `CSCF Credit Control Answers Indicate Permanent Failures` is raised when it is not possible to send Credit Control charging requests from the Call Session Control Function (CSCF) to the charging system.

The alarm is associated to the Performance Management counter `cscfCCAPermanentFailures`.

The alarm is raised when the number of Diameter Credit Control Answer (CCA) messages including the error codes for permanent errors (5xxx) received through Diameter has reached or exceeded its configured `thresholdHigh` within the time period configured by `thresholdRateOfVariation` and `granularityPeriod`.

The alarm is automatically ceased when it reaches or goes below the configured `thresholdLow` value.

The default values related to this alarm are: `thresholdRateOfVariation=PER_GP`, `granularityPeriod=FIVE_MIN`, `thresholdHigh=2`, and `thresholdLow=0`. This means that when the counter value is 2 or higher, the alarm is raised when the Granularity Period is ended. The alarm is ceased when the counter `cscfCCAPermanentFailures` has reached a value of 0 at the end of a Granularity Period.

**Note:** The thresholds for raising and ceasing this alarm are configurable. The default Distinguished Name for the thresholds is `ManagedElement=<node_name>`, `SystemFunctions=1`, `Pm=1`, `PmJob=CscfChargingStatisticsThreshold`, `MeasurementReader=cscfCCAPermanentFailuresMeasReader`, `PmThresholdMonitoring=cscfCCAPermanentFailures`.

It is not possible to change threshold values once they have been set. To change a threshold, first the `PmThresholdMonitoring` instance must be deleted and recreated with required `thresholdHigh` and `thresholdLow`.

For more information, refer to [Performance Management](#).



Table 1 CSCF Credit Control Answers Indicate Permanent Failures Alarm Causes

Alarm Cause	Description	Fault Reason	Fault Location	Impact
The PM counter <code>cscfCCAPermanentFailures</code> has reached or exceeded its configured upper threshold value.	The number of CCAs with permanent failure (5xxx) during a Granularity Period has reached or exceeded the configured threshold.	<ul style="list-style-type: none"><li>• The Charging Server is down.</li><li>• The physical connection between the CSCF and the Charging Server has been cut off.</li><li>• The NFS daemon on the Charging Server is down.</li><li>• The mounted directory has been deleted from the Charging Server.</li></ul>	The Charging Server or the communication between CSCF and the Charging Server.	Sessions receiving these error codes from the Charging Server is terminated.

**Note:** This alarm can appear as a result of maintenance activity.

Table 2 CSCF Credit Control Answers Indicate Permanent Failures Alarm Attributes

Attribute Name	Attribute Value
Major Type	193
Minor Type	6684684
Managed Object Class	MeasurementReader
Managed Object Instance	ManagedElement=<node_name>, SystemFunctions=1, Pm=1, PmJob=CscfChargingStatisticsThreshold, MeasurementReader=cscfCCAPermanentFailuresMeasReader
Specific Problem	CSCF Credit Control Answers Indicate Permanent Failures
Event Type	communication (2)
Probable Cause	x733ThresholdCrossed (351)



Attribute Name	Attribute Value
Additional Text	cscfCCAPermanentFailures, check connection to the charging system, possibly caused by configuration problem
Perceived Severity	major (4)

## 2 Procedure

### 2.1 Handle Alarm CSCF Credit Control Answers Indicate Permanent Failures

#### Prerequisites

- This instruction references the following documents:
  - CSCF Configuration Management
  - Managed Object Model (MOM)
  - Performance Management
- Before starting this procedure, ensure that the following tool is available:
  - A Diameter protocol sniffer, refer to [RFC 3588 Diameter Base Protocol](#).
- The following condition must apply:
  - The alarm is raised.

#### Steps

**Note:** If the reason for the alarm has disappeared after the Granularity Period, the alarm automatically ceases.

1. Write down the following information of the alarm:
  - Subsystem affected
  - Detailed specific cause provided
2. Log on to the System Controller (SC).
3. Make sure that the SC is the primary processor:



**cat/proc/drdb**

The following is the expected output when the SC is the primary processor:

`0:cs:Connected st:Primary/Secondary id:Consistent`

The following is the expected output when the SC is the secondary processor:

`0:cs:Connected st:Secondary/Primary id:Consistent`

4. Check the log file for error 5xxx (permanent failures):

**grep "Result-Code= [50]" /storage/no-backup/cdclsv/log/lpmsv/\***

5. Is the Result Code one of the following?

- 5003
- 5010
- 5012

Yes: Go to the user interface, view the application configuration parameters, and validate all the parameters. For more information, refer to [CSCF Configuration Management](#).

No: Continue with the next step.

6. Is the Result Code in one of the following ranges?

- 5001–5002
- 5004–5009
- 5011
- 5013–5017

Yes: Proceed with Step 11.

No: Continue with the next step.

7. Is the alarm threshold is set too low?

Yes: Adjust the alarm threshold and then continue with the next step.

No: Continue with the next step.

8. If Result Code = 50 is not found, check the log file for internal errors:

**grep "ErrorCause= [errEncDec]" /storage/no-backup/cdclsv/log/lpmsv/\***

9. Log off from the SC.

10. Has the alarm ceased?





Yes: Proceed with Step 12.

No: Continue with the next step.

11. If the alarm is not ceased, consult the next level of maintenance support.

Further actions are outside the scope of this instruction.

12. Job is completed.