

# CSCF External Network Selection Table Loop Detected

Call Session Control Function

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## OPERATING INSTRUCTIONS

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# 1 Introduction

This instruction concerns alarm handling.

## 1.1 Alarm Description

The alarm is issued when the number of External Network Selection (ENS) criteria tables started in a single gateway selection request exceeds the value of the configurable parameter `extNetSelectionMaxTables`, refer to *Managed Object Model (MOM)*. The alarm is caused by the ENS configuration instance (`ExtNetSelection` or `ExtNetSelection2`) that was active at the time of the alarm.

The possible cause is ENS configuring error. A loop can be present in the tables. The selection process cannot converge to a pool.

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
External Network Selection (ENS) table loop was detected.	The number of ENS criteria tables that were started in a gateway request exceeded the extNetSelectionMaxTables maximum configured parameter value.	The possible cause is ENS configuring error. A loop can be present in the tables. The selection process cannot converge to a pool.	<p>The fault is caused by a loop that is detected or that the analysis is so complex that the extNetSelectionMaxTables is configured too small.</p> <p>The attribute extNetSelectionMaxTables is placed in the MOC ExtNetSel-Application, which describes the maximum number of times ENS table can be started in a single gateway selection request before the alarm is triggered.</p>	The SIP message that triggered the alarm is routed to the gateway identified in the extNetSelectionDefaultPoolName parameter. If the parameter is not defined, the SIP message is answered with a 500 PSTN Gateway unreachable error response.

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

The alarm attributes are listed and explained in Table 2.

Table 2 Alarm Attributes

Attribute Name	Attribute Value
Major Type	193
Minor Type	6684696



Attribute Name	Attribute Value
Managed Object Class	ExtNetSel-Application
Managed Object Instance	ManagedElement=<node_name>, CscfFunction=1, ExtNetSel-Application=ExtNetSelection or ExtNetSelection2
Specific Problem	CSCF External Network Selection Table Loop Detected
Event Type	processingErrorAlarm (4)
Probable Cause	x733ConfigurationOrCustomization Error (307)
Additional Text	ENS tables input information (1)(2)
Perceived Severity	major (4)

(1) Example: SipMessage=[INVITE tel:+468000000000 SIP/2], SdpMediaType=[]

(2) Input information includes the SIP request received by ENS. The SIP request information includes SDP media information without the message body part. A SIP request with length exceeding the display limit is truncated.

## 1.2 Prerequisites

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

### 1.2.1 Documents

This instruction references the following document:

- *CSCF Configuration Management*
- *Managed Object Model (MOM)*

### 1.2.2 Tools

No tools are required.

### 1.2.3 Conditions

No conditions.







## 2 Procedure

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

Do the following:

1. To get the input to the ENS analysis:
  - a. Identify the input parameters that caused the alarm by looking in the Additional Text field of the alarm.
  - b. Identify the affected configuration instance (`ExtNetSelection` or `ExtNetSelection2`) by looking in the Managed Object Instance field.
  - c. Get the input to use for the ENS analysis, by checking when the alarm was raised. This can be done if the ENS analysis matches on the `EnsDateMatchTable` or `EnsTimeMatchTable`.

**Note:** The time can differ on second level, and that the configured times in the ENS analysis are using UTC format.

2. If the ENS is configured to use both configuration instances, ensure that the affected configuration instance is configured as passive. To do so, set `extNetSelectionActiveConfiguration` to the other instance. For example, if the affected configuration is `ExtNetSelection2`, set the parameter to `ExtNetSelection`.

For more information about the parameter `extNetSelectionActiveConfiguration`, refer to *Managed Object Model (MOM)* and *CSCF Configuration Management*.

3. Examine and correct the ENS table entries to ensure that the identified combination of input criteria values lead to the selection of a pool. Increase the value of the configurable parameter `extNetSelectionMaxTables`, if appropriate.
4. Set the `extNetSelectionTablesSynchronization` to **true** in the targeted configuration instance. The ENS application is now notified that a new configuration must be used, and the alarm ceases.

For more information about the parameter `extNetSelectionTablesSynchronization`, refer to *Managed Object Model (MOM)* and *CSCF Configuration Management*.

5. Confirm that the alarm has ceased. If the alarm is not ceased, consult the next level of maintenance support. Further actions are outside the scope of this instruction.
6. Job is completed.