

Configure Time-Based Scaling

Call Session Control Function

OPERATING INSTRUCTIONS

Copyright

© Ericsson AB 2019. All rights reserved. No part of this document may be reproduced in any form without the written permission of the copyright owner.

Disclaimer

The contents of this document are subject to revision without notice due to continued progress in methodology, design and manufacturing. Ericsson shall have no liability for any error or damage of any kind resulting from the use of this document.

Trademark List

All trademarks mentioned herein are the property of their respective owners. These are shown in the document Trademark Information.



Contents

1	Description	1
2	Procedure	3
2.1	Enable Time-Based Scaling	4
2.2	Change Time-Based Scaling	5
2.3	Disable Time-Based Scaling	6





1 Description

Time-based scaling is an automated operation to add or remove one or more computer resources from the scaling domain of the cluster. The Virtual Network Function Lifecycle Management (VNF-LCM) triggers the scale-out and scale-in workflows automatically based on the CSCF Time Based Scaling SNMP alert that raises on the VNF at a predefined time of a day.

The CSCF workflow software package contains more files than are described in this instruction. These unmentioned files are only used in special deployment scenarios that are outside the scope of this instruction. Only use the files that are explicitly mentioned in the instruction.

Table 1 describes the CSCF Time Based Scaling SNMP alert.

Table 1 CSCF Time-Based Alert Attributes

Attribute Name	Attribute Value
Major Type	193
Minor Type	6684697
Managed Object Class	cscfScalingClass
Managed Object Instance	ManagedElement=<node_name>,CscfFunction=1,CSCF-Application=CSCF,CscfScalingGroupClass=0,CscfScalingClass=default
Specific Problem	CSCF Time Based Scaling
Event Type	ENVIRONMENTALALARM
Probable Cause	x733CommunicationsSubsystemFailure (306)
Additional Text	<ul style="list-style-type: none">• CSCF Time Based Scale In: <numberOfPayload>• CSCF Time Based Scale Out: <numberOfPayload>
Perceived Severity	N/A

For more information on scaling, see [CSCF Scaling Management](#). For more information on the VNF-LCM, see [CSCF VNF Lifecycle Management](#).





2 Procedure

Prerequisites

— The following virtual and physical hardware and software are required:

- The VNF is onboarded using the VNF-LCM.

For configuring time-based scaling in VNFs on OpenStack, an autostart-rule must be specified during onboarding as described in Section Prepare Workflow-Based VNF Operations in Onboard OpenStack Virtual Deployment Package on VNF-LCM, 68/1543-AVA 901 30/2 Uen.

For configuring time-based scaling in VNFs on VMware, an autostart-rule must be specified during onboarding as described in Section Prepare Workflow-Based VNF Operations in Onboard VMware Virtual Deployment Package on VNF-LCM, 69/1543-AVA 901 30/2 Uen.

- VNF-LCM is available, using either Operations Support System for Radio and Core (OSS-RC) or Ericsson Network Manager (ENM).

- The VIM is configured in VNF-LCM:

The VIM configuration in VNF-LCM can be checked with the `vnflcm vim list` command. For more information on VIM configuration, see VNF Lifecycle Manager System Administrator Guide, 1543-APR 901 0578 Uen.

- All Payload (PL) VMs must be created with the same number of Virtual CPUs (vCPUs), the same amount of RAM, and the same number of ports in the cluster. For creating VMs, see the VIM documentation.

— This instruction references the following documents:

- [Create Backup](#)
- [CSCF Health Check](#)
- [Ericsson Command-Line Interface User Guide](#)

— No tools are required.

— The following conditions must apply:

- The VNF-LCM is available using either the Operations Support System for Radio and Core (OSS-RC) or the Ericsson Network Manager (ENM).
- A VIM is available.
- No other upgrade or maintenance activity must be performed during the procedure.
- Before starting these procedures, the user performing the operations must have access to the System Controller (SC) nodes.



- An Ericsson Command-Line Interface (ECLI) session in Exec mode is in progress.

2.1 Enable Time-Based Scaling

Steps

1. Navigate to the `CscfScalingClass` Managed Object (MO), for example:

```
> dn ManagedElement=jambala,CscfFunction=1,\
CSCF-Application=CSCF,CscfScalingGroupClass=0,\
CscfScalingClass=default
```

2. Show the current time-based scaling configuration:

```
(CscfScalingClass=default)> show -v
```

The following is an example output:

```
(CscfScalingClass=default)>show -v
CscfScalingClass=default
cscfScaleIn=""
cscfScaleOut=""
cscfScalingId="default"
cscfTimeBasedScalingEnabled=false <default>
```

3. Enter Config mode:

```
(CscfScalingClass=default)> configure
```

4. Configure the time of triggering and number of PL VMs after scaling in:

```
(config-CscfScalingClass=default)> cscfScaleIn= \
<HHMM:NumberOfPayLoads>
```

5. Configure the time of triggering and number of PL VMs after scaling out:

```
(config-CscfScalingClass=default)> cscfScaleOut= \
<HHMM:NumberOfPayLoads>
```

6. Enable the time-based scaling function:

```
(config-CscfScalingClass=default)> \
cscfTimeBasedScalingEnabled=true
```

7. Verify that time-based scaling is configured and enabled as planned:

```
(config-CscfScalingClass=default)> show -v
```

The following example output shows that the configuration and time-based scaling is enabled:



```
CscfScalingClass=default
cscfScaleIn="0100:02"
cscfScaleOut="1400:07"
cscfScalingId="default"
cscfTimeBasedScalingEnabled=true
```

8. Check that the cluster is in a healthy state, see [CSCF Health Check](#).

2.2 Change Time-Based Scaling

Steps

1. Navigate to the `CscfScalingClass` Managed Object (MO), for example:

```
> dn ManagedElement=jambala,CscfFunction=1,\
CSCF-Application=CSCF,CscfScalingGroupClass=0,\
CscfScalingClass=default
```

2. Enter Config mode:

```
(CscfScalingClass=default)> configure
```

3. Configure the time of triggering and number of VMs after scaling in.

```
(config-CscfScalingClass=default)> cscfScaleIn= =\  
<HHMM:NumberOfPayLoads>
```

4. Configure the time of triggering and number of VMs after scaling out.

```
(config-CscfScalingClass=default)> cscfScaleOut= =\  
<HHMM:NumberOfPayLoads>
```

5. Verify that time-based scaling is configured and enabled as planned.

```
(config-CscfScalingClass=default)> show -v
```

The following example output shows that the configuration and time-based scaling is enabled:

```
CscfScalingClass=default
cscfScaleIn="0100:02"
cscfScaleOut="1400:07"
cscfScalingId="default"
cscfTimeBasedScalingEnabled=true
```

6. Check that the cluster is in a healthy state, see [CSCF Health Check](#).
7. Create a system backup. See [Create Backup](#).



2.3 Disable Time-Based Scaling

Steps

1. Navigate to the `CscfScalingClass` Managed Object (MO), for example:

```
> dn ManagedElement=jambala,CscfFunction=1,\
CSCF-Application=CSCF,CscfScalingGroupClass=0,\
CscfScalingClass=default
```

2. Disable the time-based scaling function.

```
(config-CscfScalingClass=default)> \
cscfTimeBasedScalingEnabled=false
```

3. Verify that time-based scaling is disabled.

```
(config-CscfScalingClass=default)> show -v
```

The following example output shows that time-based scaling is disabled:

```
CscfScalingClass=default
cscfScaleIn="0100:02"
cscfScaleOut="1400:07"
cscfScalingId="default"
cscfTimeBasedScalingEnabled=false <default>
```