Replace Catalyst 3850 Switch - CPS

Contents

Introduction

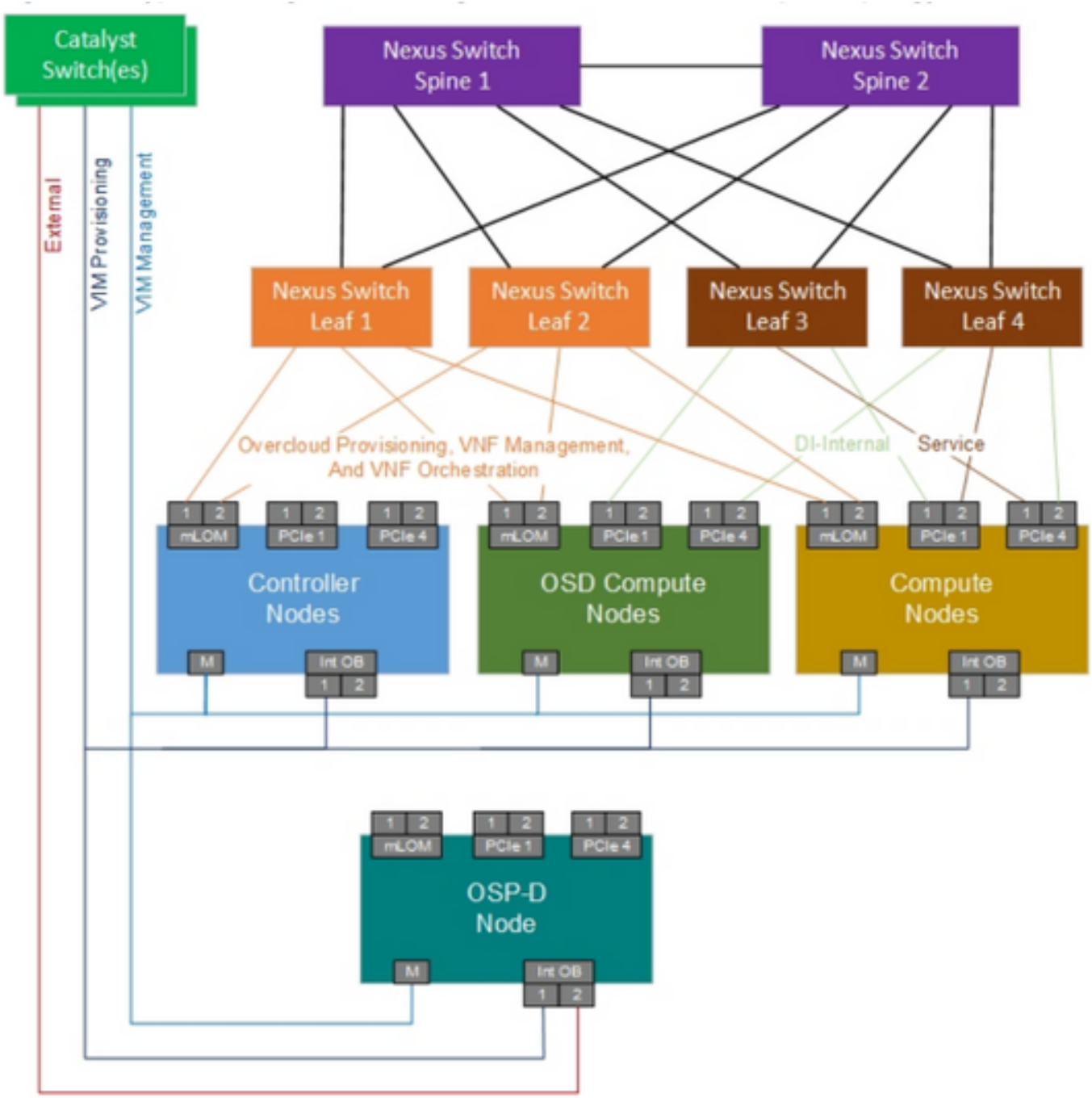
This document describes the steps required to replace a faulty catalyst switch in an Ultra-M setup that hosts StarOS Virtual Network Functions (VNFs).

Background Information

Ultra-M is a pre-packaged and validated virtualized mobile packet core solution designed to simplify the deployment of VNFs. The servers that are part of the Ultra-M setup are connected to three different types of switches:

- Catalyst Switch
- Leaf Switch
- Spine Switch

The network topology of an Ultra-M setup is as shown in this image:



UltraM Network Topology

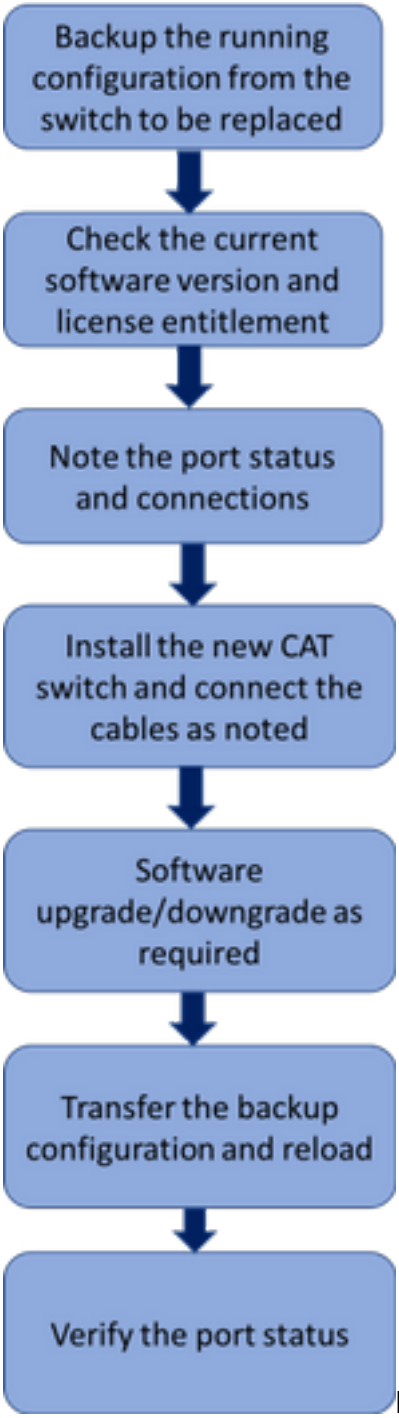
Note: The Network topology is only a representation, the connections between the switches might slightly vary and it depends on the solution deployed. This document is intended for the Cisco personnel who are familiar with Cisco Ultra-M setup and Catalyst Switch operations.

Abbreviations

VNF	Virtual Network Function
CAT	Catalyst Switch
MOP	Method of Procedure
LAN	Local Area Network
FTP	File Transfer Protocol
TFTP	Trivial File Transfer Protocol

CIMC	Cisco Integrated Management Controller

Workflow of the MoP



Highlevel Workflow of the Replacement Procedure

Catalyst Switch in an Ultra-M Setup

In an Ultra-M setup, CAT Switch handles these three networks:

- Management Network - Connecting CIMC port of the UCS Servers and Management port of the Nexus Switches
- OpenStack Provisioning Network - Connecting LAN1 port of all the UCS servers
- External network - Connecting to the next hop switch

Every rack in an Ultra-M setup will have one CAT Switch to handle the above three networks for the devices present in the rack. Since there is only one cat switch per rack and there is no redundancy to the CAT switch, during the replacement of a faulty CAT switch the networks handled by the CAT switch will be impacted. But since none of the service level traffic is carried by these networks there would not be any service impact at the time of the replacement procedure.

Prerequisites

1. Take a backup of the configuration file from the CAT switch with the use of **ftp/tftp** before you proceed with the switch replacement.

```
CAT-POD1-01#copy running-config tftp:
Address or name of remote host []? 10.10.10.10
Destination filename [cat-pod1-01-confg]? running-config-backup

!!
1030 bytes copied in 2.489 secs (395 bytes/sec)
```

2. Check the current software version running in the switch and make a note of it.

```
CAT-POD1-01#show version
Cisco IOS Software, IOS-XE Software, Catalyst L3 Switch Software (CAT3K_CAA-UNIVERSALK9-M),
Version 03.06.06E RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2016 by Cisco Systems, Inc.
Compiled Sat 17-Dec-16 00:22 by prod_rel_team

<snip>

Switch Ports Model SW Version SW Image Mode
------ ----- ----- ---------- ---------- ----
* 1 56 WS-C3850-48T 03.06.06E cat3k_caa-universalk9 INSTALL
Configuration register is 0x102
```

3. Check the current license entitlement.

```
CAT-POD1-01#show license right-to-use
Slot# License name Type Count Period left
--------------------------------------------------------
1 ipbase permanent N/A Lifetime

License Level on Reboot: ipbase
```

4. Make a note of the physical cables connected to the switch and also the port status.

```
CAT-POD1-01#show license right-to-use
Slot# License name Type Count Period left
--------------------------------------------------------
1 ipbase permanent N/A Lifetime

License Level on Reboot: ipbase
```

Switch Replacement Procedure

1. Install the new switch in the rack and connect the cables to the switch as noted. The steps for

switch installation can be found in the link below: Catalyst 3850 Switch Hardware Installation Guide

2. Do the Express Setup to enter the initial IP information. This action enables access to the switch through the IP address for further configuration. The steps for performing Express setup can be found in the link below: Catalyst 3850 Switch Getting Started Guide

3. Check the software version of the CAT switch and upgrade/downgrade to the previous software version as per the link given here: Catalyst 3850 Series Switch Upgrade, Management, and Recovery Techniques

4. Check the license level of the new CAT switch and confirm it is as per the old license settings.

```
CAT-POD1-01#show license right-to-use
Slot# License name Type Count Period left
--------------------------------------------------------
1 ipbase permanent N/A Lifetime

License Level on Reboot: ipbase
```

5. Transfer the configuration backup to the new switch.

```
CAT-POD1-01#show license right-to-use
Slot# License name Type Count Period left
--------------------------------------------------------
1 ipbase permanent N/A Lifetime

License Level on Reboot: ipbase
```

6. Reload the switch after you load the backup configuration.

```
CAT-POD1-01#show license right-to-use
Slot# License name Type Count Period left
--------------------------------------------------------
1 ipbase permanent N/A Lifetime

License Level on Reboot: ipbase
```

7. Once the switch is up, check the port status and confirm it is as before.

```
CAT-POD1-01#show license right-to-use
Slot# License name Type Count Period left
--------------------------------------------------------
1 ipbase permanent N/A Lifetime

License Level on Reboot: ipbase
```