Troubleshoot Server Issues in CNDP Solution

Contents

Introduction

This document describes how to identify a Unified Computing System (UCS) and check fault entries on it in the Cloud Native Deployment Platform (CNDP).

Background Information

The hardware-related alerts are reported in The Ultra Cloud Core Subscriber Microservices Infrastructure (SMI) Cluster Manager (CM) Common Execution Environment (CEE). The Kubernetes (K8s), docker, and so on related information are reported in the CM virtual IP (VIP).

> **Caution**: Please refer to Network Design and Customer Information Questionnaire (CIQ) to verify the IPs.

Problem

The error "Equipment Alarm" is reported in show alerts.

- Log in to CM-CEE, run the command **show alerts active detail,** and **show alerts history summary** in order to display all active and history alerts.
- Note the server IP reported in the alert.

```
[lab-deployer/labceec01] cee# show alerts active detail
alerts active detail server-alert 9c367ce5ee48
 severity    major
 type        "Equipment Alarm"
 startsAt    2021-10-27T17:10:37.025Z
 source      10.10.10.10
 summary     "DDR4_P1_C1_ECC: DIMM 5 is inoperable : Check or replace DIMM"
 labels      [ "alertname: server-alert" "cluster: cr-chr-deployer" "description:
DDR4_P1_C1_ECC: DIMM 5 is inoperable : Check or replace DIMM" "fault_id: sys/rack-unit-
1/board/memarray-1/mem-5/fault-F0185" "id: 134219020" "monitor: prometheus" "replica: cr-chr-
deployer" "server: 10.10.10.10" "severity: major" ]
 annotations [ "dn: cr-chr-deployer/10.10.10.10/sys/rack-unit-1/board/memarray-1/mem-5/fault-
F0185/134219020" "summary: DDR4_P1_C1_ECC: DIMM 5 is inoperable : Check or replace DIMM" "type:
```

```
Equipment Alarm" ]

[lab-deployer/labceec01] cee# show alerts history summary
NAME      UID           SEVERITY  STARTS AT       DURATION  SOURCE       SUMMARY
------------------------------------------------------------------------------------------
vm-alive  f6a65030b593  minor     09-02T10:28:28  1m40s     10-192-0-13  labd0123 is alive.
vm-error  3a6d840e3eda  major     09-02T10:27:18  1m        10-192-0-13  labd0123 is down.
vm-alive  49b2c1941dc6  minor     09-02T10:25:38  1m40s     10-192-0-14  labd0123 is alive.
```

Solution

Identify the Services (containers) and/or Virtual Machine (VM) or Kernel-based Virtual Machine (KVM) that is hosted on the server in the SMI CM, run the command **show running-config** and find the configuration for the server IP.

1. Log in to the CM VIP (username: cloud-user)
2. Get the IP from OPS Center for the **smi-cm** namespace
3. Log in to the OPS Center, and check the cluster configuration
4. Identify nodes and VMs that run on the server

```
cloud-user@lab-deployer-cm-primary:~$ kubectl get svc -n smi-cm
NAME                                          TYPE        CLUSTER-IP       EXTERNAL-IP
PORT(S)                                                   AGE
cluster-files-offline-smi-cluster-deployer    ClusterIP   10.102.200.178   <none>
8080/TCP                                                  98d
iso-host-cluster-files-smi-cluster-deployer   ClusterIP   10.102.100.208     192.168.1.102
80/TCP                                                    98d
iso-host-ops-center-smi-cluster-deployer      ClusterIP   10.102.200.73    192.168.1.102
3001/TCP                                                  98d
netconf-ops-center-smi-cluster-deployer       ClusterIP   10.102.100.207   192.168.184.193
3022/TCP,22/TCP                                           98d
ops-center-smi-cluster-deployer               ClusterIP   10.10.20.20      <none>
8008/TCP,2024/TCP,2022/TCP,7681/TCP,3000/TCP,3001/TCP     98d
squid-proxy-node-port                         NodePort    10.102.60.114    <none>
3128:32261/TCP                                            98d

cloud-user@lab-deployer-cm-primary:~$ ssh -p 2024 admin@10.10.20.20
admin@10.10.20.20's password:
     Welcome to the Cisco SMI Cluster Deployer on lab-deployer-cm-primary
     Copyright © 2016-2020, Cisco Systems, Inc.
     All rights reserved.
admin connected from 192.168.1.100 using ssh on ops-center-smi-cluster-deployer-7848c69844-xzdw6
[lab-deployer-cm-primary] SMI Cluster Deployer# show running-config clusters
```

Example Output for Containers

In this example, the server is used by node primary-1.

```
[lab-deployer-cm-primary] SMI Cluster Deployer# show running-config clusters lab01-smf nodes
primary-1
clusters lab01-smf
nodes primary-1
 maintenance false
 k8s node-type       primary
 k8s ssh-ip          10.192.10.22
 k8s sshd-bind-to-ssh-ip true
```

```
 k8s node-ip         10.192.10.22
 k8s node-labels smi.cisco.com/node-type oam
 exit
 k8s node-labels smi.cisco.com/node-type-1 proto
 exit
 ucs-server cimc user admin
 ucs-server cimc ip-address 10.10.10.10
```

Example Output for VMs

The server can be used for the KVM-based VM.

In this example, the server has User Plane Functions (UPFs) - upf1 and upf2.

```
[lab-deployer-cm-primary] SMI Cluster Deployer# show running-config clusters lab01-upf nodes
labupf
clusters lab01-upf
nodes labupf
 maintenance false
 ssh-ip      10.192.30.7
 type        kvm
 vms upf1
  upf software lab...
...
  type upf
 exit
 vms upf2
  upf software lab...
...
  type upf
 exit
 ucs-server cimc user admin
...
 ucs-server cimc ip-address 10.10.10.10
...
 exit
```

SSH Into the UCS Host

Connect into the UCS host and verify fault entries with **scope fault**, **show fault entries**, and **show fault history**.

```
labucs111-cmp1-11 /fault # show fault-entries
Time Severity Description ------------------------- ------------ ------------------------------
---------
2021-03-26T10:10:10 major "DDR4_P1_C1_ECC: DIMM 19 is inoperable : Check or replace DIMM"

[redacted] show fault-history
Time                 Severity      Source          Cause                     Description
-------------------- ------------ --------------- ------------------------- --------------------
--------------------
2021 Dec 10 02:02:02 UTC info          %CIMC           EQUIPMENT_INOPERABLE
"[F0174][cleared][equipment-inoperable][sys/rack-unit-1/board] IERR: A catastrophic fault has
occurred on one of the processors: Cleared "
2021 Dec 1 01:01:01 UTC critical      %CIMC           EQUIPMENT_INOPERABLE
"[F0174][critical][equipment-inoperable][sys/rack-unit-1/board] IERR: A catastrophic fault has
occurred on one of the processors: Please check the processor's status. "
```