

# 在发生损坏时部署/重新部署UAME

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## 简介

本文档介绍部署或重新部署Ultra Automation and Monitoring Engine(UAME)的过程。

## 先决条件

### 要求

Cisco 建议您了解以下主题：

- 思科超虚拟数据包核心解决方案组件
- UAME
- OpenStack

### 使用的组件

本文档中的信息基于以下软件和硬件版本：

- USP 6.9.0
- UAME
- 云 — Openstack 13 ( 皇后区 )

## 背景信息

### UAME

UAME是新的Ultra Automation Services(UAS)软件模块，引入目的：

- 支持4G或5G虚拟化网络功能(VNF)和5G云本地网络功能(CNF)的集成部署。

- 减少USP和UAS通常需要的虚拟机(VM)数量，替换UEM、AutoIT、AutoDeploy和AutoVNF组件。

UAME为以下方面提供部署协调：

#### 1. 4个GVNF:

1.1. 基于CUPS的VNF:UAME与虚拟网络功能管理器(VNFM)协作，部署基于VPC SI的控制平面(CP)和用户平面(UP)VNF，以支持控制和用户平面分离(CUPS)架构。

1.2. 非基于CUPS的VNF:UAME向后兼容，与VNFM协作，为非CUPS 4G网关（基于VPC-DI）和4G策略和计费规则功能(PCRF)提供部署支持。

#### 2.5G NF:

2.1. 基于VNF的NF:UAME与VNFM配合部署基于VPC-SI的网络功能(NF)。

2.2. 基于云的本地NF:UAME与VNFM交互以部署超云核心用户微服务基础设施(SMI)。然后，SMI与VNFM一起在基于VM的Kubernetes（也称为K8）集群中部署NF。

## 问题

一个或两个UAME VM已损坏。即使从OpenStack重新启动托管计算服务器，也无法恢复UAME。

**nova start/nova reboot** — 即使使用此命令设置OpenStack中VM活动的状态后，硬也会失败。

**nova reset-state** — 活动<UAME\_Vm\_NAME>。

## 重新部署的过程

1. 登录OpenStack Platform Director(OSPD)并验证装载配置。

```
[stack@<POD-NAME>-ospd usp-images]$ df -h
Filesystem Size Used Avail Use% Mounted on
devtmpfs 189G 0 189G 0% /dev
tmpfs 189G 80K 189G 1% /dev/shm
tmpfs 189G 2.7M 189G 1% /run
tmpfs 189G 0 189G 0% /sys/fs/cgroup
/dev/sda2 1.1T 109G 930G 11% /
/dev/loop0 543M 543M 0 100% /mnt/ucs-c220m5-huu-4.1.1g
/dev/sda1 477M 102M 346M 23% /boot
tmpfs 38G 0 38G 0% /run/user/0
tmpfs 38G 0 38G 0% /run/user/1000
/dev/loop1 4.0G 4.0G 0 100% /home/stack/usp-6_9_8/usp-6_9_8-mount
```

2. 如果安装不可用，可通过以下步骤手动安装。

```
# cd /home/stack

# mkdir /home/stack/usp-6_9_8/usp-6_9_8-mount

# sudo mount -t iso9660 -o loop /home/stack/usp-6_9_8/usp-images/usp-6_9_8.iso /home/stack/usp-6_9_8/usp-6_9_8-mount
```

```
mount: /dev/loop0 is write-protected, mounting read-only
```

### 3. 检验ISO文件的内容。

```
(undercloud) [stack@<POD-NAME>-ospd ~]$ ll /home/stack/usp-6_9_8/usp-6_9_8-mount/tools
total 22
-r--r--r--. 1 root root 8586 Sep 1 2020 cisco_openpgp_verify_release.py
-r-xr-xr-x. 1 root root 1955 Sep 1 2020 uas-certs.sh
-r-xr-xr-x. 1 root root 5534 Sep 1 2020 usp-csar-installer.sh
-r-xr-xr-x. 1 root root 2546 Sep 1 2020 usp-gpg-key.sh
-r-xr-xr-x. 1 root root 3354 Sep 1 2020 usp-uas-installer.sh
(undercloud) [stack@<POD-NAME>-ospd ~]$
```

### 4. 验证这些文件是否可用。

```
(undercloud) [stack@<POD-NAME>-ospd ~]$ ll /opt/cisco/usp/uas-installer/images/
total 909544
-rw-r--r--. 1 root root 931367936 Aug 20 2020 usp-uas-6.9.0-9247.qcow2
```

```
(undercloud) [stack@<POD-NAME>-ospd ~]$ ll /opt/cisco/usp/uas-installer/scripts/
total 180
-rwxr-xr-x. 1 root root 806 Jun 24 18:28 auto-deploy-booting.sh
-rwxr-xr-x. 1 root root 5460 Jun 24 18:28 autoit-user.py
-rwxr-xr-x. 1 root root 811 Jun 24 18:28 auto-it-vnf-staging.sh
-r-xr-x---. 1 root root 102209 Jun 24 18:28 boot_uas.py
-rwxr-xr-x. 1 root root 4762 Jun 24 18:28 encrypt_account.sh
-rwxr-xr-x. 1 root root 3945 Jun 24 18:28 encrypt_credentials.sh
-rwxr-xr-x. 1 root root 16019 Jun 24 18:28 start-ultram-vm.py
-rwxr-xr-x. 1 root root 15315 Jun 24 18:28 uas-boot.py
-rwxr-xr-x. 1 root root 5384 Jun 24 18:28 uas-check.py
-rwxr-xr-x. 1 root root 11283 Jun 24 18:28 usp-tenant.py
(undercloud) [stack@<POD-NAME>-ospd ~]$
```

### 5. 如果不是，请启动usp-uas-installer.sh脚本。它将解压并使前面提到的文件可用。

```
[stack@<POD-NAME>-ospd tools]$ sudo ./usp-uas-installer.sh
```

### 6. 列出qcow2映像和boot\_uas.py脚本。

```
[root@<POD-NAME>-ospd ~]# cd /opt/cisco/usp/bundles/uas-bundle
[root@<POD-NAME>-ospd uas-bundle]# ll
total 909572
drwxr-xr-x. 3 root root 4096 Jun 24 18:28 models
drwxr-xr-x. 2 root root 4096 Jun 24 18:28 tools
-rw-r--r--. 1 root root 649 Aug 20 2020 usp-build-info.json
-rw-r--r--. 1 root root 97 Aug 20 2020 usp-bundle-manifest.yml
-rw-r--r--. 1 root root 931367936 Aug 20 2020 usp-uas-6.9.0-9247.qcow2
-rw-r--r--. 1 root root 32 Aug 20 2020 usp-uas-6.9.0-9247.qcow2.md5
-rw-r--r--. 1 root root 40 Aug 20 2020 usp-uas-6.9.0-9247.qcow2.sha1
-rw-r--r--. 1 root root 128 Aug 20 2020 usp-uas-6.9.0-9247.qcow2.sha512
[root@<POD-NAME>-ospd uas-bundle]# cd tools/
[root@<POD-NAME>-ospd tools]# ll
total 100
-rwxr-xr-x. 1 root root 102209 Aug 20 2020 boot_uas.py
```

```
[root@<POD-NAME>-ospd tools]#
```

```
[root@<POD-NAME>-ospd tools]# ll /opt/cisco/usp/uas-installer/images/  
total 909544  
-rw-r--r--. 1 root root 931367936 Aug 20 2020 usp-uas-6.9.0-9247.qcow2
```

7.如果前面提到的文件不可用，则使用此步骤提取usp捆绑包。

```
(undercloud) [stack@<POD-NAME>-ospd ~]$ sudo su -  
Last login: Tue Sep 7 02:20:36 UTC 2021 from 10.255.143.5 on pts/0  
[root@<POD-NAME>-ospd ~]# ll /home/stack/usp-6_9_8/usp-6_9_8-mount/repo/  
total 4142608  
-r--r--r--. 1 root root 623 Sep 1 2020 rel.gpg  
-r--r--r--. 1 root root 87783720 Sep 1 2020 usp-auto-it-bundle-5.8.0-1.x86_64.rpm  
-r--r--r--. 1 root root 1008975328 Sep 1 2020 usp-em-bundle-6.9.0-1.x86_64.rpm  
-r--r--r--. 1 root root 1168 Sep 1 2020 USP_RPM_CODE_REL_KEY-CCO_RELEASE.cer  
-r--r--r--. 1 root root 918264637 Sep 1 2020 usp-uas-bundle-6.9.0-1.x86_64.rpm  
-r--r--r--. 1 root root 886391928 Sep 1 2020 usp-ugp-bundle-21.15.47-1.x86_64.rpm  
-r--r--r--. 1 root root 1340535896 Sep 1 2020 usp-vnfm-bundle-4.5.0.112-1.x86_64.rpm  
-r--r--r--. 1 root root 74725 Sep 1 2020 usp-yang-bundle-1.0.0-1.x86_64.rpm  
[root@<POD-NAME>-ospd ~]#
```

```
[root@<POD-NAME>-ospd tools]# cd /
```

```
[root@<POD-NAME>-ospd /]# rpm2cpio /home/stack/usp-6_9_8/usp-6_9_8-mount/repo/usp-uas-bundle-  
6.9.0-1.x86_64.rpm | cpio -idmv
```

8.删除UAME部署，然后重新部署

## 删除

```
./boot_uas.py --autovnf --delete 1624559350-098061
```

The deployment ID will be available as mentioned highlighted above or in the file mentioned "/home/stack/UAME\_\$(date +"%Y%m%d-%H%M").log". Refer the latest file.

```
(undercloud) [stack@<POD-NAME>-ospd ~]$ cat UAME_0624Jun061624559462.log  
2021-06-24 18:30:30,392 - Deployment: 1624559350-098061 instantiated successfully
```

1.部署UAME。

```
(undercloud) [stack@<POD-NAME>-ospd ~]$ sudo -s  
[root@<POD-NAME>-ospd stack]# source *core  
<POD-NAME> <POD-NAME> [root@<POD-NAME>-ospd stack]# cd /opt/cisco/usp/uas-installer/scripts  
<POD-NAME> <POD-NAME> [root@<POD-NAME>-ospd scripts]# ./boot_uas.py --openstack --uame --  
image /opt/cisco/usp/uas-installer/images/usp-uas-6.9.0-9247.qcow2 --flavor <PODNAME>-UAME-  
FLAVOR --net <PODNAME>-MGMT-NW --net <PODNAME>-ORCH-NW --ha --hostname <PODNAME>-UAME --ha-net  
<PODNAME>-MGMT-NW --password password --gateway 172.168.10.1 --floating-ip <floating ip of UAME>  
--external-network <PODNAME>-EXTERNAL-MGMT --admin password--oper password --security password
```

Note: "password" has to be replaced with the UAME login password and "PODNAME" with the current POD. "floating-ip" should be obtained from the IP matrix

```
2021-06-24 18:28:52,225 - Uploading image '<POD-NAME>-UAME-usp-uas-6.9.0-9247' from  
'/opt/cisco/usp/uas-installer/images/usp-uas-6.9.0-9247.qcow2'  
2021-06-24 18:29:06,945 - Uploaded image '<POD-NAME>-UAME-usp-uas-6.9.0-9247' successfully  
2021-06-24 18:29:09,987 - Creating Server Group to enforce anti-affinity
```

```

2021-06-24 18:29:10,098 - Deployment started with transaction id --- 1624559350-098061
2021-06-24 18:29:11,766 - Created HA VIP, IP: 172.168.20.40
2021-06-24 18:29:17,125 - Allocating/Associating floating-ip
2021-06-24 18:29:17,125 - Acquire Lock : floating_ip
2021-06-24 18:29:17,125 - Lock floating_ip acquired
2021-06-24 18:29:20,474 - Assigned floating IP '10.250.100.198' to IP '172.168.20.40'
2021-06-24 18:29:20,475 - Released lock: floating_ip
2021-06-24 18:29:26,206 - Server: <POD-NAME>-UAME instantiated, waiting for server to be active
2021-06-24 18:30:01,415 - Server: <POD-NAME>-UAME instantiated, waiting for server to be active
2021-06-24 18:30:30,392 - Deployment: 1624559350-098061 instantiated successfully
2021-06-24 18:30:30,393 -

```

```

+-----+
Deployment ID | Instances
-----+-----
1624559350-098061 | e71616e8-bf01-4561-bdd6-4e3bf3ed1d5e
VIP: 172.168.20.40 | eth0: 172.168.10.6/24
Floating IP: 10.250.100.198 | eth1: 172.168.11.23/24
|
| 3d956097-16b1-4909-b539-c6a90e01678c
| eth0: 172.168.10.18/24
| eth1: 172.168.11.8/24
+-----+

```

## 2.在/home/stack/uame\_(date).log文件中手动保存部署ID。

```
grep -i "deployment:" /var/log/autovnf.log | tail -1 >> /home/stack/UAME_$(date +"%Y%m%d-%H%M").log
```

## 3.检查UAME是否处于活动状态并正在运行。

```

(<POD-NAME>) [stack@<POD-NAME>-ospd ~]$ nova list | grep -i uame
| e71616e8-bf01-4561-bdd6-4e3bf3ed1d5e | <POD-NAME>-UAME-1 | ACTIVE | - | Running | <POD-NAME>-
MGMT-NW=172.168.10.6; <POD-NAME>-ORCH-NW=172.168.11.23 |
| 3d956097-16b1-4909-b539-c6a90e01678c | <POD-NAME>-UAME-2 | ACTIVE | - | Running | <POD-NAME>-
MGMT-NW=172.168.10.18; <POD-NAME>-ORCH-NW=172.168.11.8 |

```

## 4.登录UAME并执行这些检查。

```

[root@adi-tmo Downloads]# ssh ubuntu@10.250.100.198
ubuntu@10.250.100.198's password:
Welcome to Ubuntu 16.04.7 LTS (GNU/Linux 4.4.0-187-generic x86_64)

```

```

* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/advantage

```

```

Cisco Ultra Services Platform (USP)
Build Date: Thu Aug 20 09:11:07 EDT 2020
Description: UAS build assemble-uas#9247
sha1: 557151c
ubuntu@

```

```

ubuntu@<POD-NAME>-uame-1:~$ sudo su -
root@<POD-NAME>-uame-1:~# confd_cli -u admin -C
Enter Password for 'admin':
elcome to the ConfD CLI
admin connected from 127.0.0.1 using console on <POD-NAME>-uame-1
<POD-NAME>-uame-1#

```

```
<POD-NAME>-uame-1#show uas
```

uas version 6.9.0  
uas state active  
uas external-connection-point 172.168.20.40  
INSTANCE IP STATE ROLE

-----  
172.168.10.6 alive CONF-D-MASTER  
172.168.10.18 alive CONF-D-SLAVE

NAME LAST HEARTBEAT

-----  
AutoVNF-MASTER 2021-09-07 05:11:03  
ESCHeartBeatMonitor-<POD-NAME>-VNF-NEPCF300 2021-09-07 05:11:26  
ESCHeartBeatMonitor-<POD-NAME>-VNF-NEPGW300 2021-09-07 05:11:22  
USPCFMWorker 2021-09-07 05:11:06  
USPCHEWorker 2021-09-07 05:11:06  
USPCWorker 2021-09-07 05:11:02

<POD-NAME>-uame-1#