Installation Procedure for CPAR

Contents

Introduction

This document describes the procedure to install Cisco Prime Access Registrar (CPAR).

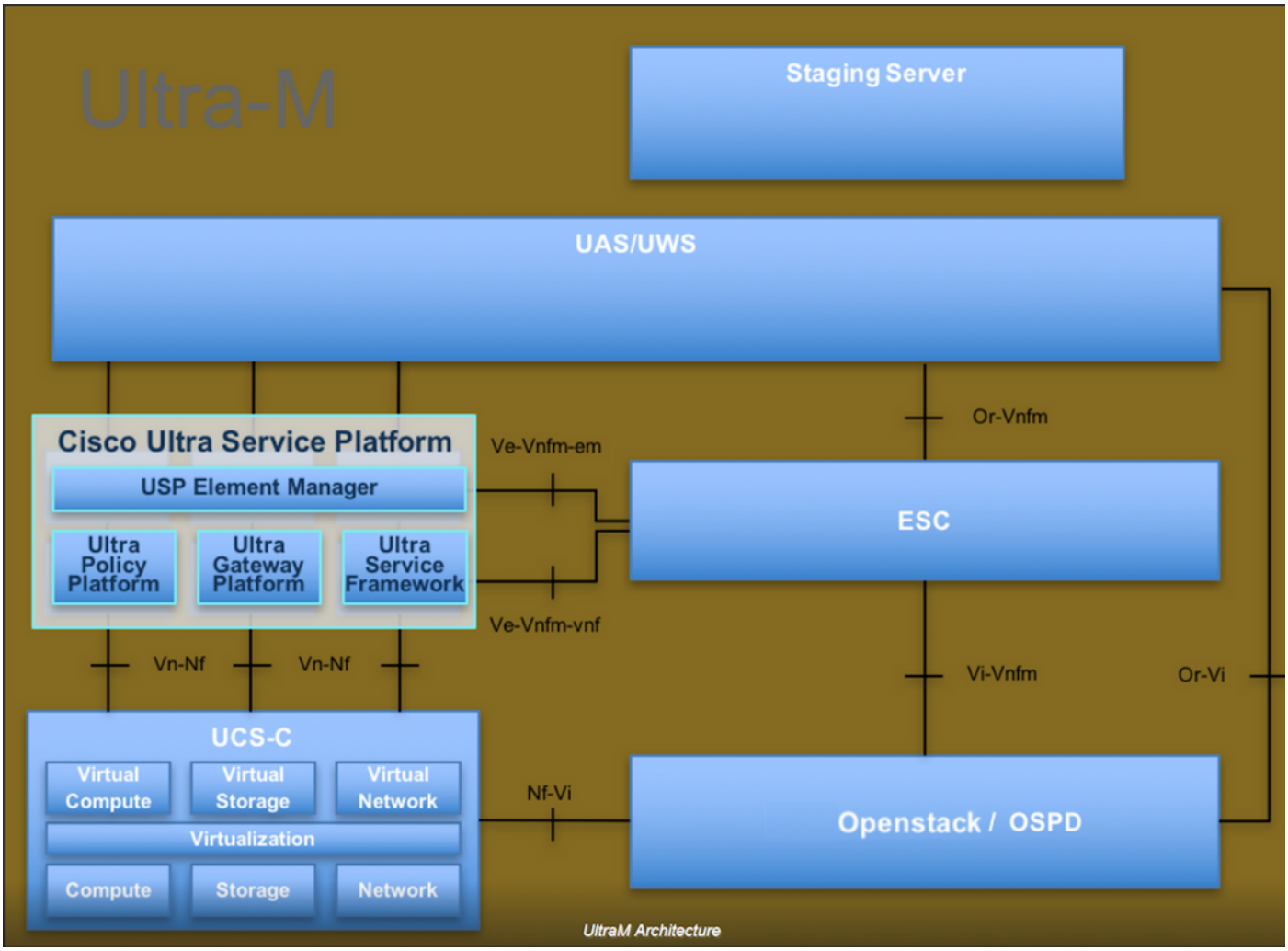
This installation procedure applies for an Openstack environment using NEWTON version where ESC is not managing CPAR and CPAR is installed directly on the VM deployed on Openstack.

Background Information

Ultra-M is a pre-packaged and validated virtualized mobile packet core solution that is designed in order to simplify the deployment of VNFs. OpenStack is the Virtualized Infrastructure Manager (VIM) for Ultra-M and consists of these node types:

- Compute
- Object Storage Disk - Compute (OSD - Compute)
- Controller
- OpenStack Platform - Director (OSPD)

The high-level architecture of Ultra-M and the components involved are shown in this image:



This document is intended for Cisco personnel who are familiar with Cisco Ultra-M platform and it details the steps required to be carried out at OpenStack and Redhat OS.

Note: Ultra M 5.1.x release is considered in order to define the procedures in this document.

Installation Procedure

Ensure that these are attained before you start the installation.

1. CPAR software image copied in **/tmp/ CSCOar-x.x.x.x.-lnx26_64-install.sh**
2. CPAR License copied in **/tmp/xxxxxx.lic**
3. Java 64 bit installation 1.7.* or 1.8.* 64 bit edition.
4. Update the hostname and the same hostname should be there in /etc/hosts
5. The list include the RPM required to install CPAR GUI :

Required 64-bit rpms for Relevant RHEL OS Versions

rpm	RHEL OS Version 6.6	RHEL OS Version 7.0	RHEL OS Version 7.2
glibc	Yes	Yes	Yes
gdome2	Yes	Yes	Yes
glib	Yes	Yes	Yes
glib2	Yes	Yes	Yes
libgcc	Yes	Yes	Yes
libstdc++	Yes	Yes	Yes
libxml2	Yes	Yes	Yes
ncurses	No	No	No
nspr	Yes	Yes	Yes
nss	No	No	No
zlib	Yes	Yes	Yes
nss-softokn-freebl	Yes	Yes	Yes
ncurses-libs	Yes	Yes	Yes
nss-util	Yes	Yes	Yes
gamin	Yes	Yes	Yes
libselinux	Yes	Yes	Yes

Login to the Prime Access Registrar workstation as a root user.

Step 1. Navigate to **/tmp** directory as the command **cd /tmp** isexecuted.

Step 2. Change permissions for ./CSCOar-x.x.x.x.-lnx26_64-install.sh file issuing the command **chmod 775 ./CSCOar-x.x.x.x.-lnx26_64-install.sh**.

Step 3. Start the installation script through the command **./CSCOar-x.x.x.x.-lnx26_64-install.sh**.

```
[cloud-user@rhel-instance tmp]$ sudo ./CSCOar-7.2.2.2-lnx26_64-install.sh
./CSCOar-7.2.2.2-lnx26_64-install.sh: line 343: [: 148: unary operator expected
Name        : CSCOar                       Relocations: /opt/CSCOar
Version     : 7.2.2.2                           Vendor: Cisco Systems, Inc.
Release     : 1491821640                    Build Date: Mon Apr 10 04:02:17 2017
Install Date: (not installed)               Build Host: nm-rtp-view4
Signature   : (none)
build_tag: [Linux-2.6.18, official]

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This program contains proprietary and confidential information.
All rights reserved except as may be permitted by prior written consent.

Where do you want to install <CSCOar>? [/opt/CSCOar] [?,q]
```

Step 4. For the question **Where do you want to install <CSCOar>? [/opt/CSCOar] [?,q]**, press enter to select the default location (**/opt/CSCOar/**).

Step 5. After the question **Where are the FLEXlm license files located? [] [?,q]** provide the location of the license(s) which should be **/tmp** as per pre-requisite **/tmp/xxxxx.lic**.

```
Cisco Prime Access Registrar requires FLEXlm license file to operate.
A list of space delimited license files or directories can be supplied
as input; license files must have the extension ".lic".

Existing license files found. To use the existing license files,
just press ENTER to the prompt below.

Note: To enable other features within this package, additional FLEXlm
license files can be specified below.

Where are the FLEXlm license files located? [] [?,q]
```

Step 6. Specify whether you want to enable Smart Licensing or not. Proceed with the next step if you want to use the traditional licensing method.

Do you want to enable smartlicensing?[y/n] [n]: [y,n,?,q] y

Step 7. For question **Where is the J2RE installed? [] [?,q]** enter the directory where Java is installed. For example: **/usr/java/jre1.8.0_144/**.

> **Note**: If you do not provide the JRE path, or if the path is empty or unsupported, the installation process exits. Prime Access Registrar requires either JRE 1.7.x or JRE 1.8.x 64 bit version.

```
Cisco Prime Access Registrar provides a Web GUI. It requires J2RE
version 1.7.* or 1.8.* to be installed on the server.

If you already have a compatible version of J2RE installed, please
enter the directory where it is installed. If you do not, the
compatible J2RE version can be downloaded from:

http://java.sun.com/

Where is the J2RE installed? [] [?,q]
```

Step 8. Press Enter and skip Oracle input. Since, Oracle is not used in this deployment.

```
If you are not using ORACLE, press Enter/Return to skip this step.
ORACLE installation directory is required for OCI configuration.
ORACLE_HOME variable will be set in /etc/init.d/arserver script


Where is ORACLE installed? [] [?,q]
```

Step 9. Press Enter and Skip SIGTRAN-M3UA functionality step. This feature is not required for this deployment.

```
Do you want to install SIGTRAN-M3UA functionality now? [n]: [y,n,?,q]

    SIGTRAN-M3UA related options are disabled. You can enable the
    options at any time by running the following command

    /opt/CSCOar/bin/add-sigtran-configuration


   Cisco Prime Access Registrar can be run as non-root user also.
   This requires the libcap-2.16-5.5 rpm to be installed. If the kernel
   version is 2.6.24 or later, libcap is already available Please ensure
   that you have an existing non-root user created prior to this.

   If you require to run CPAR as non-root user, and the user does not
   exist, please choose to exit installation.  Once the non-root user
   is created, you may install CPAR.
```

Step 10. For question Do you want CPAR to be run as non-root user? [n]: [y,n,?,q] press Enter to use the default answer which is n.

```
Do you want CPAR to be run as non-root user? [n]: [y,n,?,q]

    If you want to learn about Cisco Prime Access Registrar by following
    the examples in the Installation and Configuration Guide, you need
    to populate the database with the example configuration.

    NOTE: If you are using DIRECTOR/DIRECTOR NEXT GEN Licenses,
    please do not try installing Example configuration, Give the
    option for Example configuration as "n"
```

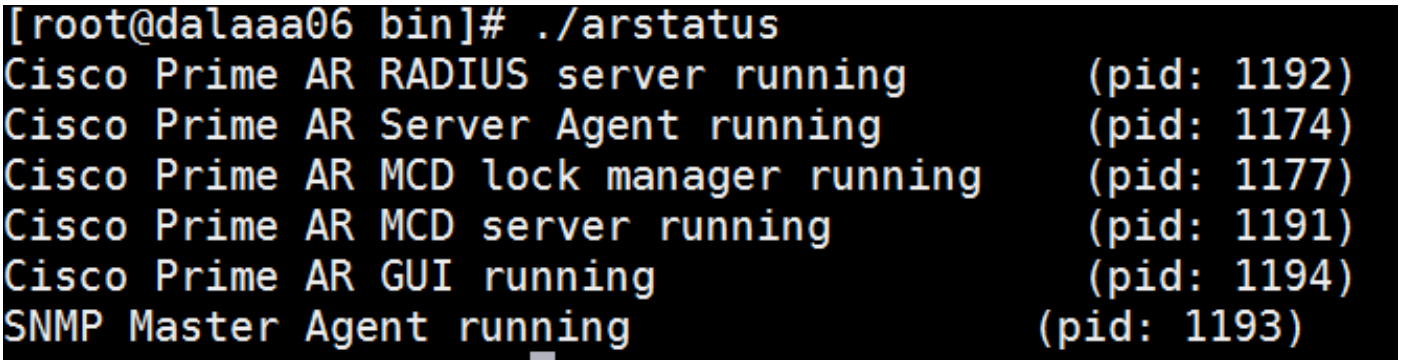
Step 11. For question Do you want to install the example configuration now? [n]: [y,n,?,q] press Enter to use the default answer which is n.

```
Do you want to install the example configuration now? [n]: [y,n,?,q]

    You can add the example configuration at any time by
    running the command:

    /opt/CSCOar/bin/aregcmd -f /opt/CSCOar/examples/cli/add-example-configuration.rc
```

Step 12. CPAR installation starts.

```
unpack the rpm file done
Preparing... ########################################### [100%]
1:CSCOarui-add ########################################### [100%]
# setting up the web server...........
# configuring the web server...........
# extracting the web application...........
# extracting the rest application...........
Preparing... ########################################### [100%]
1:CSCOar ########################################### [100%]
relink cisco prime arserver
JAVA ROOT /opt/jdk1.7.0_75
JAVA_HOME /opt/jdk1.7.0_75
# setting ORACLE_HOME and JAVA_HOME variables in arserver
ORACLE_HOME
JAVA_HOME /opt/jdk1.7.0_75
set JAVA_HOME
# removing old session information
# flushing old replication archive
# creating initial configuration database
Rollforward recovery using "/opt/CSCOar/data/db/vista.tjf" started Mon Sep 19 07:21:38 2016
Rollforward recovery using "/opt/CSCOar/data/db/vista.tjf" finished Mon Sep 19 07:21:38 2016

ln: creating symbolic link `/opt/CSCOar/logs/WebGUI.log': File exists
# add-example-config y
calling gen-tomcat
using OPENSSL=/cisco-ar/.system/openssl
Making sure the cert directory exists: /cisco-ar/certs/tomcat
Calling gen-ss-cert to create the cert
/cisco-ar/certs/tomcat/server-cert.pem exists, no action taken.
WARNING: can't open config file: /usr/local/ssl/openssl.cnf
Tomcat private RSA key now resides in /cisco-ar/certs/tomcat/server-key.pem
Starting Cisco Prime Access Registrar Server Agent...completed.
```

Step 13. Wait for CPAR installation process to finish, verify all CPAR processes that run. Navigate to directory **/opt/CSCOar/bin** and execute the command **./arstatus**. The output is shown in the image.



Step 14. Login to the CPAR application CLI.

Go to directory **/opt/CSCOar/bin** and execute **./aregcmd**.

Connect using the admin user account ‘admin’ and it will prompt to enter a new password.

```
[root@ar-lnx-vm029 opt]# cd /opt/CSCOar/bin
[root@ar-lnx-vm029 bin]# ./aregcmd -s
Cisco Prime Access Registrar 7.3.0.0 Configuration Utility
Copyright (C) 1995-2016 by Cisco Systems, Inc. All rights reserved.
Logging in to localhost
Enter a new passphrase:
Warning: Passphrase length should be atleast 8 characters
Confirm new passphrase:
```