UCSD Integration Guide

Cisco Advanced Services

November 2, 2016

Version 0.1

Cisco Systems, Inc.
Corporate Headquarters
170 West Tasman Drive
San Jose, CA 95134-1706 USA
http://www.cisco.com
Tel: 408 526-4000 Toll Free: 800 553-NETS (6387)
Fax: 408 526-4100

Contents

List of Figures and Tables

About This Document

Author	Joe Antantis
Change Authority	<update custom field, e.g., Cisco Systems Advanced Services>

History

Version No.	Issue Date	Status	Reason for Change
0.1	20 Jan 2017	Draft	Initial version

Review

Reviewer’s Details	Version No.	Date
Joe Antantis	0.1	20 Jan 2017

Document Conventions

Alerts readers to take note. Notes contain helpful suggestions or references to material not covered in the document.

Alerts readers to be careful. In this situation, you might do something that could result in equipment damage or loss of data.

Alerts the reader that they can save time by performing the action described in the paragraph affixed to this icon.

Alerts the reader that the information affixed to this icon will help them solve a problem. The information might not be troubleshooting or even an action, but it could be useful information similar to a Timesaver.

1 Introduction

The purpose of this document is to provide steps and caveats for integrating UCSD into the Cloudcenter product. This integration allows the user to model and application consisting of API based callouts to the UCSD instance to run workflows.

1.1 Audience

This document is intended for the following audiences:

- Cisco Advanced Services teams

1.2 Document Overview

This document contains sections related to the following:

- Steps and caveats to integrate UCSD into Cloudcenter

1.3 Video Tutorials

1.4 References

This document refers the following documents:

https://communities.cisco.com/docs/DOC-67673

2 CloudCenter Integration with UCS Director

Cisco CloudCenter is an application-centric, hybrid cloud management platform. CloudCenter improves IT speed and agility, optimizing work for users, who can quickly and easily model, deploy, and manage applications on any environment.

UCS Director is an infrastructure automation tool, capable of providing workflows for deploying, configuring, and destroying infrastructure constructs such as storage, compute, and network. By integrating UCSD into Cloudcenter, you can integrate physical provisioning capabilities into the virtual provisioning already present.

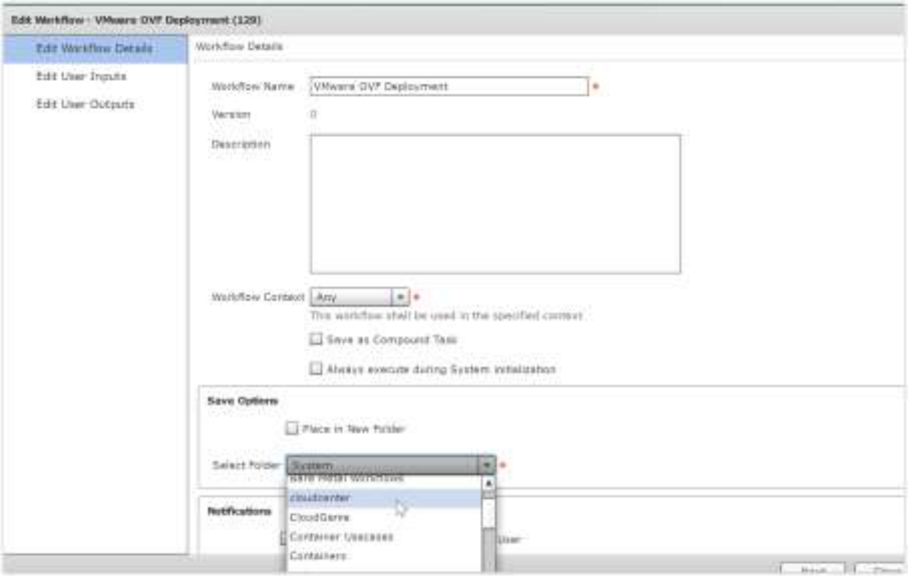
For this document, Cloudcenter 4.7 and UCS Director 6.0 is used. It is assumed the person using this document is proficient in both cloudcenter and UCSD, and will only focus on the integration tasks required.

2.1 UCSD Pre-requisite work

This integration relies on several things to be in place on the UCS Director platform. This section will detail the steps to configure the UCS Director constructs required for this integration.

2.1.1 Create orchestration folder & workflows

Rather than discover the entire workflow library in UCSD, you must place all workflows you are planning to use in Cloudcenter to a single folder in your orchestration library. Clone or edit the workflow(s) to be used in Cloudcenter, and change the workflow settings to reside in the folder used for the integration.



Edit Workflow - VMware OVF Deployment (129)

Workflow Details

Workflow Name: VMware OVF Deployment *

Version: 0

Description:

Workflow Context: Any *

This workflow shall be used in the specified context

□ Save as Compound Task

□ Always execute during System initialization

Save Options

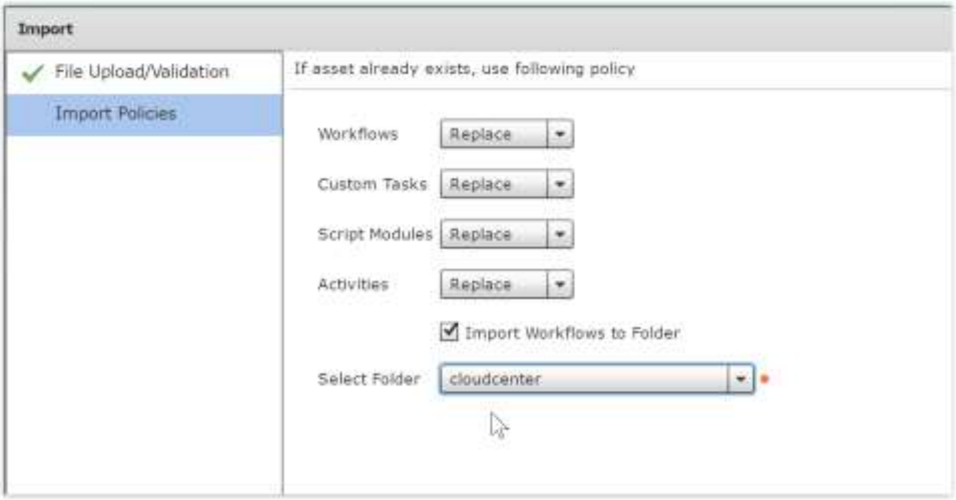
□ Place in New Folder

Select Folder: System *

2.1.2 Download the Rollback Workflow & Import to UCSD

This custom task based workflow can be used from Cloudcenter to rollback a deployment using UCSD's built in rollback capabilities. This workflow will reference the correct service request ID on any rollback requests from Cloudcenter for this deployment. Use the following steps to perform this pre-requisite

1. Follow this link to the UCSD Communities page download for the workflow https://communities.cisco.com/servlet/JiveServlet/download/67673-23-120629/ROllBackSR_IDv11.wfdx.zip
2. Unzip the file to create the .wdfx file that can be imported into UCSD
3. From UCSD, import the workflow direct it to be installed in the folder created in step 2.1.1



Import

✓ File Upload/Validation

Import Policies

If asset already exists, use following policy

Workflows: Replace

Custom Tasks: Replace

Script Modules: Replace

Activities: Replace

☑ Import Workflows to Folder

Select Folder: cloudcenter

2.1.3 Download the Custom Task & Import to UCSD

Cloudcenter keeps track of deployments based on resource ID, whereas UCSD keeps track of deployments via service request ID. In order for UCSD to report back to Cloudcenter that the workflow has completed, each workflow must have this custom task at the end of the workflow to support this communication.

1. Follow this link to the UCSD Communities page download of the custom task https://communities.cisco.com/servlet/JiveServlet/download/67673-23-120362/CliqrWaitReturnSRIDCustomTask.wfdx.zip
2. Unzip the file to create the .wfdx file that can be imported into UCSD
3. From UCSD, import the workflow. It will not ask for a folder destination since it contains only a customer task and not an actual workflow

2.1.4 Add the custom task to UCSD workflows

The custom task downloaded an imported in the previous section must now be added to the end of every workflow to be used by Cloudcenter callouts to UCSD.   This task will ensure that the SRID and RID will match and status will be properly reflected in Cloudcenter.

Open your workflow in the workflow designer, and choose the “edit workflow” button. Click next, next to get to the edit user outputs. On the edit user outputs screen, add a new output with label “JSON_OUTPUT, description “JSON_OUTPUT”, and input type “generic text input”. Click Submit

Now, add the custom task “CliQr_Wait”, which was downloaded and inported in the previous section, to the end of the workflow. In the task wizard that opens enter the following. For edit inputs, enter “1” for Param1, and map the output “JSON_OUTPUT” to the user output “JSON_OUTPUT”. Validate and close the workflow.

2.2 CloudCenter DB edits

There are several edits to the postgres DB that are required for the integration to work properly. These may be included in the product in future releases, but for 4.6/4.7 the following changes are required before proceeding on the normal integration steps.

2.2.1 Edit the DB to enable Callout Workflow image

First, the Callout Workflow image in the DB must be changed to allow it to be visible in the images list within the GUI. This is required because the default image used for UCSD apps is the Callout Workflow image. Follow the steps below to enable the Callout Workflow image

1. SSH into the CCM (if using local DB) or DB node (primary node if setup in HA mode).
2. Enter the DB config shell with the following command. Password is cliqr

```
psql -d cliqrdb -U cliqr
```

3. View the Callout Workflow settings in the DB by entering the following command

```
select * from IMAGES where name='Callout Workflow';
```

The following output should be visible

```
image_id |       name       |   description    | published | private_img | os_name |
cloud_node_type | owner |     internal_image_name      | disabled | system_image |
num_of_nics | deleted
----------+------------------+------------------+-----------+-------------+---------+-----------------+-------+-------
----------------------+----------+--------------+-------------+---------
       22 | Callout Workflow | Callout Workflow | t         | f           | Linux   | CloudWorker     |     2 |
CloudWorker-calloutWorkflow | f        | t            |           1 | t
```

4. Enter the following 2 commands one at a time to change these settings. After each line, the DB should return UPDATE1

```
cliqrdb=> update IMAGES set private_img=true where name='Callout Workflow';
cliqrdb=> update IMAGES set deleted=false where name='Callout Workflow';
```

5. Verify the Callout Workflow settings in the DB were changed by entering the following command again, which should show the settings have changed as follows

```
select * from IMAGES where name='Callout Workflow';
```

The following output should be visible

```
image_id |       name       |   description    | published | private_img | os_name |
cloud_node_type | owner |     internal_image_name      | disabled | system_image |
num_of_nics | deleted
----------+------------------+------------------+-----------+-------------+---------+-----------------+-------+-------
----------------------+----------+--------------+-------------+---------
       22 | Callout Workflow | Callout Workflow | t         | t           | Linux   | CloudWorker     |     2 |
CloudWorker-calloutWorkflow | f        | t            |           1 | f
```

6. Proceed to next section to edit the DB to change settings on the UCSDirector Service

2.2.2 Edit the DB to change settings on the UCSD service

Now, the UCSD service must be edited in the DB. Follow the steps below to edit the settings on the UCSD service

1. SSH into the CCM (if using local DB) or DB node (primary node if setup in HA mode).

2. Enter the DB config shell with the following command. Password is cliqr

```
psql -d cliqrdb -U cliqr
```

3. View the UCSD service settings in the DB by entering the following command

```
select * from services where service_id=58;
```

There should be output showing the settings for this service referencing “Cisco UCSD”, and will verify the service ID is correct as 58

4. Enter the following command to change these settings. The DB should return UPDATE1
NOTE: Word may insert spaces and returns, please use a program like atom to format this command rather than copying/pasting into the command line.

```
cliqrdb=> update services set
service_param_spec_text=’[{"id":1,"paramName":"deploymentWorkflow","displayName":"D
eployment Workflow","defaultValue":"","type":"workflow",
"userVisible":true,"userEditable":true,"systemParam":true,"other":{}},{"id":2,"para
mName":"reconfigurationWorkflow","displayName":"Reconfiguration
Workflow","defaultValue":"","type":"workflow",
"userVisible":true,"userEditable":true,"systemParam":true,"other":{}},{"id":3,"para
mName":"fetchDetailsWorkflow","displayName":"Details
Workflow","defaultValue":"","type":"workflow",
"userVisible":true,"userEditable":true,"systemParam":true,"other":{}},{"id":4,"para
mName":"terminationWorkflow","displayName":"Termination
Workflow","defaultValue":"","type":"workflow",
"userVisible":true,"userEditable":true,"systemParam":true,"other":{}},{"id":5,"para
mName":"CalloutWorkflowExecutor","displayName":"Callout Workflow Executor
Bean","type":"Executor
Bean","valueConstraint":{},"defaultValue":"CalloutWorkflowExecutor","userVisible":f
alse,"userEditable":false,"systemParam":true,"exampleValue":"CalloutWorkflowExecuto
r","optional":true,"other":{}}]’ where service_id=58;
```

5. Exit the DB utility with the command \q which will return you to the CCM root prompt.
6. Run the following command to restart tomcat on the CCM(s)

```
/etc/init.d/tomcat stop
```

Wait for “tomcat stopped” status

```
/etc/init.d/tomcat start
```

You can tail the log to verify startup is complete

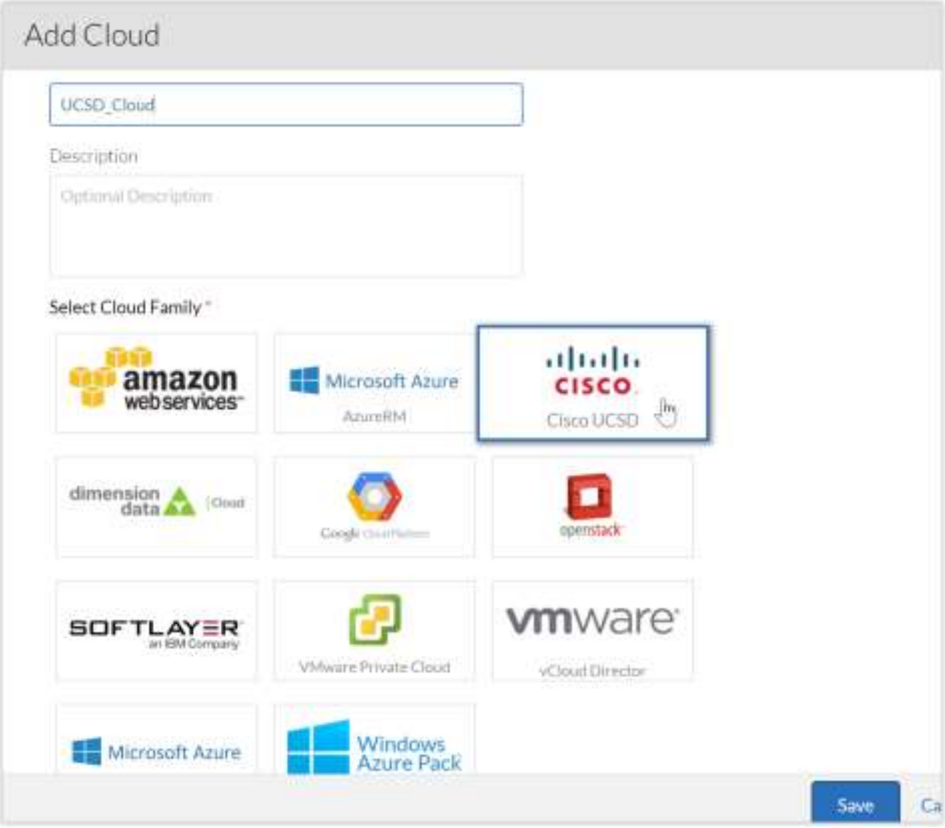
```
tailf /usr/local/tomcat/logs/osmosix.log
```

2.3 Deploy CCO and AMQP for UCSD cloud region

Deploy a CCO and AMQP to be used for the UCSD cloud region. Follow typical deployment steps for this and verify that the AMQP shows the CCO in the “rabbitmqctl list_connections” command and that the cliqr accounts are present in the “rabbitmqctl list_users” command. Note the IP address of the CCO and AMQP to be used later.

2.4 Create the UCSD cloud and region settings

1. Go to the Cloudcenter UI, and navigate to Admin > Clouds. Create a new cloud with an appropriate name and “Cisco UCSD” as shown



Add Cloud

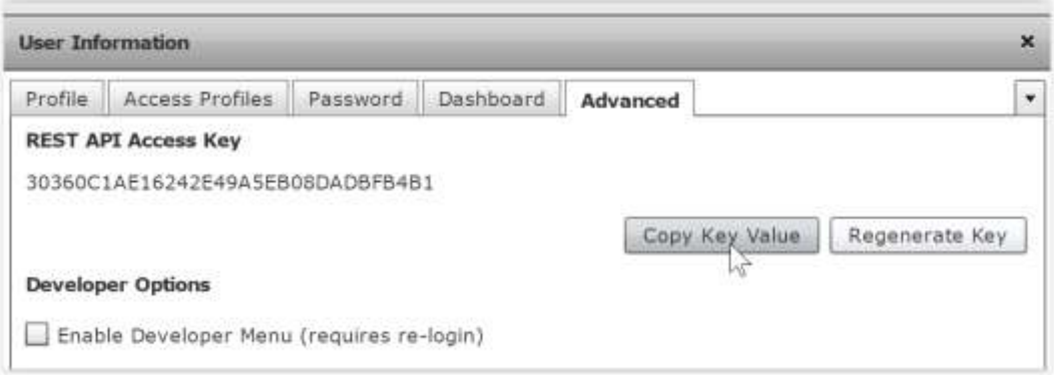
UCSD_Cloud

Description

Optional Description

Select Cloud Family *

2. Next, we create a cloud account for this UCSD cloud. We will need the admin API key from UCSD for this, so first get this from your UCSD UI. Do this by clicking the admin link in the upper right to open the user info. On the advanced tab, click the button to copy the API key as shown:



User Information

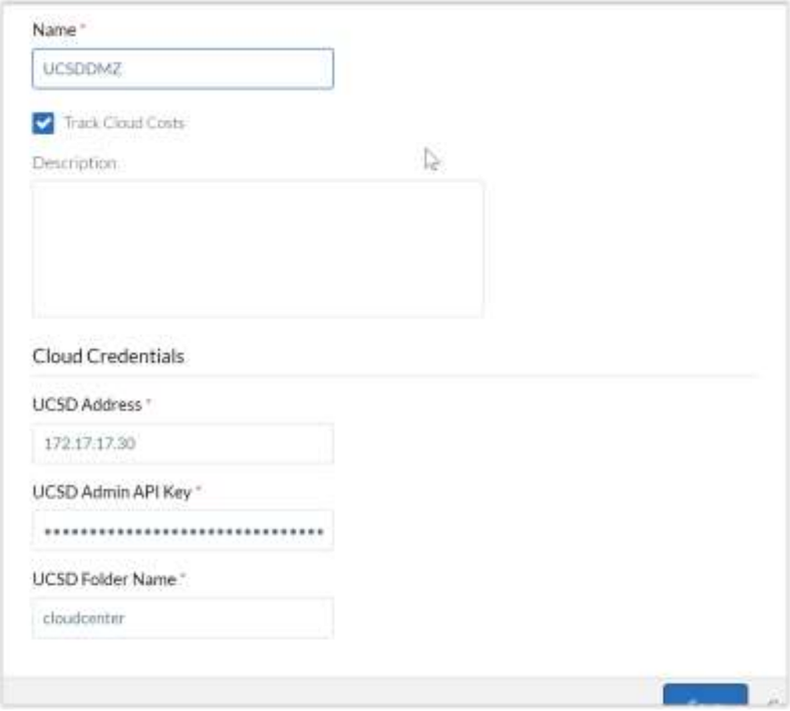
REST API Access Key

30360C1AE16242E49A5EB08DADBFB4B1

Developer Options

□ Enable Developer Menu (requires re-login)

3. From the Cloudcenter UI, navigate to the UCSD cloud, and add an account. Enter a name for the account, the IP address of the UCSD, paste the API key in from step 2, and enter the exact name of the folder where the workflows reside as shown.



Name *

UCSDDMZ

☑ Track Cloud Costs

Description

Cloud Credentials

UCSD Address *

172.17.17.30

UCSD Admin API Key *

••••••••••••••••••••••••••••••••

UCSD Folder Name *

cloudcenter

4. Now, add a region for this cloud. First give it an appropriate name, then configure the orchestrator by entering in the IP addresses of your CCO and AMQP in the fields.
5. Since we need a dummy instance type, create one with typical settings and name it appropriately (ie. UCSDPH)
6. Next, we will create an image mapping for the image “callout workflow”. If it is not available in the list of images, please ensure you properly edited the database in section 2.2. Click add mapping for the image “callout workflow”, and enter the info as shown

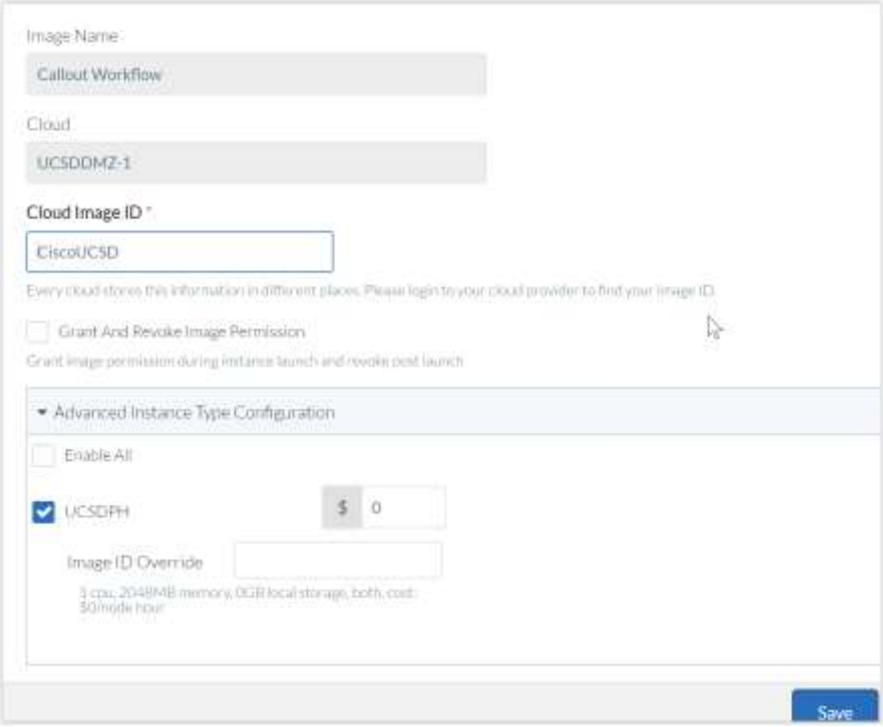


Image Name

Callout Workflow

Cloud

UCSDDMZ-1

Cloud Image ID *

CiscoUCSD

Every cloud stores this information in different places. Please login to your cloud provider to find your image ID.

□ Grant And Revoke Image Permission

Grant image permission during instance launch and revoke post launch

▾ Advanced Instance Type Configuration

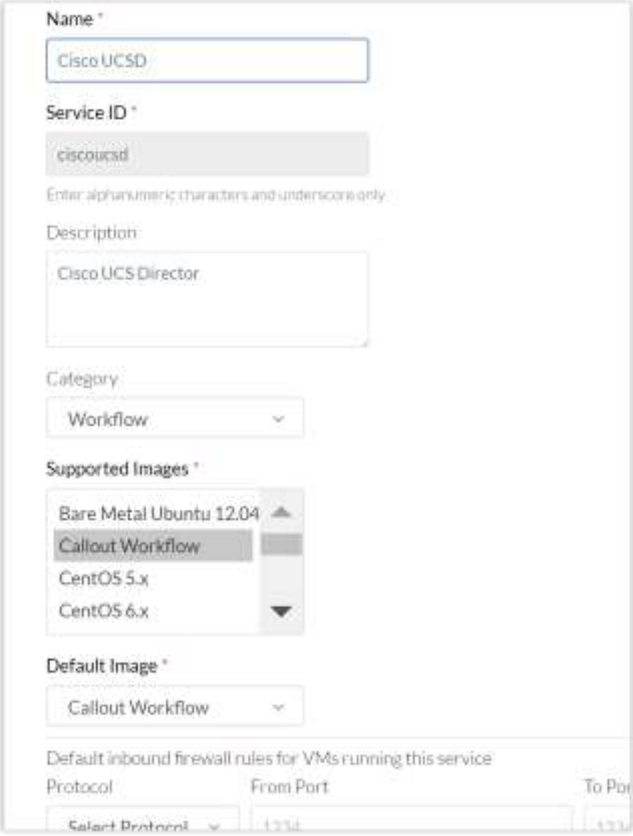
□ Enable All

☑ UCSDPH $ 0

Image ID Override

1 cpu, 2048MB memory, 0GB local storage, both, cost: $0/node hour

7. In the Cloudcenter UI, navigate to Admin > Services. Find the CiscoUCSD sevice and click edit. Make sure Callout Workflow is set for default image as shown. Save when complete (note a bug sometimes causes the screen not to close with saved status….if this happens just navigate away and back to services to verify it saved).



Name *

Cisco UCSD

Service ID *

ciscoucsd

Enter alphanumeric characters and underscore only

Description

Cisco UCS Director

Category

Workflow

Supported Images *

Bare Metal Ubuntu 12.04
Callout Workflow
CentOS 5.x
CentOS 6.x

Default Image *

Callout Workflow

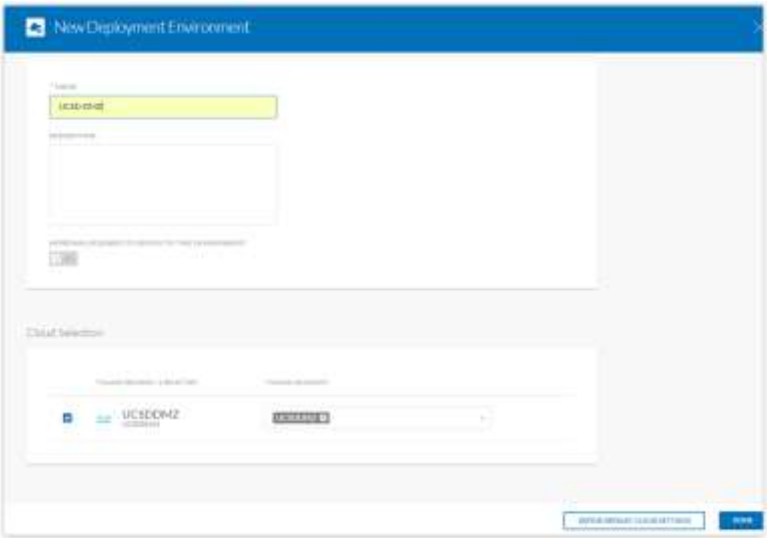
Default inbound firewall rules for VMs running this service

Protocol From Port To Por

Select Protocol 1234 123

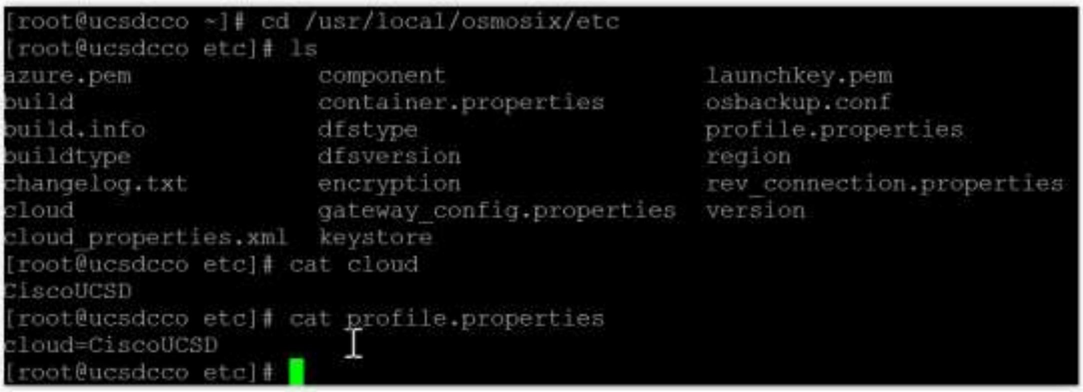
2.5 Create the UCSD deployment environment

1. From Cloudcenter, navigate to Deployments and select “environments”. Click the create new button.
2. Give the environment a name, select the UCSD cloud and account as shown. Click Done.



2.6 Fix CCO files

1. Two files need to be edited on the CCO used for UCSD integration. SSH to the CCO and navigate to the directory /usr/local/osmosix/etc
2. Edit the file “cloud” to change vmware to CiscoUCSD
3. Edit the file “profile.properties” to change cloud=vmware to cloud=CiscoUCSD



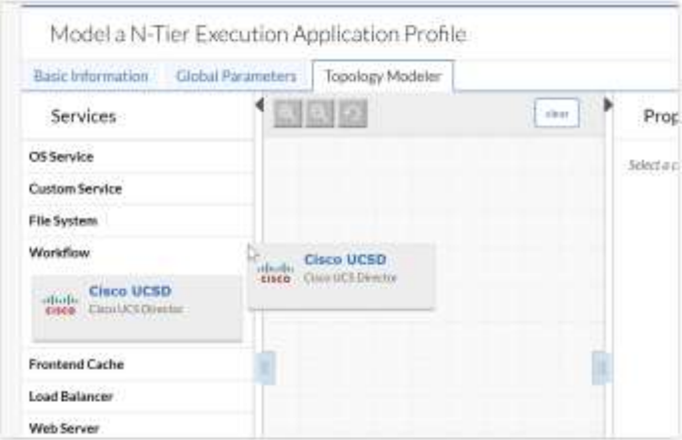
```
[root@ucsdcco ~]# cd /usr/local/osmosix/etc
[root@ucsdcco etc]# ls
azure.pem           component                    launchkey.pem
build               container.properties         osbackup.conf
build.info          dfstype                      profile.properties
buildtype           dfsversion                   region
changelog.txt       encryption                   rev_connection.properties
cloud               gateway_config.properties    version
cloud_properties.xml  keystore
[root@ucsdcco etc]# cat cloud
CiscoUCSD
[root@ucsdcco etc]# cat profile.properties
cloud=CiscoUCSD
[root@ucsdcco etc]# 
```

3 Modeling UCSD workflow based Apps

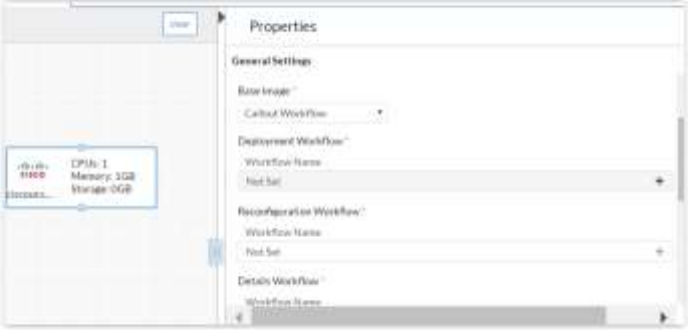
3.1 Model the Application

Once the integration in section 2 is complete, it should be possible to model an application that will invoke a UCSD workflow with user provided inputs. Follow the steps below to model an application. Our example will be to create a vmware portgroup.

1. In the Cloudcenter UI, navigate to Applications. Select "model" and choose N-Tier from the list
2. In the topology modeller, expand the "workflow" category and drag/drop Cisco UCSD to the workpane as shown



3. Once its placed in the workpane, edit the properties to the right. Ensure "callout workflow" is selected for base image, and click the (+) in the field for "deployment workflow".



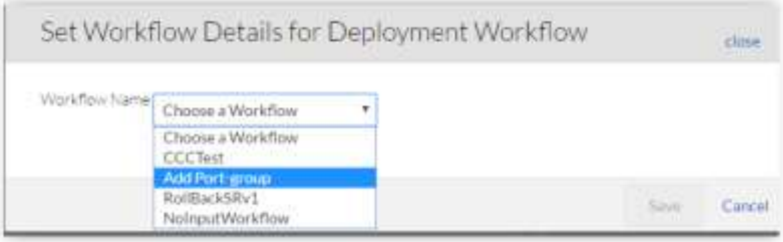
Base Image *
Callout Workflow

Deployment Workflow *
Workflow Name
Not Set

Reconfiguration Workflow *
Workflow Name
Not Set

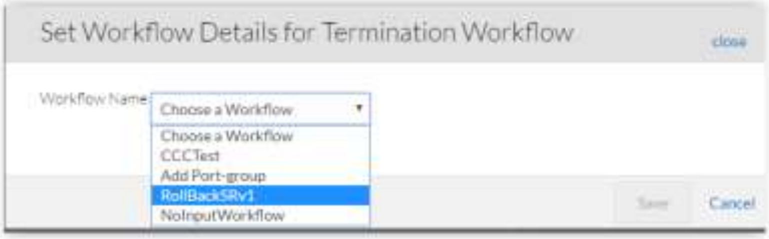
Details Workflow *
Workflow Name

4. This will open the workflow selector. It pulls this list from the UCSD orchestration folder. If the list is empty, ensure that you have the correct name of the folder on your cloud account, and that you have properly edited the database from previous section. Select your workflow from the list.


Set Workflow Details for Deployment Workflow

Workflow Name: Choose a Workflow

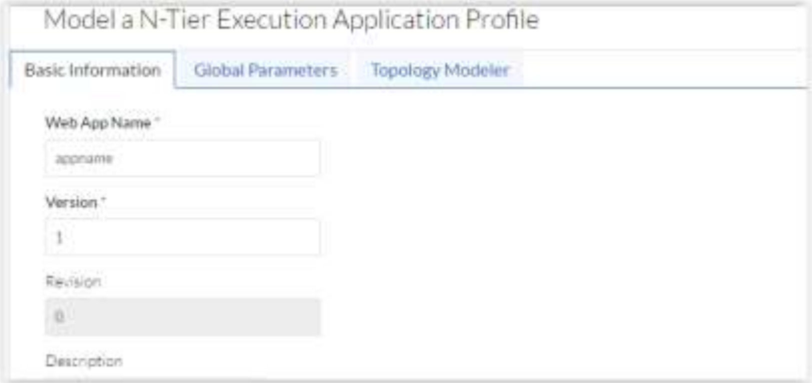
5. Verify the inputs for the workflow are properly displayed. You can enter default values for these inputs or leave them blank. Click “save” to return to the properties
6. Repeat Step 4 & 5 for “reconfiguration workflow” and “details workflow”
7. For “termination workflow”, click the (+) for this field, and select the “RollBackSRv1” that you imported to UCSD in previous sections.



Set Workflow Details for Termination Workflow

Workflow Name: Choose a Workflow

8. Switch to the “basic info” tab and enter the app name and version, then scroll to bottom and click “save app”.



Model a N-Tier Execution Application Profile

Web App Name *: appname

Version *: 1

Revision: 0

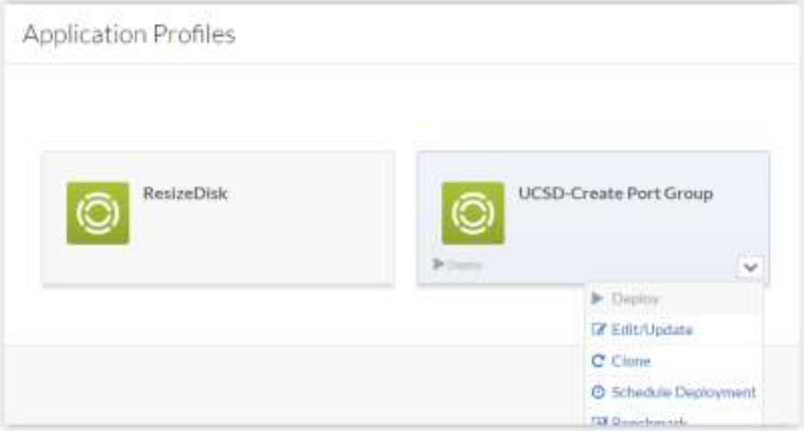
Description

9. Your new APP should appear in the list of applications published.

3.2 Deploying a UCSD based App

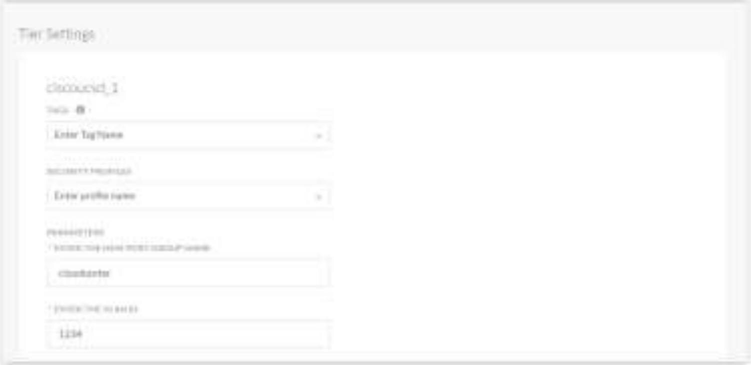
This section will describe how to deploy the UCSD based app from Cloudcenter, and verify it properly deploys in UCSD.

1. From cloudcenter, navigate to Applications. You should see your UCSD based app created in section 3.1. click anywhere on the icon, or click the arrow and select deploy as shown:



Application Profiles

2. Give the deployment a name, then scroll down to the parameters fields. These are the inputs defined on the UCSD workflow. Note that the fields accept generic text even though the UCSD input may require a different type. The input is not validated against the UCSD input type either. This means that your defined inputs on the UCSD side must be text input for the current integration to work (unless your user knows what to type for things such as VM-ID, etc.) For this example, we are creating a vmware port-group and must enter the port group name and VLAN ID. Click Next



Tier Settings

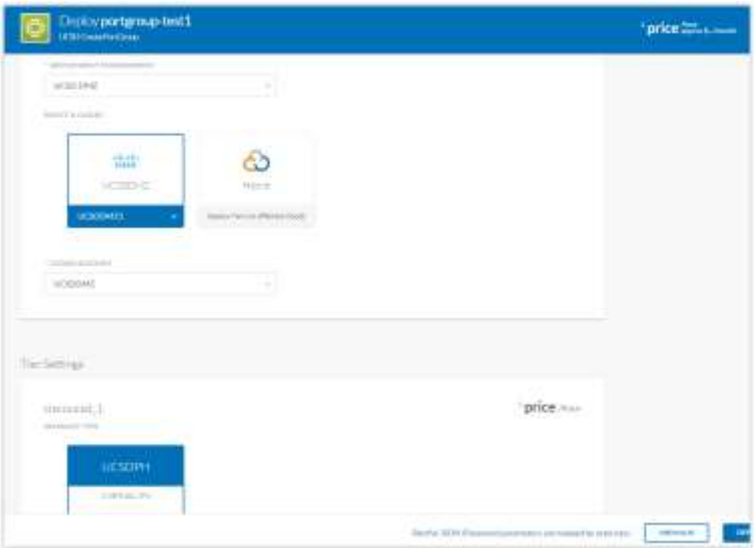
ciscoucsd_1

Enter Tag Name

Enter profile name

1234

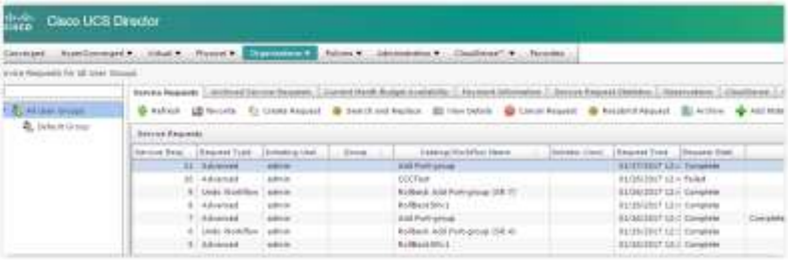
3. Choose the deployment environment, cloud, and instance type for the UCSD cloud, then click Deploy



Deploy portgroup-test1

Tier Settings

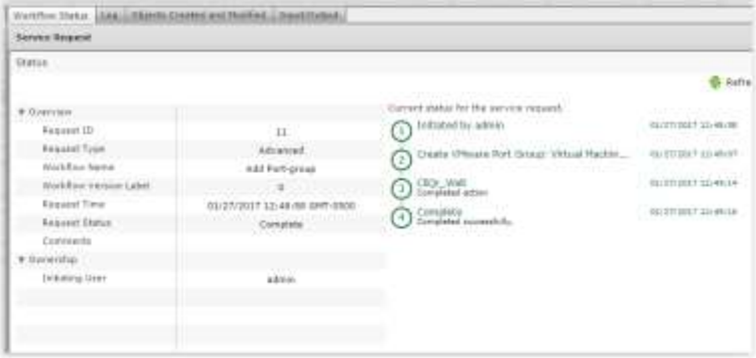
4. Once the deployment details screen opens, and your app is deploying. You can log into UCSD and navigate to Organizations > Service Requests. Your SR should show at the top of the list. You can follow the progress here.



Service Requests

Service Request Id	Request Type	Initiating User	Group	Catalog/Workflow Name	Initiator Comments	Request Time	Request Status
11	Advanced	admin		Add Port-group		[illegible]	Complete
10	Advanced	admin		CCCTest		[illegible]	Failed
9	Undo Workflow	admin		Rollback Add Port-group (SR 7)		[illegible]	Complete
8	Advanced	admin		[illegible]		[illegible]	Complete
7	Advanced	admin		Add Port-group		[illegible]	Complete
6	Undo Workflow	admin		Rollback Add Port-group (SR 4)		[illegible]	Complete
5	Advanced	admin		[illegible]		[illegible]	Complete

5. Doubleclick your SR to open the details. You can check the log tab for errors if it fails



▼ Overview

Request ID	11
Request Type	Advanced
Workflow Name	Add Port-group
Workflow Version Label	0
Request Time	01/27/2017 12:48:08 GMT-0800
Request Status	Complete
Comments	

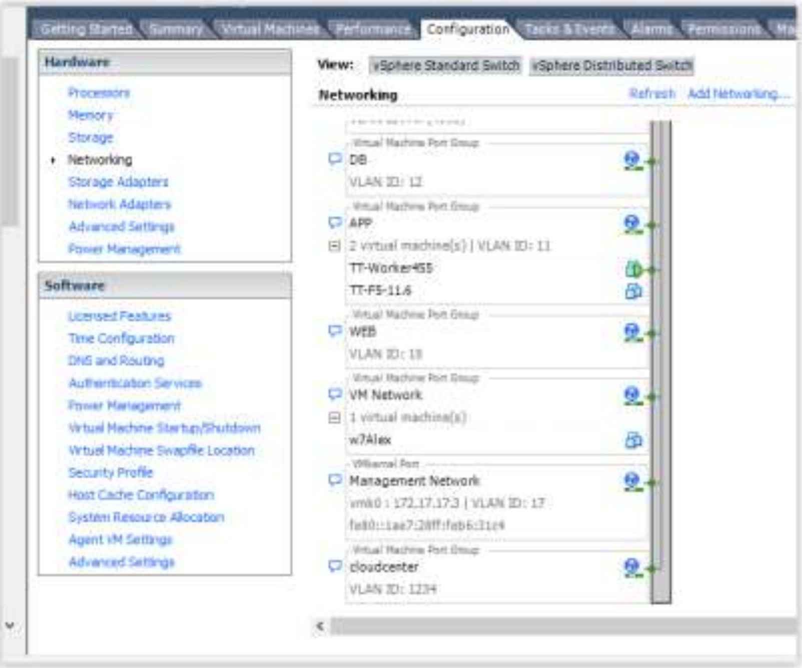
▼ Ownership

Initiating User	admin

Current status for the service request.

1. Initiated by admin [illegible]
2. Create VMware Port Group: Virtual Machin... [illegible]
3. CliQr_Wait
Completed action [illegible]
4. Complete
Completed successfully. [illegible]

6. Verify the workflow deployed in the infrastructure endpoint. In this case, we can check vcenter to see if the port-group was created as shown. Note the portgroup “cloudcenter” with VLAN ID “1234” located at the bottom of the list here



Virtual Machine Port Group
DB
VLAN ID: 12

Virtual Machine Port Group
APP
2 virtual machine(s) | VLAN ID: 11
TT-Worker455
TT-F5-11.6

Virtual Machine Port Group
WEB
VLAN ID: 10

Virtual Machine Port Group
VM Network
1 virtual machine(s)
w7Alex

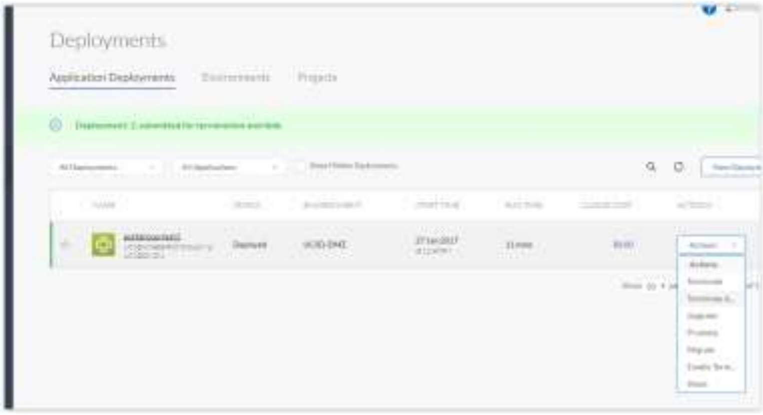
VMkernel Port
Management Network
vmk0 : 172.17.17.3 | VLAN ID: 17
fe80::1ae7:28ff:feb6:31c4

Virtual Machine Port Group
cloudcenter
VLAN ID: 1234

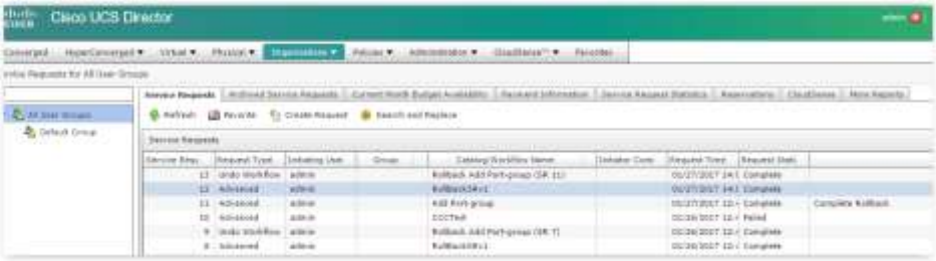
3.3 Terminating a UCSD based App

This section will describe how to terminate the UCSD based app from Cloudcenter, and verify it properly rollsback in UCSD.

1. To terminate a UCSD app, the rollback feature of UCSD is leveraged. This is accomplished via the rollback custom workflow imported in previous sections, and also ensuring the cliQr_wait custom task is at the end of the deployment workflow.
2. From cloudcenter, navigate to Deployments. Select your UCSD based app that was deployed, and select “terminate and hide” from the actions menu.



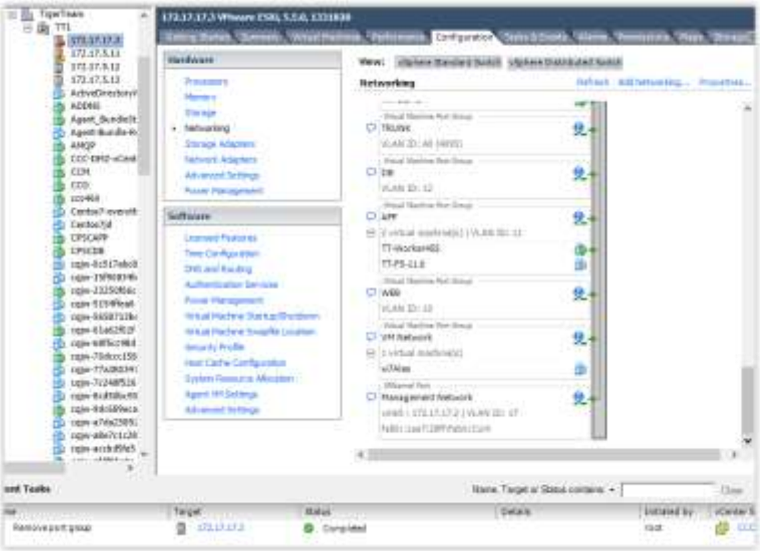
3. From UCSD, navigate to Organizations > Service Requests. You should see two SRs for this terminate action. First will be the RollbackSRv1 which kicks off the actual rollback within UCSD. The two SRs are shown here (SR 12 & 13)



Service Requests

Service Req	Request Type	Initiating User	Group	Catalog/Workflow Name	Initiator Comm	Request Time	Request Stat	
13	Undo Workflow	admin		Rollback Add Port-group (SR 11)		02/27/2017 14:	Complete	
12	Advanced	admin		RollbackSRv1		02/27/2017 14:	Complete	
11	Advanced	admin		Add Port-group		02/27/2017 12:	Complete	Complete Rollback
10	Advanced	admin		CCCTest		02/26/2017 12:	Failed	
9	Undo Workflow	admin		Rollback Add Port-group (SR 7)		02/26/2017 12:	Complete	
8	Advanced	admin		RollbackSRv1		02/26/2017 12:	Complete	

4. Finally verify the port-group is gone



Name	Target	Status	Details	Initiated by	vCenter S
Remove port group	172.17.17.3	Completed		root	

4 Troubleshooting / Operational Tips

4.1 Stopping and Starting the Services

To stop and start the services manually, use the following commands:

```
/etc/init.d/tomcat stop
/etc/init.d/tomcat start
```

For the AQMP/guacamole server, this can be done with:

```
/etc/init.d/tomcatgua stop
/etc/init.d/tomcatgua start
```

4.2 Logs

4.2.1 CCM Log Location

The main CCM log file is located here:

```
/usr/local/tomcat/logs/osmosix.log
```

4.2.2 AMQP Log Location

The main AMQP log file is located here:

```
/usr/local/tomcat/logs/osmosix.log
```

4.2.3 AMQP Log Location

The main AMQP log files are located here:

```
/usr/local/tomcatgua/logs/cliqr-connection.log
/usr/local/tomcatgua/logs/cliqr-guacamole.log
```

4.2.4 Changing Log Levels

You can change the log levels for the osmosix log files by editing this file:

```
/usr/local/tomcat/webapps/ROOT/WEB-INF/classes/log4j.xml
```

Change “info” to “debug” or “trace”

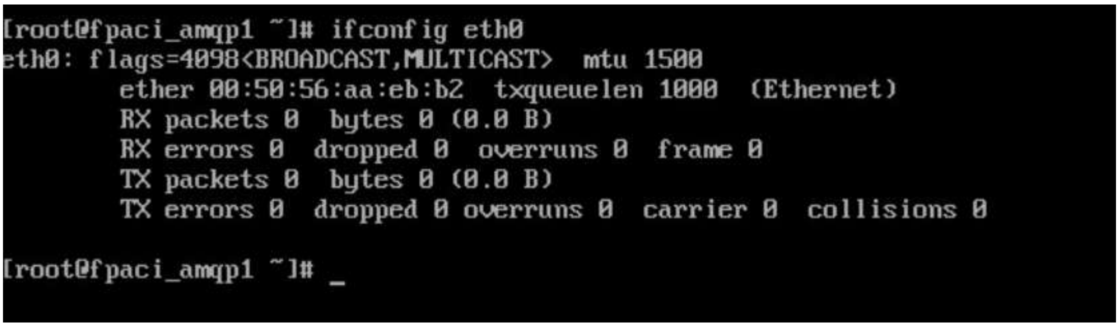
```
<!-- Application Loggers -->
<logger name="com.osmosix">
<level value="info" />
</logger>
```

Then stop and start the services:

4.2.5 Centos VM loses eth0 - centos device does not seem to be present delaying initialization VMware

https://www.youtube.com/watch?v=zGvlU3X4WT8

added mac address to ifcfg-eth0



```
[root@fpaci_amqp1 ~]# ifconfig eth0
eth0: flags=4098<BROADCAST,MULTICAST>  mtu 1500
        ether 00:50:56:aa:eb:b2  txqueuelen 1000  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

[root@fpaci_amqp1 ~]# _
```

```
[root@fpaci_amqp1 ~]# cat /etc/sysconfig/network-scripts/ifcfg-eth0
TYPE=Ethernet
BOOTPROTO=static
IPADDR=10.201.144.182
PREFIX=24
GATEWAY=10.201.144.1
DNS1=64.102.6.247
DNS2=171.70.168.183
DEFROUTE=yes
HWADDR=00:50:56:aa:eb:b2
PEERDNS=yes
PEERROUTES=yes
IPV6INIT=no
NAME=eth0
ONBOOT=yes
```

4.2.6 Helpful Log files on CCM/AMQP

```
tail -f /usr/local/tomcat/logs/osmosix.log
```

If you need more information from the osmosix logs, you can change this:
/usr/local/tomcat/webapps/ROOT/WEB-INF/classes/log4j.xml
Change “info” to “debug” or “trace”

```
<!-- Application Loggers -->
<logger name="com.osmosix">
<level value="info" />
</logger>
```

Then stop/start tomcat after the change:

```
/etc/init.d/tomcat stop
/etc/init.d/tomcat start
```

^^ The files above are in the same location on both the ccm and amqp. ^

Make sure that communication is open on port 8443 between AMQP/CCM, and verify the configuration

CCM - /usr/local/tomcat/webapps/ROOT/WEB-INF/server.properties
AMQP - /usr/local/osmosix/etc/gateway_config.properties.

Netcat with CCM/AMQP

yum install -y nc
nc -v 10.201.144.181 8443

CCM should have this file after successful configuration

CCM /usr/local/tomcat/webapps/ROOT/WEB-INF/server.properties

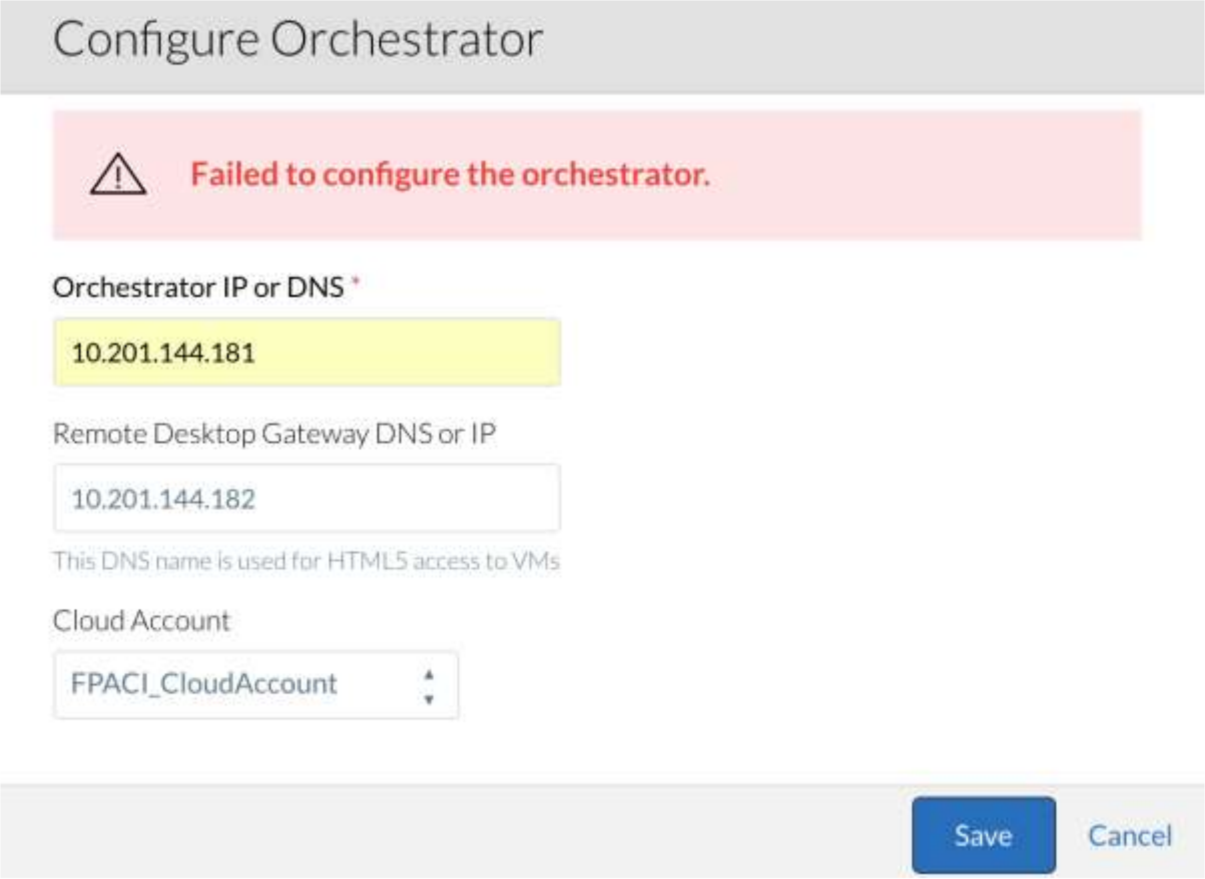
```
[root@fpaci_ccm1 ~]# cat /usr/local/tomcat/webapps/ROOT/WEB-INF/server.properties
publicDnsName=10.201.144.180
outfaceDnsName=10.201.144.180
salt=cliqr technology inc. secret salt
bootstrapData=osmosix
monitorBaseUrl=https://10.201.144.183
useStrongEncryption=true
hazelcastIPList=127.0.0.1
cacertpath=/usr/local/osmosix/ssl/ccm/ca_root.crt
uidBase=10000
serverVersion=4.5.1
```

AMQP should have this file after successful configuration

/usr/local/osmosix/etc/gateway_config.properties

```
[root@fpaci_amqp1 ~]# cat /usr/local/osmosix/etc/gateway_config.properties
#--- Gateway Configuration ---
#Fri Jul 29 19:30:17 UTC 2016
gateway.cloudType=FPACI_VMwareCLoud-1
mgmtserver.dnsName=10.201.144.180
gateway.myPublicIp=10.201.144.181
[root@fpaci_amqp1 ~]#
```

4.2.7 Failed to configure orchestrator error



Configure Orchestrator

Failed to configure the orchestrator.

Orchestrator IP or DNS *

10.201.144.181

Remote Desktop Gateway DNS or IP

10.201.144.182

This DNS name is used for HTML5 access to VMs

Cloud Account

FPACI_CloudAccount

The problem is that the proper user aamqpunts had not been created on the AMQP server. For the AMQP to be able to communicate properly to the AMQP, you need both the cliqr and cliqr_worker users in your AMQP database.

To check this, run the **rabbitmqctl list_users** command

```
rabbitmqctl list_users
Listing users ...
cliqr [administrator]
cliqr_worker
```

If you do not see these users listed in the database, run the following commands as root:

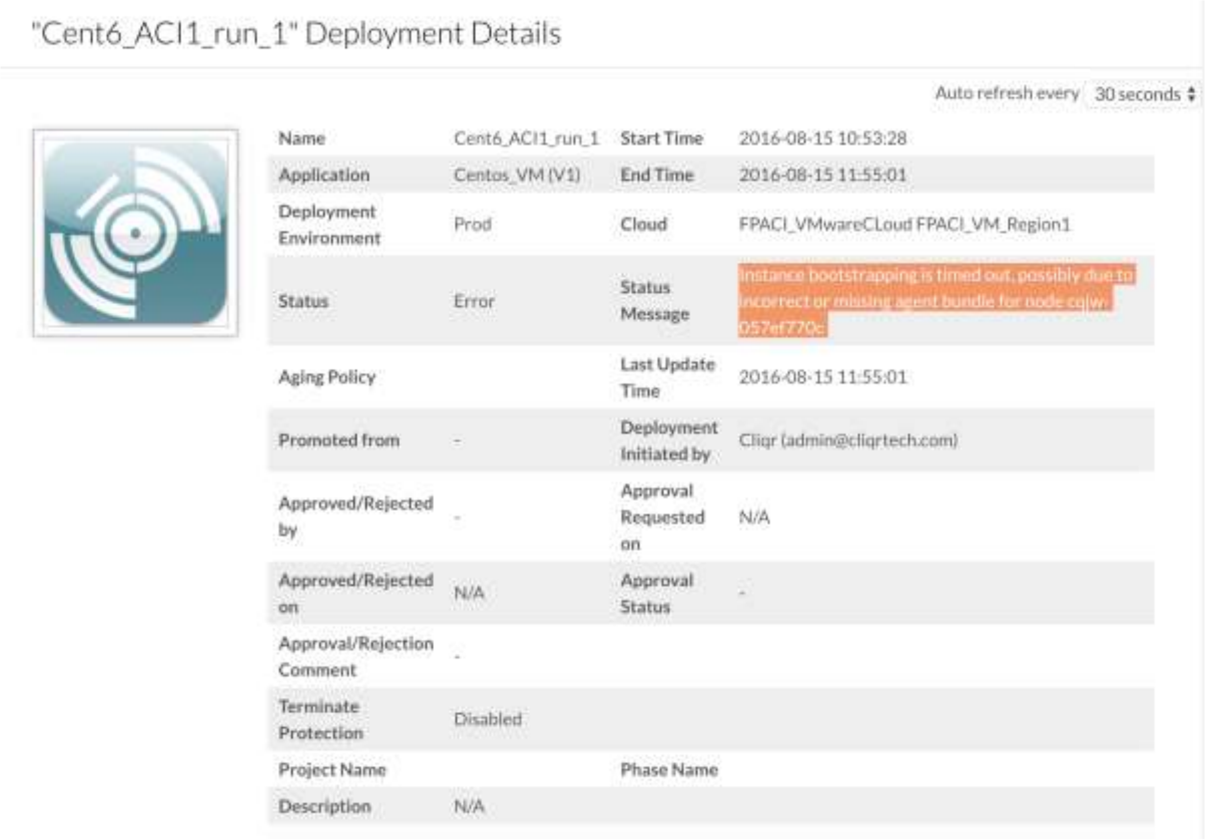
```
rm /usr/local/osmosix/etc/.RABBITINSTALLED
bash /usr/local/osmosix/bin/rabbit_config.sh
```

Further evidence of login failure from AMQP
2016-07-29 02:10:22,976 INFO authentication.CliqrX509UserDetailsService [localhost-startStop-1] - Cloud Center Common Name: devCC
org.springframework.amqp.AmqpAuthenticationException:

com.rabbitmq.client.AuthenticationFailureException: ACCESS_REFUSED - Login was refused using authentication mechanism PLAIN. For details see the broker logfile.

Caused by: com.rabbitmq.client.AuthenticationFailureException: ACCESS_REFUSED - Login was refused using authentication mechanism PLAIN. For details see the broker logfile.

4.2.8 Instance Bootstrapping is timed out, possibly due to incorrect or missing agent bundle for node ….



"Cent6_ACI1_run_1" Deployment Details

Auto refresh every 30 seconds

Name	Cent6_ACI1_run_1	Start Time	2016-08-15 10:53:28
Application	Centos_VM (V1)	End Time	2016-08-15 11:55:01
Deployment Environment	Prod	Cloud	FPACI_VMwareCLoud FPACI_VM_Region1
Status	Error	Status Message	Instance bootstrapping is timed out, possibly due to incorrect or missing agent bundle for node cqlw-057ef770c
Aging Policy		Last Update Time	2016-08-15 11:55:01
Promoted from	-	Deployment Initiated by	Cliqr (admin@cliqrtech.com)
Approved/Rejected by	-	Approval Requested on	N/A
Approved/Rejected on	N/A	Approval Status	-
Approval/Rejection Comment	-		
Terminate Protection	Disabled		
Project Name		Phase Name	
Description	N/A		

This is generally caused by a lack of IP addressing on the VM.

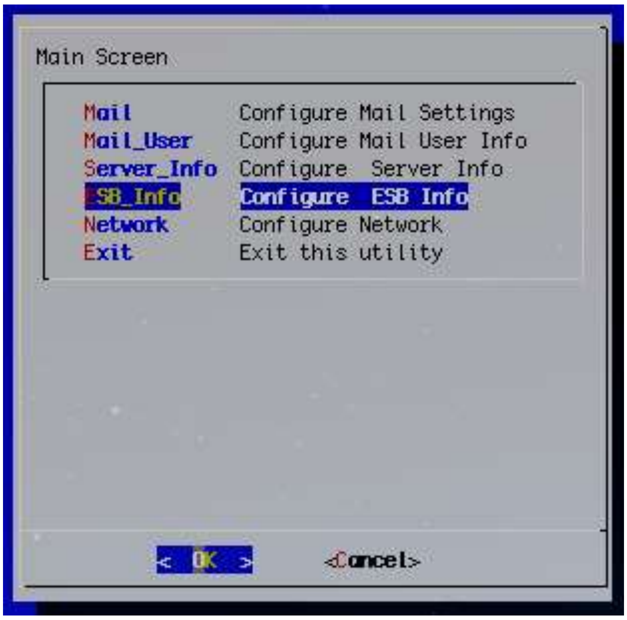
5 Glossary / Acronym Listing

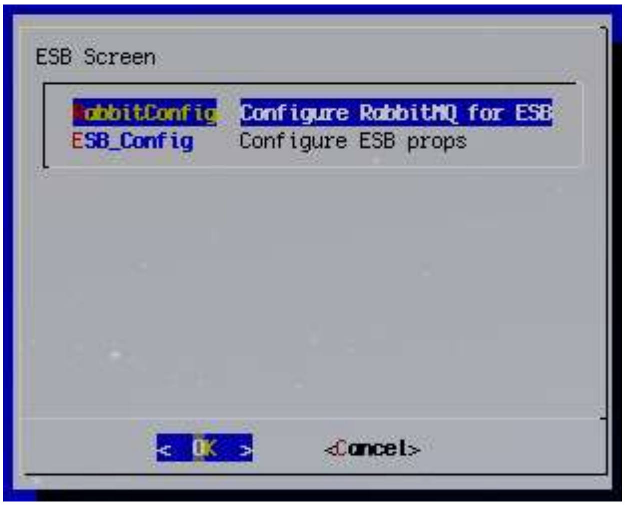
Term	Definition
VMWARE	Vmware
AMI	Amazon Machine Image
AMQP	Advanced Message Queuing Protocol – In this case it can also refer to the machine(s) hosting the AMQP (rabbit) services.
CCC	Cisco CloudCenter
CC	Cisco CloudCenter
CCM	CloudCenter Manager
AMQP	CloudCenter Orchestrator
DNS	Domain Name System
ESB	Enterprise Service Bus
HA	High Availability
HTTP	Hypertext Transfer Protocol
IP	Internet Protocol
iSCSI	Internet Small Computer System Interface
LUN	Logical Unit Number
MAC	Machine Access Control (address)
NIC	Network Interface Card
OVA	Open Virtual Archive
OVF	Open Virtualization Format
SOW	Statement of Work
SSH	Secure Shell
VLAN	Virtual Local Area Network
VM	Virtual Machine
vNIC	Virtual Network Interface Card
VPC	Amazon Virtual Private Cloud

6 Appendix A: ESB Information and Install

If your installation requires an ESB, please use the following instructions while configuring the CCM:

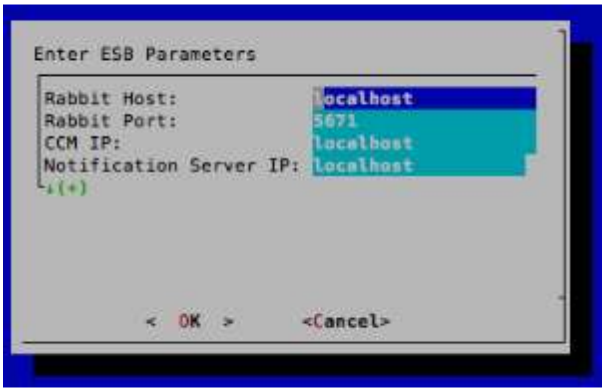
Configure your ESB settings and provide the required information to configure RabbitMQ for ESB.


Main Screen
Mail Configure Mail Settings
Mail_User Configure Mail User Info
Server_Info Configure Server Info
ESB_Info Configure ESB Info
Network Configure Network
Exit Exit this utility
< OK >
<Cancel>

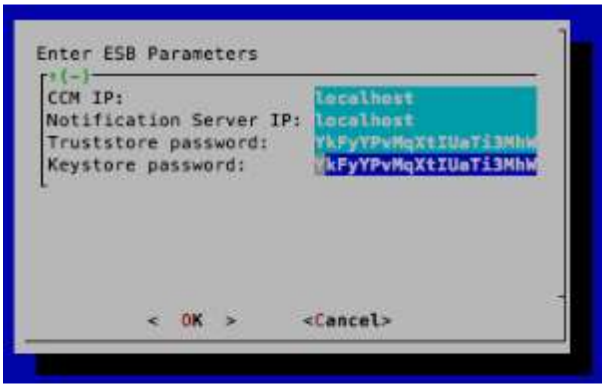

ESB Screen
RabbitConfig Configure RabbitMQ for ESB
ESB_Config Configure ESB props
< OK >
<Cancel>

You have the option to configure the following properties in this screen:

a. Rabbit Host
b. Rabbit Port
c. CCM IP
d. Notification Server IP
e. Truststore password
f. Keystore password

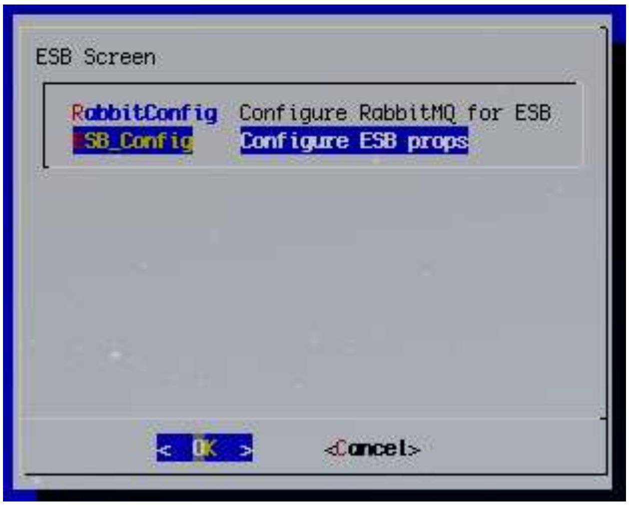


```
Enter ESB Parameters

Rabbit Host:                localhost
Rabbit Port:                5671
CCM IP:                     localhost
Notification Server IP:     localhost
↓(+)

          <  OK  >      <Cancel>
```

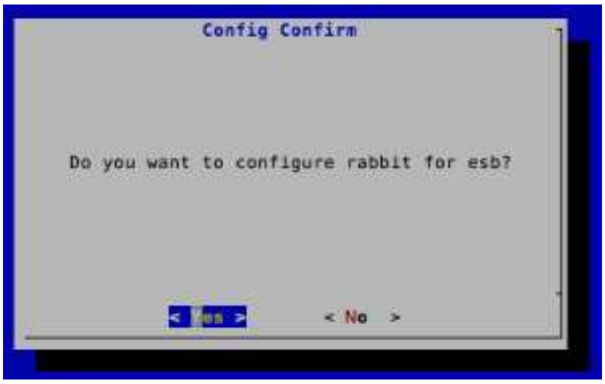


```
Enter ESB Parameters
↑(-)
CCM IP:                     localhost
Notification Server IP:     localhost
Truststore password:        YkFyYPvMqXtIUaTi3MhW
Keystore password:          YkFyYPvMqXtIUaTi3MhW

          <  OK  >      <Cancel>
```

Configure the ESB properties for RabbitMQ.



```
ESB Screen

  RabbitConfig   Configure RabbitMQ for ESB
  ESB_Config     Configure ESB props

          <  OK  >      <Cancel>
```



```
                 Config Confirm

   Do you want to configure rabbit for esb?

           < Yes >      <  No  >
```

Trademarks and Disclaimers

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE AAMQPMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THIRD PARTY SUPPLIERS ARE PROVIDED “AS IS” WITH ALL FAULTS. CISCO AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Cisco and the Cisco Logo are trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and other countries. A listing of Cisco's trademarks can be found at www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

Document Acceptance

Name

Title

Company

Signature

Date

Name

Title

Company

Signature

Date

Name

Title

Company

Signature

Date

Name

Title

Company

Signature

Date

Name

Title

Company

Signature

Date

Name

Title

Company

Signature

Date