

配置与智能许可证管理器的HCM-F集成

目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[背景信息](#)

[配置](#)

[智能许可的HCM-F配置工作流程](#)

[集群关联CSSM](#)

[当您通过HCM-F将统一通信应用分配到智能许可服务时，会发生什么情况？](#)

[日志演练 \(HLM日志设置为Detailed\)](#)

简介

本文档介绍如何通过Cisco Hosted Collaboration Solution(HCS)12.5中的Cisco Hosted Collaboration Solution(HCS)与智能帐户同步

思科托管协作调解实施(HCM-F)

先决条件

要求

Cisco 建议您了解以下主题：

Cisco Unified Communications Manager (CUCM) 12.5 版

HCM-F 12.5

CUCM智能许可 — 直接模式

思科智能软件管理(CSSM)

使用的组件

本文档中的信息基于以下软件和硬件版本：

CUCM 12.5.X

HCM-F 12.5.1

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原

始 (默认) 配置。如果您的网络处于活动状态，请确保您了解所有命令的潜在影响。

背景信息

托管许可证管理器(HLM)在HCM-F中作为服务运行。已开发HLM/HCM-F，以将思科统一通信应用(UC)应用注册到思科云中运行的智能许可服务。将UC应用分配给智能许可服务后，即可从CSSMI门户跟踪这些应用的许可证使用情况，该门户将充当HCS合作伙伴的单一许可证管理存储库。

HCM-F HLM服务允许在HCM-F中配置智能帐户，并允许从HCM-F执行与此智能帐户相关的任何基于集群的操作。

思科云中的智能许可服务通过OAuth身份验证公开不同的应用编程接口(API)。此外，UC应用确实会公开API，以允许HCM-F执行集群操作过程中涉及的多个步骤，如“分配”和“取消分配”。

因此，HCM-F利用两端公开的API执行集群操作。

此集成需要连接到思科云服务：

cloudsso1.cisco.com -> 72.163.4.74

cloudsso2.cisco.com -> 173.37.144.211

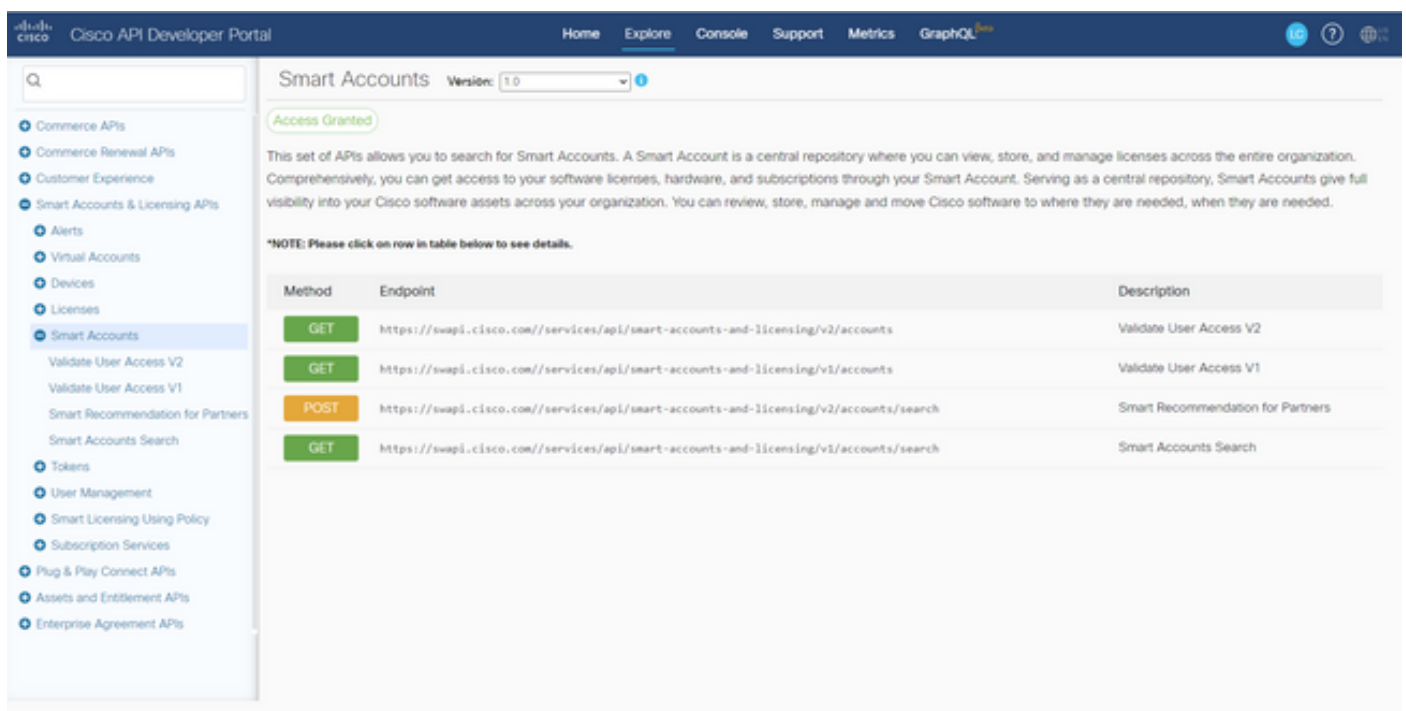
cloudsso3.cisco.com -> 173.38.127.38

swapi.cisco.com -> 146.112.59.25

HCM-F/Proxy与思科云服务之间的所有通信均通过端口TCP/443上的TLS连接完成。

配置

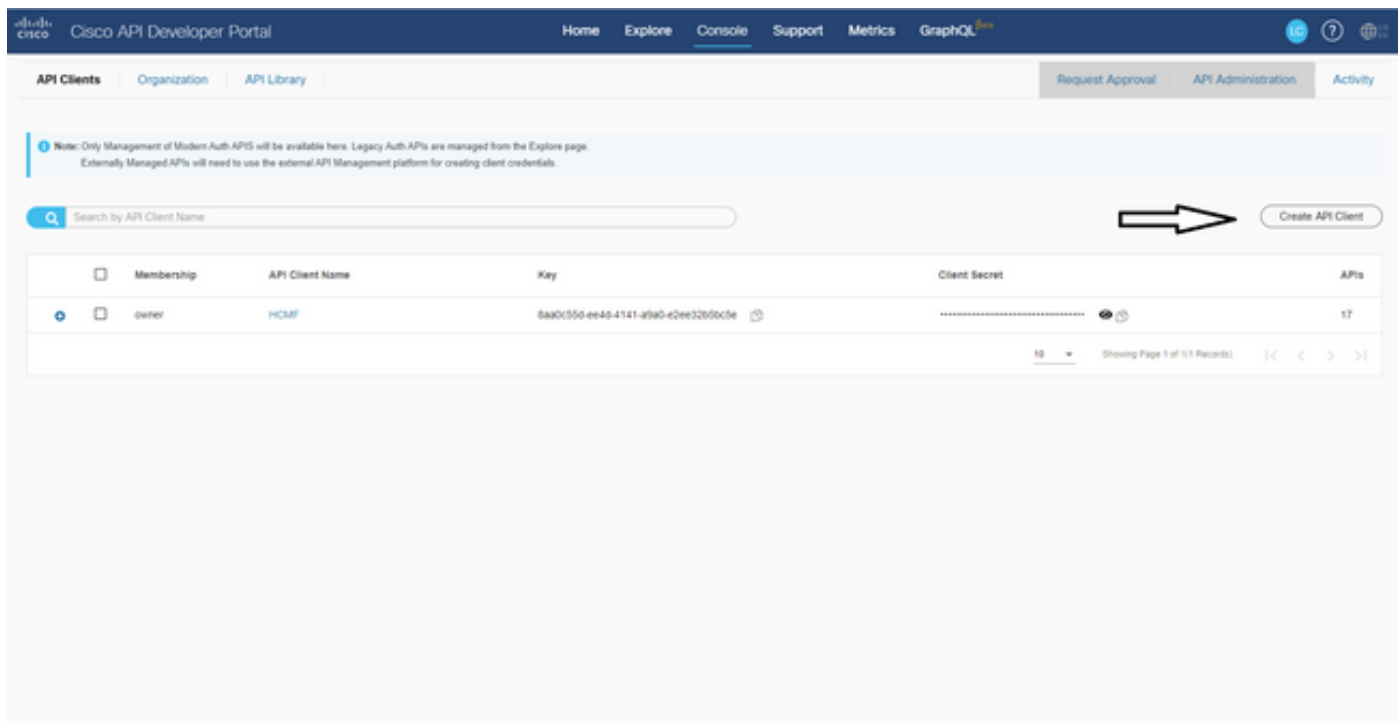
作为HCS合作伙伴管理员，登录[Cisco API Developer Portal](#)选择 浏览>智能帐户和许可API >智能帐户



The screenshot displays the Cisco API Developer Portal interface. The main content area is titled "Smart Accounts" and shows a list of API endpoints. A table lists the following endpoints:

| Method | Endpoint | Description |
|--------|--|-----------------------------------|
| GET | https://swapi.cisco.com/services/api/smart-accounts-and-licensing/v2/accounts | Validate User Access V2 |
| GET | https://swapi.cisco.com/services/api/smart-accounts-and-licensing/v1/accounts | Validate User Access V1 |
| POST | https://swapi.cisco.com/services/api/smart-accounts-and-licensing/v2/accounts/search | Smart Recommendation for Partners |
| GET | https://swapi.cisco.com/services/api/smart-accounts-and-licensing/v1/accounts/search | Smart Accounts Search |

要在HCM-F中配置智能帐户，需要API客户端：

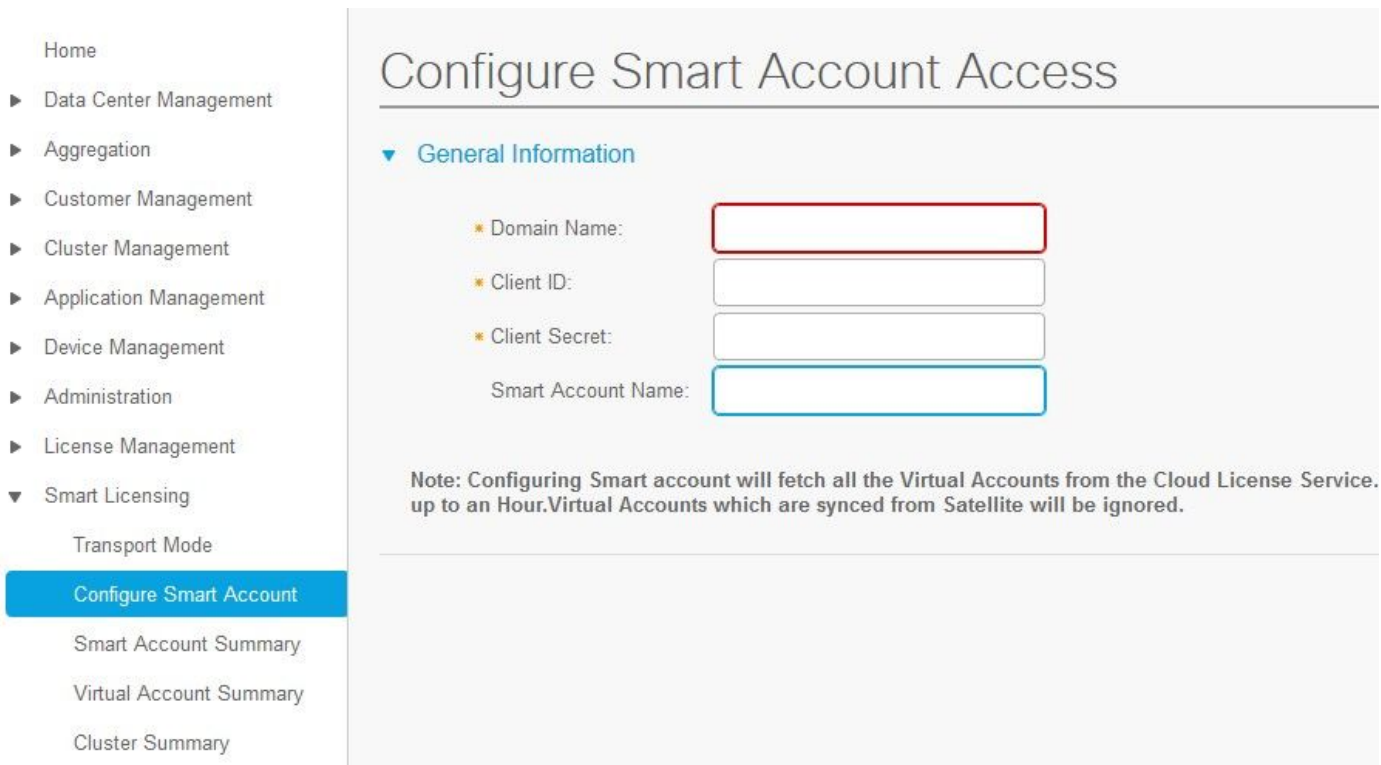


在此步骤中生成的客户端凭证使用“API服务”应用类型，需要智能帐户API关联，并为HCM-F中的智能帐户配置访问提供。提供正确的客户端凭证和智能帐户域名后，HCM-F将完成配置并使用相同的访问详细信息与智能许可服务进行交互。

具体而言，它会根据cloudsso.cisco.com进行身份验证，以获取Oauth2.0承载令牌，然后通过swapi.cisco.com从云许可证服务获取所有虚拟帐户。虚拟帐户获取所需的时间取决于虚拟帐户和从卫星同步的虚拟帐户的数量。此操作最多需要一个小时。忽略从卫星同步的虚拟帐户。

智能许可的HCM-F配置工作流程

导航到Infrastructure Manager > Smart Licensing > Configure Smart Account:



Home

- ▶ Data Center Management
- ▶ Aggregation
- ▶ Customer Management
- ▶ Cluster Management
- ▶ Application Management
- ▶ Device Management
- ▶ Administration
- ▶ License Management
- ▼ Smart Licensing
 - Transport Mode
 - Configure Smart Account**
 - Smart Account Summary
 - Virtual Account Summary
 - Cluster Summary

Configure Smart Account Access

▼ General Information

* Domain Name:

* Client ID:

* Client Secret:


Smart Account Name:

Note: Configuring Smart account will fetch all the Virtual Accounts from the Cloud License Service. up to an Hour.Virtual Accounts which are synced from Satellite will be ignored.

此处的信息使用本文档前面部分中生成的输出进行填充。

导航到Infrastructure Manager > Smart Licensing > Transport Mode:

需要在HCM-F中设置传输模式，才能将HCM-F和UC应用连接到CSSM。

 **注意：** HCM-F 12.5.1仅支持直接模式集成，即传输模式可设置为直接或代理

Home

- ▶ Data Center Management
- ▶ Aggregation
- ▶ Customer Management
- ▶ Cluster Management
- ▶ Application Management
- ▶ Device Management
- ▶ Administration
- ▶ License Management
- ▼ Smart Licensing
 - Subscription Mapper
 - Smart Account Summary**
 - Virtual Account Summary
 - Cluster Summary
- ▶ License Dashboard
- ▶ Service Provider Toolkit

Configure Smart Account Access

▼ Transport Settings

Transport Mode:

Proxy

Proxy Hostname/IP:

Proxy Port:

8080

Authentication Gateway:

cloudsso.cisco.com

CSSM Server:

swapi.cisco.com

Note: This proxy will only be used by HCMF to communicate with CSSM

▼ Configure Credentials

Smart Account Domain Name:

Client ID:

Client Secret:

导航到Infrastructure Manager > Smart Licensing > Virtual Account Summary:

| Name | SA Name | Access Level |
|------|---------|--------------|
| | | PUBLIC |
| | | PRIVATE |
| | | PUBLIC |
| | | PUBLIC |
| | | PUBLIC |
| | | PUBLIC |
| | | PUBLIC |
| | | PUBLIC |
| | | PUBLIC |

注意: {要查看与智能帐户关联的虚拟帐户。从列表中选择智能帐户名称。“虚拟帐户”(Virtual Accounts)页面显示虚拟帐户列表。}

集群关联CSSM

要将UC应用“分配”到CSSM，您需要确保12.5集群和UC应用都存在并配置在HCM-F资产中，同时

提供管理员和平台凭证。

完成智能帐户配置后，HCM-F将同步来自CSSM的所有数据并更新SDR、智能帐户以及虚拟帐户数据。在SDR中更新虚拟帐户数据后，允许管理员用户将群集分配到任何虚拟帐户。

此群集操作称为“群集分配”，从VA中删除群集操作称为“群集取消分配”。 集群从一个VA移动到另一个VA称为“集群重新分配”。

要将集群分配到CSSM，请导航至

基础设施管理器>智能许可>虚拟帐户摘要：

选择要使用的虚拟帐户。



The screenshot shows the 'Virtual Accounts' interface. On the right, a navigation menu is open, highlighting 'Virtual Account Summary'. Below the menu, a table displays the following data:

| Name | SA Name | Access Level | Clusters # | Customers # |
|--------------------|--------------------|--------------|------------|-------------|
| BU Production Test | BU Production Test | PUBLIC | 1 | 1 |

The table also includes a 'Filters' section indicating '1 of 1285 items shown' and a 'Clear filter' button. A blue box highlights the 'Name' column, and a blue arrow points from the 'Virtual Account Summary' menu item to this box.

集群分配：选择分配:

Edit Virtual Account - [REDACTED]

▼ General Information

| | |
|--------------------------|---|
| Name: | <input type="text" value="HCS-DEMO"/> |
| Description: | <input type="text" value="Virtual account for HCS demo"/> |
| Smart Account Name: | <input type="text" value="BU Production Test"/> |
| Domain Name: | <input type="text" value="buproductiontest.cisco.com"/> |
| License Mode: | <input type="text" value="HCS"/> ▼ |
| Commercial Access Level: | <input type="text" value="PUBLIC"/> |

▼ Clusters Assigned to [REDACTED]

Note: Assigning a cluster will cause the publisher node to restart automatically.

Name

No filter applied


0 item

选择要分配的UC应用，然后选择Assign按钮：

Assign Clusters to HCS-DEMO

| <input type="checkbox"/> | Name | Type | Version |
|-------------------------------------|---------------|-------|---------|
| Filters No filter applied | | | |
| <input checked="" type="checkbox"/> | cl1-alfa | CUCM | 12.5 |
| <input type="checkbox"/> | cluster2-test | CUCXN | 12.5 |

25 | 50 | 100



分配完成后，UC应用将显示为已分配给您使用的虚拟帐户(VA):

(智能许可>集群摘要

▼ Smart Licensing

Transport Mode

Configure Smart Account

Smart Account Summary

Virtual Account Summary

Cluster Summary

▶ License Dashboard

▶ Service Provider Toolkit

Cluster Summary

| Refresh | | | | |
|---------------------------|-------|---------|---------------|-----------------|
| Name | Type | Version | Smart Account | Virtual Account |
| Filters No filter applied | | | | |
| cl1-alfa | CUCM | 12.5 | | |
| cluster2-test | CUCXN | 12.5 | | |

1 - 2 of 2 items

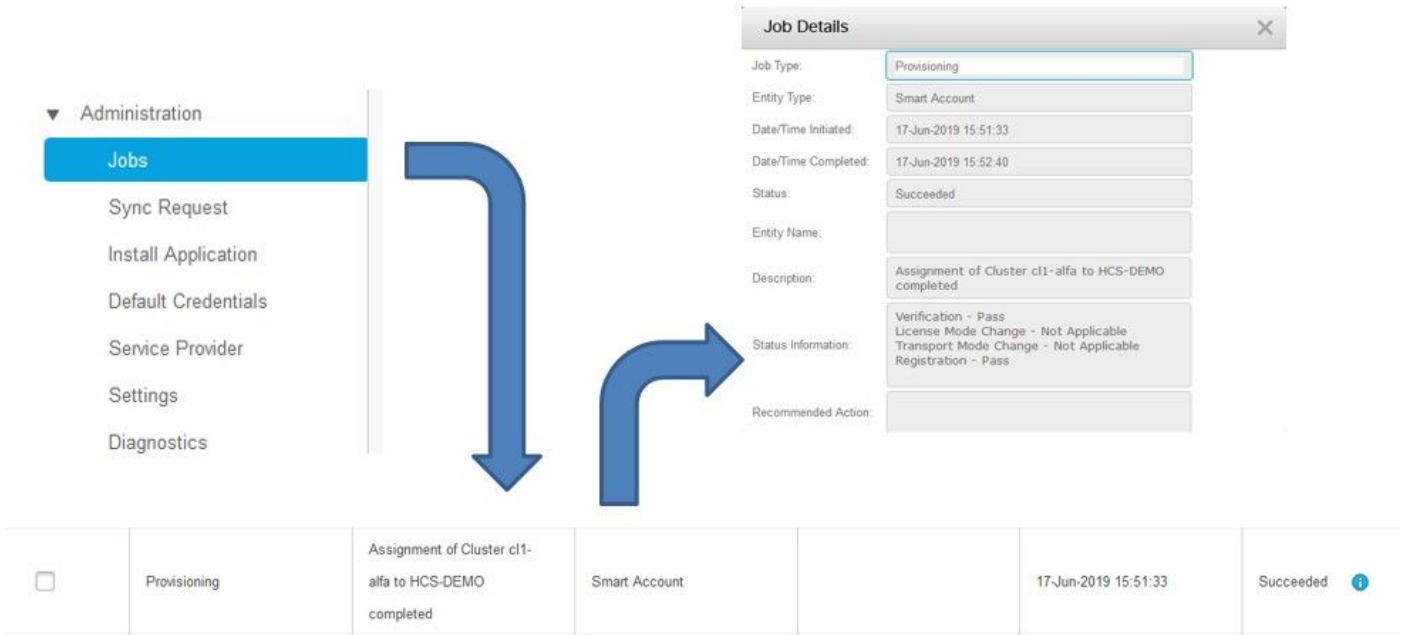
« < 1 > »

当您通过HCM-F将统一通信应用分配到智能许可服务时，会发生什么情况？

以下是所执行的HLM工作流程：

- 确认
- 许可证模式更改
- 传输模式更改
- 注册

在“作业”部分(Infrastructure Manager > Administration > Jobs)中可以看到以下内容：



The screenshot shows the 'Administration' sidebar with 'Jobs' selected. The 'Job Details' dialog box displays the following information:

| | |
|----------------------|--|
| Job Type: | Provisioning |
| Entity Type: | Smart Account |
| Date/Time Initiated: | 17-Jun-2019 15:51:33 |
| Date/Time Completed: | 17-Jun-2019 15:52:40 |
| Status: | Succeeded |
| Entity Name: | |
| Description: | Assignment of Cluster c1-alfa to HCS-DEMO completed |
| Status Information: | Verification - Pass License Mode Change - Not Applicable Transport Mode Change - Not Applicable Registration - Pass |
| Recommended Action: | |

Below the dialog is a table listing jobs:

| Job Type | Description | Entity Type | Date/Time | Status |
|--------------|---|---------------|----------------------|-----------|
| Provisioning | Assignment of Cluster c1-alfa to HCS-DEMO completed | Smart Account | 17-Jun-2019 15:51:33 | Succeeded |

日志演练 (HLM日志设置为Detailed)

1. HLM从数据库获取集群分配请求，并检查该集群是否符合条件：

```
2019-06-26 13:17:35,199 INFO [53] Getting the Instance of Cluster Assignment Agent ClusterAssignmentReq
2019-06-26 13:17:35,199 DEBUG [53] AgentMessageDispatcher::process -- Agent with instance >SMART_LIC_CL
2019-06-26 13:17:35,199 INFO [169] processing Agent SMART_LIC_CLUSTER_OPERATION

2019-06-26 13:17:35,332 DEBUG [169] isProgressInfoChanged : true
2019-06-26 13:17:35,332 DEBUG [169] job.getStatusInfo: :Verification - Inprogress|License Mode Change -
2019-06-26 13:17:35,357 INFO [169] jobKID from create: 26
2019-06-26 13:17:35,357 DEBUG [169] Update method at End : JobDTOcom.cisco.hcs.HLM.smartlic.dto.JobDTO
sDRJobPK: 26
jobId: null
jobType: PROVISIONING
description: Assignment of Cluster c1-beta to HCS-DEMO Started
JobEntity: JOB_ENTITY_SMARTACCOUNT
entityName: null
status: IN_PROGRESS
isModifiable: true
isDeletable: true
isRestartable: false
isCancelable: false
progressInfo: {Verification=Inprogress, License Mode Change=Not Started, Transport Mode Change=Not Star
errorDescription: null
```

recommendedAction: null

2. 集群符合条件：

```
<com.cisco.hcs.hcsagent.message.smartlic.ClusterAssignmentResp>
<messageType>ClusterAssignmentResp</messageType>
<source>
<serviceName>ClusterAssign</serviceName>
<instance>SMART_LIC_CLUSTER_OPERATION</instance>
</source>
<destination>
<serviceName>SDRUI</serviceName>
<instance>HCS-SMARTLIC-LIB0</instance>
</destination>
<sessionID>5fbb89a2-c62b-4d85-b385-3648c8010413</sessionID>
<transactionID>b2e1cfe6-b8fb-462c-a874-374e19afd110</transactionID>
<fault>>false</fault>
<Fork>>false</Fork>
<requeueCount>0</requeueCount>
<jobId>26</jobId>
<responseCode>PASS</responseCode>
<responseDesc>SmartLicNoError</responseDesc>
<smartLicRespCode defined-in="com.cisco.hcs.hcsagent.message.smartlic.ClusterOperationsResponse">PASS</smartLicRespCode>
<smartLicRespReason defined-in="com.cisco.hcs.hcsagent.message.smartlic.ClusterOperationsResponse">SmartLicNoError</smartLicRespReason>
<smartLicRespCode>PASS</smartLicRespCode>
<smartLicRespReason>SmartLicNoError</smartLicRespReason>
</com.cisco.hcs.hcsagent.message.smartlic.ClusterAssignmentResp>
```

3. HLM将CUCM中的产品类型更改为HCS:

```
2019-06-26 13:17:35,646 DEBUG [33] First pool session created: SDRSyncSession@f11306
2019-06-26 13:17:35,650 INFO [169] UCApDeploymentModeConnection: Opening secure connection to: https://
2019-06-26 13:17:35,650 INFO [169] UCApDeploymentModeConnectionPort successfully opened
2019-06-26 13:17:35,652 DEBUG [33] Pool session created: SDRSyncSession@2cd71b
2019-06-26 13:17:35,659 DEBUG [33] Pool session created: SDRSyncSession@a4e538
2019-06-26 13:17:35,667 DEBUG [33] Pool session created: SDRSyncSession@b3c0d9
2019-06-26 13:17:35,667 INFO [33] Pool is valid. Pool create time in Ms: 1561547855646, poolRunning: false
2019-06-26 13:17:35,667 INFO [33] Created 4 pool sessions.
```

4. HLM指示服务Cisco HCS调配适配器(CHPA)将集群分配到CSSM:

```
2019-06-26 13:17:39,102 DEBUG [169] Agent: sending to [chpa]
-----
<com.cisco.hcs.hcsagent.message.chpa.GetTransportSettingsRequest>
<messageType>GetTransportSettingsRequest</messageType>
<source>
<serviceName>ClusterAssign</serviceName>
</source>
<destination>
```

```
<serviceName>chpa</serviceName>
</destination>
<sessionID>getTransport-4</sessionID>
<fault>false</fault>
<Fork>false</Fork>
<requeueCount>0</requeueCount>
<deviceId>
<type>ApplicationInstance</type>
<key class="com.cisco.hcs.sdr.v10_0.KIDInt">
<internalValue>4</internalValue>
</key>
</deviceId>
<clusterName>cl-beta</clusterName>
</com.cisco.hcs.hcsagent.message.chpa.GetTransportSettingsRequest>
-----
```

```
2019-06-26 13:17:39,104 DEBUG [169] Agent: Sent message to chpa(null)
2019-06-26 13:17:39,104 INFO [169] UCApTimerTask , Timer Task started at:Wed Jun 26 13:17:39 CEST 2019
2019-06-26 13:17:39,104 DEBUG [169] com.cisco.hcs.HLM.smartlic.core.clusterops.utils.UCApTimerRegister
2019-06-26 13:17:39,104 DEBUG [81655] UCApTimerTask , Timer Task Attempt of Retry 0
2019-06-26 13:17:39,104 INFO [169] JMS Message is Processed and leaving out from JMS thread
2019-06-26 13:17:44,207 DEBUG [45] KeepAliveConsumerProcessor::process -- enter
2019-06-26 13:17:44,207 DEBUG [94] KeepAliveConsumerProcessor::process -- enter
2019-06-26 13:17:44,208 DEBUG [45] KeepAliveConsumerProcessor::process -- received broadcast message fo
2019-06-26 13:17:44,208 DEBUG [45] noChange -- sdrconf is Alive
2019-06-26 13:17:44,208 DEBUG [45] KeepAliveMonitor::setExpiresBy:
2019-06-26 13:17:44,208 DEBUG [94] KeepAliveConsumerProcessor::process -- received broadcast message fo
2019-06-26 13:17:44,208 DEBUG [45] now: 26/06/2019 01:17:44.208
2019-06-26 13:17:44,208 DEBUG [94] noChange -- sdrconf is Alive
2019-06-26 13:17:44,208 DEBUG [45] expected by: 26/06/2019 01:19:44.208
2019-06-26 13:17:44,208 DEBUG [94] KeepAliveMonitor::setExpiresBy:
2019-06-26 13:17:44,208 DEBUG [94] now: 26/06/2019 01:17:44.208
2019-06-26 13:17:44,208 DEBUG [94] expected by: 26/06/2019 01:19:44.208
2019-06-26 13:17:46,105 INFO [36] Perfmon Category in Publish Counter update is Cisco HCS License Manag
2019-06-26 13:17:46,106 DEBUG [36] AgentJmx: JMS connection already up, reusing connection
2019-06-26 13:17:49,420 INFO [63] smartLicAuditProcessor::process enter...
2019-06-26 13:17:50,075 INFO [66] smartLicAuditProcessor::process enter...
```

5.集群分配成功：

```
2019-06-26 13:17:50,390 INFO [68] LicUsageAuditProcessor::process enter...
2019-06-26 13:17:52,331 DEBUG [53]
AgentMessageDispatcher -- Received msg by RouteBuilder[ClusterAssign-null] :
-----
<com.cisco.hcs.hcsagent.message.chpa.GetTransportSettingsResponse>
<messageType>GetTransportSettingsResponse</messageType>
<source>
<serviceName>chpa</serviceName>
<instance>3998890f-ac1c-4ee8-baf8-6b0d2331387b</instance>
</source>
<destination>
<serviceName>ClusterAssign</serviceName>
</destination>
<sessionID>getTransport-4</sessionID>
<fault>false</fault>
<Fork>false</Fork>
<requeueCount>0</requeueCount>
<deviceId>
```

```
<type>ApplicationInstance</type>
<key class="com.cisco.hcs.sdr.v10_0.KIDInt">
<internalValue>4</internalValue>
</key>
</deviceId>
<responseCode>PASS</responseCode>
<responseReason>chpaNoError</responseReason>
<clusterName>c1-beta</clusterName>
<mode>HTTP/HTTPS Proxy</mode>
<url></url>
<ipAddress>proxy.es1.cisco.com</ipAddress>
<port>8080</port>
</com.cisco.hcs.hcsagent.message.chpa.GetTransportSettingsResponse>
-
```

```
progressInfo: {Verification=Pass, License Mode Change=Not Applicable, Transport Mode Change=Not Applicable}
errorDescription: null
recommendedAction: null
jobTypeChanged: true
descriptionChanged: true
JobEntityChanged: true
entityNameChanged: false
statusChanged: true
isModifiableChanged: false
isDeletableChanged: false
isRestartableChanged: false
isCancelableChanged: false
progressInfoChanged: false
errorDescriptionChanged: false
recommendedActionChanged: false
}
```

关于此翻译

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