

CUCM 9.x+版中的許可證計算

目錄

[簡介](#)

[Enterprise License Manager\(ELM\)/CUCM 9.x+版許可基礎知識](#)

[用於計算CUCM 9.x+版中許可證要求的資料庫表和機制](#)

[許可證計算方案](#)

[沒有電話，沒有使用者配置](#)

[新增未分配的裝置\(6941\)](#)

[新增未分配功能的附加使用者](#)

[為使用者啟用分機移動\(EM\)](#)

[為使用者啟用即時消息\(IM\)](#)

[為使用者啟用移動性](#)

[將裝置分配給使用者](#)

[新增第二個未分配的裝置\(9971\)](#)

[將第二台裝置分配給同一使用者](#)

[分機移動注意事項](#)

簡介

本檔案介紹Cisco Unified Communications Manager(CUCM)9.1版及更高版本 (包括10.x) 如何計算其許可證要求。

本文檔的目的是描述CUCM執行許可證計算的方式，顯示用於此計算的不同資料庫表，以及介紹一系列覆蓋最常見情況的不同方案。

本文檔中顯示的所有輸出和螢幕截圖均基於CUCM 9.1.1a版。

Enterprise License Manager(ELM)/CUCM 9.x+版許可基礎知識

CUCM的所有許可現在都集中在ELM上。這些許可證使用Russian Doll Hierarchy，這意味著每種許可證型別都允許使用者使用下一級別的超級集。更高級別的許可證包括更低級別許可證的所有功能。

如果需要，並且ELM具有特定的一組可用許可證，則可以將較高層的許可證借給較低層。向較低層借入許可證時，在釋放許可證之前無法再次分配許可證，例如新增其他較低層許可證或減少所需許可證數量時。每個產品向ELM通告所需的許可證計數，然後ELM根據可用許可證數量驗證此要求，以便檢視其是否能完成請求。

不同型別的統一通訊(UC)許可證及其有關CUCM的具體資訊，請參閱Cisco Unified Communications Manager功能和服務指南9.1(1)版中的[許可](#)部分：

CUCM許可有三種不同的方案：

- **僅使用者** — 這適用於未分配裝置的使用者。在這種情況下，您根據配置的功能對使用者授予許可證，例如，使用分機移動時必需(僅適用於9.0.1/9.1.1版，不適用於9.1.1a版及更高版本)或移動/移動連線/一號通功能(SNR)的基本功能。
分機移動 — 裝置配置檔案與使用者關聯。Mobile Connect — 啟用移動性並且遠端目標配置檔案(RDP)與使用者關聯。
- **僅裝置** — 如果電話未分配給使用者，則按裝置型別授予許可。
如果裝置配置頁面的**所有者使用者ID**欄位中沒有條目，則裝置不會與使用者關聯。
- **使用者和設備** — 這適用於具有已分配裝置的使用者。然後，許可證是按每台裝置 (每個使用者分配一台裝置時) 或按每個使用者的裝置數量(增強型Plus/Cisco Unified Workspace Licensing(CUWL)標準，無論使用的裝置型別如何)授予的。

用於計算CUCM 9.x+版中許可證要求的資料庫表和機制

許可證資源使用量儲存在LicensingResourceUsage CUCM Database(DB)表中。

```
admin:run sql select * from LicensingResourceUsage
```

pkid	fkenduser	em	snr	tin
77a09a6c-ece7-4a20-b950-c2d04b361777	c44b6aa1-862a-2dda-bab3-326d8f88a51e	f	t	1
588abd1d8-c13d-4f51-a043-a4c6a80d0b91	a275f434-1190-56a8-be51-6ed3c08813c3	t	t	0
7a119168-ef8f-4d5a-95f0-abfa25d2415d	NULL	f	f	0
668d98c2-c73e-4cf1-a614-e718a012fc2f	fc5b1b05-1531-a51c-3879-6eed9099c6e3	f	t	0

copper	bronze	silver	gold	telepresence	presence	unknowndevice
0	0	0	0	0	f	0
0	2	0	0	0	f	0
1	1	0	0	0	f	0
0	1	0	0	0	f	0

admin:

每次ELM (伺服器端) 與應用程式 (客戶端) 聯絡時，或者當您在CUCM的License Usage Report下按一下Update Usage Details時，都會更新此表。

不同裝置許可證層在TypeLicensedResource CUCM DB表中定義。

```
admin:run sql select * from typelicensedresource
```

enum	moniker	name	description
1	LICENSEDRESOURCE_TIN	Tin	Tin
2	LICENSEDRESOURCE_COPPER	Copper	Copper
3	LICENSEDRESOURCE_BRONZE	Bronze	Bronze
4	LICENSEDRESOURCE_SILVER	Silver	Silver
5	LICENSEDRESOURCE_GOLD	Gold	Gold
6	LICENSEDRESOURCE_TELEPRESENCE	Telepresence	Telepresence
7	LICENSEDRESOURCE_NOCOST	Nocost	Nocost

admin:

在CUCM - TypeLicenseResourceProductMap的此表中定義了這些層對映到不同裝置的方式。

```

admin:run sql select * from typelicensedresourceproductmap
enum tklicensedresource tkproduct
=====
166 3 16
167 7 25
1 1 30065
29 3 30066
10 3 20
16 3 21
17 3 22
18 3 23
?

```

admin:

您可以將TypeLicenseResourceProductMap表中找到的tkproduct與TypeProduct表相關聯，以便檢視與此查詢對應的產品：

```

admin:run sql select * from typeproduct where enum = 'tkproduct'

```

有關對映到每個裝置的LicenseResource的完整概述，請使用此CUCM DB查詢來對映所有三個表：

```

admin:run sql select typeproduct.name, typelicensedresource.name from typeproduct,
typelicensedresource, typelicensedresourceproductmap where
typelicensedresource.enum = typelicensedresourceproductmap.tklicensedresource
and typelicensedresourceproductmap.tkproduct = typeproduct.enum

```

以下是在CUCM 9.1.1a版上執行該命令的部分輸出：

name	name
====	====
Analog Phone	Tin
Cisco 6901	Tin
Cisco 6911	Copper
Cisco 6921	Copper
H.323 Client	Bronze
Third-party SIP Device (Basic)	Bronze
Third-party SIP Device (Advanced)	Bronze
Cisco 7941	Bronze
Cisco 7945	Bronze
Cisco 7965	Bronze
Cisco 7975	Bronze
Cisco 9971	Bronze
Cisco VXC 6215	Bronze
Cisco 6945	Bronze
Cisco TelePresence EX90	Bronze
Cisco TelePresence EX60	Bronze
Cisco TelePresence	Telepresence
Cisco TelePresence MX300	Telepresence
CTI Port	Nocost

對於許可證需求計算，連線到License Manager客戶端後，應用程式端的ELM將運行以下儲存過程：

```

admin:run sql SELECT name,value FROM TABLE (FUNCTION LicenseTotals())
(pkid,name,value,UserValue,DeviceValue)

```

附註：要檢視運行哪些查詢以及它如何計算許可證要求，您可以使用此查詢檢視儲存過程：
admin：運行sql select * from sysprocbody where procid = '901'.

儲存過程的輸出將傳送回ELM，ELM將驗證應用程式的許可證要求，並檢查這些要求是否能得到滿足（是否需要從較高層借用許可證？）。完成此操作後，結果將傳送回客戶端，客戶端將相應地更新其DB（LicenseServer表）（相容與不相容）。

```
admin:run sql select * from licenseserver
```

```
pkid          name          priority
=====
234e7714-c87a-4054-a024-c10910123842 UCS1CUCM91P 1

fkprocessnode      description  gracestarttime  graceleftdays
=====
866516aa-120e-4ea0-9bd4-37e756597d1b          0                0

elmlastcontactts tklicensingstate tklicensingmode
=====
1369143814      2                5

lastresourceusagecalculations elmtime
=====
2013-05-16 16:41:32          UCS1CUCM91P.coluc.com
```

admin:

為瞭解碼許可狀態值，您可以從CUCM資料庫檢視TypeLicensingState表。對於此特定案例，如果值為2，則表示符合。

```
admin:run sql select * from TypeLicensingState
```

```
enum moniker name description allow
provisioning
====
1 LICENSINGSTATE_DEMO Demo Demo t
2 LICENSINGSTATE_COMPLIANT compliant Compliant t
3 LICENSINGSTATE_OVERAGE Overage Overage t
4 LICENSINGSTATE_NO_CONTACT No Contact No Contact t
5 LICENSINGSTATE_SECURITY_FAILURE Security Failure Security Failure t
6 LICENSINGSTATE_NO_PROVISIONING No Provisioning No Provisioning f
7 LICENSINGSTATE_GRACE Grace Grace t
```

admin:

可以在TypeLicensingMode表中檢視不同的許可模式。對於CUCM，許可模式始終為5，這意味著基於ELM。

```
admin:run sql select * from TypeLicensingMode
```

```
1 LICENSING_MODE_CAPACITY_NODES
System Capacity Licensing of Nodes in the cluster
This licensing mode is used to license SYSTEM CAPACITY
according to the nodes configured into a cluster.

2 LICENSING_MODE_UTILIZATION_DLU_BASED
System Utilization Licensing Per DLU Consumption
This licensing mode is used to license RESOURCE UTILIZATION LEVELS
within a cluster according to the devices, (phones), configured and the
associated Device License Units, (DLUs), consumed.

3 LICENSING_MODE_CAPABILITY_SW_SERVICES_AND_VERSIONS
System Capability Licensing by Software & Version
This licensing mode is used to license SYSTEM CAPABILITY
according to software and version in use on the cluster.
```

4 LICENSING_MODE_UTILIZATION_UCL_BASED

System Utilization Licensing Per UCL Consumption

This licensing mode is used to license RESOURCE UTILIZATION LEVELS within a cluster according to the user types configured and their feature and device associations. (User Connect Licensing)

5 LICENSING_MODE_ELM_BASED

System Utilization Licensing Per User Consumption

This licensing mode is used to license products in an Enterprise and License tracking is done by the Enterprise License Manager according to the Endusers configured and their feature and device type associations. (Enterprise Licensing)

6 LICENSING_MODE_HCS_BASED

System Utilization Licensing for HCS deployments

This licensing mode is used to license RESOURCE UTILIZATION LEVELS for Hosted Collaboration Systems(HCS) deployments. (Enterprise Licensing)

7 LICENSING_MODE_HCSLE_BASED

System Utilization Licensing for HCS Large Enterpr

This licensing mode is used to license RESOURCE UTILIZATION LEVELS for Hosted Collaboration Systems Large Enterprise (HCSLE) deployments. (Enterprise Licensing)

許可證計算方案


本文檔的後續部分介紹了CUCM的不同許可方案，並說明了所執行的更改（例如新增新裝置、新使用者、使用者功能或向使用者分配裝置）對許可證計算的影響。

沒有電話，沒有使用者配置

此範例顯示沒有將電話或使用者新增到CUCM的情況。

CallManager(CM)管理員的「許可證使用情況報告」頁面：

- License Usage Report

 Below is a summary of current license usage on the system. Current usage details for each type are available by pressing these data is a resource intensive process and may take several minutes to complete, depending on the size of your deployment. [View All License Type Descriptions And Device Classifications](#)

[Update Usage Details](#) Usage Details Last Updated: 2013-05-16 14:42:50

License Requirements by Type

License Type	Current Usage	Report
CUWL Standard	0	Users(0) Unassigned Devices(0)
Enhanced Plus	0	Users(0)
Enhanced	0	Users(0) Unassigned Devices(0)
Basic	0	Users(0) Unassigned Devices(0)
Essential	0	Users(0) Unassigned Devices(0)
TelePresence Room	0	Users(0) Unassigned Devices(0)

- Users and Unassigned devices

Users	0	View Usage Report
Unassigned Devices	0	View Usage Report

- Enterprise License Manager

The licenses for this system are managed by an Enterprise License Manager server.
Server Hostname / IP Address: [UCS1CUCM91P.coluc.com](#)
Last Successful Synchronization: 2013-05-16 00:30:08

以下是針對LicensingResourceUsage DB表的結構化查詢語言(SQL)查詢的輸出：

```
admin:run sql select * from LicensingResourceUsage
pkid fkenduser em snr tin copper bronze silver gold telepresence presence unknowndevice
==== ===== == == == ===== ===== ===== ===== =====
admin:
```

新增未分配的裝置(6941)

此範例顯示您在CUCM配置中新增單個6941電話型別的案例。

Phone Type

Product Type: Cisco 6941
Device Protocol: SIP

Device Information

Registration: Unknown
IP Address: Unknown
 Device is Active
 Device is trusted
MAC Address*:
Description:

Device Mobility Mode*: [View Current Device Mobility Settings](#)

Owner User ID:


Phone Personalization*:

Services Provisioning*:

Phone Load Name:

按一下**Update Usage Details**以顯示許可證使用情況報告，該報告將刪除所有條目、重新計算條目並輸入新的更新條目。

- License Usage Report

 Below is a summary of current license usage on the system. Current usage details for each type are available. These data is a resource intensive process and may take several minutes to complete, depending on the size. [View All License Type Descriptions And Device Classifications](#)

Usage Details Last Updated: 2013-05-16 15:46:52

License Requirements by Type

License Type	Current Usage	Report
CUWL Standard	0	Users(0) Unassigned Devices(0)
Enhanced Plus	0	Users(0)
Enhanced	1	Users(0) Unassigned Devices(1)
Basic	0	Users(0) Unassigned Devices(0)
Essential	0	Users(0) Unassigned Devices(0)
TelePresence Room	0	Users(0) Unassigned Devices(0)

- Users and Unassigned devices

Users	0	View Usage Report
Unassigned Devices	1	View Usage Report

- Enterprise License Manager

The licenses for this system are managed by an Enterprise License Manager server.
Server Hostname / IP Address: [UCS1CUCM91P.coluc.com](#)
Last Successful Synchronization: 2013-05-16 00:30:08

以下是針對LicensingResourceUsage DB表的SQL查詢的輸出：

```
admin:run sql select * from LicensingResourceUsage
```

```
pkid                                fkenduser em snr tin
=====
0fd7659d-8faf-4054-8a80-a3e21b4abf4c NULL      f  f  0

copper bronze silver gold telepresence presence unknowndevice
=====
0      1      0      0      0      f      0
```

admin:

為未分配的裝置插入一個新條目：(fkenduser = NULL)，裝置為銅牌。

一個未分配的青銅裝置需要一個增強許可證，如下所示：

```
admin:run sql SELECT name,value FROM TABLE( FUNCTION LicenseTotals() )
(pkid,name,value,UserValue,DeviceValue)
name value
=====
CUWL Standard 0
EnhancedPlus 0
Enhanced 1
Basic 0
Essential 0
TelePresence Room 0
TotalUsers 0
TotalDevices 1
Timestamp 2013-05-16 15:46:52
ElmLastContact 1368657008
Elm UCS1CUCM91P.coluc.com
admin:
```

新增未分配功能的附加使用者

此範例顯示了一個案例，您可以在其中新增一個沒有指派任何額外功能的使用者。

User Information

User Status	Active Local User	
User ID*	<input type="text" value="jbardy"/>	
Password	<input type="password"/>	<input type="button" value="Edit Credential"/>
Confirm Password	<input type="password"/>	
PIN	<input type="password"/>	<input type="button" value="Edit Credential"/>
Confirm PIN	<input type="password"/>	
Last name*	<input type="text" value="bardy"/>	

Extension Mobility

Available Profiles	<input type="text" value="psmeunin_dp1"/> <input type="text" value="psmeunin_dp2"/>	
▼ ▲		
Controlled Profiles	<input type="text"/>	▼ ▲
Default Profile	<input type="text" value="-- Not Selected --"/>	
BLF Presence Group*	<input type="text" value="Standard Presence group"/>	
SUBSCRIBE Calling Search Space	<input >")"="" none="" type="text" value("<=""/>	
<input checked="" type="checkbox"/> Allow Control of Device from CTI		
<input type="checkbox"/> Enable Extension Mobility Cross Cluster		

Mobility Information

<input type="checkbox"/> Enable Mobility	
<input type="checkbox"/> Enable Mobile Voice Access	
Maximum Wait Time for Desk Pickup*	<input type="text" value="10000"/>
Remote Destination Limit*	<input type="text" value="4"/>
Remote Destination Profiles	<input type="text"/>
	View Details

按一下 **Update Usage Details** 以顯示 License Usage Report 頁面：

- License Usage Report



Below is a summary of current license usage on the system. Current usage details for each type are available. These data is a resource intensive process and may take several minutes to complete, depending on the size of the system.

[View All License Type Descriptions And Device Classifications](#)

[Update Usage Details](#)

Usage Details Last Updated: 2013-05-16 15:58:08

License Requirements by Type

License Type	Current Usage	Report
CUWL Standard	0	Users(0) Unassigned Devices(0)
Enhanced Plus	0	Users(0)
Enhanced	1	Users(0) Unassigned Devices(1)
Basic	0	Users(0) Unassigned Devices(0)
Essential	0	Users(0) Unassigned Devices(0)
TelePresence Room	0	Users(0) Unassigned Devices(0)

- Users and Unassigned devices

Users	0	View Usage Report
Unassigned Devices	1	View Usage Report

- Enterprise License Manager

The licenses for this system are managed by an Enterprise License Manager server.

Server Hostname / IP Address: [UCS1CUCM91P.coluc.com](#)

Last Successful Synchronization: 2013-05-16 00:30:08

對於此情況，由於未為此使用者配置任何使用者功能，因此沒有變化。DB表顯示了相同的情況：

```
admin:run sql select pkid from enduser where userid = 'jbardy'
pkid
=====
dd420dcf-7bf8-206f-d8a3-5510aafaf254
admin:
```

```
admin:run sql select * from LicensingResourceUsage where
fkenduser = 'dd420dcf-7bf8-206f-d8a3-5510aafaf254'
```

```
pkid fkenduser em snr tin
==== ===== == == ==
```

```
copper bronze silver gold telepresence presence unknowndevice
===== ===== ===== ===== ===== =====
```

admin:

總共有一項與未分配的裝置對應，如下所示：

```
admin:run sql select * from LicensingResourceUsage
```

```
pkid fkenduser em snr tin
===== ===== == == ==
7d489860-2856-4868-8b7f-a52697621b59 NULL f f 0
```

```
copper bronze silver gold telepresence presence unknowndevice
```

```
=====
0      1      0      0      0      f      0
=====
```

admin:

根據先前的資訊，您可以看到許可證要求保持不變：

```
admin:run sql SELECT name,value FROM TABLE( FUNCTION LicenseTotals() )
(pkid,name,value,UserValue,DeviceValue)
name value
=====
CUWL Standard 0
EnhancedPlus 0
Enhanced 1
Basic 0
Essential 0
TelePresence Room 0
TotalUsers 0
TotalDevices 1
Timestamp 2013-05-16 15:58:08
ElmLastContact 1368657008
Elm UCS1CUCM91P.coluc.com
admin:
```

為使用者啟用分機移動(EM)

此範例顯示一個情境，您可以在此情境中為先前設定的使用者新增EM功能。

Extension Mobility

Available Profiles

psmeunin_dp1
psmeunin_dp2

v ^

Controlled Profiles

jbardy_dp

v ^

Default Profile -- Not Selected -- ▾

BLF Presence Group* Standard Presence group ▾

SUBSCRIBE Calling Search Space < None > ▾

Allow Control of Device from CTI

Enable Extension Mobility Cross Cluster

按一下**Update Usage Details**以顯示許可證使用情況報告：

附註：對於CUCM 9.0/9.1版，此功能需要基本許可證。

- License Usage Report



Below is a summary of current license usage on the system. Current usage details for each type are available. These data is a resource intensive process and may take several minutes to complete, depending on the size of the system.

[View All License Type Descriptions And Device Classifications](#)

[Update Usage Details](#)

Usage Details Last Updated: 2013-05-16 16:02:29

License Requirements by Type

License Type	Current Usage	Report
CUWL Standard	0	Users(0) Unassigned Devices(0)
Enhanced Plus	0	Users(0)
Enhanced	1	Users(0) Unassigned Devices(1)
Basic	0	Users(0) Unassigned Devices(0)
Essential	0	Users(0) Unassigned Devices(0)
TelePresence Room	0	Users(0) Unassigned Devices(0)

- Users and Unassigned devices

Users	0	View Usage Report
Unassigned Devices	1	View Usage Report

- Enterprise License Manager

The licenses for this system are managed by an Enterprise License Manager server.

Server Hostname / IP Address: [UCS1CUCM91P.coluc.com](#)

Last Successful Synchronization: 2013-05-16 00:30:08

許可證要求未更改。雖然思科沒有針對EM的許可證，但為此使用者新增了一個條目（功能）：

```
admin:run sql select * from LicensingResourceUsage where  
fkenduser = 'dd420dcf-7bf8-206f-d8a3-5510aafaf254'
```

```
pkid                                fkenduser                                em snr tin  
=====                               =====                               == === ===  
02e2222b-6cb2-4175-9129-ff7421292d58 dd420dcf-7bf8-206f-d8a3-5510aafaf254 t f 0
```

```
copper bronze silver gold telepresence presence unknowndevice  
===== ===== ===== =====  
0 0 0 0 0 f 0
```

admin:

共有兩個條目：一個用於未分配的裝置，一個用於已啟用EM的使用者：

```
admin:run sql select * from LicensingResourceUsage
```

```
pkid                                fkenduser                                em snr tin  
=====                               =====                               == === ===  
fe631c14-2889-4e14-8b89-a3c188b7d415 NULL f f 0  
02e2222b-6cb2-4175-9129-ff7421292d58 dd420dcf-7bf8-206f-d8a3-5510aafaf254 t f 0
```

```
copper bronze silver gold telepresence presence unknowndevice  
===== ===== ===== =====  
0 1 0 0 0 f 0  
0 0 0 0 0 f 0
```

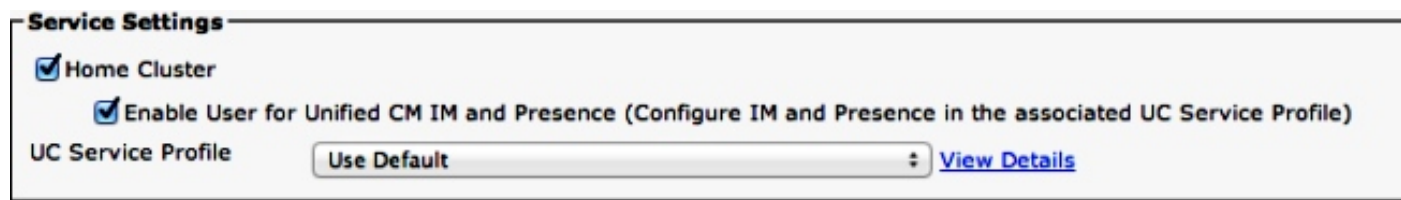
admin:

同樣，您也不會看到許可證要求的任何更改：

```
admin:run sql SELECT name,value FROM TABLE( FUNCTION LicenseTotals() )
(pkid,name,value,UserValue,DeviceValue)
name value
=====
CUWL Standard 0
EnhancedPlus 0
Enhanced 1
Basic 0
Essential 0
TelePresence Room 0
TotalUsers 0
TotalDevices 1
Timestamp 2013-05-27 11:05:49
ElmLastContact 1369607564
Elm UCS1CUCM91P.coluc.com
admin:
```

為使用者啟用即時消息(IM)

此示例顯示了您為使用者啟用IM的一個場景。



The screenshot shows a configuration window titled "Service Settings". It contains the following elements:

- A checked checkbox labeled "Home Cluster".
- A checked checkbox labeled "Enable User for Unified CM IM and Presence (Configure IM and Presence in the associated UC Service Profile)".
- A dropdown menu for "UC Service Profile" with "Use Default" selected.
- A blue link labeled "View Details" next to the dropdown menu.

按一下 **Update Usage Details** 以顯示 CUCM 9.1.1a 版及更高版本的許可證使用情況報告。

- License Usage Report



Below is a summary of current license usage on the system. Current usage details for each type are available. These data is a resource intensive process and may take several minutes to complete, depending on the size of the system.

[View All License Type Descriptions And Device Classifications](#)

[Update Usage Details](#)

Usage Details Last Updated: 2013-05-16 16:02:29

License Requirements by Type

License Type	Current Usage	Report
CUWL Standard	0	Users(0) Unassigned Devices(0)
Enhanced Plus	0	Users(0)
Enhanced	1	Users(0) Unassigned Devices(1)
Basic	0	Users(0) Unassigned Devices(0)
Essential	0	Users(0) Unassigned Devices(0)
TelePresence Room	0	Users(0) Unassigned Devices(0)

- Users and Unassigned devices

Users	0	View Usage Report
Unassigned Devices	1	View Usage Report

- Enterprise License Manager

The licenses for this system are managed by an Enterprise License Manager server.

Server Hostname / IP Address: [UCS1CUCM91P.coluc.com](#)

Last Successful Synchronization: 2013-05-16 00:30:08

許可證要求未更改。雖然思科沒有針對EM和IM的許可證，但此使用者有一個條目同時支援兩個使用者功能(em和presence列，其中t = true value)。

```
admin:run sql select * from LicensingResourceUsage where  
fkenduser = 'dd420dcf-7bf8-206f-d8a3-5510aafaf254'
```

```
pkid                                fkenduser                                em snr tin  
=====                               =====                               == === ===  
63f29eb3-4f88-4a6d-8644-27e56caa3525 dd420dcf-7bf8-206f-d8a3-5510aafaf254 t f 0
```

```
copper bronze silver gold telepresence presence unknowndevice  
=====  =====  =====  =====  =====  =====  =====  
0         0         0         0         0         t         0
```

admin:

總共有兩個條目，一個用於未分配的裝置，另一個用於啟用了EM/IM的使用者：

```
admin:run sql select * from LicensingResourceUsage
```

```
pkid                                fkenduser                                em snr tin  
=====                               =====                               == === ===  
0e8acc0-bf1c-4f03-b394-20e95d1eeclb NULL                                f f 0  
63f29eb3-4f88-4a6d-8644-27e56caa3525 dd420dcf-7bf8-206f-d8a3-5510aafaf254 t f 0
```

```
copper bronze silver gold telepresence presence unknowndevice  
=====  =====  =====  =====  =====  =====  =====  
0         1         0         0         0         f         0  
0         0         0         0         0         t         0
```

admin:

您看不到此修改導致的許可證要求的任何更改：

```
admin:run sql SELECT name,value FROM TABLE( FUNCTION LicenseTotals() )
(pkid,name,value,UserValue,DeviceValue)
```

```
name value
```

```
=====
```

```
CUWL Standard 0
```

```
EnhancedPlus 0
```

```
Enhanced 1
```

```
Basic 0
```

```
Essential 0
```

```
TelePresence Room 0
```

```
TotalUsers 0
```

```
TotalDevices 1
```

```
Timestamp 2013-05-27 11:05:49
```

```
ElmLastContact 1369607564
```

```
Elm UCS1CUCM91P.coluc.com
```

```
admin:
```


為使用者啟用移動性

此示例顯示一個場景，在該場景中，您為同一使用者啟用Mobility並檢視它將如何影響CUCM中的許可證計算。

Mobility Information
 Enable Mobility
 Enable Mobile Voice Access
Maximum Wait Time for Desk Pickup*
Remote Destination Limit*
Remote Destination Profiles
[View Details](#)

按一下**Update Usage Details**以顯示CUCM 9.1.1a版及更高版本的許可證使用情況報告：

- License Usage Report

 Below is a summary of current license usage on the system. Current usage details for each type are available. These data is a resource intensive process and may take several minutes to complete, depending on the size. [View All License Type Descriptions And Device Classifications](#)

[Update Usage Details](#) Usage Details Last Updated: 2013-05-16 16:05:39

License Requirements by Type

License Type	Current Usage	Report
CUWL Standard	0	Users(0) Unassigned Devices(0)
Enhanced Plus	0	Users(0)
Enhanced	1	Users(0) Unassigned Devices(1)
Basic	1	Users(1) Unassigned Devices(0)
Essential	0	Users(0) Unassigned Devices(0)
TelePresence Room	0	Users(0) Unassigned Devices(0)

- Users and Unassigned devices

Users	1	View Usage Report
Unassigned Devices	1	View Usage Report

- Enterprise License Manager

The licenses for this system are managed by an Enterprise License Manager server.
 Server Hostname / IP Address: [UCS1CUCM91P.coluc.com](#)
 Last Successful Synchronization: 2013-05-16 00:30:08

許可證要求已更改，如上圖所示，新增了一個基本許可證。資料庫表顯示，此終端使用者仍只有一個條目；但是，SNR列現在標籤為t。

```
admin:run sql select * from LicensingResourceUsage where
fkenduser = 'dd420dcf-7bf8-206f-d8a3-5510aafaf254'
```

```
pkid                                fkenduser                                em snr tin
=====
fbb955fa-f633-4b5d-8064-f8ba67250831 dd420dcf-7bf8-206f-d8a3-5510aafaf254 t t 0

copper bronze silver gold telepresence presence unknowndevice
=====
0 0 0 0 0 t 0
```

admin:
 LicensingResourceUsage表中總共有兩個條目：一個用於未分配的裝置，一個用於使用者：

```
admin:run sql select * from LicensingResourceUsage
```

```
pkid                                fkenduser                                em snr tin
=====
86e2f48e-c395-4474-b039-cd842773ae93 NULL f f 0
fbb955fa-f633-4b5d-8064-f8ba67250831 dd420dcf-7bf8-206f-d8a3-5510aafaf254 t t 0

copper bronze silver gold telepresence presence unknowndevice
=====
0 1 0 0 0 f 0
0 0 0 0 0 t 0
```


admin:

從網頁中可看出，一個基本版本會增加許可證要求，該版本對應於啟用移動功能的此使用者。

```
admin:run sql SELECT name,value FROM TABLE( FUNCTION LicenseTotals() )
(pkid,name,value,UserValue,DeviceValue)
name value
=====
CUWL Standard 0
EnhancedPlus 0
Enhanced 1
Basic 1
Essential 0
TelePresence Room 0
TotalUsers 1
TotalDevices 1
Timestamp 2013-05-27 11:39:46
ElmLastContact 1369607564
Elm UCS1CUCM91P.coluc.com
admin:
```

將裝置分配給使用者

此示例說明將之前新增的裝置分配給使用者並檢視CUCM如何計算許可證的場景。

Phone Type
Product Type: Cisco 6941
Device Protocol: SCCP

Device Information
Registration: Unknown
IP Address: Unknown
 Device is Active
 Device is trusted
MAC Address*:
Description:
Device Pool*: [View Details](#)
Privacy*:
Device Mobility Mode*: [View Current](#)
Owner User ID:
Phone Personalization*:
Services Provisioning*:
Phone Load Name:

按一下Update Usage Details以顯示CUCM 9.1.1a版及更高版本的許可證使用情況報告：

- License Usage Report



Below is a summary of current license usage on the system. Current usage details for each type are available. These data is a resource intensive process and may take several minutes to complete, depending on the size of the system.

[View All License Type Descriptions And Device Classifications](#)

[Update Usage Details](#)

Usage Details Last Updated: 2013-05-16 15:58:08

License Requirements by Type

License Type	Current Usage	Report
CUWL Standard	0	Users(0) Unassigned Devices(0)
Enhanced Plus	0	Users(0)
Enhanced	1	Users(1) Unassigned Devices(0)
Basic	0	Users(0) Unassigned Devices(0)
Essential	0	Users(0) Unassigned Devices(0)
TelePresence Room	0	Users(0) Unassigned Devices(0)

- Users and Unassigned devices

Users	1	View Usage Report
Unassigned Devices	0	View Usage Report

- Enterprise License Manager

The licenses for this system are managed by an Enterprise License Manager server.

Server Hostname / IP Address: [UCS1CUCM91P.coluc.com](#)

Last Successful Synchronization: 2013-05-16 00:30:08

許可證要求已從一個「增強」和「基本」更改為一個「增強」。資料庫表將相應地更新。此終端使用者仍有一個條目，但現在該條目還包括一個設定為1的bronze列值，該值與分配的裝置(1x6941)相對應。

```
admin:run sql select * from LicensingResourceUsage where  
fkenduser = 'dd420dcf-7bf8-206f-d8a3-5510aafaf254'
```

```
pkid                                fkenduser                                em snr tin  
=====                               =====                               == == ==  
95038f98-8967-4af8-aa61-1b86a1a7ba71 dd420dcf-7bf8-206f-d8a3-5510aafaf254 t t 0  
  
copper bronze silver gold telepresence presence unknowndevice  
===== ===== =====                               =====  
0      1      0      0      0      t      0
```

admin:

您還可以看到，未分配的裝置條目已從LicensingResourceUsage表中刪除，並且在其計算許可證使用率時不再被考慮。

```
admin:run sql select * from LicensingResourceUsage
```

```
pkid                                fkenduser                                em snr tin  
=====                               =====                               == == ==  
95038f98-8967-4af8-aa61-1b86a1a7ba71 dd420dcf-7bf8-206f-d8a3-5510aafaf254 t t 0  
  
copper bronze silver gold telepresence presence unknowndevice  
===== ===== =====                               =====  
0      1      0      0      0      t      0
```

admin:

如之前網頁中所示，許可證要求從一個「增強」（終端使用者）和「基本」（6941）更改為一個「增強」，後者現在涵蓋移動功能和分配的裝置（6941電話）。

```
admin:run sql SELECT name,value FROM TABLE( FUNCTION LicenseTotals() )
(pkid,name,value,UserValue,DeviceValue)
name value
=====
CUWL Standard 0
EnhancedPlus 0
Enhanced 1
Basic 0
Essential 0
TelePresence Room 0
TotalUsers 1
TotalDevices 0
Timestamp 2013-05-27 11:46:22
ElmLastContact 1369607564
Elm UCS1CUCM91P.coluc.com
admin:
```

新增第二個未分配的裝置(9971)

此範例顯示一個情境，其中將第二個裝置（9971電話）新增到CUCM並檢查它所做的變更。

Phone Type	
Product Type:	Cisco 9971
Device Protocol:	SIP
Device Information	
Registration	Unknown
IP Address	Unknown
<input checked="" type="checkbox"/> Device is Active	
<input checked="" type="checkbox"/> Device is trusted	
MAC Address*	<input type="text" value="222333444555"/>
Description	<input type="text" value="SEP222333444555"/>
Device Pool*	<input type="text" value="Default"/> View Details
Common Device Configuration	<input type="text" value="< None >"/> View Details

按一下 **Update Usage Details** 以顯示許可證使用情況報告：

-License Usage Report-

Below is a summary of current license usage on the system. Current usage details for each type are available by pressing "Update Usage Details". Note that collecting these details may take some time. [View All License Type Descriptions And Device Classifications](#)

Update Usage Details Usage Details Last Updated: 2013-05-27 11:59:36

License Type	Current Usage	Report
CUWL Standard	0	Users(0) Unassigned Devices(0)
Enhanced Plus	0	Users(0)
Enhanced	2	Users(1) Unassigned Devices(1)
Basic	0	Users(0) Unassigned Devices(0)
Essential	0	Users(0) Unassigned Devices(0)
TelePresence Room	0	Users(0) Unassigned Devices(0)

-Users and Unassigned devices-

Users	1	View Usage Report
Unassigned Devices	1	View Usage Report

許可證要求已更新為兩個增強許可證。資料庫表顯示，已新增第二個條目，其中銅牌列設定為1，對應於一台9971電話。您還可以看到，未將裝置分配給任何使用者(fkenduser = NULL)。

```
admin:run sql select * from LicensingResourceUsage
```

```

pkid                                     fkenduser                               em snr tin
=====
39442ae8-ea5a-4a42-92be-4822e7ee8c53 dd420dcf-7bf8-206f-d8a3-5510aafaf254 t t 0
6ba309b9-eb86-496b-8718-75b6f13878f1 NULL f f 0

```

```

copper bronze silver gold telepresence presence unknowndevice
=====
0 1 0 0 0 t 0
0 1 0 0 0 f 0

```

admin:

許可證要求現在更新為兩個增強型 (一個用於已啟用移動功能的使用者/已分配6941電話，另一個用於未分配的9971電話)。

```
admin:run sql SELECT name,value FROM TABLE( FUNCTION LicenseTotals() )
(pkid,name,value,UserValue,DeviceValue)
```

```

name value
=====
CUWL Standard 0
EnhancedPlus 0
Enhanced 2
Basic 0
Essential 0
TelePresence Room 0
TotalUsers 1
TotalDevices 1
Timestamp 2013-05-27 11:59:36
ElmLastContact 1369607564
Elm UCS1CUCM91P.coluc.com
admin:

```

將第二台裝置分配給同一使用者

此示例演示將9971電話分配給先前配置的使用者時，許可證計數如何變化；請記住，此使用者已為其分配了6941電話。

Phone Type

Product Type: Cisco 9971
Device Protocol: SIP

Device Information

Registration: Unknown
IP Address: Unknown

Device is Active
 Device is trusted

MAC Address*:

Description:

Device Pool*: [View Details](#)

Common Device Configuration: [View Details](#)

Device Mobility Mode*: [View Current Devi](#)

Owner User ID:

Phone Personalization*:

按一下Update Usage Details以顯示許可證使用情況報告：

License Usage Report

Below is a summary of current license usage on the system. Current usage details for each type are available by pressing "Update Usage Details". Note that collecting these data may take some time. [View All License Type Descriptions And Device Classifications](#)

Usage Details Last Updated: 2013-05-27 12:04:25

License Type	Current Usage	Report
CUWL Standard	0	Users(0) Unassigned Devices(0)
Enhanced Plus	1	Users(1)
Enhanced	0	Users(0) Unassigned Devices(0)
Basic	0	Users(0) Unassigned Devices(0)
Essential	0	Users(0) Unassigned Devices(0)
TelePresence Room	0	Users(0) Unassigned Devices(0)

Users and Unassigned devices

Users	1	View Usage Report
Unassigned Devices	0	View Usage Report

許可證要求已更新為1個增強型Plus。資料庫表顯示，終端使用者有一個條目，該條目中的銅牌列值現在設定為2，該條目對應於兩個分配的電話（一個6941和一個9971）。

```
admin:run sql select * from LicensingResourceUsage where
fkenduser = 'dd420dcf-7bf8-206f-d8a3-5510aafaf254'
```

```
pkid                               fkenduser                               em snr tin
=====
5d759af1-5a38-4f6c-a7f9-ab818c2692e8 dd420dcf-7bf8-206f-d8a3-5510aafaf254 t t 0

copper bronze silver gold telepresence presence unknowndevice
=====
0 2 0 0 0 t 0
```

admin:

您還可以看到，LicensingResourceUsage中總有一個條目；先前未分配的裝置（9971電話）條目現已刪除。

admin:run sql select * from LicensingResourceUsage

```
pkid                                fkenduser                                em snr tin
=====
5d759af1-5a38-4f6c-a7f9-ab818c2692e8 dd420dcf-7bf8-206f-d8a3-5510aafaf254 t t 0

copper bronze silver gold telepresence presence unknowndevice
=====
0      2      0      0      0      t      0
```

admin:

許可證要求已更新為1個增強型Plus (已啟用移動性，且向使用者分配了兩個裝置)。

admin:run sql SELECT name,value FROM TABLE(FUNCTION LicenseTotals())

(pkid,name,value,UserValue,DeviceValue)

```
name value
=====
CUWL Standard 0
EnhancedPlus 1
Enhanced 0
Basic 0
Essential 0
TelePresence Room 0
TotalUsers 1
TotalDevices 0
Timestamp 2013-05-27 12:04:25
```

ElmLastContact 1369607564

Elm UCS1CUCM91P.coluc.com

admin:

分機移動注意事項

在CUCM 9.1.1a版之前，當在裝置上啟用EM時，所有者使用者ID顯示為灰色，如下所示。

EM已禁用 (所有者使用者ID處於活動狀態) :

The screenshot shows two configuration panels. The top panel, titled "Extension Information", contains the following settings: "Enable Extension Mobility" is unchecked; "Log Out Profile" is set to "-- Use Current Device Settings --"; "Log in Time" is set to "< None >"; and "Log out Time" is set to "< None >". The bottom panel shows "Device Mobility Mode*" set to "Default", "Owner User ID" set to "< None >", and "Phone Personalization*" set to "Default".

已啟用EM (所有者使用者ID呈灰色顯示) :

The image shows two configuration panels from a CUCM interface. The top panel, titled "Extension Information", contains a checked checkbox for "Enable Extension Mobility", a dropdown menu for "Log Out Profile" set to "-- Use Current Device Settings --", and two fields for "Log in Time" and "Log out Time", both set to "< None >". The bottom panel, titled "Device Mobility Mode*", contains three dropdown menus: "Device Mobility Mode*" set to "Default", "Owner User ID" set to "< None >", and "Phone Personalization*" set to "Default".

CUCM 9.1.1a版對許可證的使用進行了一些更改。思科錯誤ID [CSCue14471](#)介紹了詳細資訊。

CSCue14471 — 更改分機移動性許可證計算

CUCM對CUCM 9.1.1a版及更高版本中的EM計算的修改：

- 更改將EM使用者排除在必需許可證使用範圍之外的許可證合計SQL。這意味著沒有任何相關物理裝置或移動配置的使用者不會使用任何基本許可證。
- 將「基本使用者GUI」子頁更改為不顯示EM使用者，因為他們不再使用許可證。
- 將電話頁更改為不禁用所有者ID關聯，即使EM配置檔案存在。
- 刪除使用者許可證報告（摘要和詳細資訊）中的「EM已啟用」資訊文本，因為它不再適用（文本僅顯示）。
- 在CUCM 10.0版之前，不會更改管理XML層(AXL);沒有預定義的許可查詢。