



Configuring Directory Services

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This chapter describes the directory services support available in Cisco Unified Communications Manager Express (Cisco Unified CME).

Finding Feature Information in This Module

Your Cisco Unified CME version may not support all of the features documented in this module. For a list of the versions in which each feature is supported, see the [“Feature Information for Directory Services” section on page 1023](#).

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- [Information About Directory Services, page 1003](#)
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Information About Directory Services

To enable directory services, you should understand the following concepts:

- [Local Directory, page 1004](#)
- [External Directory, page 1004](#)
- [Called-Name Display, page 1004](#)
- [Directory Search, page 1004](#)

Local Directory

Cisco Unified CME automatically creates a local phone directory containing the telephone numbers that are assigned in the directory number configuration of the phone. You can make additional entries to the local directory in telephony services configuration mode. Additional entries can be nonlocal numbers such as telephone numbers on other Cisco Unified CME systems used by your company.

When a phone user selects the **Directories > Local Directory** menu, the phone displays a search page from Cisco Unified CME. After a user enters the search information, the phone sends the information to Cisco Unified CME, which searches for the requested number or name pattern in the directory number configuration and sends the response back to the phone, which displays the matched results. The phone can display up to 32 directory entries. If a search results in more than 32 entries, the phone displays an error message and the user must refine the search criteria to narrow the results.

The order of the names in the directory entries is first-name-first or last-name-first. Character strings for directory names can contain a spaces and a comma (,) and cannot contain an ampersand (&).

The local directory that is displayed on an IP phone is an XML page that is accessed through HTTP without password protection. The directory HTTP service can be disabled to suppress the availability of the local directory.

For configuration information, see the [“Configuring Local Directory Service” section on page 1005](#).

External Directory

Cisco Unified IP Phones can support URLs in association with the four programmable feature buttons on IP phones, including the Directories button. Operation of these services is determined by the Cisco Unified IP phone capabilities and the content of the referenced URL. Provisioning the directory URL to select an external directory resource disables the Cisco Unified CME local directory service.

Called-Name Display

When phone agents answer calls for several different departments or people, it is often helpful for them to see a display of the name, rather than the number, of the called party. For example, if order-entry agents are servicing three catalogs with individual 800 numbers configured in one overlay ephone-dn set, they need to know which catalog is being called to give the correct greeting, such as “Thank you for calling catalog *N*. May I take your order?” The called-name display feature can display either of the following types of name:

- Name for a directory number in a local directory
- Name associated with an overlay directory number. Calls to the first directory number in a set of overlay numbers will display a caller ID. Calls to the remaining directory numbers in the overlay set will display the name associated with the directory number.

Directory Search

Cisco Unified CME 4.3 increases the number of entries supported in a search results list from 32 to up to 240 when using the directory search feature. For example, if a user enters “smith” as the last name, all 240 matches are displayed on eight different pages, with 30 entries per page. If multiple pages are

required, the phone displays two new soft keys, “Next” and “Prev” that the phone user can press to move back and forth between the previous and next pages. Text such as “Page 2 of 3” displays to indicate the current and total pages on the search results.

How to Configure Directory Services

This section contains the following tasks:

- [Configuring Local Directory Service, page 1005](#)
- [SCCP: Defining a Name for a Directory Number, page 1006](#)
- [SCCP: Adding an Entry to a Local Directory, page 1007](#)
- [SCCP: Configuring External Directory Service, page 1008](#)
- [SCCP: Enabling Called-Name Display, page 1011](#)
- [Verifying Called-Name Display, page 1012](#)
- [SIP: Defining a Name for a Directory Number, page 1013](#)
- [SIP: Configuring External Directory Service, page 1014](#)
- [Verifying Directory Services, page 1015](#)

Configuring Local Directory Service

To define the format for local directory names or block the local directory display on all phones, perform the following steps.

SUMMARY STEPS

1. `enable`
2. `configure terminal`
3. `telephony-service`
4. `directory {first-name-first | last-name-first}`
5. `no service local-directory`
6. `end`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p><code>enable</code></p> <p>Example: Router> enable</p>	<p>Enables privileged EXEC mode.</p> <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<p><code>configure terminal</code></p> <p>Example: Router# configure terminal</p>	<p>Enters global configuration mode.</p>

	Command or Action	Purpose
Step 3	telephony-service Example: Router(config)# telephony-service	Enters telephony-service configuration mode.
Step 4	directory {first-name-first last-name-first} Example: Router(config-telephony)# directory last-name-first	Defines the format for entries in the local directory. <ul style="list-style-type: none"> • Default is first-name-first.
Step 5	no service local-directory Example: Router(config-telephony)# no service local-directory	Disables local directory service on IP phones.
Step 6	end Example: Router(config-telephony)# end	Returns to privileged EXEC mode.

SCCP: Defining a Name for a Directory Number

To define a name to be used for caller-ID displays and as a local directory entry, perform the following steps.

Prerequisites

- Cisco CME 3.0 or a later version.
- Directory number for which you are defining a directory entry must already have a number assigned by using the **number (ephone- dn)** command. For configuration information, see [“SCCP: Creating Directory Numbers” on page 222](#).

Restrictions

- The name to be associated with a directory number cannot contain special characters, such as an ampersand (&). The only special characters allowed in the name are the comma (,) and the percent sign (%).

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ephone-dn dn-tag**
4. **name name**
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p>enable</p> <p>Example: Router> enable</p>	<p>Enables privileged EXEC mode.</p> <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<p>configure terminal</p> <p>Example: Router# configure terminal</p>	<p>Enters global configuration mode.</p>
Step 3	<p>ephone-dn dn-tag</p> <p>Example: Router(config)# ephone-dn 55</p>	<p>Enters ephone-dn configuration mode.</p>
Step 4	<p>name name</p> <p>Example: Router(config-ephone-dn)# name Smith, John or Router(config-ephone-dn)# name Shipping and Handling</p>	<p>Associates a name with this directory number.</p> <ul style="list-style-type: none"> • Must follow the name order that is specified with the directory command: first-name-first or last-name-first. • <i>name</i>—Alphanumeric string to be displayed. <ul style="list-style-type: none"> – You must separate the two parts, first last or last first, of the <i>name</i> string with a space. – The second part of the <i>name</i> string can contain spaces, such as “and Shipping.” The first part of the <i>name</i> string cannot contain spaces. – You can include a comma (,) in the <i>name</i> string for display purposes, for example, when you use the last-name-first pattern (last, first).
Step 5	<p>end</p> <p>Example: Router(config-telephony)# end</p>	<p>Returns to privileged EXEC mode.</p>

SCCP: Adding an Entry to a Local Directory

To add an entry to the local directory, perform the following steps.

Restrictions

- If the directory entry being configured is to be used for called-name display, the number being configured must contain at least one wildcard character.
- Entry for local directory cannot include opening or closing quotation marks (‘, ‘, “, or ”).

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **telephony-service**
4. **directory entry** {*directory-tag number name name* | **clear**}
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	telephony-service Example: Router(config)# telephony-service	Enters telephony-service configuration mode.
Step 4	directory entry { <i>directory-tag number name name</i> clear } Example: Router(config-telephony)# directory entry 1 5550111 name Sales	Creates a telephone directory entry that is displayed on an IP phone. Entries appear in the order in which they are entered. <ul style="list-style-type: none"> • <i>directory-tag</i>—Unique sequence number that identifies this directory entry during all configuration tasks. Range is 1 to 250. • If this name is to be used for called-name display, the <i>number</i> associated with the names must contain at least one wildcard character. • <i>name</i>—1 to 24 alphanumeric characters, including spaces. Name cannot include opening or closing quotation marks (‘, ’, “, or ”).
Step 5	end Example: Router(config-telephony)# end	Returns to privileged EXEC mode.

SCCP: Configuring External Directory Service

To enable an external directory resource on supported Cisco Unified IP phones and disable local directory services on those same phones, perform the following steps.

Prerequisites

To use a Cisco Unified Communications Manager directory as an external directory source for Cisco Unified CME phones, the Cisco Unified Communications Manager must be made aware of the phones. You must list the MAC addresses of the Cisco Unified CME phones in the Cisco Unified Communications Manager and reset the phones from the Cisco Unified Communications Manager. It is not necessary for you to assign ephone-dns to the phones or for the phones to register with Cisco Unified Communications Manager.

Restrictions

- Provisioning of the directory URL to select an external directory resource disables the Cisco Unified CME local directory service.
- Configuring external directory service only works with non-Java based phones. Any Java based phone will display duplicate directories for the following:
 - Missed
 - Received
 - Placed

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **telephony -service**
4. **url directories *url***
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.

	Command or Action	Purpose
Step 3	telephony-service Example: Router(config)# telephony-service	Enters telephony-service configuration mode.
Step 4	url directories url Example: Router(config-telephony)# url directories http://10.0.0.11/localdirectory	Associates a URL with the programmable Directories feature button on supported Cisco Unified IP phones in Cisco Unified CME. <ul style="list-style-type: none"> Provisioning the directories URL to select an external directory resource disables the Cisco Unified CME local directory service. Operation of these services is determined by the Cisco Unified IP phone capabilities and the content of the specified URL.
Step 5	end Example: Router(config-telephony)# end	Exits configuration mode and enters privileged EXEC mode.

SCCP: Enabling Called-Name Display

To enable called-name display, perform the following steps.

Prerequisites

- For directory numbers other than overlaid directory numbers—To display a name in the called-name display, the name to be displayed must be defined in the local directory. See the [“SCCP: Adding an Entry to a Local Directory”](#) section on page 1007.
- For overlaid directory numbers—To display a name in the called-name display for a directory number that is in a set of overlaid directory numbers, the name to be displayed must be defined. See the [“SCCP: Defining a Name for a Directory Number”](#) section on page 1006

Restrictions

- The `service dnis overlay` command can only be used to configure overlaid ephone-dns.

SUMMARY STEPS

1. `enable`
2. `configure terminal`
3. `telephony-service`
4. `service dnis dir-lookup`
5. `service dnis overlay`
6. `end`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: Router> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	<code>configure terminal</code> Example: Router# configure terminal	Enters global configuration mode.
Step 3	<code>telephony-service</code> Example: Router(config)#	Enters telephony-service configuration mode.

	Command or Action	Purpose
Step 4	service dnis dir-lookup Example: Router(config-telephony)# service dnis dir-lookup	Specifies that incoming calls to a called number should display the name that was defined for this directory number with the directory entry command. <ul style="list-style-type: none"> If the service dnis dir-lookup and service dnis overlay commands are both used in one configuration, the service dnis dir-lookup command takes precedence.
Step 5	service dnis overlay Example: Router(config-telephony)# service dnis overlay	(For overlaid directory numbers only.) Specifies that incoming calls to a called number should display the name that was defined for this directory number with the name command. <p>Note If the service dnis dir-lookup and service dnis overlay commands are both used in one configuration, the service dnis dir-lookup command takes precedence.</p>
Step 6	end Example: Router(config-telephony)# end	Returns to privileged EXEC mode.

Verifying Called-Name Display

- Step 1** Use the **show running-config** command to verify your configuration. Called-name display is shown in the telephony-service part of the output.

```
Router# show running-config

telephony-service
 service dnis overlay
```

- Step 2** Use the **show telephony-service directory-entry** command to display current directory entries.

```
Router# show telephony-service directory-entry

directory entry 1 5550341 name doctor1
directory entry 2 5550772 name doctor1
directory entry 3 5550263 name doctor3
```

- Step 3** Use the **show telephony-service ephone-dn** command to verify that you have used at least one wildcard (period or .) in the ephone-dn primary or secondary number or to verify that you have entered a name for the number.

```
Router# show telephony-service ephone-dn

ephone-dn 2
 number 5002 secondary 200.
 name catalogN
 huntstop
 call-forward noan 5001 timeout 8
```

- Step 4** Use the **show ephone overlay** command to verify the contents of overlaid ephone-dn sets.

```
Router# show ephone overlay

ephone-1 Mac:0007.0EA6.353A TCP socket:[1] activeLine:0 REGISTERED
mediaActive:0 offhook:0 ringing:0 reset:0 reset_sent:0 paging 0 debug:0
```

```

IP:10.2.225.205 52486 Telecaster 7960  keepalive 2771 max_line 6
button 1: dn 11 number 60011 CH1 IDLE      overlay
button 2: dn 17 number 60017 CH1 IDLE      overlay
button 3: dn 24 number 60024 CH1 IDLE      overlay
button 4: dn 30 number 60030 CH1 IDLE      overlay
button 5: dn 36 number 60036 CH1 IDLE      CH2 IDLE      overlay
button 6: dn 39 number 60039 CH1 IDLE      CH2 IDLE      overlay
overlay 1: 11(60011) 12(60012) 13(60013) 14(60014) 15(60015) 16(60016)
overlay 2: 17(60017) 18(60018) 19(60019) 20(60020) 21(60021) 22(60022)
overlay 3: 23(60023) 24(60024) 25(60025) 26(60026) 27(60027) 28(60028)
overlay 4: 29(60029) 30(60030) 31(60031) 32(60032) 33(60033) 34(60034)
overlay 5: 35(60035) 36(60036) 37(60037)
overlay 6: 38(60038) 39(60039) 40(60040)

```

SIP: Defining a Name for a Directory Number

To define name for a directory number on a SIP phone, perform the following steps.

Prerequisites

- Cisco CME 3.4 or a later version.
- Directory number for which you are defining a name must already have a number assigned by using the **number (voice register dn)** command. For configuration information, see [“SIP: Creating Directory Numbers” on page 232](#).

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice register dn** *dn-tag*
4. **name** *name*
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.

	Command or Action	Purpose
Step 3	voice register dn <i>dn-tag</i> Example: Router(config-register-global)# voice register dn 17	Enters voice register dn configuration mode to define a directory number for a SIP phone, intercom line, voice port, or a message-waiting indicator (MWI).
Step 4	name <i>name</i> Example: Router(config-register-dn)# name Smith, John or Example: Router(config-register-dn)# name John Smith	Associates a name with a directory number in Cisco Unified CME and provides caller ID for calls originating from a SIP phone. <ul style="list-style-type: none"> Name must follow the order specified by using the directory (telephony-service) command.
Step 5	end Example: Router(config-register-dn)# end	Exits configuration mode and enters privileged EXEC mode.

SIP: Configuring External Directory Service

To enable an external directory resource on supported Cisco Unified IP phones and disable local directory services on those same phones, perform the following steps.

Prerequisites

Cisco CME 3.4 or a later version.

Restrictions

- Provisioning of the directory URL to select an external directory resource disables the Cisco Unified CME local directory service.
- Supported only on Cisco Unified IP Phone 7960s and 7960Gs and Cisco Unified IP Phone 7940s and 7940Gs.

SUMMARY STEPS

- enable**
- configure terminal**
- voice register global**
- url directory** *url*
- end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none">Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	voice register global Example: Router(config)# voice register global	Enters voice register global configuration mode to set parameters for all supported SIP phones in Cisco Unified CME.
Step 4	url {directory url} Example: Router(config-register-global)# url directory http://10.0.0.11/localdirectory	Associates a URL with the programmable Directories feature button on supported Cisco Unified IP phones in Cisco Unified CME. <ul style="list-style-type: none">Provisioning the directory URL to select an external directory resource disables the Cisco Unified CME local directory service.Operation of these services is determined by the Cisco Unified IP phone capabilities and the content of the specified URL.
Step 5	end Example: Router(config-register-global)# end	Exits to privileged EXEC mode.

Verifying Directory Services

To verify the configuration for local directory services, perform the following steps.

SUMMARY STEPS

1. **show running-config**
2. **show telephony-service**
3. **show telephony-service directory-entry**

DETAILED STEPS

Step 1 show running-config

This command displays the running configuration. Directory configuration commands are listed in the telephony-service portion of the output.

```
Router# show running-config
```

```
.
```

```

.
.
timeout busy 10
timeout ringing 100
caller-id name-only: enable
system message XYZ Company
web admin system name admin1 password admin1
web admin customer name Customer
edit DN through Web:  enabled.
edit TIME through web:  enabled.
Log (table parameters):
    max-size: 150
    retain-timer: 15
create cnf-files version-stamp Jan 01 2002 00:00:00
transfer-system full-consult
multicast moh 239.12.20.123 port 2000
fxo hook-flash
local directory service: enabled.

```

Step 2 show telephony-service

This command displays only the telephony-service configuration information.

Step 3 Use the show telephony-service directory-entry command to display the entries made using the directory entry command.

Configuration Examples for Directory Services

This section contains the following examples:

- [Local Directory, page 1016](#)
- [Called-Name Display, page 1017](#)

Local Directory

The following example defines the naming order for the local directory on IP phones served by the Cisco Unified CME router:

```

telephony-service
  directory last-name-first

```

The following example creates a directory of three telephone listings:

```

telephony-service
  directory entry 1 14045550111 name Sales
  directory entry 2 13125550122 name Marketing
  directory entry 3 12135550144 name Support Center

```

The following example disables the local directory on IP phones served by the Cisco Unified CME router:

```

telephony-service
  no service local-directory

```

Called-Name Display

This section contains the following examples:

- [First Ephone-dn in the Overlay Set: Example, page 1017](#)
- [Directory Name for an Overlaid Ephone-dn Set: Example, page 1017](#)
- [Directory Name for a Hunt Group with Overlaid Ephone-dns: Example, page 1019](#)
- [Directory Name for Non-Overlaid Ephone-dns: Example, page 1020](#)
- [Ephone-dn Name for Overlaid Ephone-dns: Example, page 1020](#)

First Ephone-dn in the Overlay Set: Example

The following example shows a configuration for three phones that use the same set of overlaid ephone-dns for each phone's button 1.

```
telephony-service
  service dnis overlay

ephone-dn 1
  number 18005550100

ephone-dn 2
  name department1
  number 18005550101

ephone-dn 3
  name department2
  number 18005550102

ephone 1
  button 1o1,2,3

ephone 2
  button 1o1,2,3

ephone 3
  button 1o1,2,3
```

The default display for all three phones is the number of the first ephone-dn listed in the overlay set (18005550100). A call is made to the first ephone-dn (18005550100), and the caller ID (for example, 4085550123) is displayed on all three phones. The user for phone 1 answers the call. The caller ID (4085550123) remains displayed on phone 1, and the displays on phone 2 and phone 3 return to the default display (18005550100). A call to the next ephone-dn is made. The default display on phone 2 and phone 3 is replaced with the called ephone-dn's name (18005550101).

Directory Name for an Overlaid Ephone-dn Set: Example

The following is an example of a configuration of overlaid ephone-dns that uses wildcards in the secondary numbers for the ephone-dns. The wildcards allow you to control the display according to the number that was dialed. The example is for a medical answering service with three IP phones that accept calls for nine doctors on one button. When a call to 5550001 rings on button 1 on ephone 1 through ephone 3, "doctor1" is displayed on all three ephones.

```
telephony-service
  service dnis dir-lookup
```

```
directory entry 1 5550001 name doctor1
directory entry 2 5550002 name doctor2
directory entry 3 5550003 name doctor3

directory entry 4 5550010 name doctor4
directory entry 5 5550011 name doctor5
directory entry 6 5550012 name doctor6

directory entry 7 5550020 name doctor7
directory entry 8 5550021 name doctor8
directory entry 9 5550022 name doctor9

ephone-dn 1
  number 5500 secondary 555000.

ephone-dn 2
  number 5501 secondary 555001.

ephone-dn 3
  number 5502 secondary 555002.

ephone 1
  button 101,2,3
  mac-address 1111.1111.1111

ephone 2
  button 101,2,3
  mac-address 2222.2222.2222

ephone 3
  button 101,2,3
  mac-address 3333.3333.3333
```

For more information about making directory entries, see the [“Local Directory”](#) section on page 1004. For more information about overlaid ephone-dns, see [“Configuring Call Coverage Features”](#) on page 817.

Directory Name for a Hunt Group with Overlaid Ephone-dns: Example

The following example shows a hunt-group configuration for a medical answering service with two phones and four doctors. Each phone has two buttons, and each button is assigned two doctors' numbers. When a patient calls 5550341, Cisco Unified CME matches the hunt-group pilot secondary number (555....), rings button 1 on one of the two phones, and displays "doctor1."

```
telephony-service
 service dnis dir-lookup
 max-redirect 20
 directory entry 1 5550341 name doctor1
 directory entry 2 5550772 name doctor1
 directory entry 3 5550263 name doctor3
 directory entry 4 5550150 name doctor4

ephone-dn 1
 number 1001

ephone-dn 2
 number 1002

ephone-dn 3
 number 1003

ephone-dn 4
 number 104

ephone 1
 button 1o1,2
 button 2o3,4
 mac-address 1111.1111.1111

ephone 2
 button 1o1,2
 button 2o3,4
 mac-address 2222.2222.2222

ephone-hunt 1 peer
 pilot 5100 secondary 555....
 list 1001, 1002, 1003, 1004
 final number 5556000
 hops 5
 preference 1
 timeout 20
 no-reg
```

For more information about hunt-group behavior, see [“Configuring Call Coverage Features” on page 817](#). Note that wildcards are used only in secondary numbers and cannot be used with primary numbers. For more information about making directory entries, see the [“Local Directory” section on page 1004](#). For more information about overlaid ephone-dns, see [“Configuring Call Coverage Features” on page 817](#).

Directory Name for Non-Overlaid Ephone-dns: Example

The following is a configuration for three IP phones, each with two buttons. Button 1 receives calls from doctor1, doctor2, and doctor3, and button 2 receives calls from doctor4, doctor5, and doctor6.

```
telephony-service
 service dnis dir-lookup
 directory entry 1 5550001 name doctor1
 directory entry 2 5550002 name doctor2
 directory entry 3 5550003 name doctor3
 directory entry 4 5550010 name doctor4
 directory entry 5 5550011 name doctor5 directory entry 6 5550012 name doctor6

ephone-dn 1
 number 1001 secondary 555000.

ephone-dn 2
 number 1002 secondary 555001.

ephone 1
 button 1:1
 button 2:2
 mac-address 1111.1111.1111

ephone 2
 button 1:1
 button 2:2
 mac-address 2222.2222.2222

ephone 3
 button 1:1
 button 2:2
 mac-address 3333.3333.3333
```

For more information about making directory entries, see the [“Local Directory”](#) section on page 1004.

Ephone-dn Name for Overlaid Ephone-dns: Example

The following example shows three phones that have button 1 assigned to pick up three 800 numbers for three different catalogs.

The default display for all four phones is the number of the first ephone-dn listed in the overlay set (18005550000). A call is made to the first ephone-dn (18005550000), and the caller ID (for example, 4085550123) is displayed on all phones. The user for phone 1 answers the call. The caller ID (4085550123) remains displayed on phone 1, and the displays on phone 2 and phone 3 return to the

default display (18005550000). A call to the second ephone-dn (18005550001) is made. The default display on phone 2 and phone 3 is replaced with the called ephone-dn's name (catalog1) and number (18005550001).

```
telephony-service
  service dnis overlay
```

```
ephone-dn 1
  number 18005550000
```

```
ephone-dn 2
  name catalog1
  number 18005550001
```

```
ephone-dn 3
  name catalog2
  number 18005550002
```

```
ephone-dn 4
  name catalog3
  number 18005550003
```

```
ephone 1
  button 101,2,3,4
```

```
ephone 2
  button 101,2,3,4
```

```
ephone 3
  button 101,2,3,4
```

For more information about overlaid ephone-dns, see [“Configuring Call Coverage Features” on page 817](#).

Additional References

The following sections provide references related to Cisco Unified CME features.

Related Documents

Related Topic	Document Title
Cisco Unified CME configuration	<ul style="list-style-type: none"> • Cisco Unified CME Command Reference • Cisco Unified CME Documentation Roadmap
Cisco IOS commands	<ul style="list-style-type: none"> • Cisco IOS Voice Command Reference • Cisco IOS Software Releases 12.4T Command References
Cisco IOS configuration	<ul style="list-style-type: none"> • Cisco IOS Voice Configuration Library • Cisco IOS Software Releases 12.4T Configuration Guides
Phone documentation for Cisco Unified CME	<ul style="list-style-type: none"> • User Documentation for Cisco Unified IP Phones

Technical Assistance

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	http://www.cisco.com/techsupport

Feature Information for Directory Services

Table 86 lists the features in this module and enhancements to the features by version.

To determine the correct Cisco IOS release to support a specific Cisco Unified CME version, see the *Cisco Unified CME and Cisco IOS Software Version Compatibility Matrix* at http://www.cisco.com/en/US/docs/voice_ip_comm/cucme/requirements/guide/33matrix.htm.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.



Note

Table 86 lists the Cisco Unified CME version that introduced support for a given feature. Unless noted otherwise, subsequent versions of Cisco Unified CME software also support that feature.

Table 86 Feature Information for Directory Services

Feature Name	Cisco Unified CME Version	Feature Information
Directory Search	7.0/4.3	Number of entries supported in a search results list was increased from 32 to 240 when using directory search.
Called-Name Display	3.2	Called-name display was introduced.
Local Directory Service External Directory Service	4.0(2)	Added support for transferring a call directly to a selected number listed in the directory. If directory transfer is not supported, the user must press Transfer and then use the keypad to manually enter the number of the monitored line to transfer the incoming call.
	3.4	Added support of directory services for SIP phones directly connected in Cisco Unified CME.
	3.0	The ability to add local directory entries in addition to those that are automatically added from phone configurations was introduced. Authentication for local directory display was introduced.
	2.1	The ability to block the display of the local directory on phones was introduced.
	2.0	The specification of name format in the local directory was introduced.

