

Directory Services

- Information About Directory Services, on page 1
- Configure Directory Services, on page 3
- Configuration Examples for Directory Services, on page 14
- Feature Information for Directory Services, on page 18

Information About Directory Services

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 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 Configure Local Directory Service, on page 3.

From CME 12.0 onwards, an optional username and password can be configured for authenticating the local directory services.

For more information on the CLI command **service local-directoryauthenticateusername password**, see Cisco Unified Communications Manager Express Command Reference.

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 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. The Dialed Number Identification Service (or Called-Name Display) feature supports the display of the name associated with a called number for incoming calls to IP phones configured on a Unified CME. The display name is obtained from the list of Unified CME directory names using directory lookup.

You need to configure the CLI command **service dnis dir-lookup** under telephony-service configuration mode to use this directory lookup service. For more information on the CLI command **service dnis dir-lookup**, see Cisco Unified Communications Manager Express Command Reference Guide.

If the display name for a called number is not available in Unified CME directory names, the display name can be added using the CLI command **directory entry**. For more information on the CLI command **directory entry**, see Cisco Unified Communications Manager Express Command Reference Guide.



Note When a phone receives two simultaneous calls, there is a slight time difference between the calls being acknowledged by the phone. Called-name Display is only for the first call acknowledged by the phone. Even when the first call is disconnected and the second call is in ringing state, Called-name Display feature does not work for the second call.

For an example of Called-Name Display , see Example for Called-Name Display for Voice Hunt Group, on page 14

The called-name display feature for ephone-dns 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.

This is an example of Called-Name Display for ephone-dns. 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?”

From Unified CME Release 12.0 onwards, the Dialed Number Identification Service feature is supported for phones configured under voice hunt group on on Cisco 4000 Series Integrated Services Routers. The Dialed Number Identification Service is supported on Peer, Sequential, Parallel, and Longest-Idle voice hunt groups. Support is introduced for SIP Phones on Cisco IP Phones 7800 and 8800 Series as part of the Unified CME 12.0 Release. For information on configuring Called-Name Display feature, see Called-Name Display, on page 8.

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 softkeys, “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.

Configure Directory Services

Configure 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

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • 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** {**first-name-first**	**last-name-first**} **Example:** `Router(config-telephony)# directory last-name-first`	Defines the format for entries in the local directory. • Default is **first-name-first**.

	Command or Action	Purpose
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.

Define a Name for a Directory Number on SCCP Phone

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

Restriction

- 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 (%).

Before you begin

- 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 Create Directory Numbers for SCCP Phones.

SUMMARY STEPS

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

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.

	Command or Action	Purpose
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**ephone-dn** *dn-tag* **Example:** `Router(config)# ephone-dn 55`	Enters ephone-dn configuration mode.

Step 4	**name** *name*
	Example:
	`Router(config-ephone-dn)# name Smith, John`
	or
	`Router(config-ephone-dn)# name Shipping and Handling`
		Associates a name with this directory number.
		• Must follow the name order that is specified with the directory command: first-name-first or last-name-first.
		• *name*—Alphanumeric string to be displayed.
		  • You must separate the two parts, first last or last first, of the *name* string with a space.
		  • The second part of the *name* string can contain spaces, such as "and Shipping". The first part of the *name* string cannot contain spaces.
		  • You can include a comma (,) in the *name* string for display purposes, for example, when you use the last-name-first pattern (last, first).

Step 5	**end** **Example:** `Router(config-telephony)# end`	Returns to privileged EXEC mode.

Add an Entry to a Local Directory on SCCP Phone

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

Restriction

- 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

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • 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** {*directory-tag number* **name** *name* | **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. • directory-tag—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 *number* associated with the names must contain at least one wildcard character. • *name*—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.

Configure External Directory Service on SCCP Phone

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.

Restriction

- 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

Before you begin

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.

SUMMARY STEPS

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

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • 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.

	Command or Action	Purpose
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. • 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.

Called-Name Display

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

Restriction

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

Before you begin

- 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 Add an Entry to a Local Directory on SCCP Phone, on page 5.
- 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 Define a Name for a Directory Number on SCCP Phone, on page 4.

SUMMARY STEPS

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

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**telephony-service** **Example:** `Router(config)#`	Enters telephony-service configuration mode.
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. • 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. **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.
Step 6	**end** **Example:** `Router(config-telephony)# end`	Returns to privileged EXEC mode.

Verify Called-Name Display

Procedure

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.

Example:

```
Router# show running-config
telephony-service
 service dnis overlay
```

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

Example:

```
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.

Example:

```
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.

Example:

```
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
```

Define a Name for a Directory Number on SIP Phone

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

Before you begin

- 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 Create Directory Numbers for SIP Phones.

SUMMARY STEPS

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

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**voice register dn** *dn-tag* **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** *name*
	Example:
	`Router(config-register-dn)# name Smith, John`
	or
	`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.
		• Name must follow the order specified by using the **directory (telephony-service)** command.

Step 5	**end** **Example:**	Exits configuration mode and enters privileged EXEC mode.

	Command or Action	Purpose
	`Router(config-register-dn)# end`	

Configure External Directory Service on SIP 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.

Restriction

- 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.

Before you begin

Cisco CME 3.4 or a later version.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice register global**
4. **url directory** *url*
5. **end**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • 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.

	Command or Action	Purpose
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. • 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.

Verify Directory Services

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

Procedure

Step 1 **show running-config**

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

Example:

```
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

Example for Configuring 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
```

Example for Configuring Called-Name Display

This section contains the following examples:

Example for Called-Name Display for Voice Hunt Group

The following is an example of a voice hunt group configuration, where the CLI command **service dnis dir-lookup** allows the directory entry names to be displayed on the IP phones when a call is placed to a number declared using the CLI command **directory entry**. In this example, the pilot umber is configured as 11… This means that the user can dial the numbers 1100 to 1199. When the user dials 1111, the directory name dept1 is displayed for the directory numbers 2001, 2002, and 2003. If user dials 1155, then the directory name dept2 is displayed and if user dials 5500, then the directory name dept3 is displayed for the directory numbers 2001, 2002, and 2003.

```
telephony-service
 service dnis dir-lookup
 directory entry 1 1111 name dept1
 directory entry 2 1155 name dept2
 directory entry 3 5500 name dept3

voice hunt-group 1 sequential
pilot 11..
list 2001, 2002, 2003
```

```
final 8888
timeout 10
```

Example for Configuring First Ephone-dn in the Overlay Set

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).

Example for Configuring Directory Name for an Overlaid Ephone-dn Set

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 1o1,2,3
 mac-address 1111.1111.1111

ephone 2
 button 1o1,2,3
 mac-address 2222.2222.2222

ephone 3
 button 1o1,2,3
 mac-address 3333.3333.3333
```

For more information about making directory entries, see Local Directory, on page 1 . For more information about overlaid ephone-dns, see Call Coverage Features.

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

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 Call Coverage Features. Note that wildcards are used only in secondary numbers and cannot be used with primary numbers. For more information about making directory entries, see Call Coverage Features. For more information about overlaid ephone-dns, see Call Coverage Features.

Example for Configuring Directory Name for Non-Overlaid Ephone-dns

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 Local Directory, on page 1.

Example for Configuring Ephone-dn Name for Overlaid Ephone-dns

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 1o1,2,3,4

ephone 2
 button 1o1,2,3,4

ephone 3
 button 1o1,2,3,4
```

For more information about overlaid ephone-dns, see Call Coverage Features.

Feature Information for Directory Services

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to https://cfnng.cisco.com/. An account on Cisco.com is not required.

Table 1: Feature Information for Directory Services

Feature Name	Unified CME Version	Feature Information
Service Local Directory	12.0	The CLI command for accessing local directory service was enhanced to configure username and password, as **service local-directory authenticate username password** .

Feature Name	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	12.0	Support for Called-Name Display on phones configured under voice hunt group.
	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.