

Multiple Pattern Support on a Voice Dial Peer

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Overview

The Multiple Pattern Support on a Voice Dial Peer feature enables you to configure multiple patterns on a VoIP dial peer using an E.164 pattern map. A dial peer can be configured to match multiple patterns to an incoming calling or called number or an outgoing destination number.

Matching an incoming or outgoing call using a pattern defined in a VoIP dial peer is an existing feature on the Cisco Unified Border Element (Enterprise) and Session Initiation Protocol (SIP) Gateway. You can now support multiple patterns on a VoIP dial peer using an E.164 pattern map. You can create an E.164 pattern map and then link it to one or more VoIP dial peers.

When a pattern is the only source to enable a dial peer, a valid E.164 pattern map enables the linked dial peers, whereas an invalid E.164 pattern map disables the linked dial peers. Additionally, whenever an E.164 pattern map is created or reloaded, one or more dial peers linked with an E.164 pattern map is enabled or disabled based on the validation of a pattern map.

You can match a pattern map to an incoming calling or called number or an outgoing destination number.

When a dial peer has multiple patterns, the pattern with the longest prefix is considered as the matching criteria.

Feature Information for Multiple Pattern Support on a Voice Dial Peer

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 www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1: Feature Information for Multiple Pattern Support on a Voice Dial Peer

Feature Name	Releases	Feature Information
Configuring Multiple Pattern Support on a Voice Dial Peer (Inbound Calls)	Cisco IOS 15.4 (1)T Cisco IOS XE 3.11S	This feature was extended for inbound VoIP dial peers for incoming calling and called numbers. The following commands were introduced or modified: **incoming called e164-pattern-map**, **incoming calling e164-pattern-map**
Configuring Multiple Pattern Support on a Voice Dial Peer (Outbound Calls)	Cisco IOS 15.2(4)M Cisco IOS XE 3.7S	This feature allows you to add more than one E.164 destination pattern inside a pattern map and configure that pattern map for one or more VoIP dial peers. This feature is supported for outbound peers only. The following commands were introduced or modified: **destination e164-pattern-map**, **e164**, **show voice class e164-pattern-map**, **url**, **voice class e164-pattern-map load**, **voice class e164-pattern-map**.

Restrictions for Multiple Pattern Support on a Voice Dial Peer

- This feature is supported only on a VoIP dial peer.
- Duplicate patterns cannot be added to a pattern map.

Configure Multiple Pattern Support

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **voice class e164-pattern-map** *pattern-map-id*
4. Do one of the following:
   - **e164** *pattern-map-tag*
   - **url** *url*

5. (Optional) **description** *string*
6. **exit**
7. **dial-peer voice** *dial-peer-id* **voip**
8. {**destination | incoming called | incoming calling**} **e164-pattern-map** *pattern-map-group-id*
9. **end**
10. (Optional) **voice class e164-pattern-map load** *pattern-map-group-id*
11. **show dial-peer voice** [**summary** | *dial-peer-id*]

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enters privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**voice class e164-pattern-map** *pattern-map-id* **Example:** `Device(config)# voice class e164-pattern-map 1111`	Creates a pattern map for configuring one or multiple E.164 patterns on a dial peer and enters voice class configuration mode. **Note** The prefix + sign is stripped during .T destination pattern selection. However, configuring an unrelated or empty E.164 pattern in the same dial-peer as the .T pattern will not strip + sign.

Step 4	Do one of the following:
	• **e164** *pattern-map-tag*
	• **url** *url*
	Example:
	Using URL text file:
	`Device(voice-class)# url http://http-host/config-files/pattern-map.cfg`
	Directly specifying match patterns:
	`Device(voice-class)# e164 5557123`
		Configure one or more E.164 telephone number prefix match patterns for the pattern map.
		• Repeat this step for each pattern if you are using the **e164** command.
		• You can specify a file URL containing the patterns for this dial peer using the **url** *url* command. You must then load the E.164 telephone prefixes using Step 10. The file can be internal (on the device) or external.

	Command or Action	Purpose
Step 5	(Optional) **description** *string* **Example:** `Device(voice-class)# description It has 1 entry`	Provides a description for the pattern map.
Step 6	**exit** **Example:** `Device(voice-class)# exit`	Exits voice class configuration mode and enters global configuration mode.
Step 7	**dial-peer voice** *dial-peer-id* **voip** **Example:** `Device(config)# dial-peer voice 2222 voip`	Defines a VoIP dial peer and enters dial peer configuration mode.
Step 8	{**destination** | **incoming called** | **incoming calling**} **e164-pattern-map** *pattern-map-group-id* **Example:** `Device(config-dial-peer)# incoming calling e164-pattern-map 1111`	Links a pattern-map group with a dial peer. • Use the **destination** keyword for outbound dial peers. • Use the **incoming called** or **incoming calling** keywords for inbound dial peers using called or calling numbers. **Note** When both incoming and outgoing dial peers are configured with **calling e164-pattern-map**, it's essential to apply a provision policy to the incoming dial peer to avoid call failures.
Step 9	**end** **Example:** `Device(config-dial-peer)# end`	Exits dial peer configuration mode and enters privileged EXEC mode.
Step 10	(Optional) **voice class e164-pattern-map load** *pattern-map-group-id* **Example:** `Device# voice class e164-pattern-map load 1111`	Loads the specified pattern map with E.164 match patterns from a text file configured in the pattern map. • This step is required only if patterns have been defined for the specified pattern map using a file URL in Step 4.
Step 11	**show dial-peer voice** [**summary** | *dial-peer-id*] **Example:** `Device# show dial-peer voice 1111`	Displays the status of a pattern map when the pattern map is associated with a dial peer.

Verify Multiple Pattern Support

SUMMARY STEPS

1. **show voice class e164-pattern-map** [**summary** | *pattern-map-id*]
2. **show dial-peer voice** [**summary** | *dial-peer-id*]
3. **show dialplan incall {sip | h323} {calling | called}** *e164-pattern*

DETAILED STEPS

Procedure

Step 1 **show voice class e164-pattern-map** [**summary** | *pattern-map-id*]

Displays the status and contents of a specified pattern map or a status summary of all pattern maps.

Example:

```
Device# show voice class e164-pattern-map 200

e164-pattern-map 200
----------------------------------------
  It has 1 entries
  It is not populated from a file.
  Map is valid.

E164 pattern
-------------------
200
```

Step 2 **show dial-peer voice** [**summary** | *dial-peer-id*]

Displays the status of pattern maps associated with all or a specified dial peer.

Example:

```
Device# show dial-peer voice | include  e164-pattern-map

        incoming calling e164-pattern-map tag = `200' status = valid,
        destination e164-pattern-map tag = 3000 status = valid,

Device# show dial-peer voice 2222| include  e164-pattern-map

        incoming calling e164-pattern-map tag = `200' status = valid,
```

Step 3 **show dialplan incall {sip | h323} {calling | called}** *e164-pattern*

Displays inbound dial peer details and associated pattern maps based on an incoming calling or called number.

Example:

```
Device#  show dialplan incall voip calling 23456

VoiceOverIpPeer1234567
        peer type = voice, system default peer = FALSE, information type = voice,
        description = `',
```

```
tag = 1234567, destination-pattern = `',
destination e164-pattern-map tag = 200 status = valid,
destination dpg tag = 200 status = valid,
voice reg type = 0, corresponding tag = 0,
allow watch = FALSE
answer-address = `', preference=0,
incoming calling e164-pattern-map tag = `200' status = valid,
CLID Restriction = None
```

Configuration Examples for Multiple Pattern Support

Example: Configuring Multiple Patterns for Outbound Dial Peers Using a File URL

```
Device# voice class e164-pattern-map 1111
Device(voice-class)# url http://http-host/config-files/pattern-map.cfg
Device(voice-class)# description For Outbound Dial Peer
Device(voice-class)# exit
Device(config)# dial-peer voice 2222 voip
Device(voice-dial-peer)# destination e164-pattern-map 1111
Device(voice-dial-peer)# exit
Device(config)# voice class e164-pattern-map load 1111
Device(config)# end
```

Example: Configuring Multiple Patterns for Outbound Dial Peers by Specifying Each E164 Pattern

```
Device# voice class e164-pattern-map 1112
Device(voice-class)# e164 5557456
Device(voice-class)# e164 5557455
Device(voice-class)# e164 5557454
Device(voice-class)# e164 5557453
Device(voice-class)# e164 5557452
Device(voice-class)# description For Outbound Dial Peer
Device(voice-class)# exit
Device(config)# dial-peer voice 2222 voip
Device(voice-dial-peer)# destination e164-pattern-map 1112
Device(voice-dial-peer)# end
!
```

Example: Configuring Multiple Patterns for Inbound Dial Peer

```
Device# voice class e164-pattern-map 1113
Device(voice-class)# url http://http-host/config-files/pattern-map.cfg
Device(voice-class)# description For Inbound Dial Peer
Device(voice-class)# exit
Device(config)# dial-peer voice 2222 voip
Device(voice-dial-peer)# incoming calling e164-pattern-map 1113
Device(voice-dial-peer)# exit
Device(config)# voice class e164-pattern-map load 1113
Device(config)# end
```