



Configuring the XML API

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This chapter describes the eXtensible Markup Language (XML) Application Programming Interface (API) 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 XML API” section on page 1224](#).

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Information About XML API

To enable XML API, you should understand the following concepts:

- [XML API Definition, page 1215](#)
- [XML API Provision Using IXI, page 1216](#)

XML API Definition

An XML API provides an interface to Cisco Unified CME that allows an external network management system (NMS) to configure and monitor Cisco Unified CME operations.

XML API Provision Using IXI

In previous versions of Cisco Unified CME, the XML interface provided configuration and monitoring functions using the HTTP port. The XML interface ran under the HTTP server process, simultaneously parsing incoming XML requests on demand and processing them.

In Cisco Unified CME 4.0 and later versions, the XML interface is provided through the Cisco IOS XML Infrastructure (IXI), in which the parser and transport layers are separated from the application. This modularity provides scalability and enables future XML support to be developed. In Cisco Unified CME 4.0 and later versions, all Cisco Unified CME features have XML support.

How to Configure XML API

This section contains the following tasks:

- [Defining XML Transport Parameters, page 1216](#)
- [Defining XML Application Parameters, page 1218](#)
- [Defining Authentication for XML Access, page 1219](#)
- [Defining XML Event Table Parameters, page 1220](#)
- [Troubleshooting the XML Interface, page 1221](#)

**Note**

The following Cisco IOS commands that were previously used with the XML interface are no longer valid: **log password**, **xmltest**, **xmlschema**, and **xmlthread**.

Defining XML Transport Parameters

To define the XML transport method and associated parameters, perform the following steps.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip http server**
4. **ixi transport http**
5. **response size** *fragment-size*
6. **request outstanding** *number*
7. **request timeout** *seconds*
8. **no shutdown**
9. **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	ip http server Example: Router(config)# ip http server	Enables the Cisco web browser user interface on the local Cisco Unified CME router.
Step 4	ixi transport http Example: Router(config)# ixi transport http	Specifies the XML transport method and enters XML-transport configuration mode. <ul style="list-style-type: none"> http—HTTP transport.
Step 5	response size <i>fragment-size</i> Example: Router(conf-xml-trans)# response size 8	Sets the response buffer size. <ul style="list-style-type: none"> <i>fragment-size</i>—Size of fragment in the response buffer, in kilobytes. Range is constrained by the transport type and platform. See the CLI help for the valid range of values.
Step 6	request outstanding <i>number</i> Example: Router(conf-xml-trans)# request outstanding 2	Sets the maximum number of outstanding requests allowed for the transport type. <ul style="list-style-type: none"> <i>number</i>—Number of requests. Range is constrained by the transport type and platform. See the CLI help for the valid range of values.
Step 7	request timeout <i>seconds</i> Example: Router(conf-xml-trans)# request timeout 30	Sets the number of seconds to wait, while processing a request, before timing out. <ul style="list-style-type: none"> <i>seconds</i>—Number of seconds. Range is 0 to 60.
Step 8	no shutdown Example: Router(conf-xml-trans)# no shutdown	Enables HTTP transport.
Step 9	end Example: Router(config-xml-app)# end	Returns to privileged EXEC mode.

Defining XML Application Parameters

To set a response timeout for communication with the XML application that overrides the setting in transport configuration mode, perform the following steps.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ixi application cme**
4. **response timeout** {-1 | *seconds*}
5. **no shutdown**
6. **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	ixi application cme Example: Router(config)# ixi application cme	Enters XML-application configuration mode for configuring Cisco IOS XML infrastructure parameters for the Cisco Unified CME application. Note This command defines URL of Cisco Unified CME XML server as <code>http://<routerIPAddress>/ios_xml_app/cme</code> .
Step 4	response timeout {-1 <i>seconds</i> } Example: Router(config-xml-app) response timeout 30	Sets a timeout for responding to the XML application and overwrites the IXI transport level timeout. <ul style="list-style-type: none"> • -1—No application-specific timeout is specified. This is the default. • <i>seconds</i>—Length of timeout, in seconds. Range is 0 to 60.
Step 5	no shutdown Example: Router(conf-xml-app)# no shutdown	Enables XML communication with the application.
Step 6	end Example: Router(config-xml-app)# end	Returns to privileged EXEC mode.

Defining Authentication for XML Access

To authenticate users for XML access, perform the following steps:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **telephony-service**
4. **xml user** *user-name* **password** *password* *privilege-level*
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	xml user <i>user-name</i> password <i>password</i> <i>privilege-level</i> Example: Router(config-telephony)# xml user user23 password 3Rs92uzQ 15	Defines an authorized user. <ul style="list-style-type: none"> • <i>user-name</i>—Unique alphanumeric string that is authorized user name. Maximum length of string is 19 characters. • <i>password</i>—Alphanumeric string to use for access. Maximum length of string is 19 characters. • <i>privilege-level</i>—Level of access to Cisco IOS commands to be granted to this user. Only the commands with the same or a lower level can be executed via XML. Range is 0 (lowest) to 15 (highest).
Step 5	end Example: Router(config-telephony)# end	Returns to privileged EXEC mode.

Defining XML Event Table Parameters

The XML event table is an internal buffer that stores captured and time-stamped events, such as phones registering and unregistering and extension status. One event equals one entry in the table. To set the maximum number of events or entries that can be stored in the XML event table and the length of time that events are retained before they are deleted from the table, perform the following steps.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **telephony-service**
4. **log table max-size** *number*
5. **log table retain-timer** *minutes*
6. **end**
7. **show fb-its-log**
8. **clear telephony-service xml-event-log**

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)#	Enters telephony-service configuration mode.
Step 4	log table max-size <i>number</i> Example: Router(config-telephony)# log table max-size 100	Sets the number of entries in the XML event table. <ul style="list-style-type: none"> • <i>number</i>—Number of entries. Range is 0 to 1000. Default is 150.
Step 5	log table retain-timer <i>minutes</i> Example: Router(config-telephony)# log table retain-timer 30	Sets the number of minutes to retain entries in the event table before they are deleted. <ul style="list-style-type: none"> • <i>minutes</i>—Number of minutes. Range is 2 to 500. Default is 15.

	Command or Action	Purpose
Step 6	<code>end</code> Example: Router(config-telephony)# end	Returns to privileged EXEC mode.
Step 7	<code>show fb-its-log</code> Example: Router# show fb-its-log	Displays the event logs.
Step 8	<code>clear telephony-service xml-event-log</code> Example: Router# clear telephony-service xml-event-log	Clears XML event logs.

Troubleshooting the XML Interface

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- Step 1** Use the `debug cme-xml` command to view debug messages for the Cisco Unified CME XML interface.
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Configuration Examples for XML API

This section contains the following examples:

- [XML Transport Parameters: Example, page 1221](#)
- [XML Application Parameters: Example, page 1221](#)
- [XML Authentication: Example, page 1222](#)
- [XML Event Table: Example, page 1222](#)

XML Transport Parameters: Example

The following example selects HTTP as the XML transport method:

```
ip http server
ixi transport http
  response size 8
  request outstanding 2
  request timeout 30
  no shutdown
```

XML Application Parameters: Example

The following example sets the application response timeout to 30 seconds.

```
ixi application cme
  response timeout 30
  no shutdown
```

XML Authentication: Example

The following example selects HTTP as the XML transport method. It allows access for user23 with the password 3Rs92uzQ, and sets up access list 99 that accepts requests from the IP address 192.168.146.72.

```
ixi transport http
ip http server
!
telephony-service
xml user user23 password 3Rs92uzQ 15
```

XML Event Table: Example

The following example sets the maximum number of entries in the XML event table to 100 and the number of minutes to retain entries at 30:

```
telephony-service
log table max-size 100
log table retain-timer 30
```

Where to Go Next

For developer information on the XML API, see the [XML Provisioning Guide for Cisco CME/SRST](#).

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>	<p>http://www.cisco.com/techsupport</p>

Feature Information for XML API

Table 60 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 60 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 60 Feature Information for XML API

Feature Name	Cisco Unified CME Version	Feature Information
Call Blocking Based on Date and Time	4.0	The XML API was modified and is now provided through the Cisco IOS XML infrastructure. It supports all Cisco Unified CME features. The log password , xmltest , xmlschema , and xmlthread commands were made obsolete.
	3.0	The XML API was introduced.