



# Configuring Cisco Unified Communication IOS Services

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## Configuring the Router for Cisco Unified Communication IOS Services

This section describes how to configure the router to support the providers on the gateway.

### Prerequisite

Cisco IOS Release 15.2(2)T

## Configuring Cisco Unified Communication IOS Services on the Router

Perform this procedure to configure Cisco Unified Communication IOS services on the router.

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip http server**
4. **ip http max-connection *value***
5. **ip http timeout-policy idle *seconds* life *seconds* requests *value***



6. **http client persistent**
7. **http client connection idle timeout** *seconds*
8. **uc wsapi**
9. **message-exchange max-failures** *number*
10. **probing max-failures** *number*
11. **probing interval keepalive** *seconds*
12. **probing interval negative** *seconds*
13. **source-address** *ip-address*
14. **end**

**DETAILED STEPSi**

	<b>Command or Action</b>	<b>Purpose</b>
<b>Step 1</b>	<b>enable</b>  <b>Example:</b> Router> enable	Enables privileged EXEC mode. Enter your password if prompted.
<b>Step 2</b>	<b>configure terminal</b>  <b>Example:</b> Router# configure terminal	Enters global configuration mode.
<b>Step 3</b>	<b>ip http server</b>  <b>Example:</b> Router(conf)# ip http server	Enables the HTTP server (web server) on the system.
<b>Step 4</b>	<b>ip http max-connection</b> <i>value</i>  <b>Example:</b> Router(conf)# ip http max-connection 100	Sets the maximum number of concurrent connections to the HTTP sever that will be allowed. The default value is 5.

Command or Action	Purpose
<p><b>Step 5</b></p> <pre>ip http timeout-policy idle seconds life seconds requests value</pre> <p><b>Example:</b> Router(conf)# ip http timeout-policy idle 600 life 86400 requests 86400 </p>	<p>Sets the characteristics that determine how long a connection to the HTTP server should remain open. The characteristics are:</p> <p><b>idle</b>—The maximum number of seconds the connection will be kept open if no data is received or response data can not be sent out on the connection. Note that a new value may not take effect on any already existing connections. If the server is too busy or the limit on the life time or the number of requests is reached, the connection may be closed sooner. The default value is 180 seconds (3 minutes).</p> <p><b>life</b>—The maximum number of seconds the connection will be kept open, from the time the connection is established. Note that the new value may not take effect on any already existing connections. If the server is too busy or the limit on the idle time or the number of requests is reached, it may close the connection sooner. Also, since the server will not close the connection while actively processing a request, the connection may remain open longer than the specified life time if processing is occurring when the life maximum is reached. In this case, the connection will be closed when processing finishes. The default value is 180 seconds (3 minutes). The maximum value is 86400 seconds (24 hours).</p> <p><b>requests</b>—The maximum limit on the number of requests processed on a persistent connection before it is closed. Note that the new value may not take effect on any already existing connections. If the server is too busy or the limit on the idle time or the life time is reached, the connection may be closed before the maximum number of requests are processed. The default value is 1. The maximum value is 86400.</p>
<p><b>Step 6</b></p> <pre>http client persistent</pre> <p><b>Example:</b> Router(conf)# http client persistent </p>	<p>Enables HTTP persistent connections.</p>
<p><b>Step 7</b></p> <pre>http client connection idle timeout seconds</pre> <p><b>Example:</b> Router(conf)# http client idle timeout 600 </p>	<p>Sets the number of seconds that the client waits in the idle state until it closes the connection.</p>
<p><b>Step 8</b></p> <pre>uc wsapi</pre> <p><b>Example:</b> Router(conf)# uc wsapi </p>	<p>Enters Cisco Unified Communication IOS Service configuration mode.</p>

	Command or Action	Purpose
Step 9	<b>message-exchange max-failures</b> <i>number</i>  <b>Example:</b> Router(config-uc-wsapi)# message-exchange max failures 2	Configures the maximum number of failed message exchanges between the application and the provider before the provider stops sending messages to the application. Range is 1 to 3. Default is 1.
Step 10	<b>probing max-failures</b> <i>number</i>  <b>Example:</b> Router(config-uc-wsapi)# probing max-failures 5	Configures the maximum number of failed probing messages before the router unregisters the application. Range is 1 to 5. Default is 3.
Step 11	<b>probing interval keepalive</b> <i>seconds</i>  <b>Example:</b> Router(config-uc-wsapi)# probing interval 180	Configures the interval between probing messages, in seconds. Default is 120 seconds.
Step 12	<b>probing interval negative</b> <i>seconds</i>  <b>Example:</b> Router(config-uc-wsapi)# probing interval negative 10	Configures the interval between negative probing messages, in seconds.
Step 13	<b>source-address</b> <i>ip-address</i>  <b>Example:</b> Router(config-uc-wsapi)# source-address 172.1.12.13	Configures the IP address (hostname) as the source IP address for the UC IOS service.  <b>Note</b> The source IP address is used by the provider in the NotifyProviderStatus messages.
Step 14	<b>end</b>  <b>Example:</b> Router(config-uc-wsapi)# end	Returns to privileged EXEC mode.

## Configuring the XCC Provider on the Router

Perform this procedure to configure the XCC provider on the router.

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **uc wsapi**
4. **provider xcc**
5. **no shutdown**
6. **remote-url** *url*
7. **exit**
8. **end**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>enable</b>  <b>Example:</b> Router> enable	Enables privileged EXEC mode.  Enter your password if prompted.
Step 2	<b>configure terminal</b>  <b>Example:</b> Router# configure terminal	Enters global configuration mode.
Step 3	<b>uc wsapi</b>  <b>Example:</b> Router(config)# uc wsapi	Enters Cisco Unified Communication IOS Service configuration mode.
Step 4	<b>provider xcc</b>  <b>Example:</b> Router(config-uc-wsapi)# provider xcc	Enters XCC provider configuration mode.
Step 5	<b>no shutdown</b>  <b>Example:</b> Router(config-uc-wsapi-xcc)# no shutdown	Activates XCC provider.
Step 6	<b>remote-url url</b>  <b>Example:</b> Router(config-uc-wsapi-xcc)# remote-url http://209.133.85.47:8090/my_callcontrol	Specifies the URL (IP address and port number) that the application uses to communicate with XCC provider. The XCC provider uses the IP address and port to authenticate incoming requests.
Step 7	<b>exit</b>  <b>Example:</b> Router(config-uc-wsapi-xcc)# exit	Exits XCC configuration mode.
Step 8	<b>end</b>  <b>Example:</b> Router(config-uc-wsapi)# end	Returns to privileged EXEC mode.

## Configuring the XSVC Provider on the Router

Perform this procedure to configure the XSVC providers on the router.

## SUMMARY STEPS

1. enable
2. configure terminal

3. **uc wsapi**
4. **provider xsvc**
5. **no shutdown**
6. **remote-url** *[url-number] url*
7. **exit**
8. **trunk group** *name*
9. **description**
10. **xsvc**
11. **exit**
12. **voip trunk group** *name*
13. **description**
14. **xsvc**
15. **session target ipv4:***destination-address*
16. **exit**
17. **end**

**DETAILED STEPS**

	<b>Command or Action</b>	<b>Purpose</b>
<b>Step 1</b>	<b>enable</b>  <b>Example:</b> Router> enable	Enables privileged EXEC mode. Enter your password if prompted.
<b>Step 2</b>	<b>configure terminal</b>  <b>Example:</b> Router# configure terminal	Enters global configuration mode.
<b>Step 3</b>	<b>uc wsapi</b>  <b>Example:</b> Router(config)# uc wsapi	Enters Cisco Unified Communication IOS Service configuration mode.
<b>Step 4</b>	<b>provider xsvc</b>  <b>Example:</b> Router(config-uc-wsapi)# provider xsvc	Enters XSVC provider configuration mode.
<b>Step 5</b>	<b>no shutdown</b>  <b>Example:</b> Router(config-uc-wsapi-xsvc)# no shutdown	Activates XSVC provider.

	Command or Action	Purpose
Step 6	<b>remote-url</b> <i>[url-number] url</i>  <b>Example:</b> Router(config-uc-wsapi-xsvc)# remote-url 1 http://209.133.85.47:8090/my_route_control	Specifies up to 8 different URLs (IP address and port number) that applications can use to communicate with the XSVC provider. The XSVC provider uses the IP address and port to authenticate incoming requests.  The <i>url-number</i> identifies the unique url. Range is 1 to 8.
Step 7	<b>exit</b>  <b>Example:</b> Router(config-uc-wsapi-xsvc)# exit	Exits XSVC configuration mode.
Step 8	<b>trunk group</b> <i>name</i>  <b>Example:</b> Router(config)# trunk group SJ_PRI	Enters trunk-group configuration mode to define a trunk group.
Step 9	<b>description</b>  <b>Example:</b> Router(config)# description IN	Enter a description for the trunk group. The name is passed to external application as part of XSVC status and XCC connection messages.
Step 10	<b>xsvc</b>  <b>Example:</b> Router(config-trunk-group)# xsvc	Enables xsvc monitoring on the trunk group.
Step 11	<b>exit</b>  <b>Example:</b> Router(config-trunk-group)# exit	Exits trunk group configuration mode.
Step 12	<b>voip trunk group</b> <i>name</i>  <b>Example:</b> Router(config)# trunk group SJ_SIP	Enters VOIP trunk-group configuration mode to define a trunk group.
Step 13	<b>description</b>  <b>Example:</b> Router(config-voip-trk-gp)# description IN	Enter a description for the VOIP trunk group. The name is passed to external application as part of XSVC status and XCC connection messages.
Step 14	<b>xsvc</b>  <b>Example:</b> Router(config-voip-trk-gp)# xsvc	Enables xsvc monitoring on the VOIP trunk group.
Step 15	<b>session target</b> <b>ipv4:</b> <i>destination address</i>  <b>Example:</b> Router(config-voip-trk-gp)# session target ipv4:9.10.31.254	Configures the IP address of the remote router.

	Command or Action	Purpose
Step 16	<b>exit</b>  <b>Example:</b> Router(config-voip-trk-gp)# exit	Exits VOIP trunk group configuration mode.
Step 17	<b>end</b>  <b>Example:</b> Router(config-uc-wsapi)# end	Returns to privileged EXEC mode.

## Configuring the XCDR Provider on the Router

Perform this procedure to configure the XCDR provider on the router.

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **uc wsapi**
4. **provider xcdr**
5. **no shutdown**
6. **remote-url** [*url-number*] *url*
7. **exit**
8. **end**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>enable</b>  <b>Example:</b> Router> enable	Enables privileged EXEC mode. Enter your password if prompted.
Step 2	<b>configure terminal</b>  <b>Example:</b> Router# configure terminal	Enters global configuration mode.
Step 3	<b>uc wsapi</b>  <b>Example:</b> Router(conf)# uc wsapi	Enters Cisco Unified Communication IOS Service configuration mode.
Step 4	<b>provider xcdr</b>  <b>Example:</b> Router(config-uc-wsapi)# provider xcdr	Enters XCDR provider configuration mode.



	Command or Action	Purpose
Step 5	<code>no shutdown</code>  <b>Example:</b> Router(config-uc-wsapi-xcdr)# no shutdown	Activates XCDR provider.
Step 6	<code>remote-url [url-number] url</code>  <b>Example:</b> Router(config-uc-wsapi-xcdr)# remote-url 1 http://209.133.85.47:8090/my_route_control	Specifies up to eight different URLs (IP address and port number) that applications can use to communicate with the XCDR provider. The XCDR provider uses the IP address and port to authenticate incoming requests.  The <i>url-number</i> identifies the unique url. Range is 1 to 8.
Step 7	<code>exit</code>  <b>Example:</b> Router(config-uc-wsapi-xcdr)# exit	Exits XCDR configuration mode.
Step 8	<code>end</code>  <b>Example:</b> Router(config-uc-wsapi)# end	Returns to privileged EXEC mode.

## Configuration Example

The following example sets up the router for Cisco Unified Communication IOS Services. It enables the HTTP server and the XCC, XSVC, and XCDR providers. The configuration specifies the address and port that the application uses to communicate with the XCC, XSVC, and XCDR provider. It also identifies the trunk group that XSVC will be monitoring.



### Note

XSVC and XCDR can support up to eight different remote URLs.

```
ip http server
!
call fallback monitor
call fallback icmp-ping count 1 interval 2 timeout 100
!
uc wsapi
  source-address 10.1.1.1
  provider xcc
    remote-url http://test.com:8090/xcc
  !
  provider xsvc
    remote-url 1 http://test.com:8090/xsvc
  !
  provider xcdr
    remote-url 1 http://test.com:8090/xcdr
  !
trunk group pri
  xsvc

voip trunk group 1
  xsvc
  session target ipv4: 11.1.1.1
```

```

!
interface Serial0/1/0:23
 isdn switch-type primary-ni
 isdn incoming-voice voice
 trunk-group pri

```

## Verifying and Troubleshooting Cisco Unified Communication IOS Services

Use the following show commands to gather information on the performance of the Cisco Unified Communication IOS Services:

- **show wsapi registration**
- **show wsapi http client**
- **show wsapi http server**
- **show wsapi xsvc routes**

Use the following debug commands to gather troubleshooting information on the service provider:

- **debug wsapi xcc [CR | all | function | default | detail | error | inout | event]**
- **debug wsapi xsvc [CR | all | function | default | detail | error | inout | event]**
- **debug wsapi xcdr [CR | all | function | default | detail | error | inout | event]**
- **debug wsapi infrastructure [CR | all | function | default | detail | error | inout | event]**

## Command Reference

This section documents the CLI commands that are used on the router.

- [debug wsapi, page 11](#)
- [message-exchange max-failures, page 14](#)
- [probing interval, page 15](#)
- [probing max-failures, page 16](#)
- [provider, page 17](#)
- [remote-url, page 18](#)
- [show call media forking, page 19](#)
- [show voip trunk group, page 20](#)
- [show wsapi, page 21](#)
- [source-address \(uc-wsapi\), page 24](#)
- [uc wsapi, page 24](#)
- [voip trunk group, page 25](#)
- [xsvc, page 26](#)

# debug wsapi

To collect and display traces for the Cisco Unified Communication IOS services application programming interface, use the **debug wsapi** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

```
debug wsapi {infrastructure | xcc | xcdr | xsvc } [all | default | detail | error | event | function | inout | messages]
```

```
no debug wsapi {infrastructure | xcc | xcdr | xsvc } [all | default | detail | error | event | function | inout | messages]
```

Syntax Description		
	<b>infrastructure</b>	Enables debugging traces on the infrastructure.
	<b>xcc</b>	Enables debugging traces on the xcc provider.
	<b>xcdr</b>	Enables debugging traces on the xcdr provider.
	<b>xsvc</b>	Enables debugging traces on the xsvc provider.
	<b>all</b>	Enables all debugging traces.
	<b>default</b>	Enables default debugging traces.
	<b>detail</b>	Enables detailed debugging traces.
	<b>error</b>	Enables error debugging traces.
	<b>event</b>	Enables event debugging traces.
	<b>function</b>	Enables function debugging traces.
	<b>inout</b>	Enables inout debugging traces.
	<b>messages</b>	Enables API message traces.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	15.2(2)T	This command was introduced.

**Usage Guidelines** Use this command to enable debugging traces for the Cisco Unified Communication IOS services subsystems.

**Examples** The following is the debug output from the **debug wsapi infrastructure** command for an XCC registration.

```
Router# debug wsapi infrastructure
23:25:09: //WSAPI/INFRA/wsapi_https_urlhook:
23:25:09: //WSAPI/INFRA: app_name cisco_xcc in url /cisco_xcc in port 8090
23:25:09: //WSAPI/INFRA/wsapi_https_urlhook: Exit
23:25:09: //WSAPI/INFRA/wsapi_https_post_action:
```

```

23:25:09: wsapi_https_data_read: <soapenv:Envelope
xmlns:soapenv="http://www.w3.org/2003/05/soap-envelope"><soapenv:Body><RequestXccRegister
xmlns="http://www.cisco.com/schema/cisco_xcc/v1_0"><applicationData><name>myapp</name><url
>http://sj22lab-as2:8090/xcc</url></applicationData><blockingEventTimeoutSec>1</blockingEv
entTimeoutSec><blockingTimeoutHandle>CONTINUE_PROCESSING</blockingTimeoutHandle><connectio
nEventsFilter>CREATED AUTHORIZE_CALL REDIRECTED ALERTING CONNECTED TRANSFERRED
CALL_DELIVERY DISCONNECTED HANDOFFLEAVE
HANDOFFJOIN</connectionEventsFilter><mediaEventsFilter>MODE_CHANGE DTMF TONE_BUSY
TONE_DIAL TONE_SECOND_DIAL TONE_RINGBACK TONE_OUT_OF_SERVICE
MEDIA_ACTIVITY</mediaEventsFilter><msgHeader><transactionID>txID001</transactionID></msgHe
ader><providerData><url>http://10.1.1.1:8090/cisco_xcc</url></providerData></RequestXccReg
ister></soapenv:Body></soapenv:Envelope>
23:25:09: //WSAPI/INFRA/27/0/wsapi_https_recv:
23:25:09: //WSAPI/INFRA/27/0/txID001/wsapi_ph_request_msg_handle:
23:25:09: //WSAPI/INFRA/27/0/txID001: prov_type 0 msg_type 6 prov_state 1
23:25:09: //WSAPI/INFRA/wsapi_create_common_msg:
23:25:09: //WSAPI/INFRA/wsapi_create_common_msg: Exit
23:25:09: //WSAPI/INFRA/27/0/txID001/wsapi_send_outbound_response:
23:25:09: wsapi_dump_msg: type 8
23:25:09: transactionID txID001
23:25:09: registrationID 50674FC:XCC:myapp:9
23:25:09: ResponseXccRegister:
23:25:09: providerStatus 1
23:25:09: //WSAPI/INFRA/27/0/txID001/wsapi_send_outbound_response: Exit
23:25:09: wsapi_send_ResponseRegister:mem_mgr_mempool_free: mem_refcnt(3CA18B8)=0 -
mempool cleanup
23:25:09: //WSAPI/INFRA/27/0/txID001/wsapi_https_recv: Exit
23:25:09: wsapi_https_data_write: <?xml version="1.0" encoding="UTF-8"?><SOAP:Envelope
xmlns:SOAP="http://www.w3.org/2003/05/soap-envelope"><SOAP:Body><ResponseXccRegister
xmlns="http://www.cisco.com/schema/cisco_xcc/v1_0"><msgHeader><transactionID>txID001</tran
sactionID><registrationID>50674FC:XCC:myapp:9</registrationID></msgHeader><providerStatus>
IN_SERVICE</providerStatus></ResponseXccRegister></SOAP:Body></SOAP:Envelope>
23:25:09: //WSAPI/INFRA/wsapi_https_post_action: Exit

```

The following is a partial debug log from the **debug wsapi xcc all** command for a call.

```
Router# debug wsapi xcc all
```

```

23:27:20: //WSAPI/XCC/check_xccp_active:177:
23:27:20: //WSAPI/XCC/provider_base_get_state:248:
23:27:20: //WSAPI/XCC/provider_base_get_registration_count:212:
23:27:20: //WSAPI/XCC/check_xccp_active:177:
23:27:20: //WSAPI/XCC/provider_base_get_state:248:
23:27:20: //WSAPI/XCC/provider_base_get_registration_count:212:
23:27:20: //WSAPI/XCC/xccp_sessStore_call_add:271:
23:27:20: //WSAPI/XCC/xccp_sessStore_get_db:145:
23:27:20: //WSAPI/XCC/xccp_session_call_add:353: xcc session successfully added
23:27:20: //WSAPI/XCC/xccp_sessStore_call_add:285: xcc call successfully added
23:27:20: //WSAPI/XCC/check_xccp_active:177:
23:27:20: //WSAPI/XCC/provider_base_get_state:248:
23:27:20: //WSAPI/XCC/provider_base_get_registration_count:212:
23:27:20: //WSAPI/XCC/xccp_create_outbound_msg_space:677:
23:27:20: //WSAPI/XCC/xccp_sessStore_get_callData:225:
23:27:20: //WSAPI/XCC/xccp_sessStore_get_db:145:
23:27:20: //WSAPI/XCC/xccp_session_get_callData:445:
23:27:20: //WSAPI/XCC/check_xccp_active:177:
23:27:20: //WSAPI/XCC/provider_base_get_state:248:
23:27:20: //WSAPI/XCC/provider_base_get_registration_count:212:
23:27:20: //WSAPI/XCC/xccp_notify_events:434:
23:27:20: //WSAPI/XCC/xccp_queue_events:304:
23:27:20: //WSAPI/XCC/provider_base_event_new:335:
23:27:20: //WSAPI/UNKNOWN/event_base_new:267:
23:27:20: //WSAPI/XCC: magic [0xBABE] state[EVENT_STATE_ACTIVE] owner [0x1148C178]
evSize[56] debFlag[3] evHdlr[0x894D834] evHdlFree[0x894DB00]

```

```

23:27:20: //WSAPI/UNKNOWN/event_base_new:292: event base new succ
23:27:20: //WSAPI/XCC/provider_base_event_new:360: provider base eventNew success
23:27:20: //WSAPI/XCC/provider_base_add_ev_to_q:393:
23:27:20: //WSAPI/XCC/check_xccp_active:177:
23:27:20: //WSAPI/XCC/provider_base_get_state:248:
23:27:20: //WSAPI/XCC/provider_base_get_registration_count:212:
23:27:20: //WSAPI/XCC/xccp_create_outbound_msg_space:677:
23:27:20: //WSAPI/XCC/xccp_sessStore_get_callData:225:
23:27:20: //WSAPI/XCC/xccp_sessStore_get_db:145:
23:27:20: //WSAPI/XCC/xccp_session_get_callData:445:
23:27:20: //WSAPI/XCC/check_xccp_active:177:
23:27:20: //WSAPI/XCC/provider_base_get_state:248:
23:27:20: //WSAPI/XCC/provider_base_get_registration_count:212:
23:27:20: //WSAPI/XCC/xccp_solicit_events:359:
23:27:20: //WSAPI/XCC/xccp_queue_events:304:
23:27:20: //WSAPI/XCC/provider_base_event_new:335:
23:27:20: //WSAPI/UNKNOWN/event_base_new:267:
23:27:20: //WSAPI/XCC: magic [0xBABE] state[EVENT_STATE_ACTIVE] owner [0x1148C178]
evSize[56] debFlag[3] evHdlr[0x894D834] evHdlFree[0x894DB00]
23:27:20: //WSAPI/UNKNOWN/event_base_new:292: event base new succ
23:27:20: //WSAPI/XCC/provider_base_event_new:360: provider base eventNew success
23:27:20: //WSAPI/XCC/provider_base_add_ev_to_q:393:
23:27:20: //WSAPI/XCC/provider_base_process_events:444:
23:27:20: //WSAPI/XCC/xccp_handle_events:153:
23:27:20: //WSAPI/INFRA/wsapi_send_outbound_message:
23:27:20: //WSAPI/INFRA/wsapi_send_outbound_message_by_provider_info:
23:27:20: //WSAPI/XCC/wsapi_xcc_encode_outbound_msg:
23:27:20: //WSAPI/XCC/wsapi_xcc_encode_outbound_msg: Exit
23:27:20: //WSAPI/INFRA/0/1527/50875A4:319:out_url http://sj22lab-as2:8090/xcc
23:27:20: wsapi_send_outbound_message_by_provider_info: <?xml version="1.0"
encoding="UTF-8"?><SOAP:Envelope
xmlns:SOAP="http://www.w3.org/2003/05/soap-envelope"><SOAP:Body><NotifyXccConnectionData
xmlns="http://www.cisco.com/schema/cisco_xcc/v1_0"><msgHeader><transactionID>50875A4:319</
transactionID><registrationID>50674FC:XCC:myapp:9</registrationID></msgHeader><callData><c
allID>9</callID><state>ACTIVE</state></callData><connData><connID>1527</connID><state>IDLE
</state></connData><event><created><connDetailData><connData><connID>1527</connID><state>I
DLE</state></connData><guid>7A1E678F-8259-11E0-8FF1-D29982DCA129</guid><callingAddrData><t
ype>E164</type><addr>5522101</addr></callingAddrData><calledAddrData><type>E164</type><add
r>6001</addr></calledAddrData><origCallingAddrData><type>E164</type><addr>5522101</addr></
origCallingAddrData><origCalledAddrData><type>E164</type><addr>6001</addr></origCalledAddr
Data><connIntfType>CONN_SIP</connIntfType><mediaData><type>VOICE</type></mediaData><connIn
tf>1.3.45.2</connIntf><connDirectionType>INCOMING</connDirectionType></connDetailData></cr
eated></event></NotifyXccConnectionData></SOAP:Body></SOAP:Envelope>
23:27:20: //WSAPI/INFRA/0/1527/50875A4:319/wsapi_send_outbound_message_by_provider_info:
Exit
.
.
.

```

## message-exchange max-failures

To configure the maximum number of failed message that is exchanged between the application and the provider before the provider stops sending messages to the application, use the **message-exchange max-failures** command. To reset the maximum to the default number, use the **no** form of this command.

**message-exchange max-failures** *number*

**no message-exchange max-failures** *number*

<b>Syntax Description</b>	<i>number</i>	Maximum number of messages allowed before the service provider stops sending messages to the application. Range is from 1 to 3. Default is 1.
---------------------------	---------------	-----------------------------------------------------------------------------------------------------------------------------------------------

**Command Default** The default is 1.

**Command Modes** uc wsapi configuration mode

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	15.2(2)T	This command was introduced.

**Usage Guidelines** Use this command to set the maximum number of messages that can fail before the system determines that the application is unreachable and the service provider stops sending messages to the application.

**Examples** The following example sets the maximum number of failed messages to 2.

```
Router(config)# uc wsapi
Router(config-uc-wsapi)# message-exchange max-failures 2
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>probing interval</b>	Sets the time interval between probing messages.
	<b>probing max-failure</b>	Sets the number of messages that the system will send without receiving a reply before the system unregisters the application.

# probing interval

To configure the time interval between probing messages sent by the router, use the **probing interval** command. To reset the time interval to the default number, use the **no** form of this command.

**probing interval** [**keepalive** | **negative**] *seconds*

**no probing interval keepalive** [**negative**] *seconds*

Syntax Description		
<b>keepalive</b>	(optional)	Configures the time interval between probing messages when the session is in a keepalive state. Range is from 1 to 255 seconds. Default is 5 seconds.
<b>negative</b>	(optional)	Configures the time interval between probing messages when the session is in a negative state. Range is from 1 to 20 seconds. Default is 5 seconds.
<i>seconds</i>		Number of seconds between probing message.

**Defaults** The default is 120 seconds between probing messages when the session is in a normal state and 5 seconds between probing messages when the session is in a negative state.

**Command Modes** uc wsapi configuration mode.

Command History	Release	Modification
	15.2(2)T	This command was introduced.

**Usage Guidelines** Use this command to configure the time interval between probing messages sent by the router.

**Examples** The following example sets an interval of 180 seconds during a normal session and 10 seconds when the session is in a negative state:

```
Router(config)# uc wsapi
Router(config-uc-wsapi)# probing interval keepalive 180
Router(config-uc-wsapi)# probing interval negative 10
```

Related Commands	Command	Description
	<b>message-exchange</b>	Sets the maximum number of failed message responses before the provider stops sending messages.
	<b>probing max-failure</b>	Sets the number of messages that the system will send without receiving a reply before the system unregisters the application.

# probing max-failures

To configure the maximum number of probing messages that the application fails to respond to before the system stops the session and unregisters the application, use the **probing max-failures** command. To reset the maximum to the default number, use the **no** form of this command.

**probing max-failures** *number*

**no probing max-failures** *number*

<b>Syntax Description</b>	<i>number</i>	Maximum number of messages allowed before the system stops the session and unregisters the application. Range is from 1 to 5. Default is 3.
---------------------------	---------------	---------------------------------------------------------------------------------------------------------------------------------------------

**Command Default** The default is 3.

**Command Modes** uc wsapi configuration mode.

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	15.2(2)T	This command was introduced.

**Usage Guidelines** Use this command to set the maximum number of probing messages sent by the system that the application does not respond to before the system stops the session and unregisters the application session.

**Examples** The following example sets the maximum number of failed messages to 5.

```
Router(config)# uc wsapi
Router(config-uc-wsapi)# probing max-failures 5
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
		<b>message-exchange</b>
	<b>probing interval</b>	Sets the time interval between probing messages.



# provider

To configure and enable a service provider, use the **provider** command. To remove the provider, use the **no** form of this command.

**provider** [XCC | XSVC | XCDR]

**no provider** [XCC | XSVC | XCDR]

Syntax Description		
<b>XCC</b>	(optional)	Enables the XCC service provider.
<b>XSVC</b>	(optional)	Enables the XSVC service provider.
<b>XCDR</b>	(optional)	Enables the XCDR service provider.

**Defaults** No default behavior.

**Command Modes** uc wsapi configuration mode

Command History	Release	Modification
	15.2(2)T	This command was introduced.

**Usage Guidelines** Use this command to enable the service provider.

**Examples** The following example enables the XCC service provider.

```
Router(config)# uc wsapi
Router(config-uc-wsapi)# provider xcc
Router(config-uc-wsapi-xcc)# no shutdown
```

Related Commands	Command	Description
	<b>remote-url</b>	Specifies the URL of the application.
	<b>source-address</b>	Specifies the IP address of the provider.
	<b>uc wsapi</b>	Enters Cisco Unified Communication IOS services configuration mode.

## remote-url

To configure the url of the application that will be used by the service provider, use the **remote-url** command. The provider will use this url to authenticate and communicate with the application. To delete the configured url, use the **no** form of this command.

**remote-url** [*url-number*] *url*

**no remote-url** [*url-number*] *url*

### Syntax Description

<i>url-number</i>	(optional) URL number. Range is from 1 to 8.
<i>url</i>	Specifies the URL that the service provider will be using in the messages.

### Command Default

None

### Command Modes

uc wsapi configuration mode.

### Command History

Release	Modification
15.2(2)T	This command was introduced.

### Usage Guidelines

Use this command to configure the remote URL (application) that the service provider uses in messages.

### Examples

The following example configures the remote url that the the xcc service provider will use in messages.

```
Router(config)# uc wsapi
Router(config-uc-wsapi)# provider xcc
Router(config-uc-wsapi-xcc)# no shutdown
Router(config-uc-wsapi-xcc)# remote-url 1 http://209.133.85.47:8090/my_route_control
```

### Related Commands

Command	Description
<b>provider</b>	Enables a provider service.
<b>source-address</b>	Specifies the IP address of the provider.
<b>uc wsapi</b>	Enters Cisco Unified Communication IOS services configuration mode.

# show call media forking

To display currently active media forking sessions, use the **show call media forking** command in user EXEC or privileged EXEC mode.

## show call media forking

### Syntax Description

This command has no arguments or keywords.

### Command Modes

User EXEC (>)

Privileged EXEC (#)

### Command History

Release	Modification
15.2(2)T	This command was introduced.

### Usage Guidelines

Use this command to verify that media forking was successful for relevant anchor legs.

### Examples

The following example is a sample output from the **show call media forking** command.

```
Router# show call media forking
```

Warning: Output may be truncated if sessions are added/removed concurrently!

```
Session    Call    n/f  Destination (port address)
7          6       far  1234 1.5.35.254
8          6       near 5678 1.5.35.254
```

[Table 1](#) describes the fields that are displayed.

**Table 1** Show Call Media Forking Field Descriptions

Field	Description
Session	Session Identifier.
Call	Call Leg identifier in hexadecimal. It must match the Call ID from the show call leg active command.
n/f	Direction (Near End or Far End) of the voice stream that was forked.
Destination (port address)	Destination for the forked packets. It consists of the following: <ul style="list-style-type: none"> <li>RTP Port</li> <li>IP Address</li> </ul>

# show voip trunk group

To display the internal list of voip trunk groups, use the **show voip trunk group** command in user EXEC or privileged EXEC mode.

**show voip trunk group**

**Syntax Description** This command has no arguments or keywords.

**Command Modes** User EXEC (>)  
Privileged EXEC (#)

Command History	Release	Modification
	15.2(2)T	This command was introduced.

**Usage Guidelines** Use this command to display VOIP trunk groups.

**Examples** The following example is a sample output from the **show voip trunk group** command.

```
Router# show voip trunk group
=====
name:          1
protocol:      cisco
ip:            1.3.45.2
xsvc:          TRUE
```

# show wsapi

To display information on the Cisco Unified Communication IOS services, including registration, statistics, and route information, use the **show wsapi** command in user EXEC or privileged EXEC mode.

**show wsapi {http-client | http-server | registration {all | xcc | xcdr | xsvc } | xsvc route }**

Syntax Description		
<b>http-client</b>		Displays the statistics that have been collected on the http client interface.
<b>http-server</b>		Displays the statistics that have been collected on the http server interface.
<b>registration</b>		Displays the currently registered applications on the WSAPI subsystem.
<b>all</b>		Displays all registered applications.
<b>xcc</b>		Displays the applications that are registered to the XCC provider.
<b>xcdr</b>		Displays the applications that are registered to the XCDR provider.
<b>xsvc</b>		Displays the applications that are registered to the XSVC provider.
<b>xsvc route</b>		Displays the internal route information in the XSVC provider.

Command Modes	
	User EXEC
	Privileged EXEC

Command History	Release	Modification
	15.2(2)T	This command was introduced.

Usage Guidelines	
	Use this command to display information on the Cisco Unified Communication IOS services.

**Examples** The following example is a sample output from the **show wsapi http-client** command.

```
Router# show wsapi http-client

WSAPI Outgoing Notify/Solicit Message Statistics
=====

wsapi_show_httpc_callback_context_invalid: 0
wsapi_show_httpc_callback_context_error: 0
wsapi_show_httpc_callback_no_reg: 5
wsapi_show_httpc_callback_notify_OK: 85
wsapi_show_httpc_callback_notify_error: 0
wsapi_show_httpc_callback_client_error: 0
wsapi_show_httpc_callback_error: 7
wsapi_show_httpc_callback_client_error: 0
wsapi_show_httpc_callback_decode_error: 28
wsapi_show_httpc_callback_no_txID: 0
wsapi_show_httpc_callback_OK: 655
wsapi_show_httpc_create_msg_error: 0
wsapi_show_httpc_context_active: 0
wsapi_tx_context_freeq depth: 4
```

The following example is a sample output from the **show wsapi http-server** command.

```
Router# show wsapi http-server

WSAPI Incoming Request Message Statistics
=====

wsapi_show_https_urlhook: 23
wsapi_show_https_post_action: 23
wsapi_show_https_post_action_fail: 0
wsapi_show_https_xml_fault: 0
wsapi_show_https_post_action_done: 23
wsapi_show_https_service_timeout: 0
wsapi_show_https_send_error: 0
wsapi_show_https_invalid_context: 0
wsapi_show_https_data_active: 0
wsapi_https_data_q depth: 1
wsapi_show_https_internal_service_error: 0
wsapi_show_https_service_unavailable_503: 0
wsapi_show_https_not_found_404: 0
wsapi_show_https_registration_success: 9
wsapi_show_https_not_registered: 0
wsapi_show_https_registration_auth_fail: 1
wsapi_show_https_registration_fail: 0
wsapi_show_https_un_registered: 0
```

The following example is a sample output from the **show wsapi registration all** command.

```
Router# show wsapi registration all

Provider XCC
=====
registration
  id: 4FA11CC:XCC:myapp:5
  appUrl:http://sj22lab-as2:8090/xcc
  appName: myapp
  provUrl: http://10.1.1.1:8090/cisco_xcc
  prober state: STEADY
  connEventsFilter:
  CREATED|AUTHORIZE_CALL|ADDRESS_ANALYZE|REDIRECTED|ALERTING|CONNECTED|TRANSFERRED|CALL_DELI
  VERY|DISCONNECTED|HANDOFF_JOIN|HANDOFF_LEAVE
  mediaEventsFilter:
  DTMF|MEDIA_ACTIVITY|MODE_CHANGE||TONE_DIAL|TONE_OUT_OF_SERVICE|TONE_RINGBACK|TONE_SECOND_D
  IAL
  blockingEventTimeoutSec: 1
  blockingTimeoutHandle: CONTINUE_PROCESSING

Provider XSVC
=====
registration index: 2
  id: 4FA0F8C:XSVC:myapp:3
  appUrl:http://sj22lab-as2:8090/xsvc
  appName: myapp
  provUrl: http://10.1.1.1:8090/cisco_xsvc
  prober state: STEADY
  route filter:
  event filter: off

Provider XCDR
=====
registration index: 1
  id: 4FA10A0:XCDR:myapp:1
  appUrl:http://sj22lab-as2:8090/xcdr
```

```

appName: myapp
provUrl: http://10.1.1.1:8090/cisco_xcdr
prober state: STEADY
cdr format: COMPACT
event filter: off

```

The following example is a sample output from the **show wsapi xsvc route** command.

```
Router# show wsapi xsvc route
```

```
Route SANJOSE_SIP
```

```

=====
Type: VOIP
Description: OUT
Filter:
Trunk:
    Trunk Name:      1.3.45.2
    Trunk Type:      SIPV2
    Trunk Status:    UP

```

```
Route SANJOSE_PRI
```

```

=====
Type: PSTN
Description: IN
Filter:
Trunk:
    Trunk Name:      Se0/1/0:23
    Trunk Type:      ISDN PRI
    Trunk Status:    UP
    Total channels   2
    Channel bitmap   0x01FFFFFFE 1-24
    Link bitmap      0x00000006
    Alarm            0x00000001
    Time elapsed     516
    Interval         92
    CurrentData
0 Line Code Violations, 0 Path Code Violations
0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 0 Unavail Secs
    TotalData
49 Line Code Violations, 7 Path Code Violations,
0 Slip Secs, 1 Fr Loss Secs, 1 Line Err Secs, 0 Degraded Mins,
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 2 Unavail Secs

    Trunk Name:      Se0/1/1:23
    Trunk Type:      ISDN PRI
    Trunk Status:    UP
    Total channels   2
    Channel bitmap   0x01FFFFFFE 1-24
    Link bitmap      0x00000006
    Alarm            0x00000001
    Time elapsed     516
    Interval         92
    CurrentData
0 Line Code Violations, 0 Path Code Violations
0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 0 Unavail Secs
    TotalData
42 Line Code Violations, 4 Path Code Violations,
0 Slip Secs, 1 Fr Loss Secs, 1 Line Err Secs, 0 Degraded Mins,
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 2 Unavail Secs

```

# uc wsapi

To configure the Cisco Unified Communication IOS services environment for a specific application, use the **uc wsapi** command.

## **uc wsapi**

**Syntax Description** This command has no arguments or keywords.

**Command Default** None

**Command Modes** EXEC mode.

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	15.2(2)T	This command was introduced.

**Usage Guidelines** Use this command to enter the Cisco Unified Communication IOS services configuration environment.

**Examples** The following example enters the Cisco Unified Communication IOS services configuration environment.

```
Router(config)# uc wsapi
Router(config-uc-wsapi)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>provider</b>	Enables a provider service.



# voip trunk group

To define or modify a VOIP trunk group and to enter trunk group configuration mode, use the **voip trunk group** command in global configuration mode. To delete the VOIP trunk group, use the **no** form of this command.

**voip trunk group** *name*

**no voip trunk group** *name*

## Syntax Description

<i>name</i>	Name of the voip trunk group. Valid names contain a maximum of 63 alphanumeric characters.
-------------	--------------------------------------------------------------------------------------------

## Command Default

No voip trunk group is defined.

## Command Modes

Global configuration

## Command History

Release	Modification
15.2(2)T	This command was introduced.

## Usage Guidelines

Use the **voip trunk group** command to define the VOIP trunk and extend serviceability to the trunk. By default, the session protocol of the IP trunk is h323. Up to 1000 trunk groups can be configured on the gateway provided that the gateway has sufficient memory to store the profiles

## Examples

The following example enables creates a VOIP trunk group and enables monitoring.

```
Router(config)# voip trunk group siptrk1
Router(config-voip-trk)# session protocol sipv2
Router(config-voip-trk)# target ipv4: 10.1.1.15
Router(config-voip-trk)# xsvc
```

Command	Description
<b>show voip trunk group</b>	Displays the internal list of voip trunk groups.
<b>xsvc</b>	Enables monitoring on the trunk.

## X SVC

To add support for extended serviceability (xsvc) on TDM, (ISDN-PRI/BRI, DS0-group, analog voice-port) voice interfaces, which are defined as a trunk group, use the **xsvc** command. To disable support for extended serviceability, use the **no** form of this command.

**xsvc**

**no xsvc**

**Syntax Description** This command has no arguments or keywords.

**Command Default** Extended serviceability is disabled on trunk groups.

**Command Modes** Trunk group configuration

Command History	Release	Modification
	15.2(2)T	This command was introduced.

**Usage Guidelines** Use this command to add support for extended serviceability on voice interfaces which are defined as a trunk group.

**Examples** The following example enables monitoring on a trunk group.

```
Router(config)# trunk group tdm-tg1
Router(config-trunk-group)# xsvc
```

Related Commands	Command	Description
	provider	Enables a provider service.