Configuring Cisco Unified Communication IOS Services

This chapter contains the following sections:

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- Verifying and Troubleshooting Cisco Unified Communication IOS Services, page 2-10
- Command Reference, page 2-10

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 STEPS

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

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ip http timeout-policy idle seconds life seconds requests value</code></td>
<td>Sets the characteristics that determine how long a connection to the HTTP server should remain open. The characteristics are:</td>
</tr>
<tr>
<td>Example: Router(conf)# <code>ip http timeout-policy idle 600 life 86400 requests 86400</code></td>
<td><code>idle</code>—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 idle time or the number of requests is reached, the connection may be closed sooner. The default value is 180 seconds (3 minutes).</td>
</tr>
<tr>
<td></td>
<td><code>life</code>—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).</td>
</tr>
<tr>
<td></td>
<td><code>requests</code>—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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 6</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>http client persistent</code></td>
<td>Enables HTTP persistent connections.</td>
</tr>
<tr>
<td>Example: Router(conf)# <code>http client persistent</code></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 7</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>http client connection idle timeout seconds</code></td>
<td>Sets the number of seconds that the client waits in the idle state until it closes the connection.</td>
</tr>
<tr>
<td>Example: Router(conf)# <code>http client idle timeout 600</code></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 8</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>uc wsapi</code></td>
<td>Enters Cisco Unified Communication IOS Service configuration mode.</td>
</tr>
<tr>
<td>Example: Router(conf)# <code>uc wsapi</code></td>
<td></td>
</tr>
</tbody>
</table>
### 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`

#### Command or Action | Purpose
---|---
**Step 9** `message-exchange max-failures number` | 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.

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

**Step 10** `probing max-failures number` | Configures the maximum number of failed probing messages before the router unregisters the application. Range is 1 to 5. Default is 3.

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

**Step 11** `probing interval keepalive seconds` | Configures the interval between probing messages, in seconds. Default is 120 seconds.

Example:
```
Router(config-uc-wsapi)# probing interval 180
```

**Step 12** `probing interval negative seconds` | Configures the interval between negative probing messages, in seconds.

Example:
```
Router(config-uc-wsapi)# probing interval negative 10
```

**Step 13** `source-address ip-address` | Configures the IP address (hostname) as the source IP address for the UC IOS service.

Example:
```
Router(config-uc-wsapi)# source-address 172.1.12.13
```

**Note** The source IP address is used by the provider in the NotifyProviderStatus messages.

**Step 14** `end` | Returns to privileged EXEC mode.

Example:
```
Router(config-uc-wsapi)# end
```
### DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong> enable</td>
<td>Enables privileged EXEC mode. Enter your password if prompted.</td>
</tr>
<tr>
<td><strong>Example:</strong> enable</td>
<td></td>
</tr>
<tr>
<td>Router&gt; enable</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong> configure terminal</td>
<td>Enters global configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong> configure terminal</td>
<td></td>
</tr>
<tr>
<td>Router# configure terminal</td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong> uc wsapi</td>
<td>Enters Cisco Unified Communication IOS Service configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong> uc wsapi</td>
<td></td>
</tr>
<tr>
<td>Router(config)# uc wsapi</td>
<td></td>
</tr>
<tr>
<td><strong>Step 4</strong> provider xcc</td>
<td>Enters XCC provider configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong> provider xcc</td>
<td></td>
</tr>
<tr>
<td>Router(config-uc-wsapi)# provider xcc</td>
<td></td>
</tr>
<tr>
<td><strong>Step 5</strong> no shutdown</td>
<td>Activates XCC provider.</td>
</tr>
<tr>
<td><strong>Example:</strong> no shutdown</td>
<td></td>
</tr>
<tr>
<td>Router(config-uc-wsapi-xcc)# no shutdown</td>
<td></td>
</tr>
<tr>
<td><strong>Step 6</strong> remote-url url</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Example:</strong> remote-url</td>
<td></td>
</tr>
<tr>
<td>Router(config-uc-wsapi-xcc)# remote-url <a href="http://209.133.85.47:8890/my_callcontrol">http://209.133.85.47:8890/my_callcontrol</a></td>
<td></td>
</tr>
<tr>
<td><strong>Step 7</strong> exit</td>
<td>Exits XCC configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong> exit</td>
<td></td>
</tr>
<tr>
<td>Router(config-uc-wsapi-xcc)# exit</td>
<td></td>
</tr>
<tr>
<td><strong>Step 8</strong> end</td>
<td>Returns to privileged EXEC mode.</td>
</tr>
<tr>
<td><strong>Example:</strong> end</td>
<td></td>
</tr>
<tr>
<td>Router(config-uc-wsapi)# end</td>
<td></td>
</tr>
</tbody>
</table>

### 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

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>enable</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Router&gt; enable</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>configure terminal</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Router# configure terminal</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td><code>uc wsapi</code></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Router(config)# uc wsapi</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td><code>provider xsvc</code></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Router(config-uc-wsapi)# provider xsvc</td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td><code>no shutdown</code></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Router(config-uc-wsapi-xsvc)# no shutdown</td>
</tr>
</tbody>
</table>
### Command or Action

<table>
<thead>
<tr>
<th>Step</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 6</td>
<td>remote-url [url-number] url</td>
<td>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 url-number identifies the unique url. Range is 1 to 8.</td>
</tr>
<tr>
<td>Step 7</td>
<td>exit</td>
<td>Exits XSVC configuration mode.</td>
</tr>
<tr>
<td>Step 8</td>
<td>trunk group name</td>
<td>Enters trunk-group configuration mode to define a trunk group.</td>
</tr>
<tr>
<td>Step 9</td>
<td>description</td>
<td>Enter a description for the trunk group. The name is passed to external application as part of XSVC status and XCC connection messages.</td>
</tr>
<tr>
<td>Step 10</td>
<td>xsvc</td>
<td>Enables xsvc monitoring on the trunk group.</td>
</tr>
<tr>
<td>Step 11</td>
<td>exit</td>
<td>Exits trunk group configuration mode.</td>
</tr>
<tr>
<td>Step 12</td>
<td>voip trunk group name</td>
<td>Enters VOIP trunk-group configuration mode to define a trunk group.</td>
</tr>
<tr>
<td>Step 13</td>
<td>description</td>
<td>Enter a description for the VOIP trunk group. The name is passed to external application as part of XSVC status and XCC connection messages.</td>
</tr>
<tr>
<td>Step 14</td>
<td>xsvc</td>
<td>Enables xsvc monitoring on the VOIP trunk group.</td>
</tr>
<tr>
<td>Step 15</td>
<td>session target ipv4:destination address</td>
<td>Configures the IP address of the remote router.</td>
</tr>
</tbody>
</table>
Chapter 2      Configuring Cisco Unified Communication IOS Services

Configuring the Router for Cisco Unified Communication IOS Services

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

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 enable</td>
<td>Enables privileged EXEC mode.</td>
</tr>
<tr>
<td>Example:</td>
<td>Enter your password if prompted.</td>
</tr>
<tr>
<td>Router&gt; enable</td>
<td></td>
</tr>
<tr>
<td>Step 2 configure terminal</td>
<td>Enters global configuration mode.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Router# configure terminal</td>
<td></td>
</tr>
<tr>
<td>Step 3 uc wsapi</td>
<td>Enters Cisco Unified Communication IOS Service configuration mode.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Router(conf)# uc wsapi</td>
<td></td>
</tr>
<tr>
<td>Step 4 provider xcdr</td>
<td>Enters XCDR provider configuration mode.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Router(config-uc-wsapi)# provider xcdr</td>
<td></td>
</tr>
</tbody>
</table>
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Configuring the Router for Cisco Unified Communication IOS Services

Command or Action | Purpose
--- | ---
Step 5 | no shutdown
Example: Router(config-uc-wsapi-xcdr)# no shutdown
Step 6 | remote-url [url-number] url
Example: Router(config-uc-wsapi-xcdr)# remote-url 1 http://209.133.85.47:8090/my_route_control
Step 7 | exit
Example: Router(config-uc-wsapi-xcdr)# exit
Step 8 | end
Example: Router(config-uc-wsapi-xcdr)# end

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.

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>ip http server</td>
<td>Activates XCDR provider.</td>
</tr>
<tr>
<td>call fallback monitor</td>
<td>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 url-number identifies the unique url. Range is 1 to 8.</td>
</tr>
<tr>
<td>call fallback icmp-ping count 1 interval 2 timeout 100</td>
<td></td>
</tr>
<tr>
<td>uc wsapi</td>
<td></td>
</tr>
<tr>
<td>source-address 10.1.1.1</td>
<td></td>
</tr>
<tr>
<td>provider xcc</td>
<td></td>
</tr>
<tr>
<td>remote-url <a href="http://test.com:8090/xcc">http://test.com:8090/xcc</a></td>
<td></td>
</tr>
<tr>
<td>provider xsvc</td>
<td></td>
</tr>
<tr>
<td>remote-url 1 <a href="http://test.com:8090/xsvc">http://test.com:8090/xsvc</a></td>
<td></td>
</tr>
<tr>
<td>provider xcdr</td>
<td></td>
</tr>
<tr>
<td>remote-url 1 <a href="http://test.com:8090/xcdr">http://test.com:8090/xcdr</a></td>
<td></td>
</tr>
<tr>
<td>trunk group pri xsvc</td>
<td></td>
</tr>
<tr>
<td>voip trunk group 1 xsvc</td>
<td></td>
</tr>
<tr>
<td>session target ipv4: 11.1.1.1</td>
<td></td>
</tr>
</tbody>
</table>
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 2-11
- message-exchange max-failures, page 2-14
- probing interval, page 2-15
- probing max-failures, page 2-16
- provider, page 2-17
- remote-url, page 2-18
- show call media forking, page 2-19
- show voip trunk group, page 2-20
- show wsapi, page 2-21
- source-address (uc-wsapi), page 2-24
- uc wsapi, page 2-25
- voip trunk group, page 2-26
- xsvc, page 2-27
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**

- `infrastructure`: Enables debugging traces on the infrastructure.
- `xcc`: Enables debugging traces on the xcc provider.
- `xcdr`: Enables debugging traces on the xcdr provider.
- `xsvc`: Enables debugging traces on the xsvc provider.
- `all`: Enables all debugging traces.
- `default`: Enables default debugging traces.
- `detail`: Enables detailed debugging traces.
- `error`: Enables error debugging traces.
- `event`: Enables event debugging traces.
- `function`: Enables function debugging traces.
- `inout`: Enables inout debugging traces.
- `messages`: Enables API message traces.

**Command Modes**

Privileged EXEC

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**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
```

Cisco Unified Communication IOS services API Guide
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:
```

The following is a partial debug log from the `debug wsapi xcc all` command for a call.
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_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/check_xccp_active:177:
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[EVT_STATE_ACTIVE] owner [0x1148C178]
evSize[56] debFlag[3] evHdlr[0x894D834] evHdlFree[0x894DB00]
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/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:
.
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
```

**Syntax Description**

| number | 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

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**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
```

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>probing interval</td>
<td>Sets the time interval between probing messages.</td>
</tr>
<tr>
<td>probing max-failure</td>
<td>Sets the number of messages that the system will send without receiving a reply before the system unregisters the application.</td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>probing interval</code></td>
<td>Configures the time interval between probing messages.</td>
</tr>
<tr>
<td><code>keepalive</code></td>
<td>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.</td>
</tr>
<tr>
<td><code>negative</code></td>
<td>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.</td>
</tr>
<tr>
<td><code>seconds</code></td>
<td>Number of seconds between probing message.</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>message-exchange</td>
<td>Sets the maximum number of failed message responses before the provider stops sending messages.</td>
</tr>
<tr>
<td>probing max-failure</td>
<td>Sets the number of messages that the system will send without receiving a reply before the system unregisters the application.</td>
</tr>
</tbody>
</table>
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
```

**Syntax Description**

| number | 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.

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**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
```

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>message-exchange</td>
<td>Sets the maximum number of failed message responses before the provider stops sending messages.</td>
</tr>
<tr>
<td>probing interval</td>
<td>Sets the time interval between probing messages.</td>
</tr>
</tbody>
</table>
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**
- **XCC** (optional) Enables the XCC service provider.
- **XSVC** (optional) Enables the XSVC service provider.
- **XCDR** (optional) Enables the XCDR service provider.

**Defaults**
No default behavior.

**Command Modes**
uc wsapi configuration mode

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>remote-url</td>
<td>Specifies the URL of the application.</td>
</tr>
<tr>
<td>source-address</td>
<td>Specifies the IP address of the provider.</td>
</tr>
<tr>
<td>uc wsapi</td>
<td>Enters Cisco Unified Communication IOS services configuration mode.</td>
</tr>
</tbody>
</table>
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**

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

**Command Default**

None

**Command Modes**

uc wsapi configuration mode.

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**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 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**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>provider</td>
<td>Enables a provider service.</td>
</tr>
<tr>
<td>source-address</td>
<td>Specifies the IP address of the provider.</td>
</tr>
<tr>
<td>uc wsapi</td>
<td>Enters Cisco Unified Communication IOS services configuration mode.</td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**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 2-1 describes the fields that are displayed.

**Table 2-1**  
Show Call Media Forking Field Descriptions

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session</td>
<td>Session Identifier.</td>
</tr>
<tr>
<td>Call</td>
<td>Call Leg identifier in hexadecimal. It must match the Call ID from the show call leg active command.</td>
</tr>
<tr>
<td>n/f</td>
<td>Direction (Near End or Far End) of the voice stream that was forked.</td>
</tr>
<tr>
<td>Destination (port address)</td>
<td>Destination for the forked packets. It consists of the following:</td>
</tr>
<tr>
<td></td>
<td>• RTP Port</td>
</tr>
<tr>
<td></td>
<td>• IP Address</td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**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

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

### Command Modes

User EXEC
Privileged EXEC

### Command History

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

### 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_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_DELIVERY|DISCONNECTED|HANDOFF_JOIN|HANDOFF_LEAVE
  mediaEventsFilter:
  | DTMF|MEDIA_ACTIVITY|MODE_CHANGE|TONE_DIAL|TONE_OUT_OF_SERVICE|TONE_RINGBACK|TONE_SECOND_DIGIT
  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   0x00000000
  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, 0 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, 0 Line Err Secs, 0 Degraded Mins,
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs, 2 Unavail Secs
source-address (uc-wsapi)

To specify the source IP address or hostname for the Cisco Unified Communication IOS services in the NotifyProviderStatus message, use the source-address command in uc wsapi configuration mode. To disable the router from sending NotifyProviderStatus message, use the no form of this command.

    source-address ip-address
    no source-address

**Syntax Description**

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ip-address</td>
<td>IP address identified as the source address by the service provider in the NotifyProviderStatus message.</td>
</tr>
</tbody>
</table>

**Defaults**

No IP address.

**Command Modes**

uc wsapi

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

This command enables the service provider on the router to send messages to the application via the NotifyProviderStatus message.

**Examples**

The following example shows how to set the IP source address and port:

```
Router(config)# uc wsapi
Router(config-register-global)# source-address 172.1.12.13
```

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>provider</td>
<td>Enables a provider service.</td>
</tr>
<tr>
<td>remote-url</td>
<td>Specifies the URL of the application.</td>
</tr>
<tr>
<td>uc wsapi</td>
<td>Enters Cisco Unified Communication IOS services configuration mode.</td>
</tr>
</tbody>
</table>
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.

Command History

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

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)#
```

Related Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>provider</td>
<td>Enables a provider service.</td>
</tr>
</tbody>
</table>
**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
```

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Name of the voip trunk group. Valid names contain a maximum of 63 alphanumeric characters.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command Default</td>
<td>No voip trunk group is defined.</td>
</tr>
<tr>
<td>Command Modes</td>
<td>Global configuration</td>
</tr>
<tr>
<td>Command History</td>
<td><strong>Release</strong> 15.2(2)T  This command was introduced.</td>
</tr>
</tbody>
</table>

**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
```

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show voip trunk group</td>
<td>Displays the internal list of voip trunk groups.</td>
</tr>
<tr>
<td>xsvc</td>
<td>Enables monitoring on the trunk.</td>
</tr>
</tbody>
</table>
**XSVC**

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**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2(2)T</td>
<td>This command was introduced.</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>provider</td>
<td>Enables a provider service.</td>
</tr>
</tbody>
</table>