Cisco Finesse Web Services Developer Guide Release 11.6(1)

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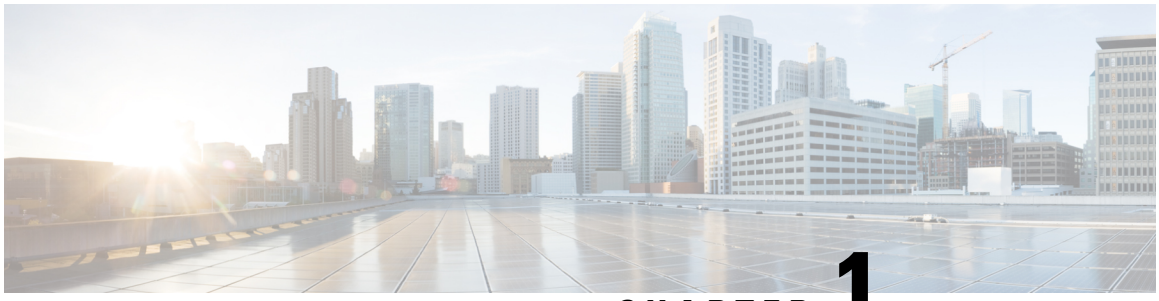


CHAPTER 1

Introduction

What's New in Cisco Finesse 11.6(1)

- The Cisco Finesse Notification Service (OpenFire) has been upgraded from version 3.8.2 to version 4.0.3 as part of regular maintenance activity.
- For gadget development, Finesse server and client connections only support TLS 1.2 by default.
- Secondary call ID is added in the additional element of the primary dialog API for consult, transfer and conference calls scenarios.
- queueName and queueNumber fields are included in call variables.
- Callkeyid and callkeyprefix parameters now included in the Dialog API.
- Use CLI commands to enable and disable the queue statistics.
- systemCode attribute included in the ReasonCode object.
- status and statusReason attributes included in the SystemInfo object.
- Pending state included as a notification trigger.

Cisco Finesse REST APIs

This document is the official reference for the Cisco Finesse Application Programming Interface (API). The Finesse desktop APIs support the Finesse desktop, providing agent desktop functionality, such as call control and state changes.

The Finesse configuration APIs support the Finesse administration console, providing the ability to configure resources (such as reason codes, wrap-up reasons, and workflows).

The Finesse APIs support the following capabilities:

- User Sign In/Sign Out
- Agent States
- Configurations
- Subscriptions
- Call Control
- Reason Codes
- Wrap-up Reasons
- Teams
- Queues
- Task Routing
- Mobile Agents
- Workflows
- TeamMessages
- Desktop Chat

This guide explains each API and the notification messages returned by the APIs. The guide includes a section to assist developers with running and validating the APIs in a lab environment.

JavaScript Library and Sample Gadgets

Finesse provides a JavaScript library (finesse.js) and several sample gadgets to help jumpstart your gadget development. The JavaScript library provides a substantial amount of fundamental code infrastructure that you would otherwise need to write yourself.

- You can access the JavaScript library at the following URL: http(s)://<FQDN>:<port>/desktop/assets/js/finesse.js
- You can access the JavaScript documentation at the following URL: http(s)://<FQDN>:<port>/desktop/assets/js/doc/index.html
- You can access JQuery at the following URL: http(s)://<FQDN>:<port>/desktop/assets/js/jquery.min.js.

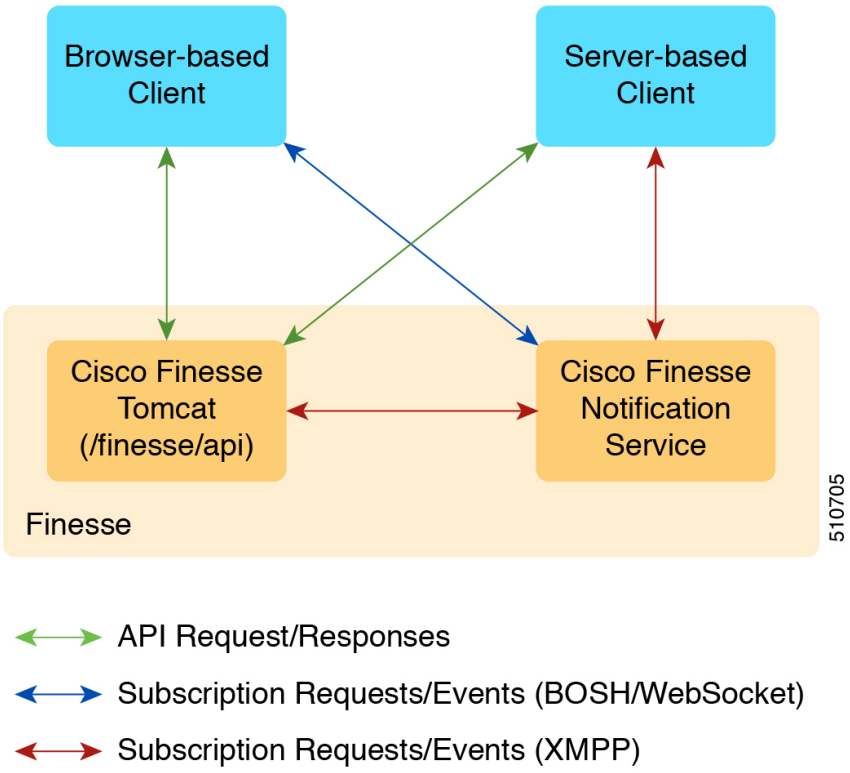
Note For proper functioning of the JavaScript library, you must import both the JavaScript library and JQuery.

- If you have third-party gadgets loaded on Finesse, the third-party gadgets can access the JavaScript library at: /desktop/assets/js/finesse.js.
- The sample gadgets are available from Cisco DevNet at the following link: https://developer.cisco.com/site/finesse/.

Communication with the Cisco Finesse Web Service

The Cisco Finesse Notification Service name in the following diagram is specific to Unified CCE deployments. In a Unified CCX deployment, the notification service is named the Cisco Unified CCX Notification Service.

Figure 1: Finesse API and Event Flow



Note The Finesse desktop supports receiving updates through BOSH/WebSocket only.

Client Requests

Cisco Finesse supports both HTTP and secure HTTP (HTTPS) requests from clients. Cisco Finesse desktop operations can be performed using one of the many available REST-like HTTP/HTTPS requests described in this guide.

Operations on specific objects are performed using the ID of the object in the REST URL. For example, the URL to view a single object (HTTP) would be:

```
http://<FQDN>:<port>/finesse/api/<object>/<objectID>
```

The URL to view a single object (HTTPS) would be:

```
https://<FQDN>:<port>/finesse/api/<object>/<objectID>
```

FQDN is the fully-qualified domain name of the Finesse server.

Finesse configuration APIs require the application user ID and password, which is established during installation, for authentication purposes.

Finesse APIs use the following HTTP methods to make requests:

- GET: Retrieve a single object or list of objects (for example, a single user or list of users).
- PUT: Replace a value in an object (for example, to change the state of a user from NOT_READY to READY).
- POST: Create a new entry in a collection (for example, to create a new reason code or wrap-up reason).
- DELETE: Remove an entry from a collection (for example, to delete a reason code or wrap-up reason).

Finesse uses the standard HTTP status codes (for example, 200, 400, and 500) in the response. These status codes indicate overall success or failure of the request.

If an API operation fails, a detailed error is returned in the HTTP response message body. The error, in XML format, appears as follows:

```
<ApiErrors>
   <ApiError>
       <ErrorType>type</ErrorType>
       <ErrorMessage>message</ErrorMessage>
       <ErrorData>data</ErrorData>
   </ApiError>
</ApiErrors>
```

Finesse has a Dependency Manager that collects the state of internal dependencies for Finesse (such as the state of the Cisco Finesse Notification Service) and reports these states to external entities.

If any of these dependencies are down, Finesse is out of service. If the Cisco Finesse Tomcat is running, Finesse rejects any API requests and returns an HTTP 503 error. The error appears as follows:

```
<ApiErrors>
  <ApiError>
    <ErrorType>Service Unavailable</ErrorType>
    <ErrorData></ErrorData>
    <ErrorMessage>SERVER_OUT_OF_SERVICE</ErrorMessage>
  </ApiError>
</ApiErrors>
```

If the Cisco Finesse Tomcat service is not running, Finesse returns a Connection Timeout error.

All Finesse APIs use HTTP BASIC authentication, which requires the credentials to be sent in the "Authorization" header. The credentials contain the username and password, separated by a single colon (:), within a BASE64-encoded string. For example, the Authorization header would contain the following string:

```
"Basic YWdlbnRiYXJ0b3dza2k6Y2FybWljaGFlbA=="
```

where "YWdlbnRiYXJ0b3dza2k6Y2FybWljaGFlbA==" is the Base64-encoded string of "agentbartowski:carmichael" (agentbartowski being the username and carmichael being the password).

In case of Single Sign-On mode, the Authorization header would contain the following string:

```
Bearer <authtoken>
```

where the authtoken has to be fetched from IDS through the ADFS server.

If an administrator changes the password for an agent or supervisor on the secondary Administration & Data server (if configured) while the primary distributor process on Unified CCE is down, the agent or supervisor can still use the old password and access all REST APIs except the sign-in request. To ensure this does not happen, the primary distributor must be up and running when the administrator changes the password.

HTTP Requests

In a Unified CCE deployment, clients should make all HTTP requests to port 80. In a Unified CCX deployment, clients should make all HTTP requests to port 8082.

Note In a Unified CCE deployment, you do not need to include the port number in the URI for HTTP requests. In a Unified CCX deployment, you must include the port number.

Most, but not all, Finesse Desktop APIs conform to the following format:

```
http://<FQDN>:<port>/finesse/api/<object>
```

HTTPS Requests

Clients should make all HTTPS requests to port 8445. Most, but not all, Finesse desktop APIs conform to the following format:

```
https://<FQDN>:<port>/finesse/api/<object>
```

This document uses the HTTP request in a Unified CCE deployment for all URIs and example URIs. If you want to make HTTP requests in a Unified CCX deployment, include the port number in the URIs:

If you want to use HTTPS requests (Unified CCE and Unified CCX), make the following changes to the URIs:

- Replace *http* with *https*.
- Use the fully qualified domain name (FQDN) of the Finesse server instead of the IP address to avoid address mismatch errors. (The SSL certificate uses the Finesse hostname.)
- Use port 8445.

Note For gadget development, Finesse server and client connections only support TLS 1.2 by default.

Real-Time Events

Real-time events (such as call events, state events, and so on) are sent by the Cisco Finesse Notification Service, using the XEP-0060 Publish-Subscribe extension of the XMPP (Extensible Messaging and Presence

Protocol) protocol. Applications that need to communicate with the Notification Service must use XMPP over the BOSH (Bidirectional-streams Over Synchronous HTTP)/WebSocket transport.

All real-time events are sent over HTTPS.

BOSH/WebSocket is an open technology for real-time communication and is useful for emulating a long-lived, bidirectional TCP connection between two entities (such as client and server). See documentation at the XMPP Standards Foundation (http://www.xmpp.org) for details about both XMPP and BOSH/WebSocket (XEP-0124).

Client applications can communicate with the Cisco Finesse Notification Service through BOSH/WebSocket over HTTPS, using the binding URI https://<FQDN>:7443/http-bind. Developers can create their own BOSH/WebSocket library or use any that are available publicly.

After creating the connection, applications can receive notification events of feeds to which they are subscribed. Users are currently subscribed to a few feeds by default (subject to change). Other feeds require an explicit subscription (see *Subscription Management*).

API Parameter Types

The following sections describe the parameter and data types for the Cisco Finesse APIs.

API Header Parameters

Name	Type	Description
password	String	The password used in the request header to make any Finesse API request. Finesse supports a "Basic" authorization scheme only and authorization is required for each Finesse API request.
username	String	The username used in the request header to make any Finesse API request. Finesse supports a "Basic" authorization scheme only and authorization is required for each Finesse API request.

Body Parameter

A body parameter (also known as a complex parameter) appears in the body of the message. In the following example, *targetMediaAddress* and *requestedAction* are body parameters.

```
<Dialog>
    <targetMediaAddress>1001001</targetMediaAddress>
    <requestedAction>HOLD</requestedAction>
</Dialog>
```

Path Parameter

A path parameter is included in the path of the URI. In the following example, *dialogId* is a path parameter.

```
http://<FQDN>/finesse/api/Dialog/<dialogId>
```

Query Parameter

A query parameter is passed in a query string on the end of the URI you are calling. The query parameter is preceded by a question mark. Multiple query parameters are connected by an ampersand (&). In the following example, *category* is a query parameter.

```
http://<FQDN>/finesse/api/User/<id>/ReasonCodes?category=NOT_READY
```

Data Types

The following table lists the data types used in API parameters and notification message fields.

Type	Description
Boolean	A logical data type that has one of two values: true or false.
Integer	A 32-bit wide integer.
Long	A 64-bit wide integer.
String	A variable-length string. If a maximum length exists, it is listed with the parameter description.

Cisco Finesse API Errors

Error codes for Cisco Finesse are categorized as follows:

- 4xx—Client-related error
- 5xx—Server-related error

Each error includes a failure response, error type, error message, and error data. The following is an example of a failure message format:

```
<ApiErrors>
   <ApiError>
      <ErrorType>Authentication Failure</ErrorType>
      <ErrorMessage>UNAUTHORIZED</ErrorMessage>
      <ErrorData>jsmith</ErrorData>
   </ApiError>
</ApiErrors>
```

In addition to Cisco Finesse API errors, a response may return a CTI error or an HTTP error.

Note This document contains information about error type and error message. You can find information about error data values for most User and Dialog errors in the following documents:

For Finesse deployments with Unified CCE, see the *CTI Server Message Reference Guide for Cisco Unified Contact Center Enterprise*, which you can find at https://developer.cisco.com/site/cti-protocol/documentation/ .

For Finesse deployments with Unified CCX, see the *Cisco Unified Contact Center Express CTI Protocol Developer Guide*.

HTTP Errors

All HTTP errors are returned as HTTP 1.1 Status Codes. Errors that might be for Finesse-specific events are listed below:

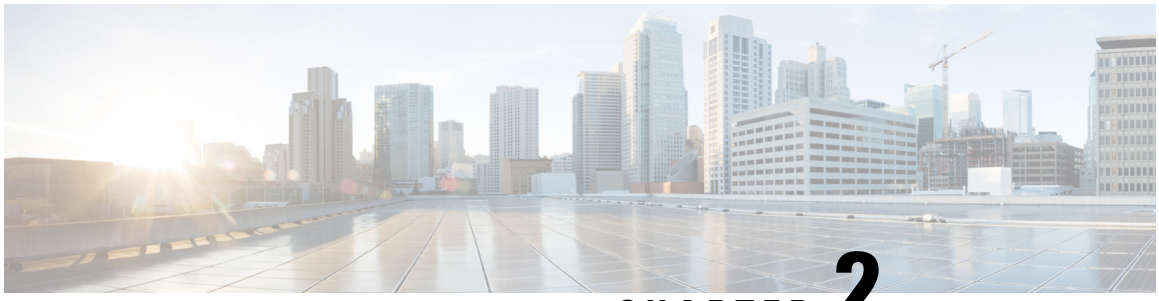
500 Internal Server Error

Finesse Web Services returns 500 if the CTI connection is lost but the loss is not yet detected by automated means.

- 500 - DB_RUNTIME_EXCEPTION (database error, but the database is thought to be operational)
- 500 - RUNTIME_EXCEPTION (a non-database error)
- 500 - AWS_SERVICE_UNAVAILABLE (AWS not operational)

503 Service Unavailable

If Finesse is in PARTIAL_SERVICE or OUT_OF_SERVICE, it returns 503 for all requests. If any dependent service goes down, Finesse goes to OUT_OF_SERVICE state (for example, if the Cisco Finesse Notification Service is down).This error is due to a temporary outage or overloading condition. A retry after several seconds is likely to succeed. For example, the system returns 503 when the system is just starting up and when the system is trying to connect to the CTI server.



CHAPTER 2

Lab Development Environment Validation with Cisco Finesse Web Services APIs

This section explains how to work with the Cisco Finesse Web Services APIs to validate your lab development environment.

Environment and Tools

The topics in this section are for use as a learning exercise and are not meant for use in real deployments.

To complete these exercises, you need the following:

- A user who is configured as an agent in Unified CCE or Unified CCX (with an agent ID, password, and extension). Make the agent a member of a team and of a queue. (A queue is a skill group.)
- Three phones that are configured in Cisco Unified Communications Manager: one for the agent, one for the caller, and one to use for conferencing and transfer APIs. These can be Cisco IP "hard phones" or Cisco IP Communicator softphones.
- Tools: Postman and Pidgin for Windows or Adium for Mac OS X.

Note Postman, Pidgin and Adium are meant to aid in development; however, they are not officially supported.

Postman

Postman is an example of a REST client utility that allows you to send HTTP requests to a specific URL. You can use this utility in your lab to exercise the Finesse Web Service APIs by entering the URI for an API and checking the response. All APIs are accessible by URI and follow a request/response paradigm. There is always a single response for any request.

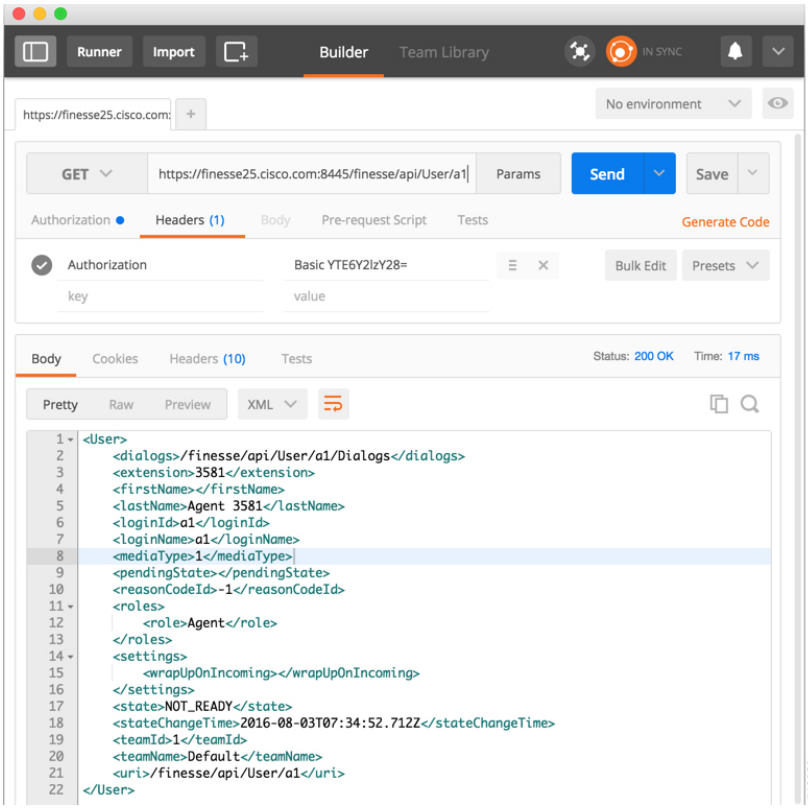
You can download Postman from https://www.getpostman.com/.

For using self-signed SSL certificates with Postman see, http://blog.getpostman.com/2014/01/28/using-self-signed-certificates-with-postman/

To test an API in Postman, follow these steps:

1. Copy and paste the URI for the API request from this Developer Guide into a text editor. For example, to enter the URI for signing in, copy the URI from the *User—Sign In to Finesse* API. Examine the pasted code for case sensitivity and format and remove any carriage returns.
2. Update the URI with the IP address of your Cisco Finesse Web Services server.
3. Add any mandatory parameters for the request.
4. Enter the username and password for the agent you set up for these exercises.
5. For Content Type, enter **application/xml**.
6. Click the appropriate action (GET, PUT, or POST).

Figure 2: Postman Rest Client



Pidgin for Windows

Pidgin is a multiplatform instant messaging client that supports many common messaging protocols, including XMPP. You can use Pidgin to establish an XMPP connection and view XMPP messages published by the Cisco Finesse Notification Service.

Note You cannot be signed in to Pidgin at the same time you are signed in to Finesse as the XMPP event feed is disrupted.

Notifications that result from API requests made in Postman appear in the XMPP Console tool of the Pidgin application. For example, if you use Postman to change an agent's state, you can see the resulting agent state change event in the Pidgin XMPP Console window.

Note Make sure that you use the same username and resource values in both Postman and Pidgin.

You can download Pidgin from http://www.pidgin.im/download/.

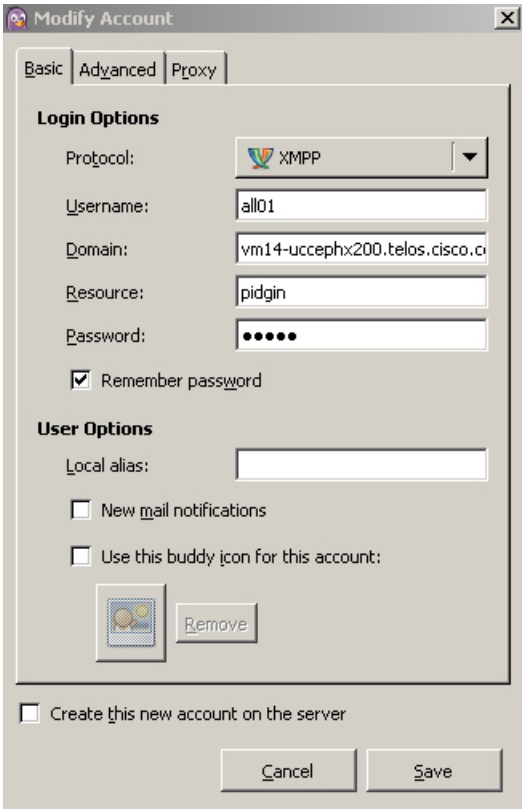
Perform the following steps to configure XMPP:

1. In Pidgin, go to **Tools > Plugins** to open the Plugins dialog box.
2. Check the **XMPP Console** and **XMPP Service Discovery** check boxes.

Perform the following steps to configure Pidgin:

1. Add an account for your XMPP server. Go to **Pidgin > Accounts > Manage Accounts > Add Account**. The Add Account dialog box opens.
2. For Protocol, select **XMPP**.
3. For Username, enter the username for the agent that you added.
4. For Domain, enter the fully-qualified domain name of the Cisco Finesse server.
5. For Resource, enter any text.
6. For Password, enter the password of the agent.

Figure 3: The Pidgin Interface



7. Click **Save**.
8. Click the **Advanced** tab.
9. Check the **Allow plaintext auth over unencrypted streams** check box.
10. For Connect Server, enter the IP address of the Finesse server.
11. If the Connection Security drop-down menu is present, choose **Use encryption if available**.
12. Click **Save**.

Note Connect port and File transfer proxies should be filled in automatically (5222 should appear in the Connect port field).

Note When connecting to the secure port 5223:

1. Add the Finesse Notification Service certificate in the Pidgin certificate manager. Finesse Notification Service shares the same certificate with Cisco Finesse Tomcat.
2. To download the certificate:
   a. Sign in to the Cisco Unified Operating System Administration through the URL (https://FQDN:8443/cmplatform, where FQDN is the fully qualified domain name of the primary Finesse server and 8443 is the port number).
   b. Click **Security** > **Certificate Management**.
   c. Click **Find** to get the list of all the certificates.
   d. In the Certificate List screen, choose **Certificate** from the **Find Certificate List where** drop-down menu, enter **tomcat** in the **begins with** option and click **Find**.
   e. Click the FQDN link which appears in the **Common Name** column parallel to the listed tomcat certificate.
   f. In the pop-up that appears, click the option **Download .PEM File** to save the file on your desktop.
3. In the Pidgin Certificate Manager, go to the Connection Security drop-down menu and choose **Use old-style SSL**.

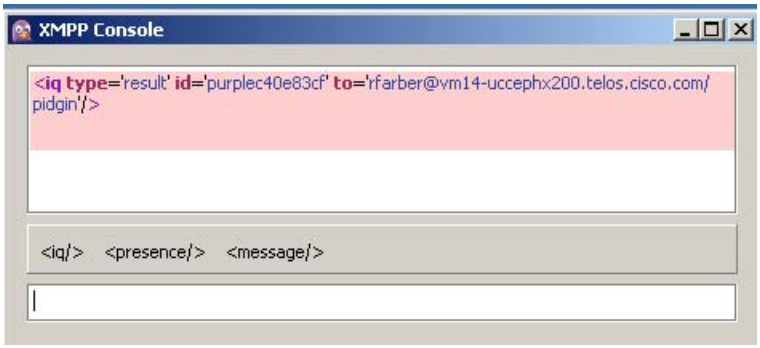
The XMPP logo next to the agent's name becomes active (is no longer dimmed). To see event messages in Pidgin, open the XMPP Console.

Figure 4: Open XMPP Console in Pidgin

Note The agent must be signed in to Finesse through Postman or the browser interface to be signed in to the XMPP account on Pidgin.

The XMPP Console window immediately begins to update every few seconds with iq type statements. The window does not display an event message until an event occurs. If the XMPP Console window fills with iq type notifications and becomes difficult to navigate, close and reopen it to refresh with a clean window.

Figure 5: The XMPP Console Window



Adium for Mac OS X

Adium is a free open source instant messaging application for Mac OS X. You can use Adium to establish an XMPP connection and view XMPP messages published by the Cisco Finesse Notification Service.

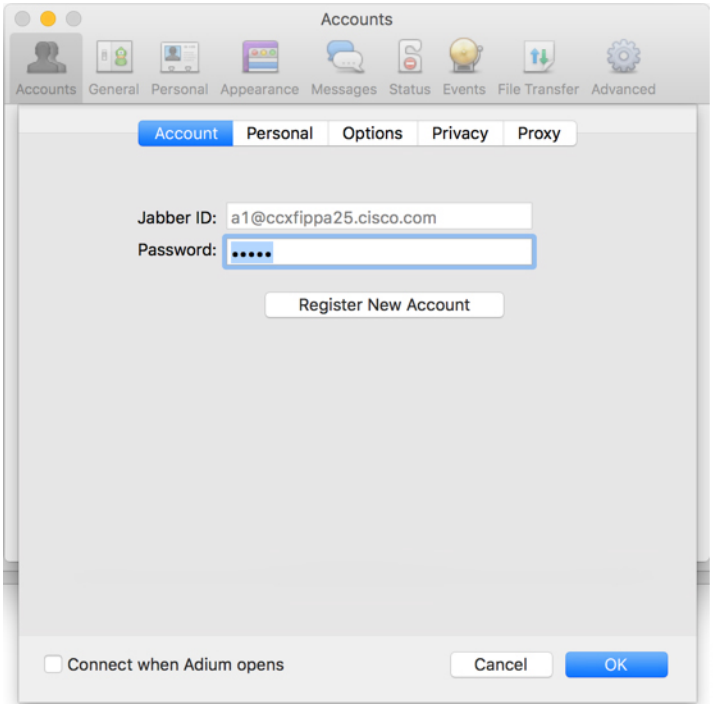
You can download Adium from https://www.adium.im.

Perform the following steps to configure XMPP:

1. In Adium go to **Preferences** > **Account** > **'+' > XMPP (Jabber)**.

2. For Jabber ID, enter the username for the agent along with the fully qualified domain name of the Cisco Finesse server.
3. For Password, enter the password of the agent.

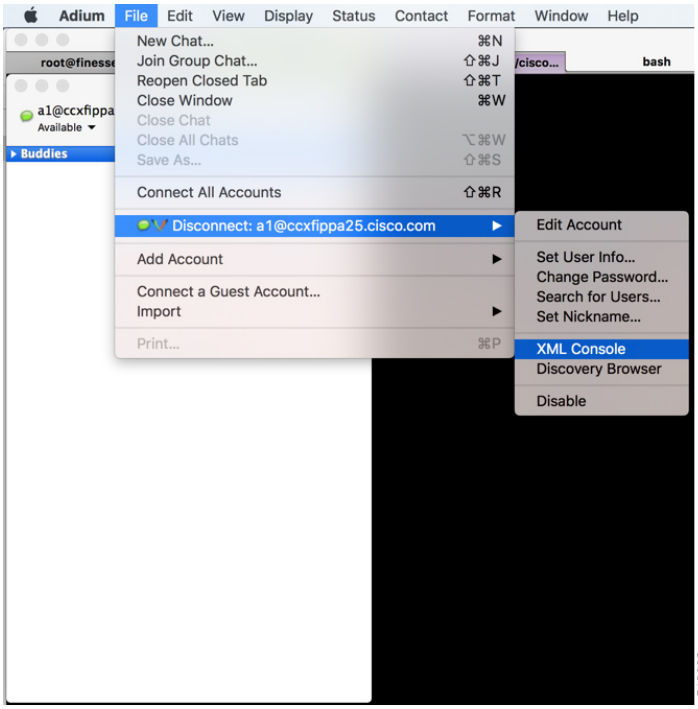
Figure 6: The Adium Interface



4. Enable XMPP Advanced Features (Default: Off).

   To enable the XML Console menu run the following command in Terminal: `defaults write com.adiumX.adiumX AMXMPPShowAdvanced -bool YES`
5. In Adium go to **File** > **Logged in User** > **XML Console**.

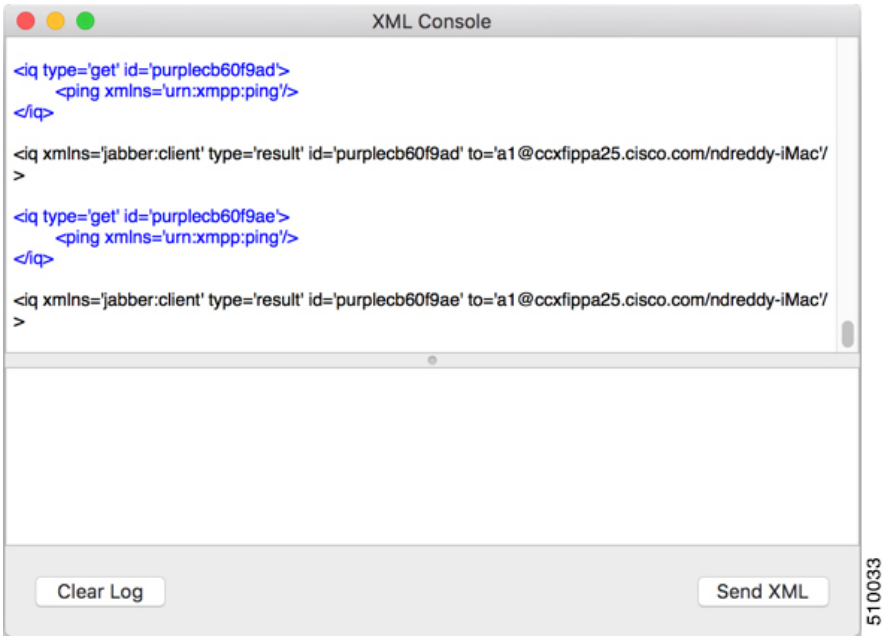
Figure 7: Open XML Console in Adium



Note The agent must be signed in to Finesse through Postman or the browser interface to be signed in to the XMPP account on Adium.

The XML Console window immediately begins to update every few seconds with iq type statements. The window does not display an event message until an event occurs. If the XML Console window fills with iq type notifications and becomes difficult to navigate, close and reopen it to refresh with a clean window.

Figure 8: The XML Console Window



Cisco Finesse APIs

APIs that control actions on the Finesse desktop and call control make use of two objects:

- User object: The User object represents agent and supervisor data and actions. This object is used to get information about a single user or list of users, to sign in or out of the Finesse Desktop, and change agent state.
- Dialog object: The Dialog object represents a dialog with participants. For media type "voice", this object represents a call. A participant can represent an internal user (such as an agent) or an external user (for example, a customer). A participant can belong to only one dialog but a user can be a participant in several dialogs. The Dialog object is used for call control and call data.

GET requests are synchronous. That is, the response body of a successful GET request contains all requested contents, which you can view in Postman or RESTClient. No event is published by XMPP and no event is received in Pidgin.

PUT and POST requests are asynchronous. A successful response is an HTTP return code of 200 or 202. The response body does not contain the updated object information.

If a PUT, POST, or DELETE request is on a User or Dialog object, the update is published by XMPP as a real-time event to Pidgin. If a PUT, POST, or DELETE request is on a configuration object (for example, a ReasonCode object), XMPP does not publish a real-time update. You must perform a GET request to get an updated copy of the object.

GET, PUT, POST, and DELETE requests that fail Finesse server internal checks are synchronous. If a request fails, Postman or RESTClient display the error. No event is published by XMPP to Pidgin. However, if the request fails on CTI side, Finesse will send an api Error XMPP event back to client after receiving a failure confirmation response from the CTI Server.

For each object, Finesse maintains an internal request queue where each subsequent request for this object is processed only after a success or a failure confirmation response is received from the CTI Server for the previous request.

RequestId is a user provided unique string that is added to the request API header and used to correlate originating requests with the resulting XMPP notifications or errors.

Note RequestId is a best effort request-response correlation and is not reliable.

XMPP event notifications that match the requested action are tagged with the requestId (if available) from the original request. If the originating request results in a system error, the corresponding XMPP error notifications also contain the requestId. Note that the request id is not sent in the case of synchronous responses to GET requests. Although not mandatory, using a unique requestId helps in tracking error messages and allows a user to debug issues faster, as messages with requestId are easily tracked in Finesse logs.

Note The requestId facility is not implemented for Task routing APIs. For more information, see the section on *Task Routing APIs*.

The following sections provide instructions and examples for using the APIs with Postman and Pidgin.

Sign In to Finesse

Use the User - Sign In to Finesse API to sign the agent in.

This example uses the following information:

- Finesse server FQDN: finesse1.xyz.com
- Agent name: John Smith
- Agent ID: 1234
- Agent password: 1001
- Agent extension: 1001
- requestId: xyz

Note This example shows the URL field for a Unified CCE deployment. In a Unified CCX deployment, you must include the port number in the URL.

1. Access Postman (Ctrl + Alt +P from the Mozilla Firefox browser) and enter the following string in the URL field:

   ```
   http://finesse1.xyz.com/finesse/api/User/1234
   ```

2. Enter the agent's ID (1234) and password (1001) in the two User Auth fields directly under the URL field.
3. In the Content Type field, enter application/XML.

4. In the area under Content Options, enter the following:

```
<User>
 <state>LOGIN</state>
 <extension>1001</extension>
</User>
```

5. (Optional) To add the requestId:
   a. Click **Headers**.
   b. In the Name field, enter **`requestId`**, and in the Value field, enter **`xyz`**.
   c. Click **Add/Change**

6. Click **PUT**.

   Postman returns the following response:

```
PUT on http://finesse1.xyz.com/finesse/api/User/1234
Status 202: Accepted
```

   Finesse returns a user notification, which you can view in Pidgin:

```
<Update>
    <data>
        <user>
            <dialogs>/finesse/api/User/1234/Dialogs</dialogs>
            <extension>1001</extension>
            <firstName>John</firstName>
            <lastName>Smith</lastName>
            <loginId>1234</loginId>
            <loginName>jsmith</loginName>
            <roles>
                <role>Agent</role>
            </roles>
            <pendingState></pendingState>
            <reasonCodeId>-1</reasonCodeId>
            <settings>
                <wrapUpOnIncoming></wrapUpOnIncoming>
            <settings>
                <state>NOT_READY</state>
                <stateChangeTime>2014-05-27T00:33:44.836Z</stateChangeTime>
                <teamId>1</teamId>
                <teamName>Default</teamName>
                <uri>/finesse/api/User/1234</uri>
            </settings>
        </user>
    </data>
    <event>PUT</event>
    <requestId>xyz</requestId>
    <source>/finesse/api/User/1234</source>
</Update>
```

   The agent is now signed in and in NOT_READY state.

Change Agent State

Use the User - Change agent state API to change the agent state to Ready.

This example uses the same agent information as the previous example.

Note This example shows the URL field for a Unified CCE deployment. In a Unified CCX deployment, you must include the port number in the URL.

1. In Postman, enter the following string in the URL field:

   ```
   http://finesse1.xyz.com/finesse/api/User/1234
   ```

2. Enter the agent's ID (1234) and password (1001) in the two User Auth fields directly under the URL field.
3. In the Content Type field, enter application/XML.
4. In the area under Content Options, enter the following:

   ```
   <User>
    <state>READY</state>
   </User>
   ```

5. (Optional) To add the requestId:
   a. Click **Headers**.
   b. In the Name field, enter **`requestId`**, and in the Value field, enter **`xyz`**.
   c. Click **Add/Change**
6. Click **PUT**.

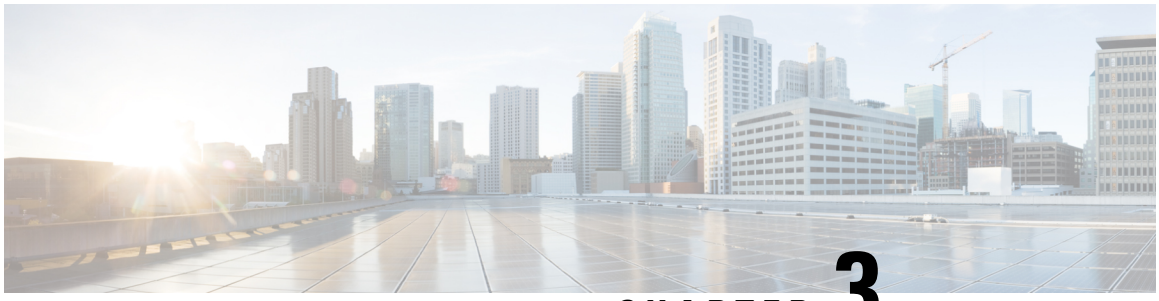
   Postman returns the following response:

   ```
   PUT on http://finesse1.xyz.com/finesse/api/User/1234
   Status 202: Accepted
   ```

   Finesse returns the following user notification:

   ```
   <Update>
     <data>
       <user>
         <dialogs>/finesse/api/User/1234/Dialogs</dialogs>
         <extension>1001</extension>
         <firstName>John</firstName>
         <lastName>Smith</lastName>
         <loginId>1234</loginId>
         <loginName>jsmith</loginName>
         <roles>
           <role>Agent</role>
         </roles>
         <state>READY</state>
         <pendingState></pendingState>
         <settings>
           <wrapUpOnIncoming></wrapUpOnIncoming>
         </settings>
         <stateChangeTime>2014-05-27T00:35:24.123Z</stateChangeTime>
         <teamId>1</teamId>
         <teamName>Default</teamName>
         <uri>/finesse/api/User/1234</uri>
       </user>
     </data>
     <event>PUT</event>
     <requestId>xyz</requestId>
     <source>/finesse/api/User/1234</source>
   </Update>
   ```

```
<Update>
  <data>
    <user>
      <dialogs>/finesse/api/User/1234/Dialogs</dialogs>
      <extension>1001</extension>
      <firstName>John</firstName>
      <lastName>Smith</lastName>
      <loginId>1234</loginId>
      <loginName>jsmith</loginName>
      <roles>
        <role>Agent</role>
      </roles>
      <state>READY</state>
      <pendingState></pendingState>
      <settings>
        <wrapUpOnIncoming></wrapUpOnIncoming>
        <wrapUpOnOutgoing></wrapUpOnOutgoing>
      </settings>
      <stateChangeTime>2014-05-27T00:35:24.123Z</stateChangeTime>
      <teamId>1</teamId>
      <teamName>Default</teamName>
      <uri>/finesse/api/User/1234</uri>
    </user>
  </data>
  <event>PUT</event>
  <requestId>xyz</requestId>
  <source>/finesse/api/User/1234</source>
</Update>
```



CHAPTER 3

Cisco Finesse Desktop APIs

Agents and supervisors use the Cisco Finesse Desktop APIs to communicate between the Finesse desktop and Finesse server, and Unified Contact Center Enterprise (Unified CCE) or Unified Contact Center Express (Unified CCX) to send and receive information about the following:

- Agents and agent states
- Calls and call states
- Teams
- Queues
- Client logs

The Finesse desktop APIs must provide BASIC authentication credentials, as described in *Client Requests*.

User

The User object represents an agent or supervisor and includes information about the user, such as roles, state, and teams. The User object is structured as follows:

```
<User>
    <uri>/finesse/api/User/1001001</uri>
    <roles>
        <role>Agent</role>
        <role>Supervisor</role>
    </roles>
    <loginId>1001001</loginId>
    <loginName>csmith</loginName>
    <state>NOT_READY</state>
    <stateChangeTime>2012-03-01T17:58:21.234Z</stateChangeTime>
    <mediaType>1</mediaType>
    <pendingState>NOT_READY</pendingState>
```

```
    <pendingStateReasonCode>
        <category>NOT_READY</category>
        <code>1725</code>
        <forAll>true</forAll>
        <id>489</id>
        <label>Lunch</label>
        <systemCode>false</systemCode>
        <uri>/finesse/api/ReasonCode/489</uri>
    </pendingStateReasonCode>
    <pendingState></pendingState>
    <reasonCodeId>16</reasonCodeId>
    <ReasonCode>
        <category>NOT_READY</category>
        <uri>/finesse/api/ReasonCode/16</uri>
        <code>10</code>
        <label>Team Meeting</label>
        <forAll>true</forAll/>
        <systemCode>false</systemCode>
        <id>16</id>
    </ReasonCode>
    <settings>
        <wrapUpOnIncoming>OPTIONAL</wrapUpOnIncoming>
    </settings>
    <extension>1001001</extension>
    <mobileAgent>
        <mode>CALL_BY_CALL</mode>
        <dialNumber>4085551234</dialNumber>
    </mobileAgent>
    <firstName>Chris</firstName>
    <lastName>Smith</lastName>
    <teamId>500</teamId>
    <teamName>Sales</teamName>
    <dialogs>/finesse/api/User/1001001/Dialogs</dialogs>
    <teams>
        <Team>
            <uri>/finesse/api/Team/2001</uri>
            <id>2001</id>
            <name>First Line Support</name>
        </Team>
        <Team>
            <uri>/finesse/api/Team/2002</uri>
            <id>2002</id>
            <name>Second Line Support</name>
        </Team>
        <Team>
            <uri>/finesse/api/Team/2003</uri>
            <id>2003</id>
            <name>Third Line Support</name>
        </Team>
      ... other teams ...
    </teams>
</User>
```

User APIs

User—Sign In to Finesse

The User—Sign in to Finesse API allows a user to sign in to the CTI server. If the response is successful, the user is signed in to Finesse and is automatically placed in NOT_READY state.

If five consecutive sign-ins fail due to an incorrect password, Finesse blocks access to the user account for a period of 5 minutes.

This API forces a sign-in. That is, if the user is already signed in, that user is authenticated via the sign-in process. If the user's credentials are correct, the user is signed in again but the user keeps the current state. For example, if a user signs in, changes state to Ready, and then signs in again, the user remains in Ready state.

Note To sign in as a mobile agent, see User—Sign In as a Mobile Agent, on page 24.

To sign in to nonvoice Media Routing Domains, see Media - Sign in, on page 147.

URI:	http://<FQDN>/finesse/api/User/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234
Security Constraints:	Users can only act on their own User objects.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<User>`
	`  <state>LOGIN</state>`
	`  <extension>1001001</extension>`
	`</User>`

Request Parameters:	id (required): The ID of the user state (required): The new state that the user wants to be in (LOGIN) extension (required): The extension with which the user wants to sign in
HTTP Response:	202: Success 400: Bad Request (for example, malformed or incomplete request, invalid extension) 400: Parameter Missing 401: Unauthorized (for example, the user is not authenticated in the Web Session) 404: Not Found (for example, the user ID is not known) 503: Service Unavailable (for example, the Notification Service is not running)

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>User Not Found</ErrorType>`
	`  <ErrorMessage>UNKNOWN_USER</ErrorMessage>`
	`  <ErrorData>4023</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

Notifications Triggered:	User notification

Platform-Based API Differences

Stand-alone Finesse with Unified CCE:

Finesse does not support agent sign-in with an E.164 extension when Finesse is deployed with Unified CCE. However, agents can make calls to and receive calls from E.164 phone numbers.

Coresident Finesse with Unified CCX:

Finesse supports agent sign-in with an E.164 extension when Finesse is deployed with Unified CCX. The maximum number of characters supported for an E.164 extension is 15 (a single plus sign followed by 14 digits).

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Invalid Device	Attempt to sign in an agent with a multiline device without the correct Unified CM configuration for maximum calls and busy trigger for these devices.	All
Invalid Device	Attempt to sign in an agent with a device that does not exist.	All
Invalid Device	Attempt to sign in an agent with a device that is offline.	All
Invalid Device	Attempt to sign in an agent with an extension that is not associated with the Unified CCX Resource Manager provider.	All
Device Busy	Attempt to sign in an agent with a device that is already in use.	All

Related Topics

Dialog CTI Error Notification, on page 300

User—Sign In as a Mobile Agent

The User—Sign in as a mobile agent API allows a user to sign in to the CTI server as a mobile agent. This API uses the existing User object with a LOGIN state only. The user must be authenticated to use this API successfully.

If five consecutive sign-ins fail due to an incorrect password, Finesse blocks access to the user account for a period of 5 minutes.

Note Additional configuration is required on Unified CCE and Unified Communications Manager before a mobile agent can sign in. After using this API, you may need to perform additional steps to complete the sign-in. For more information, see the *Cisco Unified Contact Center Enterprise Features Guide*.

Cisco Unified Mobile Agent (Unified MA) enables an agent using an PSTN phone and a broadband VPN connection (for agent desktop communications) to function just like a Unified CCE agent.

URI:	http://<FQDN>/finesse/api/User/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234
Security Constraints:	Users can only act on their own User objects.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<User> <state>LOGIN</state> <extension>1001001</extension> <mobileAgent> <mode>CALL_BY_CALL</mode> <dialNumber>4085551234</dialNumber> </mobileAgent> </User>
Request Parameters:	id (required): The ID of the user state (required): The new state that the user wants to be in (for this API, the state must be set to LOGIN) extension (required): The extension with which to sign in the user mobileAgent (required): Indicates that the user is a mobile agent mode (required): The connection mode for the call dialNumber (required): The phone number that the system calls to connect with the mobile agent
HTTP Response:	202: Success This response only indicates the successful completion of the request. The request is processed and the actual response is sent as part of a User notification. 400: Invalid Input (for example, the mode provided is invalid) 400: Parameter Missing (for example the mode or dialNumber was not provided) 400: Generic Error 401: Unauthorized (for example, the user is not authenticated in the Web Session) 401: Invalid User Authorization Specified (an authenticated user tried to make a request for another user) 404: User Not Found (for example, the agent is not recognized)

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Invalid Authorization User Specified</ErrorType> <ErrorData>4321</ErrorData> <ErrorMessage>The user specified in the authentication credentials and the uri don't match</ErrorMessage> </ApiError> </ApiErrors>
Notifications Triggered:	User notification

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Mode Not Allowed	Attempt to sign in an agent as a mobile agent when that agent is not configured as a mobile agent.	Unified CCE

Related Topics

Dialog CTI Error Notification, on page 300

User—Sign Out of Finesse

This API allows a user to sign out of the Finesse desktop.

When signing out of the desktop, the user can sign out of voice only or out of all Media Routing Domains. Finesse sends separate sign out requests to CCE for each MRD.

For nonvoice MRDs only, users can sign out with active tasks. The user's tasks are either transferred or closed, depending on the way the MRD was configured when the user signed in through the Media - Sign In API.

The desktop sign out fails only if the voice MRD LOGOUT fails; it is not impacted by nonvoice MRD LOGOUT failure.

Note To sign out of nonvoice Media Routing Domains only, see Media—Change State or Sign Out, on page 149.

URI:	http://<FQDN>/finesse/api/User/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234
Security Constraints:	Agents and supervisors can use this API. Users can only act on their own User objects.
HTTP Method:	PUT

Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<User>`
	`  <state>LOGOUT</state>`
	`  <logoutAllMedia>true</logoutAllMedia>`
	`</User>`

Request Parameters:	id (required): The ID of the user state (required): The new state that the user wants to be in (LOGOUT) logoutAllMedia (optional): Determines whether the user signs out of all Media Routing Domains, or only out of voice. If set to false or not specified, the user signs out of voice only.
HTTP Response:	202: Success 400: Bad Request (for example, malformed or incomplete request, invalid extension) 401: Unauthorized (for example, the user is not authenticated in the Web Session) 404: Not Found (for example, the user ID is not known) 503: Service Unavailable (for example, the Notification Service is not running)

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Invalid Input</ErrorType>`
	`  <ErrorData>state</ErrorData>`
	`  <ErrorMessage>Invalid State specified for user</ErrorMessage>`
	`  </ApiError>`
	`</ApiErrors>`

Notifications Triggered:	User notification Media notification (for nonvoice MRDs)

Note If a nonvoice MRD sign out operation results in an asynchronous error, the error is returned in a Media notification. The notification includes the error type, error code, and error constant. The ErrorMedia parameter indicates the Media RoutingDomain to which the error applies.

Related Topics

Media and Dialogs/Media Asynchronous Error Notification, on page 307

User—Get User

The User—Get user API allows a user to get a copy of the User object. For a mobile agent, this operation returns the full User object, including the mobile agent node.

Note Mobile agent information is available to the Finesse node on which the mobile agent is signed in. However, the other Finesse node in the cluster does not have the mobile agent information. If the mobile agent signs in to the other node (for example, during a client failover), the mobile agent information is lost and the User object does not return any mobile agent data fields. As a result, the Finesse desktop inaccurately represents the mobile agent as a regular agent (including all related features). Any other type of CTI failover also results in Finesse losing the current mobile agent information. However, the Unified Mobile Agent feature behaves as normal whether Finesse knows the agent is a mobile agent or not.

As a workaround, the mobile agent can sign out and sign back in as a mobile agent.

URI:	**For Unified CCE**: http://<FQDN>/finesse/api/User/<id > **For Unified CCX**: http://<FQDN>/finesse/api/User/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234
Security Constraints:	Agents can only get their own User object. Administrators can get any User object. To get the User object, a user must be signed in, or provide valid authorization credentials when challenged.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 401: Invalid Authorization User Specified 404: User Not Found 500: Internal Server Error 503: Service Unavailable

Example Response:

```
<User>
    <uri>/finesse/api/User/1234</uri>
    <roles>
        <role>Agent</role>
        <role>Supervisor</role>
    </roles>
    <loginId>1234</loginId>
    <loginName>csmith</loginName>
    <state>NOT_READY</state>
    <stateChangeTime>2012-03-01T17:58:21.234Z</stateChangeTime>
    <pendingState></pendingState>
    <reasonCodeId>16</reasonCodeId>
    <ReasonCode>
        <category>NOT_READY</category>
        <uri>/finesse/api/ReasonCode/16</uri>
        <code>10</code>
        <label>Team Meeting</label>
        <forAll>true</forAll>
        <id16</id>
    </ReasonCode>
    <settings>
        <wrapUpOnIncoming>OPTIONAL</wrapUpOnIncoming>
    </settings>
    <extension>1001001</extension>
    <mobileAgent>
        <mode>CALL_BY_CALL</mode>
        <dialNumber>4085551234</dialNumber>
    </mobileAgent>
    <firstName>Chris</firstName>
    <lastName>Smith</lastName>
    <teamId>500</teamId>
    <teamName>Sales</teamName>
    <dialogs>/finesse/api/User/1234/Dialogs</dialogs>
    <teams>
        <Team>
            <uri>/finesse/api/Team/2001</uri>
            <id>2001</id>
            <name>First Line Support</name>
        </Team>
        <Team>
            <uri>/finesse/api/Team/2002</uri>
            <id>2002</id>
            <name>Second Line Support</name>
        </Team>
        <Team>
            <uri>/finesse/api/Team/2003</uri>
            <id>2003</id>
            <name>Third Line Support</name>
        </Team>
... other teams ...
    </teams>
</User>
```

Example Response (Mobile Agent):

Note Mobile agent only applies to Unified CCE deployments).

```
<User>
   ... Full User Object ...
   <mobileAgent>
      <mode>CALL_BY_CALL</mode>
      <dialNumber>4085551234</dialNumber>
   </mobileAgent>
</User>
```

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>User Not Found</ErrorType> <ErrorMessage>UNKNOWN_USER</ErrorMessage> <ErrorData>4023</ErrorData> </ApiError> </ApiErrors>

User—Get List

This API allows an administrator to get a list of users.

URI:	http://<FQDN>/finesse/api/Users
Example URI:	http://finesse1.xyz.com/finesse/api/Users
Security Constraints:	Only administrators can get a list of users. To get a list of users, the administrator must be signed in or provide valid authorization credentials when challenged.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 500: Internal Server Error 503: Service Unavailable
Example Response:	<Users> <User> ... Full User Object ... </User> <User> ... Full User Object ... </User> <User> ... Full User Object ... </User> <User> ... Full User Object ... </User> <User> ... Full User Object ... </User> ... Additional Users... </Users>

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Unauthorized</ErrorType> <ErrorMessage>The user is not authorized to perform this operation</ErrorMessage> </ApiError> </ApiErrors>

User—Get List of Dialogs (Voice Only by Default)

This API allows an agent or administrator to get a list of dialogs associated with a particular user. By default, this API returns voice dialogs only. You can use the query parameters to include nonvoice dialogs.

The URI for this API contains two query parameters:

- **type:** (optional) Set the type to return voice or nonvoice dialogs for a user. You can include both types to return all dialogs for a user (type=voice&type=non-voice). If you do not include the type query parameter, only voice dialogs are returned.
- **media:** (optional) Use this parameter to filter nonvoice dialog results by a specific media id. This parameter is only applicable when the "type=non-voice" query parameter is used.

URI:	http://<FQDN>/finesse/api/User/<id>/Dialogs?type={voice|non-voice}&media={id}
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Dialogs
Security Constraints:	Agents can only get a list of their own dialogs. Administrators can get a list of dialogs associated with any user. To get a list of dialogs, a user must be signed in, or provide valid authorization credentials when challenged.
HTTP Method:	GET
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 500: Internal Server Error 503: Service Unavailable

Example Response:	<Dialogs> <Dialog> ... Full Dialog Object ... </Dialog> <Dialog> ... Full Dialog Object ... </Dialog> <Dialog> ... Full Dialog Object ... </Dialog> <Dialog> ... Full Dialog Object ... </Dialog> <Dialog> ... Full Dialog Object ... </Dialog> ... Additional Dialogs... </Dialogs>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

User—Get List of Dialogs (Nonvoice Only)

This API allows an agent or administrator to get a list of nonvoice dialogs associated with a particular user for a specific Media Routing Domain (MRD).

URI:	http://<FQDN>/finesse/api/User/<id>/Media/<mrdId>/Dialogs
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Media/5001/Dialogs
Security Constraints:	Agents can only get a list of their own dialogs. Administrators can get a list of dialogs associated with any user. To get a list of dialogs, a user must be signed in or provide valid authorization credentials when challenged.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 500: Internal Server Error 503: Service Unavailable

Example Response:	<Dialogs> <Dialog> ... Full Dialog Object ... </Dialog> <Dialog> ... Full Dialog Object ... </Dialog> <Dialog> ... Full Dialog Object ... </Dialog> <Dialog> ... Full Dialog Object ... </Dialog> <Dialog> ... Full Dialog Object ... </Dialog> ... Additional Dialogs... </Dialogs>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

User—Get List of Reservation Dialogs

This API allows an agent or administrator to get a list of reservation dialogs and is applicable for progressive and predictive outbound reservation calls.

URI:	http://<FQDN>/finesse/api/User/<id>/ReservationDialogs
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/ReservationDialogs
Security Constraints:	Agents can get a list of their outbound reservation dialogs. Administrators can get a list of outbound reservation dialogs for all the users. To get a list of outbound reservation dialogs, a user must be signed in or must have the valid authorization credentials.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Invalid Authorization 500: Internal Server Error 503: Service Unavailable

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

User—Change Agent State

This API allows a user to change the state of an agent on the CTI server. Agents can change their own states

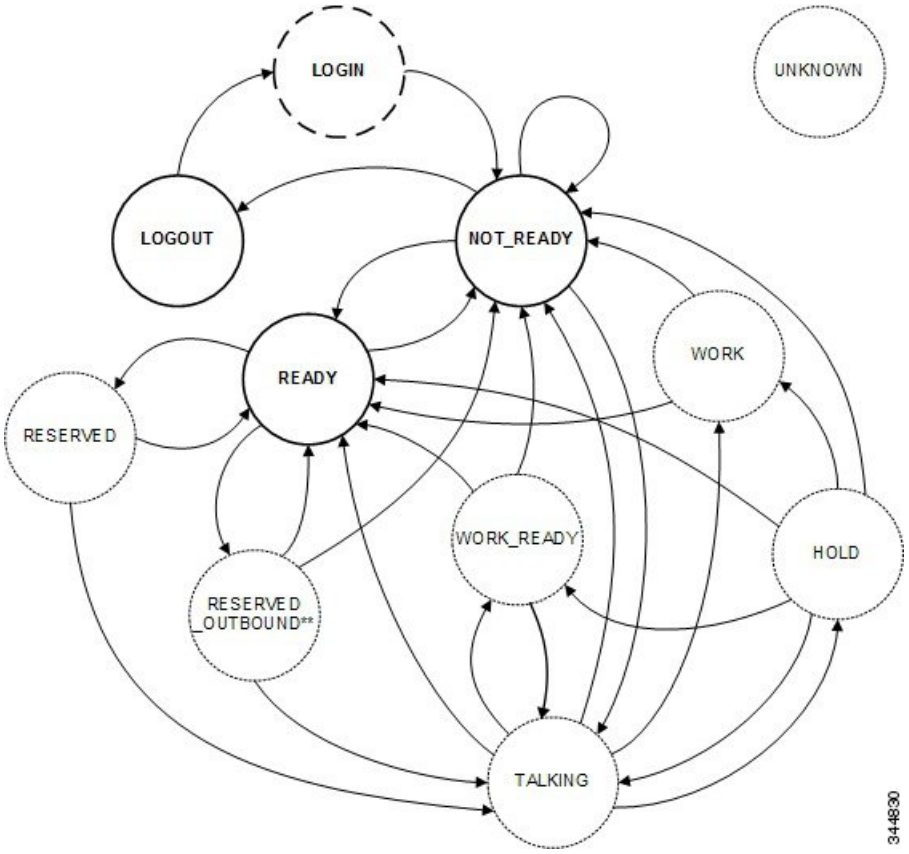
Note To change user state in a nonvoice Media Routing Domain, see Media—Change State or Sign Out, on page 149.

If the request to change an agent's state is successful, the response is sent as part of a User notification.

The following figure illustrates the supported state transitions by Unified CCE agents.

Note The following diagram contains only logical state transitions. Because the underlying system determines the state, an agent can transition from any state to any state, especially under failover conditions. The diagram describes the typical state changes that occur in the system.

Figure 9: Supported State Transitions by Agent (Unified CCE)



Note In the preceding diagram, RESERVED_OUTBOUND can represent RESERVED_OUTBOUND or RESERVED_OUTBOUND_PREVIEW state.

The following table describes supported agent state transitions for Unified CCE.

From	To	Description
*	UNKNOWN	If the agent state is unknown, the state is UNKNOWN. This scenario is unlikely.
LOGOUT	LOGIN	To sign in to Finesse, the agent sets the state to LOGIN. LOGIN is a transient state and transitions to NOT_READY.
LOGIN	NOT_READY	After a successful LOGIN, the agent transitions to NOT_READY.
NOT_READY	LOGOUT	To sign out of Finesse, the agent sets the state to LOGOUT. An agent can set the state to LOGOUT only if that agent is in NOT_READY state.

From	To	Description
NOT_READY	NOT_READY	To change their Not Ready reason code, agents can set a NOT_READY state from NOT_READY.
NOT_READY	READY	To become available for incoming or Outbound Option calls, agents set their state to READY.
NOT_READY	TALKING	An agent who places a call while in NOT_READY state transitions to TALKING.
READY	RESERVED	An incoming call arrives at an agent.
READY	RESERVED _OUTBOUND	An outbound agent becomes reserved to handle an Outbound Option Progressive or Predictive call.
READY	RESERVED_OUTBOUND _PREVIEW	An outbound agent becomes reserved to handle an Outbound Option Preview call.
READY	NOT_READY	Agents can change to NOT_READY to make themselves unavailable for incoming calls.
RESERVED	READY	An agent can become RESERVED but never take a call.
RESERVED	TALKING	When an agent answers an incoming call, the agent transitions to TALKING.
RESERVED _OUTBOUND	READY	An agent can change to READY state to leave RESERVED_OUTBOUND. If the system deems it necessary, that agent may transition back to RESERVED_OUTBOUND.
RESERVED _OUTBOUND	NOT_READY	An agent can change to NOT_READY state to leave RESERVED_OUTBOUND.
RESERVED _OUTBOUND	TALKING	An agent transitions to TALKING when an Outbound Option call arrives at the agent.
RESERVED_OUTBOUND _PREVIEW	READY	An agent transitions to READY if the agent was in READY state before being reserved in an Outbound Option Preview campaign.
RESERVED_OUTBOUND _PREVIEW	NOT_READY	An agent transitions to NOT_READY if that agent changes state to NOT_READY while reserved in an Outbound Option Preview campaign. This state change is a pending state change. The agent does not transition to NOT_READY until the call is complete or the Outbound Option Preview reservation is closed or rejected.
RESERVED_OUTBOUND _PREVIEW	TALKING	An agent transitions to TALKING when an Outbound Option call arrives at the agent.

From	To	Description
TALKING	READY	If an agent is on a call that is dropped, the agent transitions to READY (if the agent was in READY state before the call).
TALKING	NOT_READY	If an agent is on a call that is dropped, the agent transitions to NOT_READY if that agent was in NOT_READY state before the call.
TALKING	WORK	If wrap-up is enabled, and the agent chooses NOT_READY while on a call, that agent enters WORK state after the call is dropped.
TALKING	WORK_READY	If wrap-up is enabled, an agent enters WORK_READY state after a call is dropped.
TALKING	HOLD	An agent puts a call on hold and transitions to HOLD state.
HOLD	READY	If an agent is connected to a held call and the call is dropped, the agent transitions to READY state (if the agent was in READY state before the call).
HOLD	NOT_READY	If an agent is connected to a held call and the call is dropped, the agent transitions to NOT_READY state (if the agent was in NOT_READY state before the call).
HOLD	WORK	If wrap-up is enabled and an agent is connected to a held call that is dropped, the agent transitions to WORK state if the agent chose to go NOT_READY during the call.
HOLD	WORK_READY	If wrap-up is enabled and an agent is connected to a held call that is dropped, the agent transitions to WORK_READY state.
HOLD	TALKING	When an agent retrieves a held call, the agent transitions to TALKING state.
WORK	READY	To leave WORK state, agents can set their state to READY.
WORK	NOT_READY	To leave WORK state, agents can set their state to NOT_READY. Agents automatically transition to NOT_READY after the wrap-up timer expires.
WORK_READY	READY	To leave WORK_READY state, agents can set their state to READY. Agents automatically transition to READY after the wrap-up timer expires.
WORK_READY	NOT_READY	To leave WORK_READY state, agents can set their state to NOT_READY.

The following table describes supported agent state transitions for Unified CCX.

From	To	Description
LOGIN	NOT_READY	After a successful LOGIN, the agent transitions to NOT_READY.
NOT_READY	LOGOUT	To sign out of Finesse, the agent sets the state to LOGOUT.
NOT_READY	NOT_READY	To change their Not Ready reason code, agents can set a NOT_READY state from NOT_READY.
NOT_READY	READY	To become available for incoming calls, agents set their state to READY.
READY	NOT_READY	Agents can change their state to NOT_READY to make themselves unavailable for incoming calls.
READY	LOGOUT	To sign out of Finesse, agents set their state to LOGOUT.
READY	RESERVED_ OUTBOUND_ PREVIEW	An outbound agent becomes reserved to handle an Outbound Option Direct Preview call.
RESERVED_ OUTBOUND_ PREVIEW	TALKING	An outbound agent accepts a direct preview call and the call is active.

Users can set the following states with this API:

- READY
- NOT_READY
- LOGOUT

The LOGIN state is a transitive state. That is, when set, LOGIN triggers a change that results in a new state.

Users can be in the following states while on a call. However, users cannot place themselves in these states. For example, agents cannot change their state to TALKING. Agents enter TALKING state when they answer a call.

- RESERVED
- RESERVED_OUTBOUND
- RESERVED_OUTBOUND_PREVIEW
- TALKING
- HOLD
- WORK
- WORK_READY

RESERVED_OUTBOUND user state:

Users who belong to Outbound Option skill groups transition from READY state to RESERVED_OUTBOUND state when those users are reserved for Progressive or Predictive Outbound Option calls.

In a Unified CCE deployment, users can change their state to READY or NOT_READY to exit this state. If not ready reason codes are configured, users must specify a reason code to transition to NOT_READY state. If the user does nothing and then the call is transferred to the user, the user transitions to TALKING state. If the call is not transferred to the user, the user transitions back to READY state.

In a Unified CCX deployment, users cannot change their state to exit RESERVED_OUTBOUND state. If auto-answer for the predictive or progressive call is not enabled and the agent does not answer the call, the agent transitions to NOT_READY state. If the call does not reach a voice contact or if the reservation timer on Unified CCX expires, the agent transitions to READY state.

RESERVED_OUTBOUND_PREVIEW user state:

Users who belong to Outbound Option skill groups transition from READY state to RESERVED_OUTBOUND_PREVIEW state when they are reserved for Outbound Option Preview or Direct Preview calls. Users cannot set their state to RESERVED_OUTBOUND_PREVIEW.

In a Unified CCE deployment, users can click Close or Reject on the Outbound Option dialog. Changing the user's state to READY or NOT_READY does not generate a state change notification but does affect the user state when the call is complete. For example, if the user selects NOT_READY state while in RESERVED_OUTBOUND_PREVIEW state, the user transitions to NOT_READY state after clicking Close or Reject.

In a Unified CCX deployment, users cannot change their state directly when in RESERVED_OUTBOUND_PREVIEW state. The state can only be changed by issuing a Dialog Accept, Close, or Reject request or when the reservation call times out.

WORK and WORK_READY user states:

A user is in WORK or WORK_READY state during wrap-up. A user is placed in WORK state when the user is set to transition to NOT_READY state when wrap-up ends. A user is in WORK_READY state when the user is set to transition to READY state when wrap-up ends.

A user transitions to WORK state for the following reasons:

- The user was in NOT_READY state before taking a call.
- The user set a state of NOT_READY while in TALKING state.

When the wrap-up timer expires, the user transitions to NOT_READY state.

WORK_READY state applies only to Unified CCE deployments. A user transitions to WORK_READY state for the following reasons:

- The user was in READY state before taking a call.
- The user set a state of READY while in TALKING state.

When the wrap-up timer expires, the user transitions to READY state.

Note The following statements apply to a supervisor using this API to change the state of an agent or other supervisor:

- A supervisor can only change the state of a user who is assigned to that supervisor's team.
- A supervisor can only set the state of another user to NOT_READY, READY, or LOGOUT.
- A supervisor can set the state of a user to LOGOUT only if that user is in READY, NOT_READY, RESERVED, RESERVED_OUTBOUND, RESERVED_OUTBOUND_PREVIEW, TALKING, HOLD, WORK, or WORK_READY state.
- A supervisor can set the state of a user to NOT_READY only if that user is in READY, WORK, or WORK_READY state.
- When a supervisor uses this API to set the state of a user to NOT_READY, a reason code must not be used. If a reason code is provided, Finesse rejects it and returns a 400 Invalid Input error. Finesse sends a hard-coded reason code to indicate that the state change was performed by the supervisor.

URI:	http://<FQDN>/finesse/api/User/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234
Security Constraints:	Agents can only act on their own User objects. Supervisors can act on the User objects of agents who belong to their team.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<User>`
	`  <state>READY</state>`
	`</User>`

Request Parameters:	id (required): The ID of the user state (required): The new state the user wants to be in (for example, LOGOUT, READY, NOT_READY)
HTTP Response:	200: Success 400: Bad Request 401: Invalid Supervisor 401: Unauthorized 404: Not Found 500: Internal Server Error 503: Service Unavailable

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Parameter Missing</ErrorType> <ErrorData>state</ErrorData> <ErrorMessage>State Parameter missing</ErrorMessage> </ApiError> </ApiErrors>
Notifications Triggered:	User notification

Platform-Based API Differences

The following table describes API differences between a stand-alone Finesse deployment with Unified CCE and a coresident Finesse deployment with Unified CCX.

Scenario	Response
Change from LOGOUT to NOT_READY.	**Stand-alone Finesse with Unified CCE:** <data> <apiErrors> <apiError> <errorData>257</errorData> <errorMessage>CF_INVALID_PASSWORD_SPECIFIED</errorMessage> <errorType>Invalid State</errorType> </apiError> </apiErrors> </data> **Coresident Finesse with Unified CCX:** <data> <apiErrors> <apiError> <errorData>1010</errorData> <errorMessage>CF_INVALID_PARAMETER</errorMessage> <errorType>Invalid State</errorType> </apiError> </apiErrors> </data>
Agent receives and answers a non-ICD call.	**Stand-alone Finesse with Unified CCE:** Finesse sends a User notification with state=TALKING. **Coresident Finesse with Unified CCX:** Finesse does not send a User notification. The agent remains in NOT_READY state.
Agent puts an ICD call on hold.	**Stand-alone Finesse with Unified CCE:** Finesse sends a User notification with state=HOLD. **Coresident Finesse with Unified CCX:** Finesse does not send a User notification. The agent remains in TALKING state.

Scenario	Response
While talking on an ICD call, the agent sets a pending state of READY.	**Stand-alone Finesse with Unified CCE:** Agent transitions to READY state after the call ends. **Coresident Finesse with Unified CCX:** Unified CCX does not allow an agent to set a pending state of READY while that agent is talking on an ICD call. <data> <apiErrors> <apiError> <errorData>265</errorData> <errorMessage>CF_INVALID_AGENT_WORKMODE</errorMessage> <errorType>Invalid State</errorType> </apiError> </apiErrors> </data>
While talking on a non-ICD call (agent state can be TALKING in Unified CCE or NOT_READY in Unified CCX), the agent sets a pending state of READY.	**Stand-alone Finesse with Unified CCE:** Agent transitions to READY state after the call ends. **Coresident Finesse with Unified CCX:** Unified CCX does not allow an agent to set a pending state of READY while that agent is talking on a non-ICD call. <data> <apiErrors> <apiError> <errorData>33</errorData> <errorMessage>CF_RESOURCE_BUSY</errorMessage> <errorType>Invalid State</errorType> </apiError> </apiErrors> </data>
While talking on an ICD call, the agent attempts to change from a pending state of NOT_READY with reason code 1 to a pending state of NOT_READY with reason code 2.	**Stand-alone Finesse with Unified CCE:** Agent transitions to NOT_READY state with reason code 2 after the call ends. **Coresident Finesse with Unified CCX:** Unified CCX allows an agent to set a pending state of NOT_READY only once during a call. Unified CCX does not allow an agent to change from one Not Ready reason code to another. <data> <apiErrors> <apiError> <errorData>265</errorData> <errorMessage>CF_INVALID_AGENT_WORKMODE</errorMessage> <errorType>Invalid State</errorType> </apiError> </apiErrors> </data>

Scenario	Response
A supervisor changes the state of an agent on that supervisor's team to NOT_READY.	**Stand-alone Finesse with Unified CCE:** Finesse sends a hard-coded reason code of 999 to indicate the forced state change. **Coresident Finesse with Unified CCX:** Finesse sends a hard-coded reason code of 33 to indicate the forced state change.

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Invalid State	Invalid state transition requested. For example, attempt to set Wrap-Up state on an agent that is not allowed to go to Wrap-Up, or attempt to change an agent's state from READY state to Wrap-up or WORK state.	All
Internal Server Error	Attempt to change an agent's state from RESERVED_OUTBOUND to any other state.	Unified CCX

Related Topics

Dialog CTI Error Notification, on page 300

User—Change Agent State With Reason Code

This API allows a user to change the agent state in the CTI server and pass along the code value of a corresponding reason code. Users can use this API only when changing state to NOT_READY or LOGOUT.

If the user is changing state to LOGOUT and is signing out of all Media Routing Domains, the same reason code is applied to all the Media Routing Domains.

Note To change state with a reason code in a nonvoice Media Routing Domain only, see Media—Change Agent State with Reason Code, on page 151.

URI:	http://<FQDN>/finesse/api/User/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234
Security Constraints:	Users can only act on their own User objects.
HTTP Method:	PUT
Content Type:	Application/XML

Input/Output Format:	XML

HTTP Request:	`<User>`
	`<state>LOGOUT</state>`
	`<reasonCodeId>10</reasonCodeId>`
	`<logoutAllMedia>true</logoutAllMedia>`
	`</User>`

Request Parameters:	id (required): The ID of the user reasonCodeID (required if reason codes are configured for the given state): The database ID for the reason code state (required): The new state the user wants to be in (NOT_READY, LOGOUT) logoutAllMedia (optional): This parameter can be included if changing the state to LOGOUT. It determines whether the user signs out of all Media Routing Domains, or only out of voice. If set to false or not specified, the user signs out of voice only.
HTTP Response:	202: Successfully Accepted 400: Parameter Missing 400: Invalid Input 400: Invalid State 401: Authorization Failure (for example, the user is not authenticated in the Web Session) 401: Invalid Authorization Specified (for example, the authenticated user tried to make a request for another user)

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Parameter Missing</ErrorType>`
	`<ErrorData>state</ErrorData>`
	`<ErrorMessage>State Parameter missing</ErrorMessage>`
	`</ApiError>`
	`</ApiErrors>`

Notifications Triggered:	User notification Media notification (for nonvoice MRDS, when changing state to LOGOUT)

Note If a nonvoice MRD sign out operation results in an asynchronous error, the error is returned in a Media notification. The notification includes the error type, error code, and error constant. The ErrorMedia parameter indicates the Media RoutingDomain to which the error applies.

Related Topics

Media and Dialogs/Media Asynchronous Error Notification, on page 307

User—Get Reason Code

This API allows an agent or supervisor to get an individual Not Ready or Sign Out reason code, which is already defined and stored in the Finesse database (and that is applicable to the agent or supervisor).

Users can select the reason code to display on their desktops when they change their state to NOT_READY or LOGOUT.

For more information about the ReasonCode object, see section on *ReasonCode*.

URI:	http://<FQDN>/finesse/api/User/<id>/ReasonCode/<reasonCodeId>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/ReasonCode/12
Security Constraints:	Administrators, agents, and supervisors can use this API. To get a reason code, a user must be signed in or provide valid authorization credentials when challenged. The reason code must be global (forAll parameter set to true) or be assigned to a team to which the user belongs. Only an administrator can get another user's reason codes.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error (for example, the object does not exist, the object is stale, or violation of DB constraint) 401: Authorization Failure 401: Invalid Authorization User Specified 404: Not Found (for example, the reason code does not exist or has been deleted) 500: Internal Server Error

Example Response:	`<ReasonCode>`
	`  <uri>finesse/api/ReasonCode/1</uri>`
	`  <category>NOT_READY</category>`
	`  <code>12</code>`
	`  <label>Lunch</label>`
	`  <forAll>true</forAll>`
	`</ReasonCode>`

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>1234</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

User—Get Reason Code List

This API allows an agent or supervisor to get a list of Not Ready or Sign Out reason codes (that are applicable to that agent or supervisor), which are defined and stored in the Finesse database. Users can assign one of the reason codes on the desktop when they change their state to NOT_READY or LOGOUT.

Note The ReasonCode list can be empty (for example, if no reason codes for the specified category exist in the Finesse configuration database).

Reason codes that have the forAll parameter set to true apply to any user.

The category parameter is required when making a request to get a list of reason codes.

For information about the ReasonCode object, see section on *ReasonCode*.

URI:	http://<FQDN>/finesse/api/User/<id>/ReasonCodes?category=NOT_READY|LOGOUT
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/ReasonCodes?category=NOT_READY
Security Constraints:	Administrators, agents and supervisors can use this API. To get a list of reason codes, a user must be signed in or provide valid authorization credentials when challenged. Only an administrator can get another user's list of reason codes.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error (for example, the object does not exist, the object is stale, or violation of DB constraint) 401: Authorization Failure 401: Invalid Authorization User Specified 404: Not Found 500: Internal Server Error

Example Response:	<ReasonCodes category="NOT_READY">
	  <ReasonCode>
	  <uri>/finesse/api/ReasonCode/1</uri>
	  <category>NOT_READY</category>
	  <code>12</code>
	  <label>Lunch</label>
	  <forAll>true</forAll>
	  </ReasonCode>
	  <ReasonCode>
	  ...Full ReasonCode Object...
	  </ReasonCode>
	  <ReasonCode>
	  ...Full ReasonCode Object...
	  </ReasonCode>
	</ReasonCodes>

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>1234</ErrorData> </ApiError> </ApiErrors>

User—Get Wrap-Up Reason

This API allows a user to get a WrapUpReason object.

For more information about the WrapUpReason object, see WrapUpReason, on page 196.

URI:	http://<FQDN>/finesse/api/User/<id>/WrapUpReason/<wrapUpReasonId>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/WrapUpReason/1001
Security Constraints:	Administrators, agents, and supervisors can use this API. To get a wrap-up reason, a user must be signed in, or provide valid authorization credentials when challenged. Only an administrator can get another user's wrap-up reasons.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 400: Bad Request (the request body is invalid) 400: Finesse API Error (for example, the object does not exist, the object is stale, or violation of DB constraint) 401: Authorization Failure 401: Invalid Authorization User Specified 404: Not Found (for example, the wrap-up reason does not exist or has been deleted) 500: Internal Server Error

Example Response:	`<WrapUpReason>`
	`  <uri>finesse/api/User/1234/WrapUpReason/205</uri>`
	`  <label>Product Question</label>`
	`  <forAll>true</forAll>`
	`</WrapUpReason>`

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>1234</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

User—Get Wrap-Up Reason List

This API allows a user to get a list of all wrap-up reasons applicable for that user.

For more information about the WrapUpReason object, see WrapUpReason, on page 196.

URI:	http://<FQDN>/finesse/api/User/<id>/WrapUpReasons
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/WrapUpReasons
Security Constraints:	Administrators, agents, and supervisors can use this API. To get a list of wrap-up reasons, a user must be signed in or provide valid authorization credentials when challenged. Only an administrator can get another user's list of wrap-up reasons.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 400: Finesse API Error (for example, the object does not exist, the object is stale, or violation of DB constraint) 401: Authorization Failure 401: Invalid Authorization User Specified 404: User Not Found 500: Internal Server Error
Example Response:	<WrapUpReasons> <WrapUpReason> <label>Successful tech support call</label> <forAll>true</forAll> <uri>/finesse/api/User/1234/WrapUpReason/12</uri> </WrapUpReason> ... more wrap-up reasons ... </WrapUpReasons>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>1234</ErrorData> </ApiError> </ApiErrors>

User—Get Default Media Properties Layout

This API allows a user to get a copy of the default MediaPropertiesLayout object. The MediaPropertiesLayout object determines how call variables and ECC variables appear on the Finesse desktop.

URI:	http://<FQDN>/finesse/api/User/<id>/MediaPropertiesLayout
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/MediaPropertiesLayout
Security Constraints:	Agents and supervisors can use this API. To get the default MediaPropertiesLayout object, a user must be signed in or provide valid authorization credentials when challenged.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 500: Internal Server Error

Example Response:	

```
<MediaPropertiesLayout>
  <header>
    <entry>
      <displayName>Call Variable 1</displayName>
      <mediaProperty>callVariable1</mediaProperty>
    </entry>
  </header>
  <column>
    <entry>
      <displayName>BA AccountNumber</displayName>
      <mediaProperty>BAAccountNumber</mediaProperty>
    </entry>
    <entry>
      <displayName>BA Campaign</displayName>
      <mediaProperty>BACampaign</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 1</displayName>
      <mediaProperty>callVariable1</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 2</displayName>
      <mediaProperty>callVariable2</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 3</displayName>
      <mediaProperty>callVariable3</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 4</displayName>
      <mediaProperty>callVariable4</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 5</displayName>
      <mediaProperty>callVariable5</mediaProperty>
    </entry>
  </column>
  <column>
    <entry>
      <displayName>BA Status</displayName>
      <mediaProperty>BAStatus</mediaProperty>
    </entry>
    <entry>
      <displayName>BA Response</displayName>
      <mediaProperty>BAResponse</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 6</displayName>
      <mediaProperty>callVariable6</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 7</displayName>
      <mediaProperty>callVariable7</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 8</displayName>
      <mediaProperty>callVariable8</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 9</displayName>
      <mediaProperty>callVariable9</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 10</displayName>
```

```
      <mediaProperty>callVariable10</mediaProperty>
    </entry>
  </column>
  <uri>/finesse/api/MediaPropertiesLayout/1</uri>
  <name>Default Layout</name>
  <description>Layout used when no other layout matches the user layout
Custom/ECC Variable</description>
  <type>DEFAULT</type>
</MediaPropertiesLayout>
<MediaPropertiesLayout>
  <header>
    <entry>
      <displayName>Call Variable 1</displayName>
      <mediaProperty>callVariable1</mediaProperty>
    </entry>
  </header>
  <column>
    <entry>
      <displayName>BA AccountNumber</displayName>
      <mediaProperty>BAAccountNumber</mediaProperty>
    </entry>
    <entry>
      <displayName>BA Campaign</displayName>
      <mediaProperty>BACampaign</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 1</displayName>
      <mediaProperty>callVariable1</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 2</displayName>
      <mediaProperty>callVariable2</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 3</displayName>
      <mediaProperty>callVariable3</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 4</displayName>
      <mediaProperty>callVariable4</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 5</displayName>
      <mediaProperty>callVariable5</mediaProperty>
    </entry>
  </column>
  <column>
    <entry>
      <displayName>BA Status</displayName>
      <mediaProperty>BAStatus</mediaProperty>
    </entry>
    <entry>
      <displayName>BA Response</displayName>
      <mediaProperty>BAResponse</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 6</displayName>
      <mediaProperty>callVariable6</mediaProperty>
    </entry>
    <entry>
      <displayName>Call Variable 7</displayName>
      <mediaProperty>callVariable7</mediaProperty>
    </entry>
    <entry>
```

	<displayName>Call Variable 8</displayName> <mediaProperty>callVariable8</mediaProperty> </entry> <entry> <displayName>Call Variable 9</displayName> <mediaProperty>callVariable9</mediaProperty> </entry> <entry> <displayName>Call Variable 10</displayName> <mediaProperty>callVariable10</mediaProperty> </entry> </column> <uri>/finesse/api/MediaPropertiesLayout/1</uri> <name>Default Layout</name> <description>Layout used when no other layout matches the user layout Custom/ECC Variable</description> <type>DEFAULT</type> </MediaPropertiesLayout>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>1234</ErrorData> </ApiError> </ApiErrors>

Related Topics

MediaPropertiesLayout, on page 202

User—Get Media Properties Layout List

This API allows a user to get a list of all media properties layouts configured on the system, including the default media properties layout.

URI:	http://<FQDN>/finesse/api/User/<UserId>/MediaPropertiesLayouts
Example URI:	http://finesse1.xyz.com/finesse/api/User/<UserId>/MediaPropertiesLayouts
Security Constraints:	Agents and supervisors can use this API. Any user can get a list of media properties layouts if they are signed in or they provide valid authorization credentials when challenged.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 400: Bad Request 400: Finesse API error (for example, the object does not exist, the object is stale, or violation of DB constraint) 401: Authorization Failure 401: Invalid Authorization User Specified 500: Internal Server Error
Example Response:	<MediaPropertiesLayouts> <MediaPropertiesLayout> ... Full MediaPropertiesLayout Object ... </MediaPropertiesLayout> <MediaPropertiesLayout> ... Full MediaPropertiesLayout Object ... </MediaPropertiesLayout> <MediaPropertiesLayout> ... Full MediaPropertiesLayout Object ... </MediaPropertiesLayout> </MediaPropertiesLayouts>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>1234</ErrorData> </ApiError> </ApiErrors>

Related Topics

MediaPropertiesLayout, on page 202

User—Get List of Phone Books

This API allows a user to get a list of phone books and the first 1500 associated contacts for that user. Contacts are retrieved from the global phone books first, followed by the team phone books, up to the maximum limit of 1500.

For more information about the PhoneBook object, see PhoneBook, on page 216.

URI:	http://<FQDN>/finesse/api/User/<id>/PhoneBooks
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/PhoneBooks
Security Constraints:	Agents and supervisors can use this API. Any user can get a list of their own phone books if they are signed in or they provide valid authorization credentials when challenged.
Additional Headers:	"Range: objects=1-1500" The range of contacts to retrieve.
HTTP Method:	GET

Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 206: Partial Content 400: Bad Request (the request body is invalid) 400: Finesse API Error (for example, the object does not exist or the object is stale) 401: Authorization Failure 404: User Not Found 414: Invalid Range Specified. Range must be 1–1500 objects 500: Internal Server Error

Example Response:	`<PhoneBooks>`
	`<PhoneBook>`
	`<name>PhoneBook1</name>`
	`<type>GLOBAL</type>`
	`<Contacts>`
	`<Contact>`
	`...Full Contact Object...`
	`</Contact>`
	`...Full Contact Object...`
	`</Contact>`
	`</Contacts>`
	`</PhoneBook>`
	`<PhoneBook>`
	`<name>PhoneBook2</name>`
	`<type>TEAM</type>`
	`<Contacts>`
	`<Contact>`
	`...Full Contact Object...`
	`</Contact>`
	`<Contact>`
	`...Full Contact Object...`
	`</Contact>`
	`</Contacts>`
	`</PhoneBook>`
	`</PhoneBooks>`

Example Failure Response:	**Example**
	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Authorization Failure</ErrorType>`
	`<ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`<ErrorData>1234</ErrorData>`
	`</ApiError>`
	`</ApiErrors>`
	ExampleExample

User—Get List of Workflows

This API allows a user to get a list of workflows and workflow actions assigned to that user.

For more information about the Workflow object, see Workflow, on page 231.

URI:	http://<FQDN>/finesse/api/User/<id>/Workflows
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Workflows
Security Constraints:	Any user can get their own workflows if they are signed in or they provide valid authorization credentials when challenged.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request (the request body is invalid) 400: Finesse API Error (for example, the object is stale or there is a violation of database constraints) 401: Authorization Failure 404: Not Found (the resource is not found) 500: Internal Server Error

Example Response:	

```
<Workflows>
   <Workflow>
      <name>google ring pop</name>
      <description> Pops a Google web page when an agent phone
rings</description>
      <TriggerSet>
         <type>SYSTEM</type>
         <name>CALL_ARRIVES</name>
         <triggers>
            <Trigger>
               <Variable>
                  <name>mediaType</name>
                  <node>//Dialog/mediaType</node>
                  <type>CUSTOM</type>
               </Variable>
               <comparator>IS_EQUAL</comparator>
               <value>Voice</value>
            </Trigger>
            <Trigger>
               <Variable>
                  <name>callType</name>
                  <node>//Dialog/mediaProperties/callType</node>
                  <type>CUSTOM</type>
               </Variable>
               <comparator>IS_IN_LIST</comparator>
               <value>ACT_IN,PREROUTE_ACD_IN,PREROUTE_DIRECT_AGENT,
                TRANSFER,OVERFLOW_IN,OTHER_IN,AGENT_OUT,AGENT_INSIDE,
                OFFERED,CONSULT,CONSULT_OFFERED,CONSULT_CONFERENCE,
                CONFERENCE,TASK_ROUTED_BY_ICM,TASK_ROUTED_BY_
                APPLICATION</value>
            </Trigger>
            <Trigger>
               <Variable>
                  <name>state</name>

<node>//Dialog/participants/Participant/mediaAddress[.=${userExtension}]/../state</node>

                  <type>CUSTOM</type>
               </Variable>
               <comparator>IS_IN_LIST</comparator>
               <value>ALERTING,ACTIVE,HELD</value>
            </Trigger>
            <Trigger>
               <Variable>
                  <name>fromAddress</name>
                  <node>//Dialog/fromAddress</node>
                  <type>CUSTOM</type>
               </Variable>
               <comparator>IS_NOT_EQUAL</comparator>
               <Variable>
                  <name>userExtension</name>
                  <type>SYSTEM</type>
               </Variable>
            </Trigger>
         </triggers>
      </TriggerSet>
      <ConditionSet>
         <applyMethod>ALL</applyMethod>
         <conditions>
            <Condition>
               <Variable>
                  <name>callVariable1</name>
                  <type>SYSTEM</type>
               </Variable>
```

```
                  <comparator>CONTAINS</comparator>
                  <value>1234</value>
               </Condition>
               <Condition>
                  <Variable>
                     <name>user.foo.bar[1]</name>

<node>//Dialog/mediaProperties/callvariables/CallVariable/name[.="user.foo.bar[1]"]/../value</node>

                     <type>CUSTOM</type>
                  </Variable>
                  <comparator>IS_NOT_EMPTY</comparator>
               </Condition>
            </conditions>
         </ConditionSet>
         <workflowActions>
            <WorkflowAction>
               <name>Google ring pop</name>
               <type>BROWSER_POP</type>
               <params>
                  <Param>
                     <name>windowName</name>
                     <value>google</value>
                  </Param>
                  <Param>
                     <name>path</name>

<value>http://www.google.com?a=${CallVariable1}&amp;c=cat&amp;${DNIS}&amp;d=${user.foo.bar[1]}</value>

                  </Param>
               </params>
               <actionVariables>
                  <ActionVariable>
                     <name>callVariable1</name>
                     <type>SYSTEM</type>
                     <testValue>apple</testValue>
                  </ActionVariable>
                  <ActionVariable>
                     <name>user.foo.bar[1]</name>

<node>//Dialog/mediaProperties/callvariables/CallVariable/name[.="user.foo.bar[1]"]/../value</node>

                     <type>CUSTOM</type>
                     <testValue>1234</testValue>
                  </ActionVariable>
               </actionVariables>
            </WorkflowAction>
            <WorkflowAction>
               <name>My Delay</name>
               <type>DELAY</type>
               <params>
                  <Param>
                     <name>time</name>
                     <value>10</value>
                  </Param>
               </params>
            </WorkflowAction>
         </workflowActions>
      </Workflow>
</Workflows>
```

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Unauthorized</ErrorType> <ErrorMessage>The user is not authorized to perform this operation</ErrorMessage> </ApiError> </ApiErrors>

User API Parameters

Parameter	Type	Description	Possible Values	Notes
id	String	The ID of the user.	—	If the user is configured in Unified CCE, size is determined by Unified CCE. If the user is configured in Unified CCX, the size is determined by Unified Communications Manager.
uri	String	The URI to get a new copy of the object.	—	
roles	Collection	List of roles for this user.	Agent, Supervisor	
-->role	String	One of the roles assigned to this user.	Agent, Supervisor	
loginId	String	The login ID for this user.	—	
loginName	String	The login name for this user.	—	
state	String	The state for this user.	LOGOUT, NOT_READY, READY, RESERVED, RESERVED_OUTBOUND, RESERVED_OUTBOUND_PREVIEW, TALKING, HOLD, WORK, WORK_READY, UNKNOWN	

Parameter	Type	Description	Possible Values	Notes
stateChangeTime	String	The time at which the state of the user changed to the current state. The format for this parameter is YYYY-MM-DDThh:MM:ss.SSSZ.	—	This parameter is empty if the time of the state change is not available (if no agent state change notification was received yet).
pendingState	String	The state to which the user will transition next.	LOGOUT	For Unified CCE deployments, this parameter is empty. For Unified CCX deployments, when an agent is in TALKING state and a Finesse failover/reconnect occurs, this parameter is set to LOGOUT. The pendingState indicates that the agent transitions to LOGOUT when the call ends.

Parameter	Type	Description	Possible Values	Notes
reasonCodeId	Integer	The database ID for the reason code that indicates why the user is in the current state.	If the user has not selected the reason code, this parameter is empty. Otherwise, the value of this parameter is the database ID for the selected reason code.	The value of the reasonCodeId may be -1 in the following cases: • No reason codes are configured for the category. • The agent has just signed in (transitioned from LOGIN to NOT_READY) • A failover occurred. The agent is in NOT_READY state but Finesse could not recover the reasonCode used before failover.
ReasonCode	Collection	Information about the reason code currently associated with this user.	—	
-->category	String	The category of the reason code.	NOT_READY, LOGOUT	
-->uri	String	The full URI for the reason code.	—	
-->code	Integer	CTI code associated with this reason code.	—	
-->forAll	Boolean	Whether the reason code is global (true) or non-global (false).	true, false	
-->id	Integer	The ID of the reason code.	—	
-->label	String	The label associated with this reason code.	—	

Parameter	Type	Description	Possible Values	Notes
settings	Collection	The settings for this user.	—	The settings parameter is only present for Unified CCE deployments.
-->wrapUpOn Incoming	String	Indicates whether this user required or allowed to enter wrap-up data on an incoming call.	REQUIRED, OPTIONAL, NOT_ALLOWED, REQUIRED_WITH_ WRAP_UP_DATA	This parameter applies only to Unified CCE deployments.
extension	String	The extension that this user is currently using.	—	The extension must exist in Unified Communications Manager. If the user is configured in Unified CCE, size is determined by Unified Communications Manager. If the user is configured in Unified CCX, the size is determined by Unified CCX.
mobileAgent	Collection	Indicates that the user is a mobile agent.	—	This parameter is returned for mobile agents only. Finesse supports mobile agents only in Unified CCE deployments.
-->mode	String	The work mode for the mobile agent	CALL_BY_CALL, NAILED_CONNECTION	This parameter is returned for mobile agents only. Finesse supports mobile agents only in Unified CCE deployments.

Parameter	Type	Description	Possible Values	Notes
-->dialNumber	String	The external number that the system calls to connect to the mobile agent.	—	This parameter is returned for mobile agents only. Finesse supports mobile agents only in Unified CCE deployments. Validated by the Unified Communications Manager dial plan.
firstName	String	The first name of this user.	—	
lastName	String	The last name of this user.	—	
teamId	String	The ID of the team to which this user belongs.	—	
teamName	String	The name of the team to which this user belongs.	—	
dialogs	String	URI to the collection of dialogs that the user is a part of.	—	
teams	Collection	If the user has a role of Supervisor, a list of teams that the user supervises.	—	
-->Team	Collection	Set of information for a team.	—	
--->uri	String	The URI to get a new copy of the Team object.	—	
--->id	String	The ID for the team.	—	
--->name	String	The name of the team.	—	
mediaState	—	The state of the user on a manual outbound call from NOT_READY state.	BUSY, IDLE	This parameter is returned for Team API only and not for User API. This parameter applies only to Unified CCX deployments.

Parameter	Type	Description	Possible Values	Notes
logoutAllMedia	Boolean	Whether the user signs out of all Media Routing Domains when signing out of the desktop, or only out of voice. If set to false or not specified, the user signs out of voice only.	true, false	This parameter applies only to Unified CCE deployments, and is used only when signing out.

User API Errors

Status	Error Type	Description
400	Bad Request	The request is malformed or incomplete or the extension provided is invalid.
400	Generic Error	An unaccounted for error occurred. The root cause could not be determined.
400	Invalid Input	One of the parameters provided as part of the user input is invalid or not recognized (for example, the mode for a mobile agent or the state for a user)
400	Invalid State	The requested state change is not allowed (for example, a user in LOGOUT state requests a state change to LOGOUT or a supervisor tries to change an agent's state to something other than READY or LOGOUT).
400	Parameter Missing	The extension, state, or requestedAction is not provided. If signing in a mobile agent, the mode or dialNumber is not provided.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (for example, an agent tries to use an API that only a supervisor or administrator is authorized to use).
401	Invalid Authorization User Specified	The authenticated user tried to make a request for another user.
401	Invalid State	A user tried to change to a state that is not supported in the scenario.
401	Invalid Supervisor	A supervisor tried to change the state of an agent who does not belong to that supervisor's team.
404	Not Found	The resource specified is invalid or does not exist.

Status	Error Type	Description
404	User Not Found	The user ID provided is invalid or is not recongnized. No such user exists in CTI.
500	Internal Server Error	Any runtime exception is caught and responded with this error.
503	Service Unavailable	A dependent service is down (for example, the Cisco Finesse Notification Service or Cisco Finesse Database). Finesse is OUT_OF_SERVICE.

Dialog

The Dialog object represents a dialog with participants.

Dialog Object for Voice Calls

For the media type “voice”, this object represents a call. A participant represents an internal or external user's CallConnection, or that user's leg of the call.

The Dialog object is structured as follows for voice calls:

```
<Dialog>
    <associatedDialogUri>/finesse/api/Dialog/321654</associatedDialogUri>
    <id>12345678</id>
    <secondaryId>12345679</secondaryId>
    <mediaType>Voice</mediaType>
    <fromAddress>2002</fromAddress>
    <toAddress>2000</toAddress>
    <mediaProperties>
        <dialedNumber>2000</dialedNumber>
        <callType>AGENT_INSIDE</callType>
        <DNIS>2000</DNIS>
        <queueNumber>5022</queueNumber>
        <queueName>UCM_PIM.Func.Agents.SG</queueName>
        <callKeyCallId>217</callKeyCallId>
        <callKeyPrefix>152018</callKeyPrefix>
        <wrapUpReason>Sales Call</wrapUpReason>
        <callvariables>
            <CallVariable>
                <name>callVariable1</name>
                <value>Chuck Smith</value>
            </CallVariable>
            <CallVariable>
                <name>callVariable2</name>
                <value>Cisco Systems, Inc.</value>
            </CallVariable>
...Other CallVariables ...
        </callvariables>
    </mediaProperties>
    <participants>
        <Participant>
            <actions>
                <action>HOLD</action>
                <action>DROP</action>
            </actions>
            <mediaAddress>2002</mediaAddress>
```

```
            <mediaAddressType>AGENT_DEVICE</mediaAddressType>
            <startTime>2014-02-11T16:10:23.121Z</startTime>
            <state>ACTIVE</state>
            <stateCause></stateCause>
            <stateChangeTime>2014-02-11T16:10:23.121Z</stateChangeTime>
        </Participant>
        <Participant>
            <actions>
                <action>RETRIEVE</action>
                <action>DROP</action>
            </actions>
            <mediaAddress>2000</mediaAddress>
            <mediaAddressType>AGENT_DEVICE</mediaAddressType>
            <startTime>2014-02-11T16:10:23.121Z</startTime>
            <state>HELD</state>
            <stateCause></stateCause>
            <stateChangeTime>2014-02-11T16:10:36.543Z</stateChangeTime>
        </Participant>
    </participants>
    <state>ACTIVE</state>
    <uri>/finesse/api/Dialog/12345678</uri>
    <scheduledCallbackInfo>
        <callbackTime>2014-03-07T14:30</callbackTime>
        <callbackNumber>9785551212</callbackNumber>
    </scheduledCallbackTime>
</Dialog>
```

Dialog Object for Nonvoice Tasks

For nonvoice media types, this object represents a task. A participant represents an internal or external user's leg of the task.

The Dialog object is structured as follows for nonvoice tasks:

Note Several Dialog parameters do not apply for nonvoice tasks, and are returned empty.

```
<Dialog>
    <associatedDialogUri>/finesse/api/Dialog/3216_5432_1</associatedDialogUri>
    <id>1234_5423_1</id>
    <mediaType>Cisco_Chat_MRD</mediaType>
    <mediaProperties>
        <mediaId>5002</mediaId>
        <dialedNumber></dialedNumber>
        <queueNumber>5022</queueNumber>
        <queueName>UCM_PIM.Func.Agents.SG</queueName>
        <callKeyCallId>217</callKeyCallId>
        <callKeyPrefix>152018</callKeyPrefix>
        <wrapUpReason>Sales Call</wrapUpReason>
        <callvariables>
            <CallVariable>
                <name>callVariable1</name>
                <value>Chuck Smith</value>
            </CallVariable>
            <CallVariable>
                <name>callVariable2</name>
                <value>Cisco Systems, Inc.</value>
            </CallVariable>
           ...Other CallVariables ...
        </callvariables>
    </mediaProperties>
```

```
    <participants>
        <Participant>
            <actions>
                <action>ACCEPT</action>
            </actions>
            <mediaAddress>1001001</mediaAddress>
            <startTime>2015-11-19T06:04:27.864Z</startTime>
            <state>OFFERED</state>
            <stateChangeTime>2015-11-19T06:04:27.864Z</stateChangeTime>
        </Participant>
    </participants>
    <state>OFFERED</state>
    <uri>/finesse/api/Dialog/1234_5423_1</uri>
</Dialog>
```

Note callKeyCallId and callKeyPrefix parameters apply only to Unified CCE deployments.

Dialog APIs

Note Finesse obtains the dialogId value from the CallID value defined for the calls by the CTI Server. With some call flows, the messaging between Finesse and the CTI Server refers to an updated CallID value. In most cases, the updated CallID value maintains a relationship to the original CallID value, and therefore Finesse maintains the same dialogId value for the duration of the call flows. However, there are some call flows in which the CallID and dialogId change permanently (for example, in a conference). If you require a better understanding of the relationship between the CallID and dialogId values, you can perform some test call flows and view the webservices logs.

Dialog—Get Dialog

This API allows a user to get a copy of a Dialog object.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/12345678
Security Constraints:	Agents and administrators can use this API. Agents can only get their own Dialog object. Administrators can get any Dialog object.
HTTP Method:	GET
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 401: Unauthorized 401: Invalid Authorization 404: Not Found 500: Internal Server Error

Example Response:	

```
<Dialog>
   <uri>/finesse/api/Dialog/12345678</uri>
   <mediaType>Voice</mediaType>
   <state>ACTIVE</state>
   <fromAddress>2002</fromAddress>
   <toAddress>2000</toAddress>
   <mediaProperties>
      <mediaId>1</mediaId>
      <dialedNumber>2000</dialedNumber>
      <callType>AGENT_INSIDE</callType>
      <DNIS>2000</DNIS>
      <queueNumber>5022</queueNumber>
      <queueName>UCM_PIM.Func.Agents.SG</queueName>
      <callKeyCallId>217</callKeyCallId>
      <callKeyPrefix>152018</callKeyPrefix>
      <wrapUpReason>Another satisfied customer</wrapUpReason>
      <callvariables>
         <CallVariable>
            <name>callVariable1</name>
            <value>Chuck Smith</value>
         </CallVariable>
         <CallVariable>
            <name>callVariable2</name>
            <value>Cisco Systems, Inc</value>
         </CallVariable>
         <CallVariable>
            <name>callVariable3</name>
            <value>chucksmith@cisco.com</value>
         </CallVariable>
         ...Other Call Variables (up to 10)
         <CallVariable>
            <name>ecc.user</name>
            <value>csmith</value>
         </CallVariable>
         <CallVariable>
            <name>ecc.years[0]</name>
            <value>1985</value>
         </CallVariable>
         <CallVariable>
            <name>ecc.years[1]</name>
            <value>1995</value>
         </CallVariable>
   </mediaProperties>
   <participants>
      <Participant>
         <actions>
            <action>HOLD</action>
            <action>DROP</action>
         </actions>
         <mediaAddress>1081001</mediaAddress>
         <mediaAddressType>AGENT_DEVICE<mediaAddressType>
         <startTime>2014-02-04T15:33:16.653Z</startTime>
         <state>ACTIVE</state>
         <stateCause></stateCause>
         <stateChangeTime>2014-02-04T15:33:26.653Z</stateChangeTime>
      </Participant>
      <Participant>
         <actions>
            <action>RETRIEVE</action>
            <action>DROP</action>
         </actions>
         <mediaAddress>1081002</mediaAddress>
         <mediaAddressType>AGENT_DEVICE<mediaAddressType>
```

	<startTime>2014-02-04T15:33:16.653Z</startTime> <state>HELD</state> <stateCause></stateCause> <stateChangeTime>2014-02-04T15:33:27.584Z</stateChangeTime> </Participant> </participants> </Dialog
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Not Found</ErrorType> <ErrorMessage>Invalid dialogId specified for dialog/ErrorMessage> </ApiError> </ApiErrors>

Dialog—Create a New Dialog (Make a Call)

This API allows a user to make a call. To make a call, a new Dialog object is created that specifies the fromAddress (the caller's extension) and the toAddress (the destination target). The new Dialog object is posted to the Dialog collection for that user.

In a Unified CCE deployment, you can also use this API to pass call variables with the MAKE_CALL request. The API supports call variable 1 through call variable 10 and ECC variables. You cannot pass BA variables or wrap-up reasons with the request.

This API supports the use of any ASCII character in the toAddress. Finesse does not convert any entered letters into numbers, nor does it remove non-numeric characters (including parentheses and hyphens) from the toAddress.

Note In a Unified CCX deployment, you cannot use this API to pass call variables. If you supply the mediaProperties parameter with a MAKE_CALL request in a Unified CCX deployment, Finesse returns a 400 Invalid Input error.

URI:	http://<FQDN>/finesse/api/User/<id>/Dialogs
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Dialogs
Security Constraints:	All users can use this API. Users can only create dialogs using a fromAddress to which they are currently signed in.
HTTP Method:	POST
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<Dialog> <requestedAction>MAKE_CALL</requestedAction> <fromAddress>1001001</fromAddress> <toAddress>1002002</toAddress> </Dialog>

HTTP Request with Call Variables (Unified CCE only):	<Dialog> <requestedAction>MAKE_CALL</requestedAction> <fromAddress>1001001</fromAddress> <toAddress>1002002</toAddress> <mediaProperties> <callvariables> <CallVariable> <name>callVariable1</name> <value>testcallvar1</value> </CallVariable> <CallVariable> <name>user.Finesse_ecc2</name> <value>A</value> </CallVariable> <CallVariable> <name>user.finesse_array[0]</name> <value>array_val_0</value> </CallVariable> <CallVariable> <name>user.finesse_array[1]</name> <value>array_val_1</value> </CallVariable> <CallVariable> <name>user.finesse_array[2]</name> <value>array_val_2</value> </CallVariable> <CallVariable> <name>user.finesse_array[3]</name> <value>array_val_3</value> </CallVariable> <CallVariable> <name>user.finesse_array[4]</name> <value>array_val_4</value> </CallVariable> </callvariables> </mediaProperties> </Dialog>
Request Parameters:	id (required): The ID of the user requested Action (required): The way in which the dialog is created (MAKE_CALL) fromAddress (required): The extension with which the user is currently signed in toAddress (required): The destination for the call mediaProperties (optional): Collection of media-specific properties related to the dialog callvariables (optional): Collection of call variables to include as part of the initial call CallVariable (optional): Name and value pair for a call variable

HTTP Response:	202: Successfully Accepted **Note** This response only indicates successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Bad Request (the request body is invalid) 400: Parameter Missing 400: Invalid Input (a request in a Unified CCX deployment includes mediaProperties) 400: Invalid Destination (the toAddress and fromAddress are the same) 401: Authorization Failure 401: Invalid Authorization 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>Unauthorized</ErrorMessage>`
	`  <ErrorData>jsmith</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Invalid State	Attempt to POST a Dialog when the agent is in an invalid state to make a call.	All
Invalid State	Supervisor attempts to POST a Dialog when that supervisor is silently monitoring another agent.	All
Generic Error	Attempt to POST a Dialog to a route point when there are no agents in Ready state in the queue corresponding to that route point.	All
Generic Error	Attempt to POST a Dialog in which the toAddress is an E164 extension.	Unified CCE

Related Topics

Dialog CTI Error Notification, on page 300

Dialog—Take Action on Participant

This API allows a user to take action on a participant within a dialog. Agents must be the participant they are targeting with an action.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/54321
Security Constraints:	Agents can use this API. Agents can only act on a participant of a dialog when they are that participant.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	**For voice dialogs:**
	`<Dialog>`
	`  <targetMediaAddress>1001001</targetMediaAddress>`
	`  <requestedAction>ANSWER</requestedAction>`
	`</Dialog>`
	voice dialog TRANSFER example:
	`<Dialog>`
	`  <requestedAction>TRANSFER</requestedAction>`
	`  <toAddress>1001002</toAddress>`
	`  <targetMediaAddress>1001001</targetMediaAddress>`
	`</Dialog>`
	voice dialog CONFERENCE example:
	`<Dialog>`
	`  <requestedAction>CONFERENCE</requestedAction>`
	`  <toAddress>1001002</toAddress>`
	`  <targetMediaAddress>1001001</targetMediaAddress>`
	`</Dialog>`
	For nonvoice dialogs:
	Nonvoice dialog CLOSE example:
	`<Dialog>`
	`  <requestedAction>CLOSE</requestedAction>`
	`  <mediaProperties>`
	`  <wrapUpReason>Happy customer!</wrapUpReason>`
	`  </mediaProperties>`
	`</Dialog>`
	Nonvoice dialog TRANSFER example:
	`<Dialog>`
	`  <requestedAction>TRANSFER</requestedAction>`
	`  <target>scriptSelector</target>`
	`</Dialog>`

Request Parameters:	**For voice dialogs:** dialogId (required): The ID of the dialog targetMediaAddress(required): The extension with which the user is currently signed in (used to locate the participant to target with the action request). requestedAction (required): The action to take on the targeted participant **For nonvoice dialogs:** dialogId (required): The ID of the dialog requestedAction (required): The action to take on the targeted participant mediaProperties (optional): A collection of media-specific properties for the dialog. This parameter can be used only when the action is CLOSE in order to set the wrapUpReason parameter. wrapUpReason (optional): A description of the task. This parameter can be used only when the action is CLOSE. target (required for TRANSFER): The Script Selector/dialed number to which the dialog is being transferred.
HTTP Response:	202: Successfully Accepted 400: Parameter Missing (the targetMediaAddress or requestedAction is not provided) 400: Invalid Input 401: Authorization Failure 401: Invalid Authorization User Specified 404: Dialog Not Found 500: Internal Server Error 503: Service Unavailable (for example, the Notification Service is not running).

Example Failure Response:	**For voice dialogs:**
	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Invalid Input</ErrorType>`
	`  <ErrorData>requestedAction</ErrorData>`
	`  <ErrorMessage>Invalid 'requestedAction' specified for dialog</ErrorMessage>`
	`  </ApiError>`
	`</ApiErrors>`
	For nonvoice dialogs:
	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Agent is not logged in</ErrorType>`
	`  <ErrorMessage>E_ARM_STAT_AGENT_NOT_LOGGED_IN</ErrorMessage>`
	`  <ErrorData>6</ErrorData>`
	`  <ErrorMedia>5001</ErrorMedia>`
	`  </ApiError>`
	`</ApiErrors>`

Notifications Triggered:	**For voice dialogs:** Dialog notification Dialog CTI error notification (if a CTI error occurs) **For nonvoice dialogs:** Dialogs/Media notification Dialogs/Media asynchronous error notifications including CTI errors

Platform-Based API Differences

The following table describes API differences between a stand-alone Finesse deployment with Unified CCE or a coresident Finesse deployment with Unified CCX.

Scenario	Response
A participant who is not the conference controller tries to conference in another participant.	**Stand-alone Finesse with Unified CCE:** <data> <apiErrors> <apiError> <errorData>20999</errorData> <errorMessage><ConferenceCallCommand>: Conference failed...causes include agent already has a consult call or conferencing a non-conference controller. </errorMessage> <errorType>Generic Error</errorType> </apiError> </apiErrors> </data> **Coresident Finesse with Unified CCX:** <data> <apiErrors> <apiError> <errorData>22</errorData> <errorMessage>CF_INVALID_OBJECT_STATE</errorMessage> <errorType>Invalid State</errorType> </apiError> </apiErrors> </data>

Asynchronous Errors for Voice Dialogs

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Generic Error	Attempt a call transfer without an existing consult call.	All

ErrorType	Reason	Deployment Type
Generic Error	Attempt a call transfer on the original call (a direct call) after the original call has already been retrieved.	All
Generic Error	Attempt to complete a conference on the original call after retrieving the original call.	All
Generic Error	Attempt to exceed the maximum allowed conference participants.	All
Generic Error	Attempt to RETRIEVE an incoming OutBoundPreview campaign call when the allowed actions are ACCEPT, CLOSE, and REJECT.	All
Generic Error	Non-conference-controller attempts to conference in another party.	Unified CCE
Generic Error	Attempt to put the held call (a direct call) on hold again.	All
Invalid State	Non-conference-controller attempts to conference in another party.	Unified CCX

Asynchronous Errors for Nonvoice Dialogs

If an error occurs after the initial validation of a nonvoice dialog is complete, the API send an error notification over XMPP to the Dialogs/Media notification. The error message has the format described in "Media and Dialogs/Media Asynchronous Error Notification.". The requestId is included in the response XML. The ErrorMedia parameter in the ApiError information indicates the Media Routing Domain to which the error applies.

For transfers, Finesse communicates asynchronously with SocialMiner to initiate task resubmission requests. The following types of errors can occur, and are returned asynchronously:

- SocialMiner can respond to the Finesse transfer request with an HTTP error response (for example 4XX or 5XX).
- The Finesse request to SocialMiner may time-out due to network issues.

If the request to SocialMiner fails, the API send an error notification over XMPP to the Dialogs/Media notification, and Finesse retains the dialog.

Related Topics

Dialog CTI Error Notification, on page 300
Media and Dialogs/Media Asynchronous Error Notification, on page 307

Dialog—Update Call Variable Data

This API allows a user to set or change call variables (including named variables or ECC variables) on a dialog. If the user is an agent, the user must be the participant that they are targeting with the action. A corresponding notification is published if there is an update to any of the values of the call variables or named variables.

With Unified CCX, Cisco Finesse only supports Latin1 characters for ECC variables. Other Unicode characters are not supported. For example, if a user tries to use this API to update an ECC variable that contains Chinese characters, Finesse may not return the correct value in the subsequent dialog update it sends to the client.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/54321
Security Constraints:	Agents can use this API. Agents can only act on a participant of a dialog when they are that participant.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<Dialog> <requestedAction>UPDATE_CALL_DATA</requestedAction> <mediaProperties> <wrapUpReason>Happy customer!</wrapUpReason> <callvariables> <CallVariable> <name>callVariable1</name> <value>123456789</value> </CallVariable> <CallVariable> ... Other call variables to be modified ... </CallVariable> </callvariables> </callvariables> </mediaProperties> </Dialog>
Request Parameters:	dialogId (required): The ID of the dialog mediaProperties (required): Collection of media-specific properties related to the dialog to be modified wrapUpReason (optional): A description of the call callvariables (optional): A list of call variables to modify (either wrapUpReason or callvariables must be present in the request) CallVariable (required if the callvariables parameter is present): Contains the name and value of a call variable belonging to this dialog. The name must be present and cannot be empty. Duplicate names cannot exist. The value tag must be specified but can be empty.

HTTP Response:	202: Successfully Accepted 400: Parameter Missing 400: Invalid Input 401: Authorization Failure 401: Invalid Authorization User Specified 404: Dialog Not Found 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>jsmith</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification Dialog CTI error notification (if a CTI error occurs)

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Invalid Input	The value of a call variable or ECC variable is longer than what is either allowed or configured as the maximum length for that variable.	All
Invalid Input	The value of an ECC variable that is configured as a scalar is set as an array.	All
Invalid Input	The value of an ECC variable that is configured as an array is set as a scalar.	All
Invalid Input	The value of an ECC variable that is configured as an array is set as an array but with an index greater than what is configured.	All
Call Variable is protected	Attempt to set call variables on a non-routed (direct) call.	All

Related Topics

Dialog CTI Error Notification, on page 300

ECC and Call Variable Error Handling

When a client makes an invalid update request for a ECC or call variable, that request is sent to Finesse and then to the CTI server. The CTI server logs certain errors but does not return events for them. In these cases, Finesse does not return an error. Clients must be aware of this behavior and follow the appropriate Unified CCE/Unified CCX documentation.

A client can also send an update request for an ECC or call variable that contains both valid and invalid data (that is, some of the ECC or call variable updates in the request payload are valid while others are invalid). See the following table to determine the response from Finesse in these error scenarios.

Error Scenario	CTI Server Response	Finesse Response
1. A request was sent that generates an error from the CTI server to Finesse. 2. The request payload contained no valid ECC or call variables.	The CTI server sends an error to Finesse.	Finesse forwards the error to the client.
1. A request was sent that generates an error from the CTI server to Finesse. 2. The request payload contained a mix of valid and invalid ECC or call variables.	1. The CTI server sends an error to Finesse. 2. The CTI server does not send an UPDATE_CALL_DATA event to Finesse (that is, the CTI server fails the entire request).	1. Finesse forwards the error to the client. 2. The client does not receive an UPDATE_CALL_DATA event.
1. A request was sent that does not generate an error from the CTI server to Finesse. 2. The request payload contained no valid ECC or call variables.	The CTI server does not respond.	Finesse does not respond.
1. A request was sent that does not generate an error from the CTI serverto Finesse. 2. The request payload contained a mix of valid and invalid ECC or call variables.	1. The CTI server does not send an error to Finesse. 2. The CTI server sends an UPDATE_CALL_DATA event to Finesse for the valid ECC and call variables.	1. Finesse does not forward an error to the client. 2. Finesse forwards the UPDATE_CALL_DATA event to the client.

Note When the size of the value of an ECC variable name exceeds its maximum length, the CTI server silently truncates the value and updates the variable. As a result, Finesse does not receive a maximum length error.

Users of this API must ensure that the variables they are trying to update exist. Users must follow the exact format of each variable and ensure that the maximum size is not exceeded.

Dialog—Send DTMF String

This API allows a user to send a dual-tone multifrequency (DTMF) string during a call.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>

Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/54321
Security Constraints:	Agents can use this API. An agent must be a participant in the dialog to perform this action.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Dialog>`
	`<requestedAction>SEND_DTMF</requestedAction>`
	`<targetMediaAddress>1001001</targetMediaAddress>`
	`<actionParams>`
	`<ActionParam>`
	`<name>dtmfString</name>`
	`<value>777</value>`
	`</ActionParam>`
	`</actionParams>`
	`</Dialog>`

Request Parameters:	dialogId (required): The ID of the dialog requestedAction (required): The way in which the dialog is created (SEND_DTMF) targetMediaAddress (required): The extension of the agent actionParams (required): A collection of objects called ActionParam, which contain name/value pairs. The name must be dtmfString. The value is the DTMF string to submit and can contain 0-9, *, #, or A-D for Unified CCE. For Unified CCX, the value can only contain 0-9, *, or #.
HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Parameter Missing 400: Invalid Input 401: Authorization Failure 401: Invalid Authorization User Specified 401: Invalid State (the targetMediaAddress specifies an extension of a participant in HELD state) 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Authorization Failure</ErrorType>`
	`<ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`<ErrorData>jsmith</ErrorData>`
	`</ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification

Platform-Based API Differences

The following table describes API differences between a stand-alone Finesse deployment with Unified CCE or a coresident Finesse deployment with Unified CCX.

Scenario	Response

Send a DTMF request with an alphanumeric dtmfString.	**Stand-alone Finesse with Unified CCE:**
	Unified CCE accepts the alphanumeric dtmfString.
	Coresident Finesse with Unified CCX:
	Unified CCX allows only 0-9, *, or # in the dtmfString. Using any other values results in the following error:
	`<apiError>`
	`<errorData>3</errorData>`
	`<errorMessage>CF_VALUE_OUT_OF_RANGE</errorMessage>`
	`<errorType>Generic Error</errorType>`
	`</apiError>`

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Generic Error	Attempt to send a DTMF request with a valid requestedAction, a valid targetMediaAddress (agent's extension), and an alphanumeric dtmfString. Unified CCX allows only 0-9, *, and # for the dtmfString. Any other values result in the error.	Unified CCX
Generic Error	Attempt to send a DTMF request for a call when the participant in the dialog whose extension is the targetMediaAddress is in a HELD state.	ALL
Generic Error	Attempt a PUT request to send DTMF while a call is alerting.	ALL

Related Topics

Dialog CTI Error Notification, on page 300

Dialog—Make a Consult Call Request

This API allows an agent to make a consult call request. After the request succeeds, the agent can complete the call as a conference or transfer. The requestedAction for a consult call is CONSULT_CALL. The request is sent to the Dialog URL of an existing active call, from where the call is initiated.

Finesse supports the transfer or conference of any held call to the current active call, as long as the agent performing the transfer or conference is a participant in both the held and active call. Finesse does not support blind conference through the API or the desktop.

Blind conference is defined as follows:

An agent has an active call and initiates a consult call to a destination. The agent starts a conference while the call is ringing at the destination.

Finesse does allow single-step transfer in Unified CCE deployments only. Finesse does not support single-step transfer in Unified CCX deployments.

Note Only the conference controller (the agent who initiates the conference) can add parties to that conference. For example, Agent 1 is on a call with a customer. Agent 1 consults with Agent 2 and then conferences Agent 2 into the call. Agent 2 then consults with Agent 3. If Agent 2 tries to add Agent 3 to the conference, the request fails.

Finesse maintains a copy of the call variables (including call peripheral variables and ECC variables) for each call in the system. When Unified CCE or Unified CCX sets the call variables to values that are not NULL (through CTI events, such as CALL_DATA_UPDATE_EVENT), the call variables maintained by Finesse are updated with these values. In this way, Finesse ensures that a client always receives the latest data for call variables sent by Unified CCE/Unified CCX. Because an empty string is considered a valid value, when call values are set to empty strings, Finesse updates its version of the same call variables to empty strings and then updates the clients.

Note An agent or supervisor who signs in after being on an active conference call with other devices (which are not associated with any other agent or supervisor) may experience unpredictable behavior with the Finesse Desktop due to incorrect Dialog notification payloads. These limitations also encompass failover scenarios where failover occurs while the agent or supervisor is participating in a conference call. For example, an agent is on a conference call when the Finesse server fails. When that agent is redirected to the other Finesse server, that agent could see unpredictable behavior on the desktop. Examples of unpredictable behavior include, but are not limited to, the following:

- The desktop does not reflect all participants in a conference call.
- The desktop does not reflect that the signed-in agent or supervisor is in an active call.
- Dialog updates contain inconsistent payloads.

Despite these caveats, users may continue to perform normal operations on their phones. Desktop behavior will return to normal after the agent or supervisor drops off the conference call.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/54321

Security Constraints:	Agents can use this API. An agent must be a participant in the dialog and the agent's extension must match the targetMediaAddress.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	CONSULT_CALL Example
	`<Dialog>`
	`  <requestedAction>CONSULT_CALL</requestedAction>`
	`  <toAddress>1001002</toAddress>`
	`  <targetMediaAddress>1001001</targetMediaAddress>`
	`</Dialog>`

Request Parameters:	dialogId (required): The ID of the dialog requestedAction (required): The way in which the dialog is created (CONSULT_CALL) toAddress (required): The destination for the call targetMediaAddress (required): The extension of the agent, used to locate the participant to target with the requestedAction
HTTP Response:	202: Successfully Accepted 400: Parameter Missing 400: Invalid Input 401: Authorization Failure 401: Invalid Authorization User Specified 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>jsmith</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification Dialog CTI error notification (if a CTI error occurs)

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Generic Error	Attempt a CONSULT_CALL on an incoming OutBoundPreview campaign call while the allowed actions are ACCEPT, CLOSE, and REJECT.	ALL
Generic Error	Attempt a CONSULT_CALL while the call is alerting.	ALL
Generic Error	Attempt a CONSULT_CALL while the call is on HOLD.	ALL

Related Topics

Dialog CTI Error Notification, on page 300

Dialog—Initiate a Single Step Transfer

This API allows a user to make a single-step transfer request. After a user makes a successful request, that user's active call is transferred to the destination provided in the toAddress parameter.

The requestedAction for a single-step transfer is TRANSFER_SST. This request is sent on the Dialog URL of an existing active call, from where the call is initiated. Therefore, the dialogId in the URL represents the dialogId of the active call.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/54321
Security Constraints:	Agents can use this API. An agent must be a participant in the dialog and the agent's extension must match the targetMediaAddress.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Dialog>`
	`  <requestedAction>TRANSFER_SST</requestedAction>`
	`  <toAddress>1001002</toAddress>`
	`  <targetMediaAddress>1001001</targetMediaAddress>`
	`</Dialog>`

Request Parameters:	dialogId (required): The ID of the dialog requestedAction (required): The way in which the dialog is created (TRANSFER_SST) toAddress (required): The destination to which to transfer the call targetMediaAddress (required): The extension of the agent who is making the request

HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Parameter Missing 400: Invalid Input 400: Invalid Destination 401: Authorization Failure 401: Invalid Authorization User Specified 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Authorization Failure</ErrorType>`
	`<ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`<ErrorData>jsmith</ErrorData>`
	`</ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Generic Error	Attempt a TRANSFER_SST before the call gets answered.	Unified CCE
Generic Error	Attempt a TRANSFER_SST on an incoming OutBoundPreview campaign call while the allowed actions are ACCEPT, CLOSE, and REJECT.	Unified CCE

Dialog—Make a Silent Monitor Call

This API allows a supervisor to silently monitor an agent who is on an active call and in TALKING state. A new dialog is created, specifying the fromAddress (the supervisor's extension) and the toAddress (the agent's extension). The dialog is posted to the supervisor's dialog collection.

Note Agent phones to be monitored must support silent monitoring and must be configured in Cisco Unified Communications Manager as follows:

- The correct device type must be configured.
- The device must have Bridge Monitoring enabled.
- The correct permissions must be configured (under User Management > End User > PG User, in the Permissions area, select Standard CTI Allow Call Recording, and then click Add to User Group).

URI:	http://<FQDN>/finesse/api/User/<id>/Dialogs
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Dialogs
Security Constraints:	Supervisors can use this API. A supervisor must be signed in to the fromAddress (extension) being used to create the silent monitor call. Agent to be monitored must be assigned to a team that the supervisor is responsible for. A supervisor can silently monitor any call except a silent monitor call. If an agent drops from or transfers the call that the supervisor is monitoring, the silent monitoring session ends.
HTTP Method:	POST
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Dialog>`
	`  <requestedAction>SILENT_MONITOR</requestedAction>`
	`  <fromAddress>1001002</fromAddress>`
	`  <toAddress>1001001</toAddress>`
	`</Dialog>`

Request Parameters:	id (required): The ID of the user requestedAction (required): The way in which the dialog is created (SILENT_MONITOR) fromAddress (required): The extension of the supervisor who initiated the silent monitor request toAddress (required): The extension of the agent that the supervisor wants to monitor

HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Parameter Missing 400: Invalid Input 400: Invalid Destination 400: Invalid State 401: Authorization Failure 401: Invalid Authorization User Specified 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Authorization Failure</ErrorType>`
	`<ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`<ErrorData>jsmith</ErrorData>`
	`</ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification

Platform-Based API Differences

Stand-alone Finesse with Unified CCE:

In a stand-alone Finesse deployment with Unified CCE, supervisors can silently monitor agents who are on ICD calls or non-ICD calls (for example a call to another agent). The supervisor must be in NOT_READY state to start a silent monitoring session and the agent must be in TALKING state. After the supervisor starts the silent monitoring session, the supervisor transitions to TALKING state.

Coresident Finesse with Unified CCX:

In a coresident Finesse deployment with Unified CCX, supervisors can silently monitor agents who are on ICD calls or non-ICD calls (for example, calls to another agent). The supervisor must be in NOT_READY state to start a silent monitoring state. The agent can be in TALKING state (on an ICD call) or NOT_READY state (on a non-ICD call). After the supervisor starts the silent monitoring call, the supervisor remains in NOT_READY state.

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
88049	Attempt to POST Silent Monitor for an agent who is in Ready, Wrap-Up, Hold, or Not Ready state.	Unified CCX
13145	Attempt to POST Silent Monitor for an agent who is in Hold or Not Ready state.	Unified CCE
Invalid State	Attempt to POST Silent Monitor for an agent who is in Ready or Wrap-Up State.	Unified CCE

Related Topics

Dialog CTI Error Notification, on page 300

Dialog—End a Silent Monitor Call

This API allows a supervisor to drop a silent monitor call that was initiated by that supervisor. The Dialog object is updated by specifying a requestedAction of DROP and the targetMediaAddress of the extension of the supervisor who initiated the silent monitor call.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/32458
Security Constraints:	Supervisors and administrators can use this API. A supervisor can only end a silent monitor call that was initiated by that supervisor. An administrator can end any silent monitor call.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Dialog>`
	`  <requestedAction>DROP</requestedAction>`
	`  <targetMediaAddress>1001002</targetMediaAddress>`
	`</Dialog>`

Request Parameters:	dialogId (required): The ID of the dialog requestedAction (required): The action to take on the targeted participant (DROP) targetMediaAddress (required): The extension of the supervisor who initiated the silent monitor call

HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Parameter Missing 400: Invalid Input 401: Authorization Failure 401: Invalid Authorization User Specified 404: Not Found (the dialog specified by the dialogId does not exist) 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>jsmith</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification

Dialog—Make a Barge Call

This API allows a supervisor to barge in to an agent call that the supervisor is silently monitoring. The request specifies the fromAddress (supervisor's extension), the toAddress (agent's extension), and the associatedDialog (the URI of the silent monitor dialog that the supervisor initiated). When the barge request succeeds, the agent's original Dialog object is updated and is posted to the supervisor's dialog collection. The supervisor's silent monitor call is dropped. After the barge request succeeds, the original silent monitor call becomes a conference call with the supervisor, agent, and caller as participants.

The call must meet certain conditions for the barge request to succeed:

- Unified Communications Manager may limit the number of phone devices that can join a conference call (a configurable parameter). When a supervisor makes a barge call, the supervisor is added as a new party to the conference. If the resource limit has already been reached, the supervisor's barge request fails.
- Both Unified CCE and Unified CCX allow a barge request only through the conference controller (the agent who initiates the conference call). In case of CVP routed calls, the barge request is also possible for agents other than the conference controller. If the original call is not a conference call, after the barge request succeeds, the call becomes a conference call and the agent is the conference controller. If the original call is a conference call and the agent is not the conference controller, the supervisor's barge request fails.

URI:	http://<FQDN>/finesse/api/User/<id>/Dialogs
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Dialogs

Security Constraints:	Supervisors can use this API. Supervisors can only make barge call requests using the fromAddress that they are currently signed in to and can only barge in to calls they are already silent monitoring. Administrators cannot barge in to any calls because they are not associated with a phone device.
HTTP Method:	POST
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Dialog>`
	`<requestedAction>BARGE_CALL</requestedAction>`
	`<fromAddress>1001002</fromAddress>`
	`<toAddress>1001001</toAddress>`
	`<associatedDialogUri>/finesse/api/Dialog/6873122</associatedDialogUri>`
	`</Dialog>`

Request Parameters:	requestedAction (required): The way in which to create the dialog (BARGE_CALL) fromAddress (required): The extension of the supervisor who initiated the barge request toAddress (required): The extension of the agent whose call the supervisor wants to barge in on associatedDialogUri (required): The relative URI of the silent monitor dialog on which the supervisor wants to barge in
HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Parameter Missing 400: Invalid Input 400: Invalid Destination 400: Invalid State 400: 20700 (Conference resource limit violation) 400: 20999 (Barge via non-conference-controller or the agent already has an outstanding consult call) 401: Authorization Failure 401: Invalid Authorization User Specified 500: Internal Server Error

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>
Notifications Triggered:	Dialog notification

Platform-Based API Differences

Stand-alone Finesse with Unified CCE:

A supervisor must be silently monitoring a call before making a request to barge in to that call. In a Finesse deployment with Unified CCE, the supervisor's state during the silent monitoring session is TALKING. When the supervisor barges in to the call, the supervisor's state remains TALKING. The agent's state is TALKING before the silent monitoring request, during the silent monitoring session, and after the barge request succeeds.

Coresident Finesse with Unified CCX:

A supervisor must be silently monitoring a call before making a request to barge into that call. In a coresident Finesse deployment with Unified CCX, the supervisor is in NOT_READY state during the silent monitoring session. If the agent is on an ICD call, the supervisor's state transitions to TALKING after barging in to the call. The agent's state is TALKING before the silent monitoring request, during the silent monitoring session, and after the barge request succeeds.

If the agent is on a non-ICD call (for example, a call to another agent), both the supervisor and the agent remain in NOT_READY state during the silent monitoring session and after the barge request succeeds.

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Generic Error	Supervisor attempts a barge call on an agent who is not the conference controller.	ALL
Generic Error	Supervisor attempts a barge call on an agent who is on a Consult call.	ALL

Related Topics

Dialog CTI Error Notification, on page 300

Dialog—End a Barge Call

This API allows a supervisor to leave a barge call that was initiated by that supervisor. The Dialog object is updated, specifying a requestedAction of DROP and a targetMediaAddress of the extension of the supervisor who made the barge call.

The agent can remain on the call unless the total number of participants becomes less than two when the supervisor leaves (like the drop operation of a conference call).

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/32458
Security Constraints:	Supervisors can use this API. A supervisor can only drop barge call if that supervisor is a participant in the call.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Dialog>`
	`  <requestedAction>DROP</requestedAction>`
	`  <targetMediaAddress>1001002</targetMediaAddress>`
	`</Dialog>`

Request Parameters:	requestedAction (required): The way in which to create the dialog (DROP) targetMediaAddress (required): The extension of the supervisor who initiated the barge call
HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Parameter Missing 400: Invalid Input 401: Authorization Failure 401: Invalid Authorization User Specified 404: Not Found (the dialog specified by the dialogId does not exist) 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>jsmith</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification

Dialog—Drop Participant from Conference

This API allows a supervisor to make a request to drop a participant from a conference in which that supervisor is a participant. For example, a supervisor can barge in to a call between an agent and a customer. The supervisor can then make a request to drop the agent from the call, leaving the supervisor on the call with the customer.

The request specifies the targetMediaAddress (agent's extension) of the participant to drop. The PUT request applies to the dialog specified by the dialogId in the URI.

After the participant is dropped from the conference, the call may become a two-party call or remain a conference call (if more than two parties remain on the call).

Note You can only drop a mediaAddress that corresponds to a signed-in agent. You cannot drop a CTI Route Point, IVR port, a device to which no agent is signed in, or a caller device.

If wrap-up is enabled for the agent who is dropped, that agent can perform wrap-up after being dropped.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/54321
Security Constraints:	Supervisors and administrators can use this API. A supervisor can only make a drop request for a conference call if the supervisor is a participant in the call.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Dialog>`
	`  <requestedAction>PARTICIPANT_DROP</requestedAction>`
	`  <targetMediaAddress>1001001</targetMediaAddress>`
	`</Dialog>`

Request Parameters:	requestedAction (required): The way in which to create the dialog (PARTICIPANT_DROP) targetMediaAddress (required): The extension of the agent to drop from the conference call

HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Parameter Missing 400: Invalid Input 400: Invalid Destination (the targetMediaAddress is not one of the parties in the dialog or is not an agent extension) 400: Invalid State (the dialog is not a conference call) 401: Authorization Failure 401: Invalid Authorization User Specified 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Authorization Failure</ErrorType>`
	`<ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`<ErrorData>jsmith</ErrorData>`
	`</ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Generic Error	Supervisor barges in and attempts to drop a participant in a two-party call scenario.	ALL

Related Topics

Dialog CTI Error Notification, on page 300

Dialog—Start Recording

This API allows a user to start recording an active call.

Note This API applies to Unified CCX deployments only. If you attempt to use this API on a Finesse deployment with Unified CCE, Finesse returns a “Not Implemented” error.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/54321
Security Constraints:	Agents and supervisors can use this API. A user must be a participant in the call to perform this action. An agent cannot record the call of another agent. A supervisor cannot record an agent's call if the supervisor is not a participant in the call. If a supervisor wants to record an agent's call, the supervisor must first start a silent monitoring session on the call. A supervisor can only silently monitor (and therefore record) agents who belong to teams assigned to that supervisor.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Dialog>`
	`  <requestedAction>START_RECORDING</requestedAction>`
	`  <targetMediaAddress>1001001</targetMediaAddress>`
	`</Dialog>`

Request Parameters:	requestedAction (required): The way in which to create the dialog (START_RECORDING) targetMediaAddress (required): The extension of the agent whose call to record
HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Parameter Missing 400: Invalid Input 401: Authorization Failure 401: Invalid Authorization User Specified 401: Invalid State (the targetMediaAddress specifies an extension of a participant in HELD state) 500: Internal Server Error 501: Not Implemented (a recording attempt was made in a Unified CCE deployment)

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>jsmith</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Generic Error	Attempt to PUT a START_RECORDING when the only allowable action is TRANSFER_SST.	Unified CCX
Generic Error	Attempt to PUT a START_RECORDING when the only allowable action is ANSWER.	Unified CCX
Generic Error	Attempt to PUT a START_RECORDING with no MediaSense server.	Unified CCX
Generic Error	Attempt to PUT a START_RECORDING on a Unified CCE deployment type. This API is only supported with Unified CCX deployment type.	Unified CCE

Related Topics

Dialog CTI Error Notification, on page 300

Dialog—Accept, Close, or Reject an Outbound Option Preview Reservation

This API allows a user to accept, close, or reject a reservation in an Outbound Option Preview campaign. Finesse signals an Outbound Option Preview reservation by posting a dialog notification of type OUTBOUND_PREVIEW to the reserved user.

Note This API applies to Unified CCE only. If you attempt to use this API on a Finesse deployment with Unified CCX, Finesse returns a “Not Implemented” error.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/54321
Security Constraints:	Agents can use this API. An agent must be a participant in the dialog to perform this action.
HTTP Method:	PUT
Content Type:	Application/XML

Input/Output Format:	XML
HTTP Request:	<Dialog> <requestedAction>{ACCEPT|CLOSE|REJECT}</requestedAction> <targetMediaAddress>1001001</targetMediaAddress> </Dialog>
Request Parameters:	dialogId (required): The ID of the dialog requestedAction (required): The action to take on the Outbound Option Preview reservation (ACCEPT, CLOSE, or REJECT) targetMediaAddress (required): The extension of the agent
HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Parameter Missing 400: Invalid Input 401: Authorization Failure 401: Invalid Authorization User Specified 404: Dialog Not Found 500: Internal Server Error 501: Not Implemented
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>
Notifications Triggered:	Dialog notification

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Generic Error	Attempt to PUT a Dialog object using an action that is not allowed. For example, attempting a HOLD call when allowed actions are ACCEPT, REJECT, and CLOSE.	All

Related Topics

Dialog CTI Error Notification, on page 300

Dialog—Accept, Close, or Reject a Direct Preview Outbound Reservation

This API allows a user to accept, close, or reject an Direct Preview Outbound reservation . Finesse signals a Direct Preview reservation by posting a dialog notification of type OUTBOUND_PREVIEW to the reserved user.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/54321
Security Constraints:	Agents can use this API. An agent must be a participant in the dialog to perform this action.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Dialog>`
	`  <requestedAction>{ACCEPT|CLOSE|REJECT}</requestedAction>`
	`  <targetMediaAddress>1001001</targetMediaAddress>`
	`</Dialog>`

Request Parameters:	dialogId (required): The ID of the dialog requestedAction (required): The action to take on the Direct Preview reservation (ACCEPT, CLOSE, or REJECT) targetMediaAddress (required): The extension of the agent
HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Parameter Missing 400: Invalid Input 401: Authorization Failure 401: Invalid Authorization User Specified 404: Dialog Not Found 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>jsmith</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification

Dialog—Reclassify a Direct Preview Call

This API allows a user to reclassify an Outbound Option Direct Preview call. A call can be reclassified as VOICE, FAX, ANS_MACHINE, INVALID, DO_NOT_CALL, or BUSY. The call type is then sent back to Unified CCX for processing.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/54321
Security Constraints:	Agents can use this API. Agents can only act on their own Dialog object.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Dialog>`
	`<requestedAction>RECLASSIFY</requestedAction>`
	`<targetMediaAddress>1001001</targetMediaAddress>`
	`<actionParams>`
	`<ActionParam>`
	`<name>outboundClassification</name>`
	`<value>FAX</value>`
	`</ActionParam>`
	`</actionParams>`
	`</Dialog>`

Request Parameters:	dialogId (required): The ID of the dialog requestedAction (required): The action to perform (RECLASSIFY) targetMediaAddress (required): The extension of the agent who is making the request actionParams (required): A collection of objects called ActionParam, which contain name/value pairs. The name must be outboundClassification. The value can be VOICE, FAX, ANS_MACHINE, INVALID, DO_NOT_CALL, or BUSY. A single parameter must be specified for the value. Any additional parameters are ignored. **Note** The BUSY parameter is not supported in a Finesse deployment with Unified CCE. If used, it returns an invalid input error.

HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed asynchronously and the state change is sent as part of and updated to the Dialog object. The response is in the BAResponse call variable, which contains the value sent to the CTI server for the reclassify action. No confirmation is returned, other than the value in the BAResponse. 400: Bad Request 400: Finesse API Error (for example, the object does not exist or is stale) 400: Parameter Missing 401: Authorization Failure 401: Invalid Authorization User Specified 404: Dialog Not Found 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Authorization Failure</ErrorType>`
	`<ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`<ErrorData>jsmith</ErrorData>`
	`</ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in "Dialog CTI Error Notification."

ErrorType	Reason	Deployment Type
Generic error	Attempt to reclassify a dialog that is not generated by the outbound campaign.	All

Related Topics

Dialog CTI Error Notification, on page 300

Dialog—Schedule or Cancel a Callback

This API allows a user to schedule or cancel a callback. The dialog action UPDATE_SCHEDULED_CALLBACK is used to schedule or update a callback. The dialog action CANCEL_SCHEDULED_CALLBACK is used to cancel a previously scheduled callback.

URI:	http://<FQDN>/finesse/api/Dialog/<dialogId>
Example URI:	http://finesse1.xyz.com/finesse/api/Dialog/54321
Security Constraints:	Agents can use this API. Agents can only act on their own Dialog object.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request (Update Scheduled Callback):	<Dialog> <requestedAction>UPDATE_SCHEDULED_CALLBACK</requestedAction> <targetMediaAddress>1001001</targetMediaAddress> <actionParams> <ActionParam> <name>callbackTime</name> <value>2013-12-07T14:30</value> </ActionParam> </actionParams> </Dialog>
HTTP Request (Cancel Scheduled Callback):	<Dialog> <requestedAction>CANCEL_SCHEDULED_CALLBACK</requestedAction> <targetMediaAddress>100100</targetMediaAddress> </Dialog>
Request Parameters:	dialogId (required): The ID of the dialog requestedAction (required): The action to perform (UPDATE_SCHEDULED_CALLBACK, CANCEL_SCHEDULED_CALLBACK) targetMediaAddress (required): The extension of the agent who is making the request actionParams (required): A collection of objects called ActionParam, which contain name/value pairs. The name must be UPDATE_SCHEDULED_CALLBACK. The value can be callbackTime or callbackNumber. A single parameter must be specified for the value. Any additional parameters are ignored.

HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a dialog notification. 400: Parameter Missing 400: Invalid Input 401: Authorization Failure 401: Invalid Authorization User Specified 404: Dialog Not Found 500: Internal Server Error 501: Not Implemented

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Authorization Failure</ErrorType>`
	`<ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`<ErrorData>jsmith</ErrorData>`
	`</ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Dialog notification

Dialog API Parameters

Parameter	Type	Description	Possible Values	Parameter Provided		Notes
				Voice Calls	Nonvoice Tasks	
uri	String	The URI to get a new copy of the object.	—	Yes	Yes	
associatedDialogUri	String	The URI to a Dialog object that is associated with this Dialog object.	/finesse/api/Dialog/dialogId	Yes	Yes	
secondaryId	Numeric	The call ID value assigned to the secondary call.	—	Yes	No	
mediaType	String	The type of media under which this dialog is classified.	The enterprise name of the Media Routing Domain (MRD).	Yes	Yes	

Parameter	Type	Description	Possible Values	Parameter Provided		Notes
				Voice Calls	Nonvoice Tasks	
state	String	The last state of this dialog.	For a list of possible values, see State (Dialog) Parameter Values, on page 112.	Yes	Yes	
fromAddress	String	The calling line ID of the caller.	—	Yes	No	
toAddress	String	The destination for the call.	—	Yes	No	
mediaProperties	Collection	A collection of media-specific properties for the dialog.	—	Yes	Yes	
-->mediaId	String	The ID of the MRD.	For voice, this value is always 1.	Yes	Yes	
-->dialedNumber	String	The number dialed.	—	Yes	Yes	This parameter is empty for nonvoice tasks.
queueNumber	Numeric	The queue ID of the call.	—	Yes	Yes	
queueName	String	The queue name of the call.	—	Yes	Yes	
callKeyCallId	Numeric	The unique number of the call routed on a particular day.	—	Yes	Yes	Unified CCE only.
callKeyPrefix	Numeric	Represents the day when the call is routed.	—	Yes	Yes	Unified CCE only.

Parameter	Type	Description	Possible Values	Parameter Provided		Notes
				Voice Calls	Nonvoice Tasks	
-->callType	String	The type of call.	ACD_IN, PREROUTE_ACD_IN, PREROUTE_DIRECT_AGENT, TRANSFER, OTHER_IN, OUT, AGENT_INSIDE, CONSULT, CONFERENCE, SUPERVISOR_MONITOR, OUTBOUND, OUTBOUND_PREVIEW, OUTBOUND_CALLBACK, OUTBOUND_CALLBACK_PREVIEW, OUTBOUND_PERSONAL_CALLBACK, OUTBOUND_PERSONAL_CALLBACK_PREVIEW, OUTBOUND_DIRECT_PREVIEW	Yes	No	
-->DNIS	String	The DNIS provided with the call. For routed calls, the DNIS is the route point.	—	Yes	No	
-->wrapUpReason	String	A description of the call.	—	Yes	Yes	The maximum size of this parameter is 39 bytes (which equals 39 US English characters).
-->callVariables	Collection	A list of call variables associated with this dialog.	—	Yes	Yes	

Parameter	Type	Description	Possible Values	Parameter Provided		Notes
				Voice Calls	Nonvoice Tasks	
--->CallVariable	Collection	Contains the name and value of a call variable belonging to this dialog. The name indicates whether the variable is a call variable or an ECC variable Call variable names start with callVariable#, where # is 1-10. ECC variable names (both scalar and array) are prepended with "user". ECC variable arrays include an index enclosed within square brackets located at the end of the ECC array name (for example, user.myarray[2]). Outbound Option call variables provide additional details about an Outbound Option call.	callvariable1 through callvariable10 ECC variables The following Outbound variables: • BACampaign • BAAccountNumber • BAResponse • BAStatus • BADialedListID • BATimeZone • BABuddyName • BACustomerNumber (Unified CCX only) For information about possible values for BAStatus, see Outbound Call Types and BAStatus, on page 128.	Yes	Yes	Size: • Call variable: 40 bytes • ECC/named variable: Sum of all names, values, and index (if array) must be less than or equal to 2000 bytes. Each ECC variable value cannot exceed the length defined in the CTI server administration user interface.
participants	Collection	A list of all participants (both internal and external) involved in the dialog.	—	Yes	Yes	
-->Participant	Collection	Information about one participant in the dialog.	—	Yes	Yes	
--->actions	Collection	A list of actions that are allowed for a participant.	For a list of possible values, see Actions Parameter Values, on page 115.	Yes	Yes	

Parameter	Type	Description	Possible Values	Parameter Provided		Notes
				Voice Calls	Nonvoice Tasks	
--->mediaAddress	String	Point of contact for the participant.	Possible values include the extension of an agent or ANI for a caller who are participants in the call. For nonvoice dialogs, the value is the agent's id.	Yes	Yes	
—>mediaAddressType	Collection	The device type specified by the mediaAddress.	AGENT_DEVICE or empty string	Yes	No	

Parameter	Type	Description	Possible Values	Parameter Provided		Notes
				Voice Calls	Nonvoice Tasks	
--->startTime	String	The UTC time when the participant initiated the call or the first time the participant call state becomes active. Finesse uses the Finesse server timestamp (not the CTI even timestamp) to determine the startTime. A time difference may exist between the Finesse server on side A and side B. Although they are synchronized using an NTP server, a few milliseconds of drift may exist. Therefore, the startTime may be different for a participant if Finesse fails over from side A to side B.	The start time in the format YYYY-MM-DDThh:MM:ss.SSSZ or an empty string	Yes	No	When an agent signs in with an extension that has an active call, Finesse does not have a call object tracking the call and sets the startTime for this participant as an empty string. If the call does have a participant who is an agent, Finesse can reuse the call object for the extension and the startTime is available For example, if an agent is on a call with a customer and then signs in, Finesse does not have the call object. If the agent is on a call with another agent and then signs in, Finesse can reuse the call object for the extension. In a Unified CCE deployment, Finesse on side B is in standby and keeps track of agent states and calls. When failover occurs, Finesse can recover the startTime for the agent. In a Unified CCX deployment, Finesse on side B does not have the agent state or call information. After failover occurs, Finesse sets the startTime parameter as an empty string.

Parameter	Type	Description	Possible Values	Parameter Provided		Notes
				Voice Calls	Nonvoice Tasks	
--->state	String	The last participant state in a dialog.	For a list of possible values, see State (Participant) Parameter Values, on page 118.	Yes	Yes	
--->stateCause	String	The cause for the last participant state in a dialog.	BUSY, BAD_DESTINATION, OTHER	Yes	No	This parameter is normally associated with a FAILED participant state.

Parameter	Type	Description	Possible Values	Parameter Provided		Notes
				Voice Calls	Nonvoice Tasks	
—>stateChangeTime	String	The UTC time when the participant changed to the current state. Finesse uses the Finesse server timestamp (not the CTI even timestamp) to determine the stateChangeTime. A time difference may exist between the Finesse server on side A and side B. Although they are synchronized using an NTP server, a few milliseconds of drift may exist. Therefore, the stateChangeTime may be different for a participant if Finesse fails over from side A to side B.	The state change time in the format YYYY-MM-DDThh:MM:ss.SSSZ or an empty string	Yes	Yes	When Finesse cannot determine the stateChangeTime, this parameter is an empty string. For example, if a participant is in HELD state and a failover occurs, after failover, Finesse can determine that the participant is in HELD state but cannot determine when the call was put on hold. Therefore, Finesse sets the stateChangeTime parameter to an empty string. In a Unified CCE deployment, Finesse on side B is in standby and keeps track of agent states and calls. When failover occurs, Finesse can recover the stateChangeTime for the agent. In a Unified CCX deployment, Finesse on side B does not have the agent state or call information. After failover occurs, Finesse sets the stateChangeTime parameter as an empty string.
scheduledCallbackInfo	Collection	For Outbound Option campaigns, provides information about scheduled callbacks.	—	Yes	No	This parameters is provided only if a callback is scheduled for this dialog.

Parameter	Type	Description	Possible Values	Parameter Provided		Notes
				Voice Calls	Nonvoice Tasks	
-->callbackTime	String	The callback time in the format YYYY-MM-DDThh:MM (for example, 2013-12-15T11:45). The time is in the customer's timezone. Optionally, a full ISO-8601 format time string (ex. 2013-12-25T23:59:59.9999999+03:00) can be sent, but everything beyond the minutes, including the time zone, is ignored.	—	Yes	No	This parameter is provided only if a callback time has been set. Value returned in the BAReponse: Callback MMDDYYYY HH:MM (for example, Callback 12072013 14:30)
-->callbackNumber	String	The phone number to call for the callback.	—	Yes	No	This parameter is provided only if a callback number has been set. Value returned in the BAResponse: P#<callbackNumber> (for example, P#9780001)
dispositionCode	String	The reason the dialog ended.	For a list of possible values, see Disposition Code Parameter Values for Nonvoice Tasks, on page 130.	No	Yes	

State (Dialog) Parameter Values

The following table describes possible values for the state (dialog) parameter for voice dialogs:

Dialog State	Description
INITIATING	Indicates that the phone is off the hook at a device
INITIATED	Indicates that the phone is dialing at the device

Dialog State	Description
ALERTING	Indicates that the call is ringing at a device
ACTIVE	Indicates that the dialog has at least one active participant
FAILED	Indicates that the dialog has failed
DROPPED	Indicates that the dialog has no active participants
ACCEPTED	Indicates the user has accepted the OUTBOUND_PREVIEW dialog

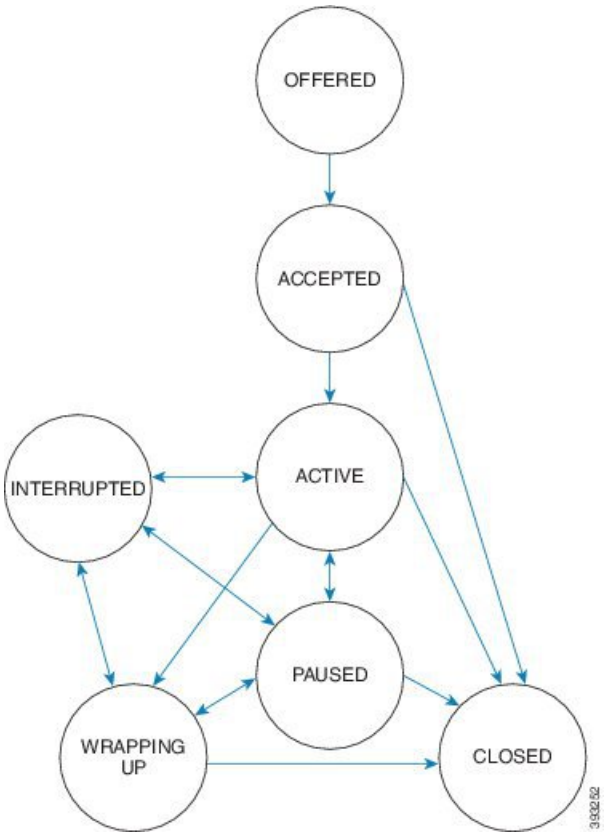
Nonvoice States

The following table describes possible values for the state (dialog) parameter for nonvoice dialogs:

Dialog State	Description
OFFERED	Indicates that the dialog has been offered to a user
ACCEPTED	Indicates that the user has accepted the offered dialog
ACTIVE	Indicates that the dialog has at least one active participant; the user has started working on the accepted dialog
PAUSED	Indicates that an active dialog has been paused
WRAPPING_UP	Indicates that a user is performing wrap up activity for a dialog
INTERRUPTED	Indicates that the dialog has been interrupted by a dialog from another MRD. Dialogs can be interrupted if they are in the ACTIVE, PAUSED, or WRAPPING UP states. While a dialog is interrupted, all actions for that dialog are disabled. This state is applicable only for interruptible MRDs with the Media API interruptAction parameter set to ACCEPT.
CLOSED	Indicates that the dialog ended. The disposition code indicates the reason the dialog closed. See Disposition Code Parameter Values for Nonvoice Tasks, on page 130.

Dialog State	Description
UNKNOWN	After Finesse server or PG failure recovery, any dialogs in the INTERRUPTED state change UNKNOWN state when the dialog is no longer interrupted. For example, the following scenario results in a dialog in the UNKNOWN state: **1.** The user accepts and starts a dialog in an interruptible media. **2.** The user accepts and starts a dialog in a non-interruptible media. **3.** The dialog in the interruptible media changes to the INTERRUPTED state. **4.** The PG goes out of service. **5.** Both dialogs are recovered and are in the correct state. **6.** The user closes the dialog in the non-interruptible media. **7.** The dialog in the interruptible media changes to the UNKNOWN state. When a dialog is in the UNKNOWN state, the user is only allowed to close the dialog.

The following figure illustrates these allowed state transitions for nonvoice dialogs:



Actions Parameter Values

The following table describes possible values (allowable actions) for the Actions response parameter for voice calls:

Participant Allowable Action	Enabled Button on Desktop	Description
MAKE_CALL	Make a New Call	Allows an agent to make an outgoing call.
ANSWER	Answer	Allows an agent to answer an incoming call.
HOLD	Hold	Allows an agent to hold a call that is currently active.
RETRIEVE	Retrieve	Allows an agent to retrieve a call that was on hold.
DROP	End	Allows an agent to drop the participant of a call.

Participant Allowable Action	Enabled Button on Desktop	Description
UPDATE_CALL_DATA	—	Allows an agent to set call data for the call. **Note** Finesse does not allow an agent to set call data from the desktop. A user can set call data through the API only.
SEND_DTMF	—	Allows an agent to send DTMF digits for the call.
CONSULT_CALL	Consult	Allows an agent to make a consult call for transfer or conference.
CONFERENCE	Conference	Allows an agent to start a conference between the selected held call and the existing active call on the desktop.
TRANSFER	Transfer	Allows an agent to complete a transfer between the selected held call and the existing active call on the desktop.
TRANSFER_SST	Direct Transfer	Allows an agent to initiate a single-step transfer.
SILENT_MONITOR	Start Monitoring	Allows a supervisor to silent monitor an agent who is in TALKING state on an active call.
BARGE_CALL	Barge In	Allows a supervisor to barge in on an agent call that the supervisor is silently monitoring.
PARTICIPANT_DROP	Drop	Allows a supervisor to drop a participant from a conference call.
START_RECORDING	Start Recording	Allows an agent to start a recording (Unified CCX only, requires integration with MediaSense).
UPDATE_SCHEDULED_CALLBACK	Callback, Schedule	Allows an agent to update the details for a scheduled callback.
CANCEL_SCHEDULED_CALLBACK	Callback, Cancel	Allows an agent to cancel a scheduled callback.

Note The Participant Allowable Action is present where applicable for all participants on a call, including participants who are not agents. The actions for participants who are not agents are not needed by the client and may not always be accurate. These actions will be removed in a subsequent release.

Outbound Option Preview Actions

The following table describes the actions available to an agent who is reserved in an Outbound Option Preview campaign, the value to which Finesse sets the BAResponse variable, and the effect it has on the customer number in the campaign.

Note Performing the actions listed in this table causes Finesse to set the BAResponse variable to a corresponding value. Each value triggers a specific action in Unified CCE.

For more information about the BAResponse variable, see the section "Outbound Option Extended Call Variables" in the *Outbound Option Guide for Unified Contact Center Enterprise*.

Action	BAResponse Value	Description
ACCEPT	Accept	Performing the ACCEPT action while reserved in an Outbound Option Preview campaign instructs Unified CCE to establish a call with the customer.
CLOSE	Reject-Close	Performing the CLOSE action while reserved in an Outbound Option Preview campaign rejects the current preview call and prevents the number from being called again in the campaign.
REJECT	Reject	Performing the REJECT action while reserved in an Outbound Option Preview campaign instructs Unified CCE to retry the previewed number later.

Outbound Option Direct Preview Actions

The following table describes the actions available to an agent who is reserved in an Outbound Option Direct Preview campaign, the value to which Finesse sets the BAResponse variable, and the effect it has on the customer number in the campaign.

Note Performing the actions listed in this table causes Finesse to set the BAResponse variable to a corresponding value. Each value triggers a specific action in Unified CCX.

For more information about the BAResponse variable, see the section "Outbound Option Extended Call Variables" in the *Cisco Unified Contact Center Express CTI Protocol Developer Guide*.

Action	BAResponse Value	Description
ACCEPT	Accept	Performing the ACCEPT action while reserved in an Outbound Option Direct Preview campaign instructs Unified CCX to establish a call with the customer.
CLOSE	Reject-Close	Performing the CLOSE action while reserved in an Outbound Option Direct Preview campaign rejects the current preview call and prevents the number from being called again in the campaign.
REJECT	Reject	Performing the REJECT action while reserved in an Outbound Option Direct Preview campaign instructs Unified CCX to retry the previewed number later.
RECLASSIFY	Reclassify	Performing the RECLASSIFY action while reserved in an Outbound Option Direct Preview campaign instructs Unified CCX to reclassify the previewed number as voice (successful case), a modem/fax, answering machine, an invalid number, do not call, or busy.

Nonvoice Actions

The following table describes possible values (allowable actions) for the Actions response parameter for nonvoice tasks:

Action	Description
ACCEPT	Allows an agent to accept an incoming task.
START	Allows an agent to start work on an accepted task.
PAUSE	Allows an agent to pause an active task.
RESUME	Allows an agent to resume a paused task.
TRANSFER	Allows an agent to transfer an accepted, active, or paused task to another Script Selector/dialed number.
WRAP_UP	Allows an agent to perform wrap up work for a task.
CLOSE	Allows an agent to end a task.

State (Participant) Parameter Values

The following table describes possible values for the state (participant) response parameter for voice calls:

Participant State	Allowable Actions for the Participant State	Call State on Finesse Desktop	Description
INITIATING	DROP, UPDATE_CALL_DATA	Off Hook	Indicates that an outgoing call, not yet active, exists on the device
INITIATED	DROP, UPDATE_CALL_DATA	Dialing	Indicates that the phone is dialing at a device
ALERTING	ANSWER	Incoming	Indicates that an incoming call is ringing on the device
ACTIVE	HOLD, DROP, UPDATE_CALL_DATA, CONSULT_CALL	Active	Indicates that the participant is active on the call
FAILED	DROP	Busy	Indicates that the call failed (BUSY)
FAILED	DROP	Error	Indicates that the call failed (BAD_DESINATION)
FAILED	DROP	Error	Indicates that the call failed (OTHER)
HELD	RETRIEVE, DROP, UPDATE_CALL_DATA, TRANSFER (if active call exists), CONFERENCE (if active call exists)	Hold	Indicates that the participant has held their connection to the call
DROPPED	-	-	Indicates that the participant has dropped from the call
WRAP_UP	UPDATE_CALL_DATA	Active	Indicates that the participant is not in active state on the call but is wrapping up after the participant has dropped from the call
ACCEPTED	-	-	Indicates that the participant has accepted the dialog. This state is applicable to OUTBOUND_PREVIEW dialogs.

Note In Finesse Release 9.0(1) and earlier, when a dialog participant wraps up, a dialog event is sent only to the participant who transitions to wrap-up state. In Finesse Release 9.1(1) and later, a dialog event is sent to each participant in the dialog.

Nonvoice State (Participant) Parameter Values

The following table describes possible values (allowable actions) for the Actions response parameter for nonvoice tasks:

Participant State	Allowable Actions for the Participant State	Dialog State	Description
OFFERED	ACCEPT	OFFERED	Indicates that the participant has been offered the task.
ACCEPTED	START, CLOSE, TRANSFER	ACCEPTED	Indicates that the participant has accepted a task, but has not started working on the task.
ACTIVE	PAUSE, WRAP_UP, CLOSE, TRANSFER	ACTIVE	Indicates that the participant is active in the task.
PAUSED	RESUME, CLOSE, TRANSFER, WRAP_UP	PAUSED	Indicates that the participant has paused the active task. The WRAP_UP action is not available if the task was PAUSED from the WRAPPING_UP state.
WRAPPING_UP	PAUSE, CLOSE	WRAPPING_UP	Indicates that the participant is performing wrap up work for a task.
INTERRUPTED	-	INTERRUPTED	Indicates that the participant has been interrupted in this MRD by a task from another MRD. This state is applicable only for interruptible MRDs with the interruptAction parameter set to ACCEPT.
CLOSED	-	-	Indicates that the participant ended the task.

CTI Event Mappings for Dialog and Participant States

The following table provides a list of CTI call events and the associated Dialog and Participant states for the call. This table is specifically oriented toward the agent receiving an incoming call.

Note If the caller is also an agent, the events go to the caller. If the caller is not an agent, events are not published to the caller.

Table 1: Incoming Call

Scenario	CTI Event	Event Method	Dialog State	Participant State (Agent)	Participant State (Caller)
Start the call	BEGIN_CALL_EVENT	POST (Caller)	INITIATING	Not a participant yet	INITIATING
Call arrives at agent	CALL_DELIVERED	POST (Agent), PUT (Caller)	ALERTING	ALERTING	INITIATED
Agent answers call	CALL_ESTABLISHED	PUT	ACTIVE	ACTIVE	ACTIVE
Caller drops call	CALL_CONNECTION_CLEARED	PUT	ACTIVE	ACTIVE	DROPPED
Agent is dropped from call	CALL_CONNECTION_CLEARED	PUT	DROPPED	DROPPED	DROPPED
Call is cleared	CALL_CONNECTION_CLEARED	PUT	DROPPED	DROPPED	DROPPED
Call is removed	END_CALL_EVENT	DELETE	DROPPED	DROPPED	DROPPED

The following table provides a list of CTI call events and their mapping to the Dialog state and Participant state for the call. This table is specifically oriented toward the caller making an outgoing call.

Note If the recipient is also an agent, then the events go to the recipient. If the recipient is not an agent, events are not published to the recipient.

Table 2: Outgoing Call

Scenario	CTI Event	Event Method	Dialog State	Participant State (Caller)	Participant State (Recipient)
Start of any call	BEGIN_CALL_EVENT	POST (Caller)	INITIATING	INITIATING	Not a participant yet

Scenario	CTI Event	Event Method	Dialog State	Participant State (Caller)	Participant State (Recipient)
Caller takes phone off-hook	CALL_SERVICE_INITIATED_EVENT	POST (Caller)	INITIATING	INITIATING	Not a participant yet
Caller dials number	CALL_ORIGINATED_EVENT	PUT (Caller)	INITIATED	INITIATED	Not a participant yet
Destination is busy	CALL_FAILED_EVENT (BUSY)	PUT (Caller)	FAILED	FAILED	Not a participant yet
Destination is bad	CALL_FAILED_EVENT (BAD_DESTINATION)	PUT (Caller)	FAILED	FAILED	Not a participant yet
Destination is recipient	CALL_DELIVERED	PUT (Caller), POST (Recipient) (See the note that precedes this table.)	ALERTING	INITIATED	ALERTING
Recipient answers call	CALL_ESTABLISHED	PUT	ACTIVE	ACTIVE	ACTIVE
Caller drops call	CALL_CONNECTION_CLEARED	PUT	ACTIVE	DROPPED	ACTIVE
Recipient is dropped from call	CALL_CONNECTION_CLEARED	PUT	DROPPED	DROPPED	DROPPED
Call is cleared	CALL_CLEARED_EVENT	PUT	DROPPED	DROPPED	DROPPED
Call is removed	END_CALL_EVENT	DELETE	DROPPED	DROPPED	DROPPED

Note If the caller is also an agent, then the events go to the caller. If the caller is not an agent, events are not published to the caller.

Table 3: Holding a Call

Scenario	CTI Event	Event Method	Dialog State	Participant State (Agent)	Participant State (Caller)
Call arrives and is answered	-	-	-	-	-
Agent holds call	CALL_HELD	PUT	ACTIVE	HELD	ACTIVE
Caller holds call	CALL_HELD	PUT	ACTIVE	HELD	HELD
Agent retrieves call	CALL_RETRIEVED	PUT	ACTIVE	ACTIVE	HELD
Caller retrieves call	CALL_RETRIEVED	PUT	ACTIVE	ACTIVE	ACTIVE

The following table provides a list of CTI call events and their mapping to the Dialog and Participant states for a call transfer. In this scenario, a call exists between the caller and Agent A. The transfer occurs after Agent B answers the consult call.

Table 4: Call Transfer

Scenario	CTI Event (Original Call)	CTI Event (Consult Call)	Event Method	Dialog State	Participant State
Agent A starts consult call	CALL_HELD	-	PUT (original call only)	Original call: ACTIVE	Caller: ACTIVE Agent A: HELD (original call) Agent B: Not yet a participant
Agent A takes phone off-hook (BEGIN_CALL_EVENT assumed)	-	CALL_SERVICE_INITIATED_EVENT	PUT (consult call only)	Original call: ACTIVE Consult call: INITIATING	Caller: ACTIVE Agent A: INITIATING (consult call) Agent B: Not yet a participant
Agent A dials number	-	CALL_ORIGINATED_EVENT	PUT (consult call only)	Original call: ACTIVE Consult call: INITIATED	Caller: ACTIVE Agent A: INITIATED (consult call) Agent B: Not yet a participant

Scenario	CTI Event (Original Call)	CTI Event (Consult Call)	Event Method	Dialog State	Participant State
Agent B receives the call	-	CALL_DELIVERED	PUT (consult call, on Agent A POST (consult call on Agent B	Original call: ACTIVE Consult call: ALERTING	Caller: ACTIVE Agent A: INITIATED (consult call) Agent B: ALERTING
Agent B answers the call	-	CALL_ESTABLISHED	PUT (consult call only)	Original call: ACTIVE Consult call: ACTIVE	Caller: ACTIVE Agent A: ACTIVE (consult call) Agent B: ACTIVE
Agent A completes the transfer of the caller to Agent B	CALL_TRANSFERRED_EVENT	-	DELETE (original call on Agent A) DELETE (consult call on Agent A) DELETE (consult call on Agent B) POST (original call on Agent B)	Original call: DROPPED (Agent A), ACTIVE (Agent B) Consult call: DROPPED (both Agent A and Agent B)	Caller: ACTIVE Agent A: DROPPED (original and consult call) Agent B: DROPPED (consult call), ACTIVE (original call)

If the caller is also an agent, that caller receives a Dialog update (PUT) with an updated participant list after the transfer is complete.

The following table provides a list of CTI call events and their mapping to the Dialog state and Participant state for a silent monitor call.

Note For the Finesse API, a silent monitor call request only specifies the agent's extension for the supervisor to silent monitor. Unified CCE/Unified CCX decides which of the agent's active calls to monitor. In most cases, an agent only has one active call to be monitored. This table describes the scenario where a call already exists between the caller and Agent A. The focus is on the silent monitor call only. In this scenario, the original agent call is not affected. The silent monitor call is created and the agent becomes a participant with no allowable action. The agent has two active calls: the original call and the silent monitor call. Finesse considers the silent monitor call to be a "passive" active call of the agent.

Table 5: Silent Monitor Call

Scenario	CTI Event (Silent Monitor Call)	Event Method	Dialog State (Original Call)	Dialog State (Silent Monitor Call)	Participant State (Caller)	Participant State (Agent A)	Participant State (Supervisor)
Agent call arrives and is answered	-	-	-	-	-	-	-
Supervisor starts the silent monitor call	BEGIN_CALL	POST (SILENT_MONITOR)	ACTIVE	INITIATING	ACTIVE (original call)	ACTIVE (original call)	INITIATING (silent monitor call)
-	CALL_SERVICE_INITIATED_EVENT CALL_DATA_UPDATE_EVENT	-	ACTIVE	INITIATING	ACTIVE (original call)	ACTIVE (original call)	INITIATING (silent monitor call)
-	CALL_ORIGINATED_EVENT CALL_DATA_UPDATE_EVENT	-	ACTIVE	INITIATED	ACTIVE (original call)	ACTIVE (original call)	INITIATED (silent monitor call)
-	CALL_DELIVERED_EVENT CALL_DELIVERED_EVENT	-	ACTIVE	ALERTING	ACTIVE (original call)	ACTIVE (original call)	INITIATED (silent monitor call)

Scenario	CTI Event (Silent Monitor Call)	Event Method	Dialog State (Original Call)	Dialog State (Silent Monitor Call)	Participant State (Caller)	Participant State (Agent A)	Participant State (Supervisor)
-	CALL_ ESTABLISHED_ EVENT	-	ACTIVE	ACTIVE	ACTIVE (original call)	ACTIVE (original call) ACTIVE (passive - silent monitor call)	ACTIVE (silent monitor call)

The following table provides a list of CTI call events and their mapping to the Dialog state and Participant state for a barge call.

Note This table describes a scenario where a call already exists between the caller and Agent A and the supervisor is silently monitoring that call. The focus is on the barge only. In this scenario, the agent call is temporarily put on hold, the silent monitor call is dropped, and a consult call is created. The agent call becomes a conference call with the caller, agent, and supervisor as participants.

Table 6: Barge Call

Scenario	CTI Event	Event Method	Dialog State	Participant State (Caller)	Participant State (Agent A)	Participant State (Supervisor)
Agent call arrives and is answered	-	-	-	-	-	-
Supervisor silent monitors the call	-	-	ACTIVE (original call) ACTIVE (silent monitor call)	ACTIVE	ACTIVE (original call) ACTIVE (passive, silent monitor call)	ACTIVE (silent monitor call)
Supervisor starts barge call	-	POST (BARGE)	ACTIVE (original call) ACTIVE (silent monitor call)	ACTIVE	ACTIVE (original call) ACTIVE (passive, silent monitor call)	ACTIVE (silent monitor call)

Scenario	CTI Event	Event Method	Dialog State	Participant State (Caller)	Participant State (Agent A)	Participant State (Supervisor)
Finesse drops silent monitor call through Unified CCE	CALL_CONNECTION_CLEARED (silent monitor call) CALL_CLEARED (silent monitor call) END_CALL (silent monitor call)	-	ACTIVE (original call) DROPPED (silent monitor call)	ACTIVE (original call)	ACTIVE (original call) ACTIVE (silent monitor call)	DROPPED (silent monitor call)
Unified CCE puts original call on hold	CALL_HELD (original call)	-	ACTIVE (original call)	ACTIVE (original call)	HELD (original call)	Not a participant yet
Unified CCE generates consult call	BEGIN_CALL (consult call) CALL_SERVICE_INITIATED_EVENT (consult call)	-	ACTIVE (original call) INITIATING (consult call)	ACTIVE	HELD (original call) INITIATING (consult call)	Not a participant yet
Unified CCE dials supervisor's extension	CALL_ORIGINATED_EVENT (consult call)	-	ACTIVE (original call) INITIATED (consult call)	ACTIVE	HELD (original call) INITIATED (consult call)	Not a participant yet
Agent receives the consult call	CALL_DELIVERED (consult call)	-	ACTIVE (original call) INITIATED (consult call)	ACTIVE	HELD (original call) INITIATED (consult call)	Not a participant yet
Supervisor receives the consult call	CALL_DELIVERED (consult call)	-	ACTIVE (original call) ALERTING (consult call)	ACTIVE	HELD (original call) INITIATED (consult call)	ALERTING
Unified CCE answers the consult call on behalf of the supervisor and changes the original agent call to a conference call	CALL_CONFERENCED	-	ACTIVE (original call) ALERTING (consult call)	ACTIVE	HELD (original call) INITIATED (consult call)	ALERTING

Scenario	CTI Event	Event Method	Dialog State	Participant State (Caller)	Participant State (Agent A)	Participant State (Supervisor)
Unified CCE ends the consult call	END_CALL (consult call)	-	ACTIVE (original call) DROPPED (consult call)	ACTIVE	HELD (original call) DROPPED (consult call)	-
Unified CCE changes the original call type to conference	CALL_DATA_ UPDATE (original call)	-	ACTIVE (original call)	ACTIVE	ACTIVE (original call, callType=15 =Conference)	-
Unified CCE answers call on behalf of supervisor	CALL_ESTABLISHED (original call)	-	ACTIVE (original call)	ACTIVE	ACTIVE (original call)	ACTIVE

If the caller is also an agent, the caller receives a dialog update (PUT) with an updated participant list on the conference.

Outbound Call Types and BAStatus

The following tables list the call types for outbound calls and the associated values for BAStatus for Unified CCE deployments and Unified CCX deployments.

Note When a user transfers or conferences an outbound call, the callType changes to TRANSFER or CONFERENCE.

In Unified CCE deployments, the BAStatus of the call remains unchanged. In Unified CCX deployments, the BAStatus changes to TRANSFERRED or CONFERENCED for Progressive and Predictive outbound calls and remains OUTBOUND for Direct Preview outbound calls.

When failover occurs in a Unified CCE deployment, the callType and BAStatus remain unchanged. In Unified CCX deployments, the callType parameter is null or empty after failover for all outbound dialing modes. The BAStatus parameter is removed as the call no longer functions as an outbound call.

Table 7: Outbound Call Types and BAStatus for Finesse with Unified CCE

	Progressive	Predictive	Preview	Direct Preview
Reservation Call	—	—	callType: OUTBOUND_ PREVIEW BAStatus: PREVIEW_ OUTBOUND_ RESERVATION	callType: OUTBOUND_ DIRECT_ PREVIEW BAStatus: DIRECT_ PREVIEW_ OUTBOUND_ RESERVATION
Customer Call	callType: OUTBOUND BAStatus: PROGRESSIVE_ OUTBOUND	callType: OUTBOUND BAStatus: PREDICTIVE_ OUTBOUND	callType: OUTBOUND BAStatus: PREVIEW_ OUTBOUND	callType: OUTBOUND BAStatus: DIRECT_ PREVIEW_ OUTBOUND
Callback Reservation Call	—	—	callType: OUTBOUND_ CALLBACK_ PREVIEW BAStatus: PREVIEW_ OUTBOUND_ RESERVATION	callType: OUTBOUND_ DIRECT_ PREVIEW BAStatus: DIRECT_ PREVIEW_ OUTBOUND_ RESERVATION
Callback Customer Call	callType: OUTBOUND_ CALLBACK BAStatus: PROGRESSIVE_ OUTBOUND	callType: OUTBOUND_ CALLBACK BAStatus: PREDICTIVE_ OUTBOUND	callType: OUTBOUND_ CALLBACK BAStatus: PREVIEW_ OUTBOUND	callType: OUTBOUND_ CALLBACK BAStatus: DIRECT_ PREVIEW_ OUTBOUND
Personal Callback Reservation Call	callType: OUTBOUND_ PERSONAL_ CALLBACK_ PREVIEW BAStatus: PERSONAL_ CALLBACK_ OUTBOUND_ RESERVATION	callType: OUTBOUND_ PERSONAL_ CALLBACK_ PREVIEW BAStatus: PERSONAL_ CALLBACK_ OUTBOUND_ RESERVATION	callType: OUTBOUND_ PERSONAL_ CALLBACK_ PREVIEW BAStatus: PERSONAL_ CALLBACK_ OUTBOUND_ RESERVATION	callType: OUTBOUND_ PERSONAL_ CALLBACK_ PREVIEW BAStatus: PERSONAL_ CALLBACK_ OUTBOUND_ RESERVATION

	Progressive	Predictive	Preview	Direct Preview
Personal Callback Customer Call	callType: OUTBOUND_ PERSONAL_ CALLBACK BAStatus: PERSONAL_ CALLBACK_ OUTBOUND	callType: OUTBOUND_ PERSONAL_ CALLBACK BAStatus: PERSONAL_ CALLBACK_ OUTBOUND	callType: OUTBOUND_ PERSONAL_ CALLBACK BAStatus: PERSONAL_ CALLBACK_ OUTBOUND	callType: OUTBOUND_ PERSONAL_ CALLBACK BAStatus: PERSONAL_ CALLBACK_ OUTBOUND

Table 8: Outbound Call Types and BAStatus for Finesse with Unified CCX

	Progressive	Predictive	Direct Preview
Reservation Call	—	—	callType: OUTBOUND_ DIRECT_ PREVIEW BAStatus: DIRECT_ PREVIEW_ OUTBOUND_ RESERVATION
Customer Call	callType: OUTBOUND BAStatus: OUTBOUND	callType: OUTBOUND BAStatus: OUTBOUND	callType: OUTBOUND BAStatus: DIRECT_ PREVIEW_ OUTBOUND
Callback Reservation Call	—	—	callType: OUTBOUND_ DIRECT_ PREVIEW BAStatus: DIRECT_ PREVIEW_ OUTBOUND_ RESERVATION
Callback Customer Call	callType: OUTBOUND_ CALLBACK BAStatus: OUTBOUND	callType: OUTBOUND_ CALLBACK BAStatus: OUTBOUND	callType: OUTBOUND_ CALLBACK BAStatus: DIRECT_ PREVIEW_ OUTBOUND
Personal Callback Reservation Call	—	—	—
Personal Callback Customer Call	—	—	—

Disposition Code Parameter Values for Nonvoice Tasks

The following table describes possible values for the dispositionCode response parameter for nonvoice tasks:

Type of Code	Disposition Code Value	Description
Normal End	CD_NORMAL_END_TASK	The task ended normally.
Transfer	CD_TASK_TRANSFER	The task was transferred. The initiating application sends a new task request to CCE for routing that includes the task id of the first task.
	CD_TASK_TRANSFERRED_ON_AGENT_LOGOUT	The task was transferred because the agent logged out during the task.
RONA	CD_RING_NO_ANSWER	The task timed out while waiting to be accepted by an agent. The task was redirected to another agent.
Task Lifetime Exceeded	CD_MAX_DIALOG_LIFETIME_EXCEEDED	The dialog ended because it exceeded the maximum task duration for the MRD.
Customer Abandoned	CD_TASK_ABANDONED_WHILE_OFFERED	The customer cancelled the task before the agent began working on the task. In this case, the Finesse user sees the offered dialog but the dialog is deleted before the user can accept it.

Type of Code	Disposition Code Value	Description
Other	CD_CANT_OBTAIN_DIALOG_ID	The Agent PG could not assign an ID to the dialog. In this case, the Finesse user sees the offered dialog, but it is deleted before the user can accept the dialog. Contact Cisco Technical Support for assistance.
	CD_AGENT_LOGGED_OUT_DURING_DIALOG	The agent working on the task logged out before the task ended.
	CD_TASK_ENDED_DURING_APP_INIT	This indicates that the dialog was in progress when the application path went down, and ended before the application path was reinitialized, but within the task life timeout threshold. When the application path was reinitialized, the Agent PG ended the dialog.
	CD_APPLICATION_DISCONNECTED	One instance of an application that is allowed to have multiple client connections with the same application path was disconnected. However, the application path is not down because another instance of the application is still connected.

Dialog API Errors

Status	Error Type	Description
400	20700 (conference resource limit violation)	The barge call will cause the total number of parties on the conference call to exceed the allowed resource limit for the conference bridge.
400	20999 (Barge via a non-conference-controller)	The agent specified in the toAddress is not the controller of the conference call or the agent already has an outstanding conference call.
400	Generic Error	An unaccounted for error occurred. The root cause could not be determined.

Status	Error Type	Description
400	Invalid Destination	The toAddress and fromAddress are the same (if users attempt to call their own extension). For the Dialog—Drop Participant from Conference API, this error occurs if the targetMediaAddress is not one of the parties on the call or is not an agent extension. For the Dialog—Make a Barge Call API, this error occurs if the supervisor tries to barge in on an agent call when the agent's extension is in HELD state.
400	Invalid Input	One of the parameters provided as part of the user input is invalid or not recognized (for example, the fromAddress, toAddress, targetMediaAddress, requestedAction). For the Dialog—Update Call Variable Data API, the call variable name or action is invalid or not recognized, or there are duplicate call variable names. This error is also returned if a user attempts to set any of the following Outbound Option variables: BACampaign, BAAccountNumber, BAResponse, BAStatus, BADialedListID, BATimeZone, BABuddyName, BACustomerNumber (Unified CCX only).
400	Invalid State	A supervisor who is already on an active call (in TALKING or HOLD state) makes a silent monitor request.
400	Parameter Missing	A required parameter was not provided in the request. For example, if creating a dialog, the fromAddess or toAddress was not provided.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (for example, an agent tries to use an API that only a supervisor or administrator is authorized to use).
401	Invalid Authorization User Specified	The authenticated user tried to make a request for another user. The authenticated user tried to use a fromAddress that does not belong to that user.
401	Invalid State	The targetMediaAddress in a Dialog—Start Recording request specifies an extension of a participant in HELD state.

Status	Error Type	Description
401	Invalid Supervisor	A supervisor tried to change the state of an agent who does not belong to that supervisor's team.
404	Not Found	The resource specified is invalid or does not exist.
404	Dialog Not Found	The dialogId provided is invalid or no such dialog exists.
500	Internal Server Error	Any runtime exception is caught and responded with this error.
501	Not Implemented	A user attempted to use the API in a deployment where it is not supported. For example, a recording attempt was made in a Unified CCE deployment.
503	Service Unavailable	The required service is unavailable. For example, the Notification Service is not running.

Queue

The Queue object represents a queue (or skill group in Unified CCE) and contains the URI, name, and statistics for that queue. Queue statistics include the number of calls in queue, the start time of the longest call in queue, and the number of agents in each state.

The Queue object is structured as follows:

```
<Queue>
   <uri>/finesse/api/Queue/10</uri>
   <name>Sales</name>
   <statistics>
      <callsInQueue>3</callsInQueue>
      <startTimeOfLongestCallInQueue>2012-02-15T17:58:21Z</startTimeOfLongestCallInQueue>
      <agentsReady>1</agentsReady>
      <agentsNotReady>2</agentsNotReady>
      <agentsTalkingInbound>3</agentsTalkingInbound>
      <agentsTalkingOutbound>2</agentsTalkingOutbound>
      <agentsTalkingInternal>1</agentsTalkingInternal>
      <agentsWrapUpNotReady>2</agentsWrapUpNotReady>
      <agentsWrapUpReady>3</agentsWrapUpReady>
   </statistics>
</Queue>
```

Queue APIs

Queue—Get Queue

This API allows a user to get a Queue object. Use this API to access statistics for a queue that is assigned to agents or supervisors.

If you use this API to get a queue that is not assigned to any users, the response contains a value of -1 for numeric statistics and is empty for string statistics.

Note This API is only supported for a stand-alone Finesse deployment with Unified CCE and not applicable for coresident Finesse deployment with Unified CCX.

URI:	http://<FQDN>/finesse/api/Queue/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/Queue/10
Security Constraints:	Any user can use this API to retrieve information about a specific queue. The user does not need to belong to that queue.
HTTP Method:	GET
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 404: Not Found 500: Internal Server Error
Example Response:	<Queue> <uri>/finesse/api/Queue/10</uri> <name>Sales</name> <statistics> <callsInQueue>3</callsInQueue> <startTimeOfLongestCallInQueue>2012-02-15T17:58:21Z</startTimeOfLongestCallInQueue> <agentsReady>1</agentsReady> <agentsNotReady>2</agentsNotReady> <agentsTalkingInbound>3</agentsTalkingInbound> <agentsTalkingOutbound>4</agentsTalkingOutbound> <agentsTalkingInternal>5</agentsTalkingInternal> <agentsWrapUpNotReady>6</agentsWrapUpNotReady> <agentsWrapUpReady>7</agentsWrapUpReady> </statistics> </Queue>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

Platform-Based API Differences

The following statistics fields are updated only for a stand-alone Finesse deployment with Unified CCE:

- callsInQueue
- startTimeOfLongestCallInQueue
- agentsReady
- agentsNotReady
- agentsTalkingInbound
- agentsTalkingOutbound
- agentsTalkingInternal
- agentsWrapUpNotReady
- agentsWrapUpReady

Queue—Get List of Queues for User

This API allows a user to get a list of all queues associated with that user.

Note The list of queues does not include the system-defined queue (skill group) present in Unified CCE to which all agents belong.

Note This API is only supported for a stand-alone Finesse deployment with Unified CCE and not applicable for coresident Finesse deployment with Unified CCX.

URI:	http://<FQDN>/finesse/api/User/<id>/Queues
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Queues
Security Constraints:	All users can use this API to retrieve a list of queues for any user.
HTTP Method:	GET
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 404: User Not Found 500: Internal Server Error

Example Response:	<Queues> <Queue> <uri>/finesse/api/Queue/1234</uri> <name>Sales</name> <statistics> <callsInQueue>3</callsInQueue> <startTimeOfLongestCallInQueue>2012-02-15T17:58:21Z</startTimeOfLongestCallInQueue> <agentsReady>1</agentsReady> <agentsNotReady>2</agentsNotReady> <agentsTalkingInbound>3</agentsTalkingInbound> <agentsTalkingOutbound>4</agentsTalkingOutbound> <agentsTalkingInternal>5</agentsTalkingInternal> <agentsWrapUpNotReady>6</agentsWrapUpNotReady> <agentsWrapUpReady>7</agentsWrapUpReady> </statistics> </Queue> ... more queues ... </Queues>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

Note Precision Queues are not visible for a logged out agent.

Platform-Based API Differences

The following statistics fields are updated only for a stand-alone Finesse deployment with Unified CCE:

- callsInQueue
- startTimeOfLongestCallInQueue
- agentsReady
- agentsNotReady
- agentsTalkingInbound
- agentsTalkingOutbound
- agentsTalkingInternal
- agentsWrapUpNotReady
- agentsWrapUpReady

Queue API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the Queue object.	—	
id	String	A unique identifier for the queue. This identifier is the PeripheralNumber from t_Skill_Group in AWDB.	—	
name	String	The name of the queue.	—	
statistics	Collection	A list of statistics for the queue.	—	
-->callsInQueue	Integer	The number of calls currently queued to this queue.	—	If the queue is not assigned to an agent or supervisor, this value is -1.
-->startTimeOf LongestCallInQueue	String	The start time of the longest call in the queue. The format for this parameter is YYYY-MM-DDThh:MM:ssZ.	—	If the queue is not assigned to an agent or supervisor, this value is -1.
-->agentsReady	Integer	The number of agents assigned to the queue who are in READY state.	—	If the queue is not assigned to an agent or supervisor, this value is -1.
-->agentsNotReady	Integer	The number of agents assigned to the queue who are in NOT_READY state.	—	If the queue is not assigned to an agent or supervisor, this value is -1.
-->agentsTalking Inbound	Integer	The number of agents assigned to the queue who are in TALKING state on inbound calls.	—	If the queue is not assigned to an agent or supervisor, this value is -1.

Parameter	Type	Description	Possible Values	Notes
-->agentsTalkingOutbound	Integer	The number of agents assigned to the queue who are in TALKING state on outbound calls.	—	If the queue is not assigned to an agent or supervisor, this value is -1. Outbound calls include non-routed calls placed to external devices that are not monitored by Unified Communications Manager or to devices in a different Unified Communications Manager cluster. Outbound Dialer calls are not included.
-->agentsTalkingInternal	Integer	The number of agents assigned to the queue who are in Talking state on internal calls. Internal calls are consult calls. When an agent on a routed call initiates an internal consult call, this statistic is incremented for the queue associated with the original call.	—	If the queue is not assigned to an agent or supervisor, this value is -1.
-->agentsWrapUpNotReady	Integer	The number of agents assigned to the queue who are in Work Not Ready state.	—	If the queue is not assigned to an agent or supervisor, this value is -1.
-->agentsWrapUpReady	Integer	The number of agents assigned to the queue who are in Work Ready state.	—	If the queue is not assigned to an agent or supervisor, this value is -1.

Configuring Queue Statistics

The Queue Statistics gadget is enabled by default as part of Cisco Finesse new installation (Unified CCE only). When performing a system upgrade from Cisco Finesse 11.5(1), the desktop custom layout needs to be modified by the administrator for the Queue Statistics gadget to be displayed on the Agent and Supervisor desktop.

Use the following CLI commands to enable and disable the queue statistics polling or check the status of the queue statistics polling:

- **utils finesse queue_statistics enable**
- **utils finesse queue_statistics disable**
- **utils finesse queue_statistics status**

After performing a system upgrade, during switch-version the queue statistics polling will be enabled by default. The procedure to disable the queue statistics polling remains the same.

Note When enabled, Queue Statistics supports a maximum of 1500 users (Agents and Supervisors).

Queue API Errors

Status	Error Type	Description
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session).
404	Not Found	The resource specified is invalid or does not exist.
404	User Not Found	The user ID provided is invalid or is not recongnized. No such user exists in CTI.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

Team

The Team object represents a team and contains the URI, team name, and the users associated with the team.

The Team object does not contain a full User object for each of the team's users, but a summary object that contains the User uri, loginId, firstName, lastName, ReasonCode, and extension parameters. For more information about these parameters, see *User API Parameters*.

The Team object is structured as follows:

```
<Team>
   <uri>/finesse/api/Team/34</uri>
   <id>34</id>
   <name>My Team</name>
   <users>
      <User>
         <uri>/finesse/api/User/1234/</uri>
         <loginId>1234</loginId>
         <firstName>Charles</firstName>
         <lastName>Brown</lastName>
         <dialogs>/finesse/api/User/1234/Dialogs</dialogs>
         <extension>1001001</extension>
         <pendingState></pendingState>
```

```
            <state>LOGOUT</state>
            <stateChangeTime>2012-03-01T17:58:21.345Z</stateChangeTime>
         </User>
         <User>
            <uri>/finesse/api/User/1235/</uri>
            <loginId>1235</loginId>
            <firstName>Jack</firstName>
            <lastName>Brawn</lastName>
            <dialogs>/finesse/api/User/1235/Dialogs</dialogs>
            <extension>1001002</extension>
            <pendingState></pendingState>
            <state>NOT_READY</state>
            <reasonCode>
               <category>NOT_READY</category>
               <code>12</code>
               <label>Lunch Break</label>
               <id>1</id>
               <uri>/finesse/api/ReasonCode/1</uri>
            </reasonCode>
            <stateChangeTime>2012-03-01T18:22:25.123Z</stateChangeTime>
         </User>
         ...Other Users...
      </users>
   </Team>
```

Team APIs

Team—Get Team

This API allows a user to get a copy of the Team object. The Team object contains the configuration information for a specific team, which includes the URI, the team ID, the team name, and a list of agents who are members of that team.

The URI for this API contains the parameter includeLoggedOutAgents. This parameter is optional and can be set to:

- **True** or **Empty**: Includes all the agents of that team in the list (with the logged out agents).
- **False**: Includes only the logged in agents in the list.

URI:	http://<FQDN>/finesse/api/Team/<id>?includeLoggedOutAgents=true
Example URI:	http://finesse1.xyz.com/finesse/api/Team/10?includeLoggedOutAgents=true
Security Constraints:	Supervisors can use this API to get a list of users assigned to their team.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
Request Parameters:	id (required): The ID of the user includeLoggedOutAgents (optional): Returns the list with all the agents in that team

HTTP Response:	200: Success 401: Authorization Failure 404: Not Found 500: Internal Server Error
Example Response for Unified CCE deployment:	<Team> <uri>/finesse/api/Team/34</uri> <id>34</id> <name>My Team</name> <users> <User> <uri>/finesse/api/User/1234/</uri> <loginId>1234</loginId> <firstName>Charles</firstName> <lastName>Brown</lastName> <dialogs>/finesse/api/User/1234/Dialogs</dialogs> <extension>1001001</extension> <pendingState></pendingState> <state>LOGOUT</state> <stateChangeTime>2012-03-01T17:58:21.345Z</stateChangeTime> </User> <User> <uri>/finesse/api/User/1235/</uri> <loginId>1235</loginId> <firstName>Jack</firstName> <lastName>Brawn</lastName> <dialogs>/finesse/api/User/1235/Dialogs</dialogs> <extension>1001002</extension> <pendingState></pendingState> <state>NOT_READY</state> <reasonCode> <category>NOT_READY</category> <code>12</code> <label>Lunch Break</label> <id>1</id> <uri>/finesse/api/ReasonCode/1</uri> </reasonCode> <stateChangeTime>2012-03-01T18:22:25.123Z</stateChangeTime> </User> ...Other Users... </users> </Team>

Example Response for Unified CCX deployment:	<Team> <uri>/finesse/api/Team/34</uri> <id>34</id> <name>My Team</name> <users> <User> <uri>/finesse/api/User/1234/</uri> <loginId>1234</loginId> <firstName>Charles</firstName> <lastName>Brown</lastName> <mediaState>BUSY</mediaState> <dialogs>/finesse/api/User/1234/Dialogs</dialogs> <extension>1001001</extension> <pendingState></pendingState> <state>LOGOUT</state> <stateChangeTime>2012-03-01T17:58:21.345Z</stateChangeTime> </User> <User> <uri>/finesse/api/User/1235/</uri> <loginId>1235</loginId> <firstName>Jack</firstName> <lastName>Brawn</lastName> <dialogs>/finesse/api/User/1235/Dialogs</dialogs> <extension>1001002</extension> <pendingState></pendingState> <state>NOT_READY</state> <reasonCode> <category>NOT_READY</category> <code>12</code> <label>Lunch Break</label> <id>1</id> <uri>/finesse/api/ReasonCode/1</uri> </reasonCode> <stateChangeTime>2012-03-01T18:22:25.123Z</stateChangeTime> </User> ...Other Users... </users> </Team>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

Team API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the Team object.	—	
id	String	The unique identifier for the team.	—	
name	String	The name of the team.	—	

Parameter	Type	Description	Possible Values	Notes
users	Collection	The list of users that belong to this team.	—	
-->User	Collection	Information about one specific user on the team.	—	The Team object contains a subset of the User parameters. These parameters include the uri, loginId, firstName, lastName, dialogs, pendingState, state, stateChangeTime, extension, ReasonCode, and mediaState. For information about these parameters, see *User API Parameters*.

Team API Errors

Status	Error Type	Description
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session).
404	Not Found	The team id is invalid. No such team exists.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

ClientLog

The ClientLog object is a container element that holds client log data to post to the Finesse server. This object supports a POST operation only.

The ClientLog object is structured as follows:

```
<ClientLog>
   <logData>
      ...client logs...
   </logData>
</ClientLog>
```

ClientLog—Post to Finesse

This API allows a user to submit client-side logs to the Finesse server. Finesse creates a log file from the data and stores it on disk.

URI:	http://<FQDN>/finesse/api/User/<id>/ClientLog
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/ClientLog
HTTP Method:	POST
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<ClientLog>`
	`  <logData>`
	`  xxxxxxxxxxxxxxx\n`
	`  xxxxxxxxxxxxxxx\n`
	`  </logData>`
	`</ClientLog>`

Request Parameters:	id (required): The ID of the user logData (required): The log data that the client sends to the server
HTTP Response:	202: Successfully Accepted **Note** This response only indicates a successful completion of the request. The request is processed and the actual response is sent as part of a CLIENT_LOG_EVENT that contains empty data elements and a matching requestId. 400: Parameter Missing 400: Invalid Input 400: Operation Failure 401: Authorization Failure 401: Invalid Authorization User Specified 405: Method Not Available

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>User Not Found</ErrorType>`
	`  <ErrorMessage>UNKNOWN_USER</ErrorMessage>`
	`  <ErrorData>4023</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

ClientLog API Parameters

Parameter	Type	Description	Possible Values	Notes
id	String	The ID of the user. The ClientLog API uses the id in the name of the log file created on the Finesse server.	—	Maximum of 12 characters. The user must be configured in Unified CCE or Unified CCX.
logData	String	The log data that the client sends to the Finesse server to be stored as a log file.	—	Must not exceed 1,048,576 characters. The user must be authorized to perform the POST operation.

ClientLog API Errors

Status	Error Type	Description
400	Parameter Missing	The logData parameter is not present.
400	Invalid Input	The size of the logData exceeds 1,048,576 characters.
400	Operation Failure	The POST client log operation failed.
401	Authorization Failure	The user is not yet authenticated in the Web Session.
401	Invalid Authorization User Specified	The authenticated user tried to make a request for another user.
405	Method Not Allowed	GET or PUT HTTP method not allowed for client-side log collection.

Task Routing APIs

Task Routing APIs provide a standard way to request, queue, route, and handle third-party multichannel tasks in CCE.

Contact Center customers or partners can develop applications using SocialMiner and Finesse APIs in order to use Task Routing. The SocialMiner Task API enables applications to submit nonvoice task requests to CCE. The Finesse APIs enable agents to sign into different types of media and handle the tasks. Agents sign into and manage their state in each media independently.

Cisco partners can use the sample code available on Cisco DevNet as a guide for building these applications (https://developer.cisco.com/site/task-routing/).

For Finesse, the APIs used for Task Routing include the Media APIs and some of the Dialog and User APIs.

Note This API is only supported for a stand-alone Finesse deployment with Unified CCE and not applicable for coresident Finesse deployment with Unified CCX.

Related Topics

Failure Handling for Task Routing Clients, on page 320

Media

The Media object represents a user's state in a Media Routing Domain (MRD). The Media object is structured as follows:

```
<Media>
    <uri>/finesse/api/User/1001004/Media/5000</uri>
    <description>Chat MRD</description>
    <dialogLogoutAction>CLOSE</dialogLogoutAction>
    <id>5000</id>
    <interruptible>true</interruptible>
    <maxDialogLimit>10</maxDialogLimit>
    <name>Cisco_Chat_MRD</name>
    <ReasonCode>
        <category>NOT_READY</category>
        <code>10</code>
        <forAll>true</forAll/>
        <id>16</id>
        <label>Team Meeting</label>
        <uri>/finesse/api/ReasonCode/16</uri>
    </ReasonCode>
    <reasonCodeId>16</reasonCodeId>
    <routable>true</routable>
    <state>NOT_READY</state>
    <stateChangeTime>2015-09-11T06:55:14.782Z</stateChangeTime>
</Media>
```

Media APIs

Media - Sign in

The Media—Sign in API allows a user to sign in to an individual non-voice Media Routing Domain (MRD) on CCE. If the response is successful, the user is signed in to Finesse and is automatically placed in NOT_READY state and made routable for that MRD. *Routable* means that CCE is allowed to assign an agent tasks in the MRD.

If five consecutive sign-ins fail due to an incorrect password, Finesse blocks access to the user account for a period of 5 minutes.

If a user is already signed in and attempts to sign in again, the user receives an error.

Some parameters used in this API are only known to the Finesse side on which the user signed in. If the user switches sides, the user must sign in again to have this functionality work correctly.

Important Finesse does not support a user staying signed in to both Finesse servers at the same time, through either the REST API or xmpp subscriptions.

The user xmpp presence determines which side a user is signed into, in order to perform actions on the user's behalf. These actions include transferring nonvoice dialogs automatically and either accepting or ignoring interrupts. Finesse transfers nonvoice dialogs automatically if an agent does not accept a dialog within the StartTimeout threshold for the MRD, and if the agent is set to transfer dialogs on sign out in the MRD.

URI:	http://<FQDN>/finesse/api/User/<id>/Media/<mrdId>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Media/5001
Security Constraints:	Users can only act on their own Media objects.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Media>`
	`  <maxDialogLimit>10</maxDialogLimit>`
	`  <state>LOGIN</state>`
	`  <interruptAction>ACCEPT</interruptAction>`
	`  <dialogLogoutAction>CLOSE</dialogLogoutAction>`
	`</Media>`

Request Parameters:	id (required): The ID of the user mrdId (required): The ID of the MRD maxDialogLimit (required): The maximum number of concurrent dialogs this user is allowed to handle in the MRD. Each dialog represents a task. state (required): The new state that the user wants to be in (LOGIN) interruptAction (required): Defines the behavior when an agent is handling a task in an interruptible MRD and is interrupted by a task or call from a non-interruptible MRD. Finesse can ACCEPT the interrupt; the agent is put into INTERRUPTED state and cannot work on dialogs in the interrupted MRD. Finesse can IGNORE the interrupt; the agent's state does not change and the agent can continue to work on the dialogs in the MRD. dialogLogoutAction(optional): Determines whether to TRANSFER or CLOSE active tasks when an agent logs out of the MRD. If not specified, this parameter is set to CLOSE.
Header Parameters:	requestId: A user provided unique string used to correlate originating request with the resulting HTTP response. This parameter is not part of the resulting event/events.

HTTP Response:	202: Successfully Accepted **Note** The requestId is included in the response header if provided. This response only indicates successful completion of the request. The request is processed and the actual response is sent as part of a media notification. 400: Bad Request (for example, malformed or incomplete request) 400: Parameter Missing 401: Unauthorized (for example, the user is not authenticated in the Web Session) 404: Not Found (for example, the user ID or mrdId is not known) 503: Service Unavailable (for example, the Notification Service is not running)
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>1</ErrorData> <ErrorMedia>5001</ErrorMedia> <ErrorMessage>E_ARM_STAT_AGENT_ALREADY_LOGGED_IN</ErrorMessage> <ErrorType>Agent already logged into MRD</ErrorType> </ApiError> </ApiErrors>
Notifications Triggered:	Media notification

Asynchronous Errors

If an error occurs after the initial validation is complete, an error notification is sent over XMPP to the Media notification. The ErrorMedia parameter in the ApiError information indicates the Media Routing Domain to which the error applies.

Related Topics

Media and Dialogs/Media Asynchronous Error Notification, on page 307

Media—Change State or Sign Out

This API allows a user to change state in or sign out of an individual nonvoice Media Routing Domain.

See Agent States for Nonvoice Media, on page 156 for information about the agent states you can set with this API.

Users can sign out with active tasks. The user's tasks are either automatically transferred or closed, depending on the way the MRD was configured when the user signed in through the Media - Sign In API. To transfer tasks, Finesse resubmits the tasks into the system as new tasks.

URI:	http://<FQDN>/finesse/api/User/<id>/Media/<mrdId>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Media/5001
Security Constraints:	Agents and supervisors can use this API. Users can only act on their own Media objects.

HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Media>`
	`  <state>LOGOUT</state>`
	`</Media>`

Request Parameters:	id (required): The ID of the user mrdId (required): The ID of the MRD state (required): The new state that the user wants to be in (READY, NOT_READY, LOGIN, or LOGOUT)
Header Parameters:	requestId: A user provided unique string used to correlate originating request with the resulting HTTP response or asynchronous error. This parameter is not part of the resulting event/events.
HTTP Response:	202: Successfully Accepted **Note** The requestId is included in the response header if provided. This response only indicates successful completion of the request. The request is processed and the actual response is sent as part of a media notification. 400: Bad Request (for example, malformed or incomplete request) 401: Unauthorized (for example, the user is not authenticated in the Web Session) 404: Not Found (for example, the user ID or mrdId is not known) 503: Service Unavailable (for example, the Notification Service is not running)

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorData>6</ErrorData>`
	`  <ErrorMedia>5001</ErrorMedia>`
	`  <ErrorMessage>E_ARM_STAT_AGENT_NOT_LOGGED_IN</ErrorMessage>`
	`  <ErrorType>Agent is not logged in</ErrorType>`
	`  </ApiError>`
	`</ApiErrors>`

Notifications Triggered:	Media notification **Note** The system ignores requests to change agent state from READY to READY; these requests do not trigger a notification.

Asynchronous Errors

If an error occurs after the initial validation is complete, an error notification is sent over XMPP to the Media notification. The requestId is included in the response XML. The ErrorMedia parameter in the ApiError information indicates the Media Routing Domain to which the error applies.

Related Topics

Media and Dialogs/Media Asynchronous Error Notification, on page 307
Agent States for Nonvoice Media, on page 156

Media—Change Agent State with Reason Code

This API allows a user to change the agent state in an individual non-voice Media Routing Domain, and pass along the code value of a corresponding reason code. Users can use this API only when changing state to NOT_READY or LOGOUT.

URI:	http://<FQDN>/finesse/api/User/<id>/Media/<mrdId>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Media/5001
Security Constraints:	Agents and supervisors can use this API. Users can only act on their own Media objects.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Media>`
	`  <state>NOT_READY</state>`
	`  <reasonCodeId>1001</reaasonCodeId>`
	`</Media>`

Request Parameters:	id (required): The ID of the user mrdId (required): The ID of the Media Routing Domain reasonCodeId (required if reason codes are configured for the given state): The database ID for the reason code state (required): The new state that the user wants to be in (NOT_READY or LOGOUT)
Header Parameters:	requestId: A user provided unique string used to correlate originating request with the resulting HTTP response or asynchronous error. This parameter is not part of the resulting event/events.

HTTP Response:	202: Successfully Accepted **Note** The requestId is included in the response header if provided. This response only indicates successful completion of the request. The request is processed and the actual response is sent as part of a media notification. 400: Bad Request (for example, malformed or incomplete request) 400: Parameter Missing 401: Unauthorized (for example, the user is not authenticated in the Web Session) 404: Not Found (for example, the user ID or mrdId is not known) 503: Service Unavailable (for example, the Notification Service is not running)
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>1</ErrorData> <ErrorMedia>5001</ErrorMedia> <ErrorMessage>E_ARM_STAT_AGENT_ALREADY_LOGGED_IN</ErrorMessage> <ErrorType>Agent already logged into MRD</ErrorType> </ApiError> </ApiErrors>
Notifications Triggered:	Media notification

Asynchronous Errors

If an error occurs after the initial validation is complete, an error notification is sent over XMPP to the Media notification. The requestId is included in the response XML. The ErrorMedia parameter in the ApiError information indicates the Media Routing Domain to which the error applies.

Related Topics

Media and Dialogs/Media Asynchronous Error Notification, on page 307
Agent States for Nonvoice Media, on page 156

Media—Change Agent to Routable/Not Routable

The Media—Change Agent to Routable/Not Routable API allows a user to set an agent's routable mode in a Media Routing Domain. Routable mode determines whether CCE can route tasks to an agent in a Media Routing Domain.

When the routable parameter is set to true, the agent is **routable**. CCE can assign task to the agent in that MRD.

When the routable parameter is set to false, the agent is **not routable**. CCE cannot assign tasks to the agent in that MRD.

Make the agent not routable to stop sending tasks to the agent without changing the agent's state to NOT_READY. If an agent changes to NOT_READY state while still working on tasks, those tasks appear ended in CCE reports; time spent working on the tasks after going Not Ready is not counted. You may want to make the agent not routable near the end of the agent's shift, to allow the agent to finish final tasks without being assigned more tasks and to report accurately on those final tasks.

In a RONA situation, in which a task is resubmitted because an agent does not accept a task within the MRD's Start Timeout threshold, Finesse automatically makes the agent not routable.

If a user sets the agent's mode to not routable when an agent has pending incoming tasks or has not started an accepted task, the agent's mode does not change until the agent has started these tasks.

The agent's mode is set to routable automatically when the agent signs in, and when the agent changes to READY state.

URI:	http://<FQDN>/finesse/api/User/<id>/Media/<mrdId>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Media/5001
Security Constraints:	Users can only act on their own Media objects.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Media>`
	`  <routable>true</routable>`
	`</Media>`

Request Parameters:	id (required): The ID of the user mrdId (required): The ID of the MRD routable(required): Indicates whether CCE can route tasks to the user in the MRD.
Header Parameters:	requestId: A user provided unique string used to correlate originating request with the resulting HTTP response or asynchronous error. This parameter is not part of the resulting event/events.
HTTP Response:	202: Successfully Accepted **Note** The requestId is included in the response header if provided. This response only indicates successful completion of the request. The request is processed and the actual response is sent as part of a media notification. 400: Bad Request (for example, invalid input for parameters) 400: Parameter Missing 401: Unauthorized (for example, the user is not authenticated in the Web Session) 404: Not Found (for example, the user ID or mrdId is not known) 500: Internal Server Error

Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>1</ErrorData> <ErrorMedia>5001</ErrorMedia> <ErrorMessage>E_ARM_STAT_ALREADY_IN_REQUESTED_AGENT_MODE</ErrorMessage> <ErrorType>Agent already in requested mode</ErrorType> </ApiError> </ApiErrors>
Notifications Triggered:	Media notification

Asynchronous Errors

If an error occurs after the initial validation is complete, an error notification is sent over XMPP to the Media notification. The requestId is included in the response XML. The ErrorMedia parameter in the ApiError information indicates the Media Routing Domain to which the error applies.

Media—Get Media

This API allows a user to get a copy of a Media object for a specified agent. This API can be used to return only nonvoice Media objects.

URI:	http://<FQDN>/finesse/api/User/<id>/Media/<mrdId>
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Media/5001
Security Constraints:	Users can only act on their own Media objects.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
Request Parameters:	id (required): The ID of the user mrdId (required): The ID of the Media Routing Domain
HTTP Response:	200: Success 400: Bad Request (for example, malformed or incomplete request) 400: Parameter Missing 401: Unauthorized (for example, the user is not authenticated in the Web Session) 404: Not Found (for example, the user ID or mrdId is not known)

Example HTTP Response	**Response if the agent is assigned to skill groups in the Media Routing Domain:** <Media> <uri>/finesse/api/User/1001004/Media/5000</uri> <description>Chat MRD</description> <dialogLogoutAction>CLOSE</dialogLogoutAction> <id>5000</id> <interruptible>false</interruptible> <maxDialogLimit>10</maxDialogLimit> <name>Cisco_Chat_MRD</name> <ReasonCode> <category>NOT_READY</category> <code>10</code> <forAll>true</forAll/> <id>16</id> <label>Team Meeting</label> <uri>/finesse/api/ReasonCode/16</uri> </ReasonCode> <reasonCodeId>16</reasonCodeId> <routable>true</routable> <state>NOT_READY</state> <stateChangeTime>2015-09-11T06:55:14.782Z</stateChangeTime> <interruptAction>IGNORE</interruptAction> </Media> **Response if the agent is not assigned to skill groups in the Media Routing Domain:** <Media> <uri>/finesse/api/User/1001004/Media/5002</uri> <description>Chat MRD</description> <id>5002</id> <interruptible>false</interruptible> <name>Cisco_Chat_MRD2</name> </Media>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>1002001</ErrorData> <ErrorMessage>The user specified in the authentication credentials and the uri don't match</ErrorMessage> <ErrorType>Invalid Authorization User Specified</ErrorType> </ApiError> </ApiErrors>

Media—Get List

This API allows a user to get a list of Media objects for all nonvoice Media Routing Domains (MRDs) configured on Unified CCE.

If the agent belongs to a skill group in the MRD, the media object includes the agent's state information for that MRD.

URI:	http://<FQDN>/finesse/api/User/<id>/Media
Example URI:	http://finesse1.xyz.com/finesse/api/User/1234/Media
Security Constraints:	Users can only act on their own Media objects.
HTTP Method:	GET
Content Type:	—

Input/Output Format:	XML
HTTP Request:	—
Request Parameters:	id (required): The ID of the user
HTTP Response:	200: Success 400: Bad Request (for example, malformed or incomplete request) 400: Parameter Missing 401: Unauthorized (for example, the user is not authenticated in the Web Session) 404: Not Found (for example, the user ID is not known)
Example HTTP Response	<MediaList> <Media> ...Full Media Object ... </Media> <Media> ...Full Media Object ... </Media> </MediaList>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>1002001</ErrorData> <ErrorMessage>The user specified in the authentication credentials and the uri don't match</ErrorMessage> <ErrorType>Invalid Authorization User Specified</ErrorType> </ApiError> </ApiErrors>

Agent States for Nonvoice Media

Users can set the following states with the Media APIs:

- LOGIN
- READY
- NOT_READY
- LOGOUT

Users enter the following states automatically while on a task. Users cannot place themselves in these states. For example, agents enter ACTIVE state when they accept a task.

- RESERVED
- ACTIVE
- PAUSED
- INTERRUPTED
- WORK_READY

The agent enters WORK_NOT_READY state automatically if the Finesse server on which the agent is signed in disconnects. When agent signs in again or Finesse side reconnects to CCE, the agent is moved out of the WORK_NOT_READY state. This state cannot be set from the agent desktop.

If an agent is configured to work on a maximum of one task in an MRD, the agent's state in the MRD reflects the agent's activity on that task. However, an agent can be configured to work on several tasks at once in an MRD. The following state hierarchy determines the agent's state in that MRD:

1. LOGIN/LOGOUT
2. READY/NOT_READY
3. INTERRUPTED
4. ACTIVE
5. WORK_READY
6. PAUSED
7. RESERVED

Consider this state hierarchy example. An agent is handling three tasks in an interruptible MRD:

- Task 1 = PAUSED
- Task 2 = WORK_READY
- Task 3 = ACTIVE

Based on the state hierarchy, the agent's overall state in the MRD is ACTIVE. If a task from another MRD then interrupts this MRD, the agent's state in this MRD changes to INTERRUPTED.

The table describes the agent states for nonvoice MRDs.

State	State Information	Allowed Actions
LOGIN	The agent's state immediately after signing in. No tasks are assigned to an agent while in this state. The LOGIN state is a transitive state; LOGIN triggers a change that results in a new state (NOT_READY).	None; the user transitions to NOT_READY automatically
NOT_READY	The agent won't be assigned tasks. The agent enters NOT_READY state automatically after signing in. For accurate task durations in reports, do not change agents to NOT_READY state while they have active tasks. Instead, make the agent not routable to stop assigning tasks to the agent. An agent cannot change to NOT_READY state if the agent has a pending incoming task. The agent has a pending task if Finesse has an offered dialog for that agent.	• READY • LOGOUT

State	State Information	Allowed Actions
READY	The agent will be assigned tasks. The agent currently doesn't have any tasks. The agent is automatically made routable when the agent enters READY state. When an agent completes all tasks in the MRD, the agent's state returns to the READY.	• NOT_READY • LOGOUT
INTERRUPTED	The agent has been interrupted in this MRD by a task from another MRD. An agent can be interrupted from ACTIVE, WORK_READY, PAUSED, and RESERVED states. The agent cannot perform dialog actions while INTERRUPTED. This state is only applicable for interruptible MRDs in which the agent was configured to accept interrupts when signing into the MRD.	• NOT_READY • LOGOUT
ACTIVE	The agent has accepted at least one offered task. The agent can also have one or more of the following: • Paused tasks • Offered tasks • Tasks for which the agent is performing wrap-up work	• NOT_READY • LOGOUT
WORK_READY	The agent is performing wrap-up work for all tasks, or is performing wrap-up work for at least one task and has one or more paused tasks.	• NOT_READY • LOGOUT
PAUSED	The agent has paused all tasks.	• NOT_READY • LOGOUT
RESERVED	The agent has been assigned one or more tasks by CCE, but has not accepted the tasks. The agent does not have active or paused tasks, and is not performing wrap-up work for any tasks.	• NOT_READY • LOGOUT
LOGOUT	The agent signed out of the MRD. If the agent signs out with active tasks, Finesse either closes or transfers the tasks depending on how the dialogLogoutAction parameter was set for the MRD when the agent signed in.	LOGIN

State	State Information	Allowed Actions
WORK_NOT_READY	The Finesse server on which the agent is signed in disconnected. When an agent fails over to the secondary Finesse server, the agent must sign in to the media again. The agent's state after signing in is determined based on the state of the agent's assigned tasks. If the agent doesn't have tasks, the agent is put in NOT_READY state.	None

Media API Parameters

Note For parameters specified when a user signs in, including maxDialogLimit, interruptAction, and dialogLogoutAction, the setting for the parameter is correct only when the user is signed in.

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the Media object.	—	
description	String	A description of the Media Routing Domain (MRD)	—	Any special XML characters in the description are escaped. For example, "<" is replaced with "<".
id	String	The ID of the MRD.	—	The size is determined by CCE.
interruptible	Boolean	Whether a task in this MRD can be interrupted by a task from another MRD.	true, false	
maxDialogLimit	Integer	The maximum number of concurrent dialogs this user is allowed to handle in this MRD. Each dialog represents a task.	1 through 10	The maximum value for this parameter is 10.
name	String	The name of the MRD.	—	

Parameter	Type	Description	Possible Values	Notes
requestId	String	The earlier sentence was A user provided unique string used to correlate originating request with the resulting HTTP response or asynchronous error. This parameter is not part of the resulting event/events.	—	
ReasonCode	Collection	Information about the reason code currently associated with this user.	—	
-->category	String	The category of the reason code.	NOT_READY	
-->code	Integer	CTI code associated with this reason code.	—	
-->forAll	Boolean	Whether the reason code is global (true) or non-global (false).	true, false	
-->id	Integer	The ID of the reason code.	—	
-->label	String	The label associated with this reason code.	—	
-->uri	String	The full URI for the reason code.	—	

Parameter	Type	Description	Possible Values	Notes
reasonCodeId	Integer	The database ID for the reason code that indicates why the user is in the current state in this MRD.	If the user has not selected the reason code, this parameter is empty. Otherwise, the value of this parameter is the database ID for the selected reason code.	The value of the reasonCodeId may be -1 in the following cases: • The agent logged out. • No reason codes are configured for the category. • The agent has just signed in (transitioned from LOGIN to NOT_READY) • A failover occurred. The agent is in NOT_READY state but Finesse could not recover the reasonCode used before failover.
routable	Boolean	Indicates whether CCE can route the tasks to the user in this MRD. When the agent is routable (true), CCE can route tasks to the user. When the agent is not routable (false), CCE cannot route tasks to the agent.	true, false	
state	String	The state for this user in this MRD.	LOGIN, NOT_READY, READY, LOGOUT, RESERVED, ACTIVE, PAUSED, WORK_READY, INTERRUPTED, WORK_NOT_READY	

Parameter	Type	Description	Possible Values	Notes
stateChangeTime	String	The time at which the state of the user changed to the current state in this MRD. The format for this parameter is YYYY-MM-DDThh:MM:ss.SSSZ.	—	This parameter is empty if the time of the state change is not available (if no agent state change notification was received yet).
interruptAction	String	This parameter only applies to interruptible MRDs. It is ignored for noninterruptible MRDs. An agent setting that defines the behavior when an agent is handling a task in an interruptible MRD and is interrupted by a task or call from a non-interruptible MRD. ACCEPT: The MRD accepts the interrupt event. The agent state is INTERRUPTED in the interruptible MRD and the agent cannot perform any actions on dialogs in that MRD. IGNORE: The MRD does not accept the interrupt event. The agent state does not change in the interruptible MRD and the agent can continue to perform actions on dialogs in that MRD.	ACCEPT, IGNORE	This parameter reflects the configured setting only if you are performing a GET on the Finesse server that the user is signed in to.
dialogLogoutAction	String	An agent setting that determines whether active tasks are closed or transferred when an agent logs out of an MRD. CLOSE (default): Active tasks are closed when an agent logs out. Finesse sends SocialMiner the task handled events. CCE determines the correct disposition codes for the closed task. TRANSFER: Active tasks are transferred using SocialMiner when an agent logs out. Finesse puts the dialogs in the CLOSED state with the CD_TASK_TRANSFERRED_AGENT_LOGOUT disposition code.	CLOSE, TRANSFER	This parameter reflects the configured setting only if you are performing a GET on the Finesse server that the user is signed in to.

Media API Errors

For synchronous errors, the Media APIs include the requestId in the error response.

Status	Error Type	Description
400	Bad Request	The request is malformed or incomplete.
400	Generic Error	An unaccounted for error occurred. The root cause could not be determined.
400	Invalid Input	One of the parameters provided as part of the user input is invalid or not recognized.
400	Parameter Missing	The state or requestedAction is not provided.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (for example, an agent tries to use an API that only a supervisor or administrator is authorized to use).
401	Invalid Authorization User Specified	The authenticated user tried to make a request for another user.
401	Invalid Supervisor	A supervisor tried to change the state of an agent who does not belong to that supervisor's team.
404	Not Found	The resource specified is invalid or does not exist.
503	Service Unavailable	A dependent service is down (for example, the Cisco Finesse Notification Service or Cisco Finesse Database). Finesse is OUT_OF_SERVICE.

Dialog APIs for Nonvoice Tasks

Supported Functionality for Voice and Nonvoice Dialogs

The following are the major differences between supported functionality for voice and nonvoice dialogs:

- Users cannot initiate nonvoice dialogs; nonvoice dialogs are always incoming.
- Nonvoice dialogs can be blind transferred only. Direct transfer is not supported.
- Nonvoice dialogs support only one agent participant. Consult and conference are not supported.

Dialog Object and Parameters for Nonvoice Tasks

The same Dialog object is used for voice calls and nonvoice tasks. The Dialog object includes mediaId and mediaType parameters that indicate the Media Routing Domain with which the dialog is associated.

Some of the Dialog parameters used for voice calls, such as callType and mediaAddressType, are not applicable for nonvoice tasks; these parameters are not returned.

The dialog id format is different for voice calls and nonvoice tasks. The nonvoice dialog id contains underscores (for example, 151635_312_1). Voice dialog ids do not contain underscores (for example, 16804377).

The Dialog section of the Finesse Desktop APIs chapter describes the differences in the Dialog object for voice calls and nonvoice tasks. It also explains the parameters and parameter values used for nonvoice tasks.

Dialog APIs for Nonvoice Tasks

Most Dialog APIs are restricted to voice media.

You can use **Dialog - Take Action on Participant API** to handle nonvoice dialogs. This API supports the following allowable actions for nonvoice tasks.

Action	Description
ACCEPT	Allows an agent to accept an incoming task.
START	Allows an agent to start work on an accepted task.
PAUSE	Allows an agent to pause an active task.
RESUME	Allows an agent to resume a paused task.
TRANSFER	Allows an agent to transfer an accepted, active, or paused task to another Script Selector/dialed number.
WRAP_UP	Allows an agent to perform wrap up work for a task.
CLOSE	Allows an agent to end a task.

Important For nonvoice tasks, dialog actions result only in Finesse reporting the state to CCE. The application is responsible for enforcing that state within the application. For example, if a user pauses an email dialog using the Dialog - Take Action on Participant API, the dialog state PAUSED is reported to CCE. However, if the application still displays the user interface to work on the email, the agent can continue to work on the email. The application must enforce the PAUSED state by preventing agent from working on the email in the user interface.

Notifications

Finesse sends a Dialogs/Media notification when information (or an action) changes for a nonvoice task to which the user belongs.

If a nonvoice dialog operation results in an asynchronous error, the error is returned in a Dialogs/Media notification. The notification includes the error type, error code, and error constant. The ErrorMedia parameter indicates the Media RoutingDomain to which the error applies.

Important For an interruptible Media Routing Domain configured to accept interrupts, Finesse sends only a Media state change when an agent is interrupted in that MRD. It does not send Dialogs/Media notifications with the action list modified to reflect the fact that actions not permitted on the tasks in that media. The state change is the only indication to the Finesse applications that no actions are allowed on the interrupted dialogs.

Interactions with SocialMiner

Finesse connects to SocialMiner in order to resubmit tasks into the system for these reasons:

- The agent transfers a task.
- A task RONAs while waiting to be accepted by an agent. Finesse automatically resubmits the task to SocialMiner.
- An agent signs out with tasks. The agent was configured to transfer tasks on logout. Finesse automatically resubmits the task to SocialMiner.

The original dialog is closed with an appropriate disposition code, and the task is resubmitted as a new task request.

For automatic task resubmissions due to RONA and agent logout, the Finesse server on which the agent was last signed in initiates the request.

Related Topics

Dialog
Dialog—Take Action on Participant, on page 75
Dialog API Parameters
Disposition Code Parameter Values for Nonvoice Tasks, on page 130
Dialogs/Media Notification
Media and Dialogs/Media Asynchronous Error Notification, on page 307

User APIs for Nonvoice Tasks

Most User APIs are restricted to voice media. Several of them, described here, can be used with nonvoice media.

User- Get List of Dialogs APIs

You can use User - Get List of Dialogs (Nonvoice Only) to get a list of only nonvoice dialogs for a user.

To get a list of both voice and nonvoice dialogs for a user, use the User - Get List of Dialogs (Voice Only by Default) API.

User - Sign Out and User - Change State with Reason Code APIs

You can sign a user out of all Media Routing Domains when the user signs out of the desktop, using either the User - Sign Out API or the User - Change State with Reason Code API.

The desktop sign out fails only if the voice MRD sign out fails; it is not impacted by nonvoice MRD sign out failure.

Related Topics

User—Get List of Dialogs (Nonvoice Only), on page 32
User—Get List of Dialogs (Voice Only by Default), on page 31
User—Sign Out of Finesse, on page 26
User—Change Agent State With Reason Code, on page 43
Media Notification, on page 306
Media and Dialogs/Media Asynchronous Error Notification, on page 307

Single Sign-On

The Single Sign-On (SSO) APIs are used in the Finesse desktop for token related operations and are ready to use in an out of the box Finesse deployment. Third-party desktop applications have to use these APIs independently for SSO token related operations.

For more information about SSO Solution overview, see https://developer.cisco.com/docs/contact-center-express/#cisco-identity-service-client-sdk-overview.

For more information about the third-party integrations, see https://developer.cisco.com/docs/contact-center-express/#cisco-identity-service-client-sdk-guide/overview.

Single Sign-On APIs

Single Sign-On—Test API

This SSO Test API is used to test the SSO authentication and authorization setup with Finesse.

URI:	http(s)://<FQDN>/desktop/sso/test
Example URI:	http(s)://finesse1.xyz.com/desktop/sso/test
Security Constraints:	Agents and supervisors can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	HTML
HTTP Request:	—
Request Parameters:	—
HTTP Response:	200: Success 400: Bad Request 401: Unauthorized 500: Internal Server Error

Example Response	Response body returned after the SSO test contains an HTML displaying information about the user and token. This HTML also contains a JavaScript that sends the SSO test status, via window postMessage API, to the parent or opener window.
	To get the status of SSO test on an older versions of Internet Explorer or any third-party non-browser clients that do not have this API, use the cookie set as part of HTTP response.
	`COOKIES set as part of response:`
	`ssotest=true`
	`Post message to parent window with below object:`
	`{`
	`status: "true",`
	`errorMessage: ""`
	`}`

Example Failure Response:	`COOKIES set as part of response:`
	`ssotest=false`
	`Post message to parent window with below object:`
	`{`
	`status: "false",`
	`errorMessage: "AUTH_ERROR"/"NO TOKEN"`
	`}`

Single Sign-On—Fetch Access Token

This API gets the access token from the Finesse server.

Note Invoking this API might involve browser redirect to Cisco Identity Server and Cisco Identity Provider.

URI:	http(s)://<FQDN>/desktop/sso/token
Example URI:	http(s)://finesse1.xyz.com/desktop/sso/token
Security Constraints:	Agents and supervisors can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	JSON
HTTP Request:	—
Request Parameters:	(Optional) return_user=yes
HTTP Response:	200: Success 400: Bad Request 401: Unauthorized 500: Internal Server Error

Example Response:	Response without parameter: {"token":"eyJhbGciOiJkaXIiLCJjdHkiOiJKV1QiLCJlbm MiOiJBMTI4Q0JDLUhTMjU2In0..lDXjaqAsM89uhdc Qt364LA.qXBMK_y58Hkz19k-B8ealJ9LOalB0yNnm9 vOvKExf8slCpXAPPlJLnNXGD9_-YTGdjs7lPtEcdI— hSuDmwxxOhdGZc7ekbAadJ6EItZhOGykCYk_CBF mEHKU8-pHV3bdbsUGrCTponA8BMw04-S-N5iuI3v u8fuihcNAeRY_9tjl5jvlhHEnD6zrYLDFH8KcO-V2f9 bcFdxHn3BrZk9tMasrsAJNhm8Uo_kg06PXq9omrTb UEKm3f1_lMb3bwqZGXfOO6WLOngsADRTuHren_C Tp5gR8r94LpsbXV7gRaEqsCu9kWo3pfxQsu88LNPR W6RPcjozupw0A4-jrHBOf_X2XaDquanEbBkZIt9VIJh jr6p8bTO5zlH9Z_x7vdMIfEt2pcjqcXKP3NiHlXOaB-tni PX_zN8ckGqIKR7L4wBxYmXUj82cnjBNMkcUsbvP9W Mb7ihJw0wazl1Tq6WnhtTGeOf0cnorjPm8DOZrcAAjJc SDCpudfj5CgE-OwikeSdWURgYTg_k6Kcct71I3olVLT c6nFRGcYvclvjCfTc1_ooBQ6ZKI_thq0Apnof235l6drDxG sDMPiyop69hWCuMoRRK-KKAXr8xK3fiqKjSse-KMLMG rMLZkUsr2Y_Q0YwiEIJk1FJ4n5Qgn-ismhKi-A_Vg3ZicG J-YyIcYgcslJGDeqSB10Y0uThqOuMA9eGEHKSlZGLcZ BfX5MGv23dEOOxN9_wLkqazF75m5H_23ycLyN0v9d8u F7_fe7IWB97cI9nDAhaNBdHBR3XYU5GPSbRRS7GknD oWZM_8eTgzc-gFTfYfAJveg_pPr1sSKvWnabqLXUuLDm vcVbgA-5UI2Y4HEGKzW85fNOHE9WPpo3cQdxFdRQyH fvFCBdTAOiFcIz_uP2nCDB_8oPT7qycm6b58BRJ5EzaTc WapskB73w8no1YJadliQ20OYHrDKSs_LJYDeB2iBROS UoVocYlW6GwTv0Ko7NsLv3OtGc_I.Fre8fhy_Y4u11tIfNo6 fIA","expires_in":300}
	Response with parameter: {"token":"eyJhbGciOiJkaXIiLCJjdHkiOiJKV1QiLCJlbm MiOiJBMTI4Q0JDLUhTMjU2In0..lDXjaqAsM89uhdcQ t364LA.qXBMK_y58Hkz19k-B8ealJ9LOalB0yNnm9v OvKExf8slCpXAPPlJLnNXGD9_-YTGdjs7lPtEcdI— hSuDmwxxOhdGZc7ekbAadJ6EItZhOGykCYk_CBFm EHKU8-pHV3bdbsUGrCTponA8BMw04-S-N5iuI3vu8 fuihcNAeRY_9tjl5jvlhHEnD6zrYLDFH8KcO-V2f9bc FdxHn3BrZk9tMasrsAJNhm8Uo_kg06PXq9omrTbUE Km3f1_lMb3bwqZGXfOO6WLOngsADRTuHren_CTp 5gR8r94LpsbXV7gRaEqsCu9kWo3pfxQsu88LNPR W6RPcjozupw0A4-jrHBOf_X2XaDquanEbBkZIt9V IJhjr6p8bTO5zlH9Z_x7vdMIfEt2pcjqcXKP3NiHlXOaB- tniPX_zN8ckGqIKR7L4wBxYmXUj82cnjBNMkcUsbvP 9WMb7ihJw0wazl1Tq6WnhtTGeOf0cnorjPm8DOZrcA AjJcSDCpudfj5CgE-OwikeSdWURgYTg_k6Kcct71I3ol VLTc6nFRGcYvclvjCfTc1_ooBQ6ZKI_thq0Apnof235l6 drDxGsDMPiyop69hWCuMoRRK-KKAXr8xK3fiqKjSse- KMLMGrMLZkUsr2Y_Q0YwiEIJk1FJ4n5Qgn-ismhKi-A _Vg3ZicGJ-YyIcYgcslJGDeqSB10Y0uThqOuMA9e GEHKSlZGLcZBfX5MGv23dEOOxN9_wLkqazF75m5H _23ycLyN0v9d8uF7_fe7IWB97cI9nDAhaNBdHBR3XYU 5GPSbRRS7GknDoWZM_8eTgzc-gFTfYfAJveg_pPr1s SKvWnabqLXUuLDmvcVbgA-5UI2Y4HEGKzW85fNO HE9WPpo3cQdxFdRQyHfvFCBdTAOiFcIz_uP2nCDB_8 oPT7qycm6b58BRJ5EzaTcWapskB73w8no1YJadliQ20O YHrDKSs_LJYDeB2iBROSUoVocYlW6GwTv0Ko7NsLv3 OtGc_I.Fre8fhy_Y4u11tIfNo6fIA", "expires_in":49, "user_id":"1001001", "realm":"finesse.com", "user_principal":"1001001@finesse.com"}

Example Failure Response:	`{"error":"invalid_redirectUri","error_description":"Invalid Redirect URI."}`

Single Sign-On—Refresh Existing Access Token

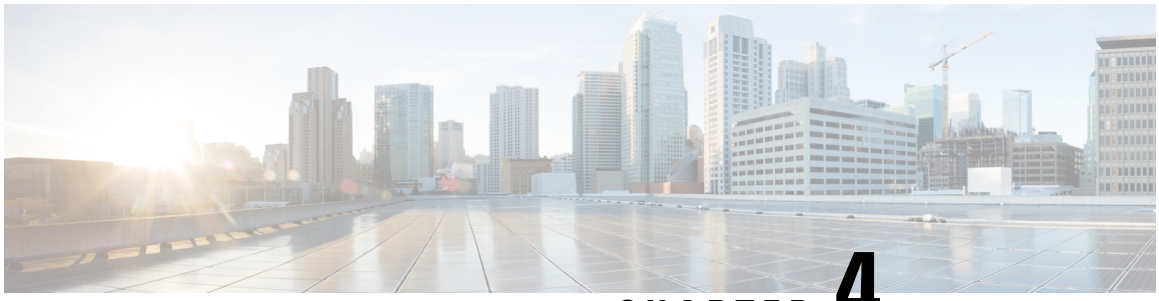
This API allows a user to refresh an existing access token that is about to expire.

Note

- Third-party applications have to refresh the access token after 75% of the token expiry time is elapsed.
- Invoking this API might involve browser redirect to Cisco Identity Server and Cisco Identity Provider.

URI:	http(s)://<FQDN>/desktop/sso/token
Example URI:	http(s)://finesse1.xyz.com/desktop/sso/token
Security Constraints:	Agents and supervisors can use this API.
HTTP Method:	POST
Content Type:	application/x-www-form-urlencoded
Input/Output Format:	JSON
HTTP Request:	token=<token value>
Request Parameters:	(Optional) return_user=yes
HTTP Response:	200: Success 400: Bad Request 401: Unauthorized 500: Internal Server Error

Example Response	{"token": "eyJhbGciOiJkaXIiLCJjdHkiOiJKV1QiLCJlbmMiOiJBM TI4Q0JDLUhTMjU2In0..521UM8q8d7wM5naKgWzPhA.NkhEH 7SatpXPOVqQobJstaZ51HBcMTcIej5qdIJ0ZwjCnV7u8iKGcv7t 5cLYruV6WZFJn8z7iSckXdduDqmRserhBDnbpk-gd5jqNj9r2ZS tfeBZIx6Phng6EMWUjtK9cbrO79MenQ7u7Y3Hhe7P7qvQiaTw keUw7No09NFGat-ICzhHbTF8D4WKFhFefw1J-q55ktcdD-CmM s-KXYrmA8DLltjF9ii9dCYHFfC2nKBETzdYWR2ple4B6_Lv0np g8OSU53LyTT3ObHm6TvWZ09KYrWUWMKNFas73Gx7rYro4 C7Tc4pYb9ZfJmkcT6coRIocMteYCrqCy7ufRqO-BPObNIah_J o2VQ_wwo-5wE-cMUUDpGa5X2nMtP2YUH4sb7b_SHX9Xq_w6 cwLRcBiDXjyGl7Smk1RzF1aXj2A9R06a71VjzmUsjq4UtrT7_IfY s9RrFX9jhnXX1VB8Dqgh-Pnb16rsskRg7TPP4EV9fwDSbhA- oMrMKqFz5BFWMhNaFCHtJQWtXxNRK802ybyzXwR3KGeINS D3dOGj2vWRpnhuTB9veHr9InSrc2s67rspguN7YX2bkIEEQNBC Y3X5rf_UMyGSlPvlArh6b-_yZXk62kXmYJWJ7g1uTRwTaou87C j83fqdaIOYMNIOeZhZqDmKDOZqMmVW_Aj-9-Tn0lTXkKmsPvqt oJYCN1T_3fZrvhzJLImy0whXgEtxc88MYNOCsuPSkIuCRNpoO GgWXATdF1GHPUnQPStW2GsZEfbdY5R1X9x3SZXtngh4XFM gYtMjP129X8pvAT_AY35JtRzpdryRPdAYrEc72tkY_xWLBahpS AKrcX7x8gtMRZmV5HlKs7_sW1amje0gaMKFlqh8i56XWbwnsU SdKLC-LZDtvWZ5wYuHPY1CSwC0oT9lHytWBXo3GSXSv 1iqy75ud6KrvrJg3WG2k_2biqxpc0S9MsATT2WGtGBt5ko2wEcn6 A.l_JfM6gAelSswEeGFAOKwg", "expires_in": 300}
Example Failure Response:	{"errorType": "AUTH_ERROR", "errorData": "refresh-token", "errorMessage": "Invalid Token"}



CHAPTER 4

Cisco Finesse Configuration APIs

Administrators use the Cisco Finesse configuration APIs to configure the following:

- System, cluster, and database settings
- Finesse desktop and call variable layout
- Reason codes and wrap-up reasons
- Phonebooks and contacts
- Team resources
- Workflows and workflow actions

Finesse configuration APIs require administrator credentials (the application user ID and password) to be passed in the basic authorization header.

Note If a user repeatedly passes an invalid password in the basic authorization header to a configuration API, on the fifth invalid attempt, Finesse blocks the user's access to all configuration APIs for 5 minutes. This lock period differs from the 30-minute lock period implemented for the Finesse administrator console.

In a stand-alone Finesse deployment with Unified CCE, you cannot run configuration APIs against the secondary Finesse server. If you attempt to run a ReasonCode API against the secondary Finesse server, Finesse responds with a 403 “Forbidden” error.

In a coresident Finesse deployment with Unified CCX, administration on the secondary node is read-only. You can run a GET request against the secondary node. However, other requests (PUT, POST, or DELETE) result in a 403 “Forbidden” error.

SystemConfig

The SystemConfig object is a container element that holds the Finesse system configuration, including details about the primary and backup CTI servers.

Note SystemConfig APIs apply only to Finesse deployments with Unified CCE. Because you need not configure these settings for Finesse with Unified CCX, these APIs are not supported for deployments with Unified CCX.

The SystemConfig object is structured as follows:

```
<SystemConfig>
   <uri>/finesse/api/SystemConfig</uri>
   <cti>
      <host></host>
      <port></port>
      <backupHost></backupHost>
      <backupPort></backupPort>
      <peripheralId></peripheralId>
   </cti>
</SystemConfig>
```

Note Any changes made to the settings through the SystemConfig API will require a Cisco Finesse Tomcat restart.

SystemConfig APIs

SystemConfig—Get

This API allows an administrator to get a copy of the SystemConfig object.

URI:	http://<FQDN>/finesse/api/SystemConfig
Example URI:	http://finesse1.xyz.com/finesse/api/SystemConfig
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	—
HTTP Response:	200: Success 401: Unauthorized 403: Forbidden 500: Internal Server Error
Example Response:	<SystemConfig> <uri>/finesse/api/SystemConfig</uri> <cti> <host>10.1.1.1</host> <port>42027</port> <backupHost>10.1.1.2</backupHost> <backupPort>42027</backupPort> <peripheralId>5000</peripheralId> </cti> </SystemConfig>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

SystemConfig—Set

This API allows an administrator to configure the CTI server settings.

Note If you do not specify the backupHost and backupPort during a PUT operation but they were configured at an earlier time, the PUT operation removes these values from the database.

URI:	http://<FQDN>/finesse/api/SystemConfig
Example URI:	http://finesse1.xyz.com/finesse/api/SystemConfig
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	<SystemConfig> <uri>/finesse/api/SystemConfig</uri> <cti> <host>10.1.1.1</host> <port>42027</port> <backupHost>10.1.1.2</backupHost> <backupPort>42027</backupPort> <peripheralId>5000</peripheralId> </cti> </SystemConfig>
Request Parameters:	host (required): Hostname or IP address of the primary (A Side) CTI server Port (required): Port number of the primary (A Side) CTI server backupHost (required if backupPort is present): Hostname or IP address of the backup (B Side) CTI server backupPort (required if backupHost is present): Port number of the backup (B Side) CTI server peripheralId (required): ID of the CTI server peripheral
HTTP Response:	200: Success 400: Invalid Input 400: Parameter Missing 401: Authorization Failure 403: Forbidden 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Invalid Input</ErrorType> <ErrorMessage>port</ErrorMessage> <ErrorData>65536</ErrorData> </ApiError> </ApiErrors>

SystemConfig API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the SystemConfig object.	—	
cti	Collection	Information about the CTI server settings.	—	
-->host	String	The hostname or IP address of the primary (A Side) CTI server.	—	No special characters allowed except “.” and “-”.

Parameter	Type	Description	Possible Values	Notes
-->port	Integer	The port of the primary (A Side) CTI server.	1–65535 Default value: 42027	
-->peripheralId	Integer	The ID of the CTI server peripheral.	1–32767 Default value: 5000	
-->backupHost	String	The hostname or IP address of the (B Side) backup CTI server.	—	Must not be the same as the hostname or IP address of the primary (A Side) CTI server. No special characters allowed except "." and "-".
-->backupPort	Integer	The port of the backup (B Side) CTI server.	1–65535	

SystemConfig API Errors

Status	Error Type	Description
400	Invalid Input	One of the parameters provided as part of the user input is invalid or not recognized.
400	Parameter Missing	A required parameter was not provided in the request. For example, if the backupPort is provided but the backupHost is missing.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

ClusterConfig

The ClusterConfig object is a container element that holds Finesse cluster configuration. This container supports the addition of a single, secondary Finesse node. After the secondary Finesse node is installed and ready, it becomes part of the cluster.

Note ClusterConfig APIs apply only to Finesse deployments with Unified CCE. Because you need not configure cluster settings for Unified CCX deployments, these APIs are not supported for Finesse with Unified CCX.

This feature also reports replication status. Replication status determines whether a user is allowed to or restricted from changing the value of the secondary node.

The Finesse server interacts with the VOS database to get and set information about the secondary node.

The ClusterConfig object is structured as follows:

```
<ClusterConfig>
   <uri>/finesse/api/ClusterConfig</uri>
   <secondaryNode>
      <host></host>
   </secondaryNode>
</ClusterConfig>
```

Note Any changes made to the settings through the ClusterConfig API will require a Cisco Finesse Tomcat restart.

ClusterConfig APIs

ClusterConfig—Get

This API allows an administrator to get a copy of the ClusterConfig object.

URI:	http://<FQDN>/finesse/api/ClusterConfig
Example URI:	http://finesse1.xyz.com/finesse/api/ClusterConfig
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 401: Unauthorized 403: Forbidden 500: Internal Server Error
Example Response:	<ClusterConfig> <uri>/finesse/api/ClusterConfig</uri> <secondaryNode> <host>10.1.1.1</host> </secondaryNode> </ClusterConfig>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

ClusterConfig—Set

This API allows an administrator to configure cluster settings for Finesse.

URI:	http://<FQDN>/finesse/api/ClusterConfig
Example URI:	http://finesse1.xyz.com/finesse/api/ClusterConfig
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<ClusterConfig> <uri>/finesse/api/ClusterConfig</uri> <secondaryNode> <host>10.1.1.1</host> </secondaryNode> </ClusterConfig>
Request Parameters:	host (required): Hostname or IP address of the secondary Finesse server
HTTP Response:	200: Success 400: Invalid Input 400: Parameter Missing 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Invalid Input</ErrorType> <ErrorMessage>host</ErrorMessage> <ErrorData>10.1.1</ErrorData> </ApiError> </ApiErrors>

ClusterConfig API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the ClusterConfig object.	—	
secondaryNode	Collection	Information about secondary Finesse node.	—	
-->host	String	The hostname or IP address of the secondary Finesse node.	—	No special characters allowed except “.” and “-”.

ClusterConfig API Errors

Status	Error Type	Description
400	Invalid Input	One of the parameters provided as part of the user input is invalid or not recognized.
400	Parameter Missing	A required parameter was not provided in the request.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

EnterpriseDatabaseConfig

The EnterpriseDatabaseConfig object is a container element that holds the properties required for Finesse to connect to the Administration & Data Server database (AWDB) for user authentication.

Note The EnterpriseDatabaseConfig APIs apply only to Finesse deployments with Unified CCE. Because these settings do not apply to Finesse deployments with Unified CCX, these APIs are not supported with Unified CCX.

The EnterpriseDatabaseConfig object is structured as follows:

```
<EnterpriseDatabaseConfig>
   <uri>/finesse/api/EnterpriseDatabaseConfig</uri>
   <host></host>
   <backupHost></backupHost>
   <port></port>
   <databaseName></databaseName>
   <domain></domain>
   <username></username>
   <password></password>
</EnterpriseDatabaseConfig>
```

Note Any changes made to the settings through the EnterpriseDatabaseConfig API will require a Cisco Finesse Tomcat restart.

EnterpriseDatabaseConfig APIs

EnterpriseDatabaseConfig—Get

This API allows an administrator to get a copy of the EnterpriseDatabaseConfig object.

URI:	http://<FQDN>/finesse/api/EnterpriseDatabaseConfig
Example URI:	http://finesse1.xyz.com/finesse/api/EnterpriseDatabaseConfig
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Unauthorized 403: Forbidden 500: Internal Server Error

Example Response:	<EnterpriseDatabaseConfig> <uri>/finesse/api/EnterpriseDatabaseConfig</uri> <host>10.1.1.1</host> <backupHost>10.1.1.2</backupHost> <port>1433</port> <databaseName>ucce8x_awdb</databaseName> <domain>xyz.com</domain> <username>Administrator</username> <password>admin_password</password> </EnterpriseDatabaseConfig>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

EnterpriseDatabaseConfig—Set

This API allows an administrator to configure the enterprise database settings.

Note If you do not specify the backupHost during a PUT operation but it was configured at an earlier time, the PUT operation resets the value for this parameter to blank.

The URI for this API contains the query parameter override. This parameter is optional and can be set to true or false.

Certain errors returned by this API can be overridden. If an error can be overridden, it contains an override XML element within the body with a value of "true". If Finesse cannot connect to the Enterprise database with the supplied parameters, the following error is returned.

```
<ApiErrors>
 <ApiError>
  <ErrorType>Invalid Input</ErrorType>
  <ErrorMessage>Enterprise Database Connection Validation Failed</ErrorMessage>
  <ErrorData>Unable to authenticate against the primary enterprise database</ErrorData>
  <Overrideable>true</Overrideable>
 </ApiError>
</ApiErrors>
```

If this API is called with the query parameter override set to "true", the validation is skipped, the error is overridden, and the API continues to run.

URI:	http://<FQDN>/finesse/api/EnterpriseDatabaseConfig?override='<true|false>'
Example URI:	http://finesse1.xyz.com/finesse/api/EnterpriseDatabaseConfig?override='true'
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	<EnterpriseDatabaseConfig> <uri>/finesse/api/EnterpriseDatabaseConfig</uri> <host>10.1.1.1</host> <backupHost>10.1.1.2</backupHost> <port>1433</port> <databaseName>ucce8.x_awdb</databaseName> <domain>example.com</domain> <username>Admin</username> <password>password</password> </EnterpriseDatabaseConfig>
Request Parameters:	host (required): Hostname or IP address of the AWDB server backupHost (optional): Hostname or IP address of the backup AWDB server Port (required): Port number of the AWDB server databaseName (required): Name of the AWDB domain (optional): Domain of the AWDB username (required): Username to sign in to the AWDB. If there is a domain specified, this must be a domain user. Otherwise it must be an SQL user. password (required): Password to sign in to the AWDB
HTTP Response:	200: Success 400: Invalid Input 400: Parameter Missing 401: Authorization Failure 403: Forbidden 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Invalid Input</ErrorType> <ErrorMessage>port</ErrorMessage> <ErrorData>65536</ErrorData> </ApiError> </ApiErrors>

EnterpriseDatabaseConfig API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the EnterpriseDatabaseConfig object.	—	
host	String	The hostname or IP address of the AWDB server.	—	No special characters allowed except “.” and “-”.

Parameter	Type	Description	Possible Values	Notes
backupHost	String	The hostname or IP address of the backup AWDB server.	—	No special characters allowed except "." and "-".
port	Integer	The port of the AWDB server.	1–65535	
databaseName	String	The name of the AWDB (for example, *ucceinstance*_awdb).	—	
domain	String	The domain of the AWDB.	—	
username	String	The username required to sign in to the AWDB. If there is a domain specified, this must be a domain user. Otherwise it must be an SQL user.	—	
password	String	The password required to sign in to the AWDB.	—	

EnterpriseDatabaseConfig API Errors

Status	Error Type	Description
400	Invalid Input	One of the parameters provided as part of the user input is invalid or not recognized.
400	Parameter Missing	A required parameter was not provided in the request. For example, if the backupPort is provided but the backupHost is missing.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

LayoutConfig

The LayoutConfig object is a container element that holds the layout XML for the Finesse desktop. The layout XML defines how tabs, labels, columns, and gadgets appear on the Finesse agent and supervisor desktops.

When the desktop loads, Finesse reads the label for each tab and attempts to find it in the resource bundle (as a key). If Finesse finds the key, it displays in the value in the tab. If Finesse does not find the key, it displays the key as the default value for the tab.

The following example shows how the key mappings appear in the resource bundle for the Home and Manage Call tabs:

```
finesse.container.tabs.agent.homeLabel=Home
finesse.container.tabs.agent.manageCallLabel=Manage Call
finesse.container.tabs.supervisor.homeLabel=Home
finesse.container.tabs.supervisor.manageCallLabel=Manage Call
```

Note Gadgets that reside on the Finesse server can be specified by an absolute path, as shown in the following example:

```
/desktop/gadgets/<gadgetname>.xml
```

Gadgets that are hosted on a server other than the Finesse server must be specified with a fully-qualified URL, as shown in the following example:

```
http://server.com/<path to gadget>/<gadget name>.xml
```

The LayoutConfig object is structured as follows:

```
<LayoutConfig>
   <uri>/finesse/api/LayoutConfig/default</uri>
   <layoutxml><?xml version="1.0" encoding="UTF-8">
   <finesseLayout xmlns="http://www.cisco.com/vtg/finesse">
       <layout>
           <role>Agent</role>
           <page>
               <gadget>/desktop/gadgets/CallControl.jsp</gadget>
           </page>
           <tabs>
               <tab>
                   <id>home</id>
                   <label>finesse.container.tabs.agent.homeLabel</label>
                   <columns>
                       <column>
                           <gadgets>
   <!--  The following Gadget is only for temporary use and has been superseded by the Live
 Data gadgets.
        Remove the Queue gadget once you have configured Live Data and the Live Data gadgets

         The following Gadget (Agent Queue Statistics) is *not* supported in Packaged CCE
deployment.
         If you are using Packaged CCE you must comment out or remove this gadget.
   -->                     <gadget>/desktop/gadgets/QueueStatistics.jsp</gadget>

   <!--  The following Gadgets are for LiveData.  They are *ONLY* supported in a Packaged
CCE Deployment.
           If you are using Packaged CCE and wish to show LiveData Reports, then do the
```

```
following:
           1) Uncomment out each Gadget you wish to show.
           2) Replace all instances of "my-cuic-server" with the Fully Qualified Domain
              Name of your Intelligence Center Server.
           3) [OPTIONAL] Adjust the height of the gadget by changing the "gadgetHeight"
              parameter.

       IMPORTANT NOTES:
           - In order for these Gadgets to work, you must have performed all documented
             pre-requisite steps.
           - The use of HTTP/HTTPS *must* match what your Users use for the Finesse Desktop

             (HTTP or HTTPS).
           - If you wish to use HTTP, then HTTP must be enabled on both Finesse and
             Intelligence Center.
           - Do *NOT* change the viewId (unless you have built a custom report and know
             what you are doing).
           - The "teamName" will be automatically replaced with the Team Name of the User
             logged into Finesse.
  -->
                        <!-- HTTPS Version of LiveData Gadgets -->
                            <!-- "Agent" Report -->
                           <!-- <gadget>https://my-cuic-server:8444/cuic/gadget/LiveData/

                                  LiveDataGadget.jsp?gadgetHeight=310&
                                  viewId=99E6C8E210000141000000D80A0006C4&
                                  filterId=agent.id=CL%20teamName</gadget> -->
                            <!-- "Agent Skill Group" Report -->
                           <!-- <gadget>https://my-cuic-server:8444/cuic/gadget/LiveData/

                                  LiveDataGadget.jsp?gadgetHeight=310&
                                  viewId=9AB7848B10000141000001C50A0006C4&
                                  filterId=agent.id=CL%20teamName</gadget> -->
                            <!-- "Agent All Fields" Report -->
                           <!-- <gadget>https://my-cuic-server:8444/cuic/gadget/LiveData/

                                  LiveDataGadget.jsp?gadgetHeight=310&
                                  viewId=9A08E23510000141000001230A0006C4&
                                  filterId=agent.id=CL%20teamName</gadget> -->
                            <!-- "Agent Skill Group All Fields" Report -->
                           <!-- <gadget>https://my-cuic-server:8444/cuic/gadget/LiveData/

                                  LiveDataGadget.jsp?gadgetHeight=310&
                                  viewId=A30EC25810000141000003A60A0006C4&
                                  filterId=agent.id=CL%20teamName</gadget> -->

                        <!-- HTTP Version of LiveData Gadgets -->
                            <!-- "Agent" Report -->
                            <!-- <gadget>http://my-cuic-server:8081/cuic/gadget/LiveData/
                                  LiveDataGadget.jsp?gadgetHeight=310&
                                  viewId=99E6C8E210000141000000D80A0006C4&
                                  filterId=agent.id=CL%20teamName</gadget> -->
                            <!-- "Agent Skill Group" Report -->
                            <!-- <gadget>http://my-cuic-server:8081/cuic/gadget/LiveData/
                                  LiveDataGadget.jsp?gadgetHeight=310&
                                  viewId=9AB7848B10000141000001C50A0006C4&
                                  filterId=agent.id=CL%20teamName</gadget> -->
                            <!-- "Agent All Fields" Report -->
                            <!-- <gadget>http://my-cuic-server:8081/cuic/gadget/LiveData/
                                  LiveDataGadget.jsp?gadgetHeight=310&
                                  viewId=9A08E23510000141000001230A0006C4&
                                  filterId=agent.id=CL%20teamName</gadget> -->
                            <!-- "Agent Skill Group All Fields" Report -->
                            <!-- <gadget>http://my-cuic-server:8081/cuic/gadget/LiveData/
```

```
                                    LiveDataGadget.jsp?gadgetHeight=310&
                                    viewId=A30EC25810000141000003A60A0006C4&
                                    filterId=agent.id=CL%20teamName</gadget> -->
                            </gadgets>
                        </column>
                    </columns>
                </tab>
                <tab>
                    <id>manageCall</id>
                    <label>finesse.container.tabs.agent.manageCallLabel</label>
                </tab>
    <!--    The following Tab and Gadgets are for LiveData.  They are *ONLY* supported in a
 Packaged CCE
            Deployment.
            If you are using Packaged CCE and wish to show LiveData Reports, then do the
following:
            1) Remove these comments leaving the tab and gadgets you wish to show.
            2) Uncomment out each Gadget you wish to show.
            3) Replace all instances of "my-cuic-server" with the Fully Qualified Domain
               Name of your Intelligence Center Server.
            4) [OPTIONAL] Adjust the height of the gadget by changing the "gadgetHeight"
               parameter.
          IMPORTANT NOTES:
             - In order for these Gadgets to work, you must have performed all documented
               pre-requisite steps.
             - The use of HTTP/HTTPS *must* match what your Users use for the Finesse Desktop

               (HTTP or HTTPS).
             - If you wish to use HTTP, then HTTP must be enabled on both Finesse and
               Intelligence Center.
             - Do *NOT* change the viewId (unless you have built a custom report and
               know what you are doing).
             - The "teamName" will be automatically replaced with the Team Name of the User
               logged into Finesse.
    -->
    <!--   If you are showing the tab, then also uncomment this section.
                <tab>
                    <id>moreReports</id>
                    <label>finesse.container.tabs.agent.moreReportsLabel</label>
                    <gadgets>-->

                     <!-- HTTPS Version of LiveData Gadgets -->
                         <!-- "Agent Skill Group" Report -->
                         <!-- <gadget>https://my-cuic-server:8444/cuic/gadget/LiveData/
                               LiveDataGadget.jsp?gadgetHeight=310&
                               viewId=9AB7848B10000141000001C50A0006C4&
                               filterId=agent.id=CL</gadget> -->
                     <!-- HTTP Version of LiveData Gadgets -->
                         <!-- "Agent Skill Group" Report -->
                         <!-- <gadget>http://my-cuic-server:8081/cuic/gadget/LiveData/
                               LiveDataGadget.jsp?gadgetHeight=310&
                               viewId=9AB7848B10000141000001C50A0006C4&
                               filterId=agent.id=CL</gadget> -->
    <!--   If you are showing the tab, then also uncomment this section as well.
                        </gadgets>
                    </tab>   -->
            </tabs>
        </layout>
        <layout>
            <role>Supervisor</role>
            <page>
                <gadget>/desktop/gadgets/CallControl.jsp</gadget>
            </page>
            <tabs>
```

```
                <tab>
                    <id>home</id>
                    <label>finesse.container.tabs.supervisor.homeLabel</label>
                    <columns>
                        <column>
                            <gadgets>
                                <gadget>/desktop/gadgets/TeamPerformance.jsp</gadget>
                                <gadget>/desktop/gadgets/QueueStatistics.jsp</gadget>
                            </gadgets>
                        </column>
                    </columns>
                </tab>
                <tab>
                    <id>manageCall</id>
                    <label>finesse.container.tabs.supervisor.manageCallLabel</label>
                </tab>
            </tabs>
        </layout>
    </finesseLayout>
    </layoutxml>
</LayoutConfig>
```

LayoutConfig APIs

LayoutConfig—Get

This API allows an administrator to get a copy of the LayoutConfig object.

URI:	http://<FQDN>/finesse/api/LayoutConfig/default
Example URI:	http://finesse1.xyz.com/finesse/api/LayoutConfig/default
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Unauthorized 403: Forbidden 500: Internal Server Error

Example Response:	<LayoutConfig> <uri>/finesse/api/LayoutConfig/default</uri> <layoutxml> ... </layoutxml> </LayoutConfig>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

LayoutConfig—Set

This API allows an administrator to update the default layout settings for the Finesse desktop.

Note The XML data is verified to ensure that it is valid XML and that it conforms to the Finesse schema.

URI:	http://<FQDN>/finesse/api/LayoutConfig/default
Example URI:	http://finesse1.xyz.com/finesse/api/LayoutConfig/default
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<LayoutConfig> <layoutxml><?xml version="1.0" encoding="UTF-8"> ... </layoutxml> </LayoutConfig>
Request Parameters:	layoutxml (required): The XML data that determines the layout of the Finesse desktop
HTTP Response:	200: Success 400: Invalid Input 400: Parameter Missing 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Invalid Input</ErrorType> <ErrorMessage>layoutxml</ErrorMessage> </ApiError> </ApiErrors>

LayoutConfig API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the LayoutConfig object.	—	
layoutxml	String	The XML data that determines the layout of the Finesse desktop.	—	Must be valid XML and must conform to the Finesse schema.

LayoutConfig API Errors

Status	Error Type	Description
400	Invalid Input	The submitted XML is invalid or does not conform to the Finesse schema.
400	Parameter Missing	The layout XML file was not provided.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

ReasonCode

The ReasonCode object represents a reason code that can be applied when an agent changes state. There are two categories of reason codes: not ready reason codes and sign out reason codes.

Administrators can use either the ReasonCode APIs or the Finesse administration console to configure not ready and sign out reason codes. When using the APIs to configure reason codes, the administrator specifies the category of reason code in the request (NOT_READY or LOGOUT).

To prevent reporting problems, define your reason codes consistently on both Finesse and the platform (Unified CCE or Unified CCX). For example, if you create a not ready reason code in Finesse with a code of 413 and a label of "Meeting", but create a not ready reason code in Unified CCE with a code of 413 and a description of "Lunch Break", the Unified CCE report shows "Lunch Break" for any agent who selects that code. For more information about predefined reason codes for Unified CCE, see the *Cisco Unified Contact Center Enterprise Reporting User Guide* (http://www.cisco.com/en/US/products/sw/custcosw/ps1844/products_user_guide_list.html). For more information about predefined reason codes for Unified CCX, see the *Cisco Unified Contact Center Express CTI Protocol Developer Guide*.

Note System reason codes are defined by Unified CCE and Unified CCX. These reason codes are used by Finesse but not listed in the ReasonCode APIs.

The ReasonCode object is structured as follows:

```
<ReasonCode>
   <uri>/finesse/api/ReasonCode/{id}</uri>
   <category>NOT_READY|LOGOUT</category>
   <code></code>
   <label></label>
   <forAll>true|false</forAll>
   <systemCode>true|false</systemCode>
</ReasonCode>
```

ReasonCode APIs

ReasonCode—Get

The following GET APIs allow an administrator or an agent to get a copy of the ReasonCode object.

URI:	http://<FQDN>/finesse/api/ReasonCode/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/ReasonCode/45
Security Constraints:	Administrators and agents can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error
Example Response:	<ReasonCode> <uri>/finesse/api/ReasonCode/45</uri> <category>NOT_READY</category> <code>10</code> <label>Team Meeting</label> <forAll>true</forAll> <systemCode>true</systemCode> </ReasonCode>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

URI:	http://<FQDN>/finesse/api/ReasonCode?category=NOT_READY|LOGOUT&code=<code>
Example URI:	http://finesse1.xyz.com/finesse/api/ReasonCode?category=NOT_READY&code=45
Security Constraints:	Administrators and agents can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error

Example Response:	<ReasonCode> <uri>/finesse/api/ReasonCode/45</uri> <category>NOT_READY</category> <code>10</code> <label>Team Meeting</label> <forAll>true</forAll> <systemCode>true</systemCode> </ReasonCode>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

ReasonCode—Get List

This API allows an administrator to get a list of not ready or sign out reason codes. The required URI parameter *category* specifies whether to retrieve not ready reason codes, sign out reason codes or both. If the category parameter is missing, the API returns an error.

URI:	http://<FQDN>/finesse/api/ReasonCodes?category=NOT_READY|LOGOUT|ALL
Example URI:	http://finesse1.xyz.com/finesse/api/ReasonCodes?category=ALL
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Invalid Input 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error

Example Response:	<ReasonCodes category="ALL">
	  <ReasonCode>
	  <uri>/finesse/api/ReasonCode/1</uri>
	  <category>NOT_READY</category>
	  ... Rest of ReasonCode Object ..
	  </ReasonCode>
	  <ReasonCode>
	  <uri>/finesse/api/ReasonCode/2</uri>
	  <category>LOGOUT</category>
	  ... Rest of ReasonCode Object ...
	  </ReasonCode>
	</ReasonCodes>

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

ReasonCode—Create

This API allows an administrator to create a new reason code. The administrator specifies the category, code, label, and forAll attributes for the reason code.

Finesse supports a maximum of 100 global reason codes and 100 non-global reason codes for each category. You can create up to 100 global and 100 non-global reason codes with a category of NOT_READY, and 100 global and 100 non-global reason codes with a category of LOGOUT.

The forAll parameter determines if a reason code is global (true) or non-global (false).

Note If you provide two or more duplicate tags in the XML body for a POST operation, the value of the last duplicate tag is processed and all other duplicate tags are ignored.

URI:	http://<FQDN>/finesse/api/ReasonCode/
Example URI:	http://finesse1.xyz.com/finesse/api/ReasonCode/
Security Constraints:	Only administrators can use this API.
HTTP Method:	POST
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<ReasonCode> <category>NOT_READY</category> <code>24</code> <label>Lunch</label> <forAll>true</forAll> </ReasonCode>

Request Parameters:	category (required): The category of reason code (NOT_READY or LOGOUT) code (required):The code for the reason code label (required): The UI label for the reason code forAll (required): Whether the reason code is global (true) or non-global (false)
HTTP Response:	200: Success **Note** Finesse successfully created the new ReasonCode. The response contains an empty response body, and a "location:" header denoting the absolute URL of the newly created ReasonCode object 400: Bad Request 400: Finesse API Error 400: Maximum Exceeded 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Authorization Failure</ErrorType>`
	`<ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`<ErrorData>jsmith</ErrorData>`
	`</ApiError>`
	`</ApiErrors>`

ReasonCode—Update

This API allows an administrator to modify an existing reason code. The administrator specifies an existing reason code via the uri, which includes its id, along with the value of the field to update.

At least one of the following parameters must be present in the HTTP request to update a reason code: code, label, or forAll. If none of these parameters are present, Finesse returns an Invalid Input error.

You do not need to include the attributes (code, label, or forAll) that you do not want to change. For example, if you want to change only the label for an existing reason code from "In Meeting" to "Attend Meeting", you can send the following request:

```
<ReasonCode>
    <label>Attend Meeting</label>
</ReasonCode>
```

Note If you provide two or more duplicate tags in the XML body for a PUT operation, the value of the last duplicate tag is processed and all other duplicate tags are ignored.

URI:	http://<FQDN>/finesse/api/ReasonCode/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/ReasonCode/456

Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<ReasonCode> <code>101</code> <label>Lunch Break</label> <forAll>true</forAll> </ReasonCode>
Request Parameters:	id (required): The database ID for the reason code code:The code for the reason code label: The UI label for the reason code forAll: Whether the reason code is global (true) or non-global (false) **Note** Your request must include at least one of the following parameters: code, label, or forAll.
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

ReasonCode—Delete

This API allows an administrator to delete an existing reason code.

URI:	http://<FQDN>/finesse/api/ReasonCode/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/ReasonCode/ 423
Security Constraints:	Only administrators can use this API.
HTTP Method:	DELETE

Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>jsmith</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

ReasonCode API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the ReasonCode object.	—	
category	String	The category of the reason code.	NOT_READY, LOGOUT	
code	Integer	The code for the reason code	Unified CCE: 1–65535 Unified CCX: 1–999	The combination of code and category must be unique.
label	String	The UI label for the reason code.	—	Maximum of 40 characters. The combination of label and category must be unique.
forAll	Boolean	Whether a reason code is global (true) or non-global (false).	true, false	
systemCode	Boolean	The reserved status of the reason code.	true, false	

ReasonCode API Errors

Status	Error Type	Description
400	Bad Request	One of the required parameters was not provided or is invalid
400	Finesse API Error	API error such as duplicated reason code or the reason code does not exist.
400	Maximum Exceeded	The maximum number of items has been exceeded.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
401	Invalid Authorization User Specified	The authenticated user tried to use the identity of another user.
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
404	Not Found	The specified resource cannot be found.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

WrapUpReason

The WrapUpReason object represents a reason that an agent can apply to a call during call wrap-up.

The WrapUpReason object is structured as follows:

```
<WrapUpReason>
   <uri>/finesse/api/WrapUpReason/{id}</uri>
   <label></label>
   <forAll>true|false</forAll>
</WrapUpReason>
```

WrapUpReason APIs

WrapUpReason—Get

This API allows an administrator to get a copy of the WrapUpReason object.

URI:	http://<FQDN>/finesse/api/WrapUpReason/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/WrapUpReason/31

Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error

Example Response:	`<WrapUpReason>`
	`  <uri>/finesse/api/WrapUpReason/31</uri>`
	`  <label>Product Question</label>`
	`  <forAll>false</forAll>`
	`</WrapUpReason>`

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>jsmith</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

WrapUpReason—Get List

This API allows an administrator to get a list of wrap-up reasons.

URI:	http://<FQDN>/finesse/api/WrapUpReasons
Example URI:	http://finesse1.xyz.com/finesse/api/WrapUpReasons
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error
Example Response:	<WrapUpReasons> <WrapUpReason> ... Full WrapUpReason Object ... </WrapUpReason> <WrapUpReason> ... Full WrapUpReason Object ... </WrapUpReason> <WrapUpReason> ... Full WrapUpReason Object ... </WrapUpReason> </WrapUpReasons>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

WrapUpReason—Create

This API allows an administrator to create a new wrap-up reason. The administrator specifies the label and forAll attributes for the wrap-up reason.

Finesse supports a maximum of 100 global wrap-up reasons and 1500 non-global wrap-up reasons, for each category, with the restriction that a maximum of 100 non-global wrap-up reasons can be assigned to a single team.

The forAll parameter determines if a reason code is global (true) or non-global (false).

Note If you provide two or more duplicate tags in the XML body for a POST operation, the value of the last duplicate tag is processed and all other duplicate tags are ignored.

URI:	http://<FQDN>/finesse/api/WrapUpReason/
Example URI:	http://finesse1.xyz.com/finesse/api/WrapUpReason/
Security Constraints:	Only administrators can use this API.
HTTP Method:	POST
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	<WrapUpReason> <label>Recommendation</label> <forAll>true</forAll> </WrapUpReason>
Request Parameters:	label (required): The UI label for the wrap-up reason forAll (required): Whether the wrap-up reason is global (true) or non-global (false)
HTTP Response:	200: Success **Note** Finesse successfully created the new WrapUpReason. The response contains an empty response body, and a "location:" header denoting the absolute URL of the newly created WrapUpReason object 400: Maximum Exceeded 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

WrapUpReason—Update

This API allows an administrator to modify an existing wrap-up reason. The administrator references the wrap-up reason by its ID and specifies the values of the fields to update.

At least one of the following parameters must be present in the HTTP request to update a wrap-up reason: label or forAll. If neither of these parameters is present, Finesse returns an Invalid Input error.

You do not need to include the attributes (label or forAll) that you do not need to change. For example, if you want to change only the label for an existing reason code from "Wrong Number" to "Wrong Department", you can send the following request:

```
<WrapUpReason>
    <label>Wrong Department</label>
</WrapUpReason>
```

Note If you provide two or more duplicate tags in the XML body for a PUT operation, the value of the last duplicate tag is processed and all other duplicate tags are ignored.

URI:	http://<FQDN>/finesse/api/WrapUpReason/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/WrapUpReason/43

Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<WrapUpReason> <label>Sales Call</label> <forAll>true</forAll> </WrapUpReason>
Request Parameters:	id (required): The database ID for the wrap-up reason label (required): The UI label for the reason code forAll (required): Whether the reason code is global (true) or non-global (false)
HTTP Response:	200: Success 400: Finesse API Error 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

WrapUpReason—Delete

This API allows an administrator to delete an existing wrap-up reason.

URI:	http://<FQDN>/finesse/api/WrapUpReason/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/WrapUpReason/23
Security Constraints:	Only administrators can use this API.
HTTP Method:	DELETE
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

WrapUpReason API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the WrapUpReason object.	—	
label	String	The UI label for the wrap-up reason.	—	Maximum of 39 bytes (which is equal to 39 US English characters). The label must be unique.
forAll	Boolean	Whether a wrap-up reason is global (true) or non-global (false).	true, false	

WrapUpReason API Errors

Status	Error Type	Description
400	Bad Request	The request body is invalid
400	Finesse API Error	API error such as duplicated wrap-up reason or the wrap-up reason does not exist.
400	Maximum Exceeded	The maximum number of items has been exceeded.

Status	Error Type	Description
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
401	Invalid Authorization User Specified	The authenticated user tried to use the identity of another user.
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
404	Not Found	The specified resource cannot be found.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

MediaPropertiesLayout

The MediaPropertiesLayout object represents the appearance of media properties in the call control gadget on the agent or supervisor desktop. Media properties are carried in Dialog objects. Administrators can create and customize multiple layouts for media properties.

The MediaPropertiesLayout supports callVariable1 through callVariable10, ECC variables, and the following blended agent (outbound) variables:

- BACampaign
- BAAccountNumber
- BAResponse
- BAStatus
- BADialedListID
- BATimeZone
- BABuddyName
- BACustomerNumber (Unified CCX only)

The MediaPropertiesLayout object is structured as follows:

```
<MediaPropertiesLayout>
    <uri>/finesse/api/MediaPropertiesLayout/{id}</uri>
    <name>Layout name</name>
    <description>Layout description</description>
    <type>DEFAULT|CUSTOM</type>
    <header>
        <entry>
```

```
            <displayName>Customer Name</displayName>
            <mediaProperty>callVariable1</mediaProperty>
        </entry>
    </header>
    <column>
        <entry>
            <displayName>Customer Name</displayName>
            <mediaProperty>callVariable1</mediaProperty>
        </entry>
        <entry>
            <displayName>Customer Acct#</displayName>
            <mediaProperty>user.cisco.acctnum</mediaProperty>
        </entry>
    </column>
    <column>
        <entry>
            <displayName>Support contract</displayName>
            <mediaProperty>callVariable2</mediaProperty>
        </entry>
        <entry>
            <displayName>Product calling about</displayName>
            <mediaProperty>callVariable3</mediaProperty>
        </entry>
    </column>
</MediaPropertiesLayout>
```

MediaPropertiesLayout APIs

MediaPropertiesLayout—Get

This API allows an administrator to get a copy of the media properties layout associated with the specified ID.

URI:	http://<FQDN>/finesse/api/MediaPropertiesLayout/{id}
Example URI:	http://finesse1.xyz.com/finesse/api/MediaPropertiesLayout/15
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Response:	<MediaPropertiesLayout> ... Full MediaPropertiesLayoutConfig Object ... </MediaPropertiesLayout>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

MediaPropertiesLayout—Get Default Layout

This API allows an administrator to get a copy of the default MediaPropertiesLayout object.

Note Cisco Finesse supports this API for backward compatibility, but to get the default layout, developers must specify the default MediaPropertiesLayout ID in the MediaPropertiesLayout—Get API.

URI:	http://<FQDN>/finesse/api/MediaPropertiesLayout/default
Example URI:	http://finesse1.xyz.com/finesse/api/MediaPropertiesLayout/default
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Response:	<MediaPropertiesLayout> <uri>/finesse/api/MediaPropertiesLayout/{id}</uri> <name>Default</name> <description>This is the default layout</description> <type>DEFAULT</type> <header> <entry> <displayName>Customer Name</displayName> <mediaProperty>callVariable1</mediaProperty> </entry> </header> <column> <entry> <displayName>Customer Name</displayName> <mediaProperty>callVariable1</mediaProperty> </entry> <entry> <displayName>Customer Acct#</displayName> <mediaProperty>user.cisco.acctnum</mediaProperty> </entry> </column> <column> <entry> <displayName>Support contract</displayName> <mediaProperty>callVariable2</mediaProperty> </entry> <entry> <displayName>Product calling about</displayName> <mediaProperty>callVariable3</mediaProperty> </entry> </column> </MediaPropertiesLayout>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

MediaPropertiesLayout—Get List

This API allows an administrator to list all the media properties layouts configured in the system.

URI:	http://<FQDN>/finesse/api/MediaPropertiesLayouts
Example URI:	http://finesse1.xyz.com/finesse/api/MediaPropertiesLayouts
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 400: Bad Request 400: Finesse API error 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 500: Internal Server Error
Example Response:	<MediaPropertiesLayouts> <MediaPropertiesLayout> ... Full MediaPropertiesLayout Object ... </MediaPropertiesLayout> <MediaPropertiesLayout> ... Full MediaPropertiesLayout Object ... </MediaPropertiesLayout> <MediaPropertiesLayout> ... Full MediaPropertiesLayout Object ... </MediaPropertiesLayout> </MediaPropertiesLayouts>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

Note If the Finesse database is down or if there is a problem retrieving the media properties layout from the database, then a GET on http://<server>/finesse/api/MediaPropertiesLayouts (or on http://<server>/finesse/api/MediaPropertiesLayout/default) returns the system defined default media properties layout with an ID of 0.

MediaPropertiesLayout—Create

This API allows an administrator to create a custom media properties layout. Finesse supports up to 200 media properties layouts (1 default and 199 custom media properties layouts).

URI:	http://<FQDN>/finesse/api/MediaPropertiesLayout/
Example URI:	http://finesse1.xyz.com/finesse/api/MediaPropertiesLayout/
Security Constraints:	Only administrators can use this API.
HTTP Method:	POST
Content Type:	Application/XML

Input/Output Format:	XML
HTTP Request:	<MediaPropertiesLayout> <name>Layout name</name> <description>Layout description</description> <header> <entry> <displayName>Customer Name</displayName> <mediaProperty>callVariable1</mediaProperty> </entry> </header> <column> <entry> <displayName>Customer Name</displayName> <mediaProperty>callVariable1</mediaProperty> </entry> <entry> <displayName>Customer Acct#</displayName> <mediaProperty>user.cisco.acctnum</mediaProperty> </entry> </column> <column> <entry> <displayName>Support contract</displayName> <mediaProperty>callVariable2</mediaProperty> </entry> <entry> <displayName>Product calling about</displayName> <mediaProperty>callVariable3</mediaProperty> </entry> </column> </MediaPropertiesLayout>
Request Parameters:	name (required): Name of the media properties layout description (optional): Description of the media properties layout header (optional): Mapping for a single mediaProperty to be displayed with a label on the call details in the agent or supervisor desktop column (optional): Grouping of mediaProperties for agent or supervisor desktops entry (optional): Contains a displayName and mediaProperty combination displayName (required): Name of the field to be displayed to the agent or supervisor mediaProperty (required): Value of the entry to be displayed to the agent or supervisor matched with the displayName in the same entry

HTTP Response:	200: Success **Note** Finesse successfully created the new media properties layout. The response contains an empty response body and a location header that denotes the absolute URL of the newly created MediaPropertiesLayout object. 400: Parameter Missing 400: Invalid Input 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Authorization Failure</ErrorType>`
	`<ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`<ErrorData>jsmith</ErrorData>`
	`</ApiError>`
	`</ApiErrors>`

MediaPropertiesLayout—Update

This API allows an administrator to update the media properties layout associated with the specified ID.

URI:	http://<FQDN>/finesse/api/MediaPropertiesLayout/{id}
Example URI:	http://finesse1.xyz.com/finesse/api/MediaPropertiesLayout/15
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	<MediaPropertiesLayout> <name>Layout name</name> <description>Layout description</description> <header> <entry> <displayName>Customer Name</displayName> <mediaProperty>callVariable1</mediaProperty> </entry> </header> <column> <entry> <displayName>Customer Name</displayName> <mediaProperty>callVariable1</mediaProperty> </entry> <entry> <displayName>Customer Acct#</displayName> <mediaProperty>user.cisco.acctnum</mediaProperty> </entry> </column> <column> <entry> <displayName>Support contract</displayName> <mediaProperty>callVariable2</mediaProperty> </entry> <entry> <displayName>Product calling about</displayName> <mediaProperty>callVariable3</mediaProperty> </entry> </column> </MediaPropertiesLayout>
Request Parameters:	name (required): Name of the media properties layout description (optional): Description of the media properties layout header (optional): Mapping for a single mediaProperty to be displayed with a label on the call details in the agent or supervisor desktop column (optional): Grouping of mediaProperties for agent or supervisor desktops entry (optional): Contains a displayName and mediaProperty combination displayName (required): Name of the field to be displayed to the agent or supervisor mediaProperty (required): Value of the entry to be displayed to the agent or supervisor matched with the displayName in the same entry
HTTP Response:	200: Success 400: Parameter Missing 400: Invalid Input 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

MediaPropertiesLayout—Update Default Layout

This API allows an administrator to update the default media properties layout for the Finesse desktop.

Note Cisco Finesse supports this API for backward compatibility, but to update the default layout, developers must specify the default MediaPropertiesLayout ID in the MediaPropertiesLayout—Update API.

URI:	http://<FQDN>/finesse/api/MediaPropertiesLayout/default
Example URI:	http://finesse1.xyz.com/finesse/api/MediaPropertiesLayout/default
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	<MediaPropertiesLayout> <name>Default</name> <description>default layout</description> <header> <entry> <displayName>Customer Name</displayName> <mediaProperty>callVariable1</mediaProperty> </entry> </header> <column> <entry> <displayName>Customer Name</displayName> <mediaProperty>callVariable1</mediaProperty> </entry> <entry> <displayName>Customer Acct#</displayName> <mediaProperty>user.cisco.acctnum</mediaProperty> </entry> </column> <column> <entry> <displayName>Support contract</displayName> <mediaProperty>callVariable2</mediaProperty> </entry> <entry> <displayName>Product calling about</displayName> <mediaProperty>callVariable3</mediaProperty> </entry> </column> </MediaPropertiesLayout>
Request Parameters:	name (required): Name of the media properties layout description (optional): Description of the media properties layout header (optional): Contains displayName and mediaProperty that appears in the call header on the desktop column (optional): Grouping of media properties for the Finesse desktop (can contain a maximum of 10 entries) entry (optional): Contains a displayName and mediaProperty displayName (required): A label that describes the mediaProperty for that entry mediaProperty (required): The name of the variable for that entry
HTTP Response:	200: Success 400: Invalid Input 400: Parameter Missing 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>The entry contained an invalid media property: callVariable11</ErrorData> <ErrorType>Invalid Input</ErrorType> <ErrorMessage>HTTP Status code: 400 (Bad Request) Api Error Type: Invalid Input Error Message: Invalid media property name 'callVariable11' </ErrorMessage> </ApiError> </ApiErrors>

MediaPropertiesLayout—Delete

This API allows an administrator to delete the custom media properties layout with the specified ID.

URI:	http://<FQDN>/finesse/api/MediaPropertiesLayout/{id}
Example URI:	http://finesse1.xyz.com/finesse/api/MediaPropertiesLayout/15
Security Constraints:	Only administrators can use this API. Administrators can only delete a media properties layout of type CUSTOM.
HTTP Method:	DELETE
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 401: Unauthorized 403: Forbidden 404: Not Found 500: Runtime exception
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

Note If you attempt to delete the default media properties layout, the system responds with one of the following errors, depending on the API you use for the operation:

API Used to Delete the Default Layout	HTTP Response	Details
http://<FQDN>/finesse/api/MediaPropertiesLayout/{id}	403 Forbidden	DELETE of the default media properties layout is forbidden with this API.
http://<FQDN>/finesse/api/MediaPropertiesLayout/default	405 Method Not Allowed	DELETE is not a supported operation with this API.

MediaPropertiesLayout API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The id maps to the primary key of the media properties layout entry.	—	
name	String	The name of the media properties layout.	—	Max length of 40 characters
description	String	The description of the media properties layout.	—	Max length of 128 characters
type	String	The type of media properties layout.	DEFAULT, CUSTOM	
header	Object	Contains a single entry (combination of displayName and mediaProperty) that appears in the call header on the desktop for each call.	—	

Parameter	Type	Description	Possible Values	Notes
column	Object	Grouping of media properties for agent and supervisor desktops. Contains a list of entry objects	—	Finesse supports up to two columns in the MediaProperties Layout object. Columns can contain up to 10 entries and can be empty. The first column supplied in a PUT is always the left column. The second column (if any) is always the right column.
-->entry	Object	A displayName and mediaProperty combination.	—	Each entry must contain one displayName and one mediaProperty. The displayName can be empty.
--->displayName	String	Part of an entry. A label that describes the mediaProperty for that entry (for example, Customer Name). The label appears on the Finesse desktop.	—	Maximum of 50 characters.

Parameter	Type	Description	Possible Values	Notes
--->mediaProperty	String	The name of the variable that is displayed on the Finesse desktop. Each entry contains exactly one mediaProperty.	Allowed strings include callVariable1 through callVariable10, any valid ECC variable (user.*), and the following Outbound Option variables: • BACampaign • BAAccountNumber • BAResponse • BAStatus • BADialedListID • BATimeZone • BABuddyName • BACustomerNumber (Unified CCX only)	Maximum of 32 characters.

MediaPropertiesLayout API Errors

Status	Error Type	Description
400	Bad Request	Request parameter is invalid.
400	Finesse API error	API error, such as: object is stale, violation of database constraint, and so on.
400	Invalid Input	At least one of the parameters provided is not valid.
400	Parameter Missing	At least one of the required parameters was not provided.
400	Maximum Exceeded	The maximum number of items has been exceeded.
400	Invalid Input	The user has selected more than five call variables when configuring call pop-over for a layout.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
401	Invalid Authorization User Specified	The authenticated user tried to use the identity that is not their own.

Status	Error Type	Description
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server. The default media properties layout may not be deleted.
404	Not Found	Could not find the call variables layout with the specified ID.
405	Method Not Allowed	Unsupported operation is performed against an API. For example, if a DELETE or POST is attempted on: http://<FQDN>/finesse/api/MediaPropertiesLayout/default (which only supports GET and PUT).
500	Internal Server Error	Any runtime exception is caught and responded with this error.

PhoneBook

The PhoneBook object represents a phone book that contains contacts. Each PhoneBook object contains a Contacts summary object.

Phone books can be assigned globally (to all agents) or to specific teams. Finesse supports a maximum of 10 global phone books and 300 team phone books.

The PhoneBook object is structured as follows:

```
<PhoneBook>
    <uri>/finesse/api/PhoneBook/{id}</uri>
    <name></name>
    <type></type>
    <contacts>/finesse/api/PhoneBook/{id}/Contacts</contacts>
</PhoneBook>
```

PhoneBook APIs

PhoneBook—Get

This API allows an administrator to get a specific phone book.

URI:	http://<FQDN>/finesse/api/PhoneBook/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/34
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET

Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Finesse API Error 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error

Example Response:	`<PhoneBook>`
	`<uri>/finesse/api/PhoneBook/34</uri>`
	`<name>Phonebook 1</name>`
	`<type>GLOBAL</type>`
	`<contacts>/finesse/api/PhoneBook/34/Contacts</contacts>`
	`</PhoneBook>`

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Authorization Failure</ErrorType>`
	`<ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`<ErrorData>jsmith</ErrorData>`
	`</ApiError>`
	`</ApiErrors>`

PhoneBook—Get List

This API allows an administrator to get a list of all global and team phone books. Agents' personal phone books are not returned.

URI:	http://<FQDN>/finesse/api/PhoneBooks
Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBooks
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 500: Internal Server Error
Example Response:	<PhoneBooks> <PhoneBook> ...Full PhoneBook Object... </PhoneBook> <PhoneBook> ...Full PhoneBook Object... </PhoneBook> <PhoneBook> ...Full PhoneBook Object... </PhoneBook> </PhoneBooks>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

PhoneBook—Create

This API allows an administrator to create a new phone book. The administrator specifies the name and type for the phone book.

URI:	http://<FQDN>/finesse/api/PhoneBook/
Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/
Security Constraints:	Only administrators can use this API.
HTTP Method:	POST
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<PhoneBook> <name>PhoneBook1</name> <type>GLOBAL</type> </PhoneBook>
Request Parameters:	name (required): The name of the phone book type (required): The type of phone book (GLOBAL or TEAM)

HTTP Response:	200: Success **Note** Finesse successfully created the new phone book. The server response contains an empty response body and a location header that denotes the absolute URL of the new phone book. 400: Invalid Input 400: Parameter Missing 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>jsmith</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

PhoneBook—Update

This API allows an administrator to modify an existing phone book.

URI:	http://<FQDN>/finesse/api/PhoneBook/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/45
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<PhoneBook>`
	`  <name>PhoneBook2</name>`
	`  <type>TEAM</type>`
	`</PhoneBook>`

Request Parameters:	id (required): The database ID for the phone book name (required): The name of the phone book type (required): The type of phone book (GLOBAL or TEAM)

HTTP Response:	202: Successfully Accepted 400: In Use 400: Invalid Input 400: Parameter Missing 401: Authorization Failure 403: Forbidden 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

PhoneBook—Delete

This API allows an administrator to delete an existing phone book.

URI:	http://<FQDN>/finesse/api/PhoneBook/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/43
Security Constraints:	Only administrators can use this API.
HTTP Method:	DELETE
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: In Use 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

PhoneBook—Import Contact List (CSV)

This API allows an administrator to replace all the contacts in a specific phone book by importing a list of contacts in a comma-separated values (CSV) file. The CSV file can contain up to 1500 contacts.

All existing contacts in the phone book are deleted before the new contacts are inserted. Contacts that contain errors are not inserted. Contacts that are error-free or contacts that contain missing or empty fields are inserted.

In general, the import is fault-tolerant. The CSV file is sent using standard web form syntax and is delivered to the Finesse server as multipart/form data.

This format is very particular about formatting. Lines in the CSV file must be separated by carriage returns and newlines (\r\n). To import:

1. Create a Web Form HTML file and save it on your desktop. Example: `phonebook.html`

```
<form action="/finesse/api/PhoneBook/1/import" enctype="multipart/form-data"
method="post">
     <p>
          File(s):
          <input type="file" name="datafile" size="40">
     </p>
     <div>
          <input type="submit" value="Import">
     </div>
</form>
```

2. Create a CSV file with the phonebook content you want to upload. Example: `pb.csv`. (Also saved to the Desktop).

```
"First Name","Last Name","Phone Number","Notes"
"Agent","10001","20001","Sales"
"Agent","10002","20002","Service"
"Agent","10003","20011","Supervisor"
"","VVB","090011","HelloWorld"
"","Survivability","090011","To HelloWorld"
```

3. Run the `phonebook.html` file. A browser window will open.
4. Click **Browse** and select the `pb.csv` file.
5. Click **Import**.

URI:	http://<FQDN>/finesse/api/PhoneBook/<1>/Contacts/csvFileContent
Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/34/Contacts/csvFileContent
Security Constraints:	Only administrators can use this API.
HTTP Method:	POST
Content Type:	text/CSV
Input/Output Format:	text/plain, text/CSV

Example HTML Form:	<form action="/finesse/api/PhoneBook/1/import" enctype="multipart/form-data" method="post"> File(s): <input type="file" name="datafile" size="40"> <input type="submit" value="Import"> </form>
HTTP Request:	----------13290916118636 Content-Disposition: form-data; name="phonebook" ----------13290916118636 Content-Disposition: form-data; name="datafile"; filename="pb.csv" Content-Type: application/vnd.ms-excel "First Name","Last Name","Phone Number","Notes" "Amanda","Cohen","6511234","" "Nicholas","Knight","6125551228","Sales" "Natalie","Lambert","9525559876","Benefits" "Joseph","Stonetree","6515557612","Manager"
Request Parameters:	id (required): The database ID for the phone book
HTTP Response:	202: Successfully Accepted **Note** This response indicates a successful completion of the request. The request is processed and the actual response is sent as part of and updated to the PhoneBook object. 400: Invalid Input 400: Maximum Exceeded 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

PhoneBook—Import Contact List (XML)

This API allows an administrator to replace all the contacts in a specific phone book by importing a collection of contacts. The collection can contain up to 1500 contacts.

All existing contacts in the phone book are deleted before the new contacts are inserted. Contacts that contain errors are not inserted.

URI:	http://<FQDN>/finesse/api/PhoneBook/<id>/Contacts

Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/34/Contacts
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<Contacts> <Contact> ...Full Contact Object... </Contact> <Contact> ...Full Contact Object... </Contact> <Contact> ...Full Contact Object </Contact>
Request Parameters:	id (required): The database ID for the phone book
HTTP Response:	202: Successfully Accepted **Note** This response indicates a successful completion of the request. The request is processed and the actual response is sent as part of and updated to the PhoneBook object. **Note** Some of the data could not be imported because it was invalid. The ErrorData field contains a list of lines that were not imported. This response indicates partial success because some data was uploaded. 400: Invalid Input 400: Maximum Exceeded 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

PhoneBook—Export Contact List

This API allows an administrator to export a list of contacts that belong to a specific phone book. The list is exported in CSV format.

URI:	http://<FQDN>/finesse/api/PhoneBook/<id>/Contacts/csvFileContent

Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/34/Contacts/csvFileContent
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	text/CSV
Input/Output Format:	Multipart/form-data type=file

Example Exported CSV File:	`"First Name","Last Name","Phone Number","Notes"`
	`"Amanda","Cohen","6511234",""`
	`"Nicholas","Knight","6125551228","Sales"`
	`"Natalie","Lambert","9525559876","Benefits"`
	`"Joseph","Stonetree","6515557612","Manager"`

HTTP Response:	200: Success **Note** This response indicates a successful completion of the request. After a successful request, browser clients are prompted to save the returned content as a CSV file. 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Authorization Failure</ErrorType>`
	`  <ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`  <ErrorData>jsmith</ErrorData>`
	`  </ApiError>`
	`</ApiErrors>`

PhoneBook API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the PhoneBook object.	—	The id in the URI maps to the primary key of the phone book entry.
name	String	The name of the phone book.	—	
type	String	The type of phone book.	GLOBAL, TEAM	

PhoneBook API Errors

Status	Error Type	Description
400	Finesse API Error	API error such as the object is stale or does not exist.
400	Invalid Input	One of the input parameters exceeded constraints. Contacts could not be imported because the data was invalid. The file may be empty or may not contain any valid lines. If the ErrorData field contains no lines, there may not be data to import. The multipart mime message may have been improperly formatted or did not contain a file. The multipart mime message may have been improperly formatted or did not contain a file. In this case, the existing records are overwritten.
400	In Use	The phone book is assiged to a team. You cannot change a team phone book to a global phone book if it is use. You cannot delete a phone book if it is use.
400	Maximum Exceeded	The maximum number of phone books or contacts has been exceeded.
400	Parameter Missing	A required parameter was not present in the request.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
401	Invalid Authorization User Specified	The authenticated user tried to use the identity of another user.
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
404	Not Found	The specified resource cannot be found.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

Contact

The Contact object represents a contact that can be assigned to a phone book. A phone book can contain up to 1500 contacts. Finesse supports a system-wide total of 50,000 contacts.

The Contact object is structured as follows:

```
<Contact>
   <firstName></firstName>
   <lastName></lastName>
   <phoneNumber></phoneNumber>
   <description></description>
   <uri>/finesse/api/PhoneBook/{phoneBookId}/Contact/{id}</uri>
</Contact>
```

Contact APIs

Contact—Get

This API allows an administrator to get a specific phone book contact.

URI:	http://<FQDN>/finesse/api/PhoneBook/<phoneBookId>/Contact/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/34/Contact/785
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error

Example Response:	`<Contact>`
	`<firstName>John</firstName>`
	`<lastName>Doe</lastName>`
	`<phoneNumber>5551234</phoneNumber>`
	`<description>Accounts Manager</description>`
	`<uri>/finesse/api/PhoneBook/34/Contact/785</uri>`
	`</Contact>`

Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

Contact—Get List

This API allows an administrator to get a list of contacts for a specific phone book.

URI:	http://<FQDN>/finesse/api/PhoneBook/<phoneBookId>/Contacts
Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/34/Contacts
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error
Example Response:	<Contacts> <Contact> ...Full Contact Object... </Contact> <Contact> ...Full Contact Object... </Contact> <Contact> ...Full Contact Object... </Contact> </Contacts>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

Contact—Create

This API allows an administrator to create a new phone book contact.

URI:	http://<FQDN>/finesse/api/PhoneBook/<phoneBookId>/Contact/
Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/34/Contact/
Security Constraints:	Only administrators can use this API.
HTTP Method:	POST
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<Contact> <firstName>Jerry</firstName> <lastName>Green</lastName> <phoneNumber>5554444</phoneNumber> <description>Product Expert</description> </Contact>
Request Parameters:	phoneBookId (required): Maps to the primary key of the phone book to which the contact belongs firstName (optional): The first name of the contact lastName (optional): The last name of the contact phoneNumber (required): The phone number of the contact description (optional): A description for the contact
HTTP Response:	200: Success **Note** Finesse successfully created the new contact. The server response contains an empty response body and a location header that denotes the absolute URL of the new contact. 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

Contact—Update

This API allows an administrator to modify a specific phone book contact.

URI:	http://<FQDN>/finesse/api/PhoneBook/<phoneBookId>/Contact/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/45 /Contact/787
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<Contact> <firstName>Marie</firstName> <lastName>Brown</lastName> <phoneNumber>5554444</phoneNumber> <description>Product Expert</description> </Contact>
Request Parameters:	phoneBookId (required): Maps to the primary key of the phone book to which the contact belongs id (required): Maps to the primary key of the contact entry firstName (optional): The first name of the contact lastName (optional): The last name of the contact phoneNumber (required): The phone number of the contact description (optional): A description for the contact
HTTP Response:	202: Successfully Accepted 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Authorization Failure</ErrorType> <ErrorMessage>UNAUTHORIZED</ErrorMessage> <ErrorData>jsmith</ErrorData> </ApiError> </ApiErrors>

Contact—Delete

This API allows an administrator to delete an existing phone book contact.

URI:	http://<FQDN>/finesse/api/PhoneBook/<phoneBookId>/Contact/<id>

Example URI:	http://finesse1.xyz.com/finesse/api/PhoneBook/43 /Contact/1523
Security Constraints:	Only administrators can use this API.
HTTP Method:	DELETE
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorType>Authorization Failure</ErrorType>`
	`<ErrorMessage>UNAUTHORIZED</ErrorMessage>`
	`<ErrorData>jsmith</ErrorData>`
	`</ApiError>`
	`</ApiErrors>`

Contact API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the Contact object.	—	The phoneBookId in the URI maps to the primary key of the phone book to which the contact belongs. The id in the URI maps to the primary key of the contact entry.
firstName	String	The first name of the contact.	—	Maximum of 128 characters.
lastName	String	The last name of the contact.	—	Maximum of 128 characters.
phoneNumber	String	The phone number for the contact.	—	Maximum of 32 characters.

Parameter	Type	Description	Possible Values	Notes
description	String	A description of the contact.	—	Maximum of 128 characters.

Contact API Errors

Status	Error Type	Description
400	Bad Request	The request body is invalid.
400	Finesse API Error	API error such as the object is stale or does not exist.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
404	Not Found	The specified resource cannot be found.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

Workflow

The Workflow object represents a workflow that can be assigned to a team. Workflows manage agent activity based on call events. Workflows have triggers and conditions, which are used to determine whether the associated actions are executed. The Workflow object contains the following subobjects: TriggerSet, ConditionSet, and workflowActions. The Workflow object is structured as follows:

```
<Workflow>
   <uri>/finesse/api/Workflow/{id}</uri>
   <name></name>
   <description></description>
   <media></media>
   <TriggerSet>
      <type></type>
      <name></name>
      <allowOverlappingCallWorkflow></allowOverlappingCallWorkflow>
      <triggers>
         <Trigger>
            <Variable>
               <name></name>
               <node></node>
               <type></type>
            </Variable>
            <comparator></comparator>
```

```
            <value></value>
         </Trigger>
         <Trigger>
            <Variable>
               <name></name>
               <node></node>
               <type></type>
            </Variable>
            <comparator></comparator>
            <value></value>
         </Trigger>
      </triggers>
   </TriggerSet>
   <ConditionSet>
      <applyMethod></applyMethod>
      <conditions>
         <Condition>
            <Variable>
               <name></name>
               <type></type>
            </Variable>
            <comparator></comparator>
            <value></value>
         </Condition>
         <Condition>
            <Variable>
               <name></name>
               <type></type>
            </Variable>
            <comparator></comparator>
            <value></value>
         </Condition>
      </conditions>
   </ConditionSet>
   <workflowActions>
      <WorkflowAction>
         <name></name>
         <type></type>
         <uri>/finesse/api/WorkflowAction/{id}</uri>
      </WorkflowAction>
      <WorkflowAction>
         <name></name>
         <type></type>
         <uri>/finesse/api/WorkflowAction/{id}</uri>
      </WorkflowAction>
   </workflowActions>
</Workflow>
```

The following SYSTEM TriggerSets are defined by the Finesse system. When you create a workflow, you need only specify the name and type of SYSTEM. The TriggerSets are automatically expanded when retrieved by the User—Get list of workflows API.

CALL_ARRIVES

```
<TriggerSet>
    <type>SYSTEM</type>
    <name>CALL_ARRIVES</name>
    <triggers>
        <Trigger>
            <Variable>
                <name>mediaType</name>
                <node>//Dialog/mediaType</node>
                <type>CUSTOM</type>
            </Variable>
```

```
            <comparator>IS_EQUAL</comparator>
            <value>Voice</value>
        </Trigger>
        <Trigger>
            <Variable>
                <name>callType</name>
                <node>//Dialog/mediaProperties/callType</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_IN_LIST</comparator>
            <value>ACD_IN,PREROUTE_ACD_IN,PREROUTE_DIRECT_AGENT,TRANSFER,OVERFLOW_IN,
            OTHER_IN,AGENT_OUT,OUT,OUTBOUND,OUTBOUND_CALLBACK,OUTBOUND_PERSONAL_CALLBACK,
        AGENT_INSIDE,OFFERED,CONSULT,CONSULT_OFFERED,CONSULT_CONFERENCE,CONFERENCE,
        TASK_ROUTED_BY_ICM,TASK_ROUTED_BY_APPLICATION,VOICE_CALL_BACK,NON_ACD,
        SUPERVISOR_BARGE_IN,NULL</value>
        </Trigger>
        <Trigger>
            <Variable>
                <name>state</name>
                <node>//Dialog/participants/Participant/mediaAddress
                [.='${extension}']/../state</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_IN_LIST</comparator>
            <value>ALERTING,ACTIVE,HELD</value>
        </Trigger>
        <Trigger>
            <Variable>
                <name>fromAddress</name>
                <node>//Dialog/fromAddress</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_NOT_EQUAL</comparator>
            <value>${extension}</value>
        </Trigger>
    </triggers>
</TriggerSet>
```

CALL_ANSWERED

```
<TriggerSet>
    <type>SYSTEM</type>
    <name>CALL_ANSWERED</name>
    <triggers>
        <Trigger>
            <Variable>
                <name>mediaType</name>
                <node>//Dialog/mediaType</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_EQUAL</comparator>
            <value>Voice</value>
        </Trigger>
        <Trigger>
            <Variable>
                <name>callType</name>
                <node>//Dialog/mediaProperties/callType</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_IN_LIST</comparator>
            <value>ACD_IN,PREROUTE_ACD_IN,PREROUTE_DIRECT_AGENT,TRANSFER,OVERFLOW_IN,
            OTHER_IN,AGENT_OUT,OUT,OUTBOUND,OUTBOUND_CALLBACK,OUTBOUND_PERSONAL_CALLBACK,
            AGENT_INSIDE,OFFERED,CONSULT,CONSULT_OFFERED,CONSULT_CONFERENCE,CONFERENCE,
            TASK_ROUTED_BY_ICM,TASK_ROUTED_BY_APPLICATION,VOICE_CALL_BACK,NON_ACD,
            SUPERVISOR_BARGE_IN,NULL</value>
```

```
        </Trigger>
        <Trigger>
            <Variable>
                <name>state</name>
                <node>//Dialog/participants/Participant/mediaAddress
                [.='${extension}']/../state</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_EQUAL</comparator>
            <value>ACTIVE</value>
        </Trigger>
    </triggers>
</TriggerSet>
```

CALL_ENDS

```
<TriggerSet>
    <type>SYSTEM</type>
    <name>CALL_ENDS</name>
    <triggers>
        <Trigger>
            <Variable>
                <name>mediaType</name>
                <node>//Dialog/mediaType</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_EQUAL</comparator>
            <value>Voice</value>
        </Trigger>
        <Trigger>
            <Variable>
                <name>callType</name>
                <node>//Dialog/mediaProperties/callType</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_IN_LIST</comparator>
            <value>ACD_IN,PREROUTE_ACD_IN,PREROUTE_DIRECT_AGENT,TRANSFER,OVERFLOW_IN,
        OTHER_IN,AGENT_OUT,OUT,OUTBOUND,OUTBOUND_CALLBACK,OUTBOUND_PERSONAL_CALLBACK,
        AGENT_INSIDE,OFFERED,CONSULT,CONSULT_OFFERED,CONSULT_CONFERENCE,CONFERENCE,
        TASK_ROUTED_BY_ICM,TASK_ROUTED_BY_APPLICATION,VOICE_CALL_BACK,NON_ACD,
        SUPERVISOR_BARGE_IN,NULL</value>
        </Trigger>
        <Trigger>
            <Variable>
                <name>state</name>
                <node>//Dialog/participants/Participant/mediaAddress
                [.='${extension}']/../state</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_IN_LIST</comparator>
            <value>DROPPED,WRAP_UP</value>
        </Trigger>
    </triggers>
</TriggerSet>
```

CALL_IS_MADE

```
<TriggerSet>
    <type>SYSTEM</type>
    <name>CALL_IS_MADE</name>
    <triggers>
        <Trigger>
            <Variable>
                <name>mediaType</name>
                <node>//Dialog/mediaType</node>
```

```
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_EQUAL</comparator>
            <value>Voice</value>
        </Trigger>
        <Trigger>
            <Variable>
                <name>callType</name>
                <node>//Dialog/mediaProperties/callType</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_IN_LIST</comparator>
            <value>ACD_IN,PREROUTE_ACD_IN,PREROUTE_DIRECT_AGENT,TRANSFER,OVERFLOW_IN,
        OTHER_IN,AGENT_OUT,OUT,OUTBOUND,OUTBOUND_CALLBACK,OUTBOUND_PERSONAL_CALLBACK,
        AGENT_INSIDE,OFFERED,CONSULT,CONSULT_OFFERED,CONSULT_CONFERENCE,CONFERENCE,
        TASK_ROUTED_BY_ICM,TASK_ROUTED_BY_APPLICATION,VOICE_CALL_BACK,NON_ACD,
        SUPERVISOR_BARGE_IN,NULL</value>
        </Trigger>
        <Trigger>
            <Variable>
                <name>state</name>
                <node>//Dialog/participants/Participant/mediaAddress
                [.='${extension}']/../state</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_IN_LIST</comparator>
            <value>ALERTING,INITIATED,FAILED,ACTIVE,HELD</value>
        </Trigger>
        <Trigger>
            <Variable>
                <name>fromAddress</name>
                <node>//Dialog/fromAddress</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_EQUAL</comparator>
            <value>${extension}</value>
        </Trigger>
    </triggers>
</TriggerSet>
```

CALL_IS_PREVIEWED

```
<TriggerSet>
    <type>SYSTEM</type>
    <name>CALL_IS_PREVIEWED</name>
    <triggers>
        <Trigger>
            <Variable>
                <name>mediaType</name>
                <node>//Dialog/mediaType</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_EQUAL</comparator>
            <value>Voice</value>
        </Trigger>
        <Trigger>
            <Variable>
                <name>callType</name>
                <node>//Dialog/mediaProperties/callType</node>
                <type>CUSTOM</type>
            </Variable>
            <comparator>IS_IN_LIST</comparator>
            <value>OUTBOUND_PREVIEW,OUTBOUND_CALLBACK_PREVIEW,OUTBOUND_DIRECT_PREVIEW,
            OUTBOUND_PERSONAL_CALLBACK_PREVIEW</value>
        </Trigger>
```

```
    </triggers>
    <allowOverlappingCallWorkflow>true</allowOverlappingCallWorkflow>
</TriggerSet>
```

Workflow APIs

Workflow—Get

This API allows an administrator to get a specific Workflow object.

URI:	http://<FQDN>/finesse/api/Workflow/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/Workflow/195
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error

Example Response:	

```
<Workflow>
   <uri>/finesse/api/Workflow/195</uri>
   <name>Workflow A</name>
   <description>Workflow description</description>
   <media>Media Channel</media>
   <TriggerSet>
      <type>SYSTEM</type>
      <name>CALL_ARRIVES</name>
      <triggers>
         <Trigger>
            <Variable>
               <name>mediaType</name>
               <node>//Dialog/mediaType</node>
               <type>CUSTOM</type>
            </Variable>
            <comparator>IS_EQUAL</comparator>
            <value>Voice</value>
         </Trigger>
         <Trigger>
            <Variable>
               <name>callType</name>
               <node>//Dialog/mediaProperties/callType</node>
               <type>CUSTOM</type>
            </Variable>
            <comparator>IS_IN_LIST</comparator>
            <value>ACD_IN,PREROUTE_ACD_IN,PREROUTE_
             DIRECT_AGENT,TRANSFER,OVERFLOW_IN,
             OTHER_IN,AGENT_OUT,OUT,OUTBOUND,OUTBOUND_
             CALLBACK,OUTBOUND_PERSONAL_CALLBACK,AGENT_INSIDE,
             OFFERED,CONSULT,CONSULT_OFFERED,CONSULT_CONFERENCE,
             CONFERENCE,TASK_ROUTED_BY_ICM,TASK_ROUTED_BY_
             APPLICATION,VOICE_CALL_BACK,NON_ACD,SUPERVISOR_
             BARGE_IN,NULL</value>
         </Trigger>
         <Trigger>
            <Variable>
               <name>state</name>

<node>//Dialog/participants/Participant/mediaAddress[.=${userExtension}]/../state</node>

               <type>CUSTOM</type>
            </Variable>
            <comparator>IS_IN_LIST</comparator>
            <value>ALERTING,ACTIVE,HELD</value>
         </Trigger>
      </triggers>
   </TriggerSet>
   <ConditionSet>
      <applyMethod>ALL</applyMethod>
      <conditions>
         <Condition>
            <Variable>
               <name>callVariable1</name>
               <type>SYSTEM</type>
            </Variable>
            <comparator>CONTAINS</comparator>
            <value>1234</value>
         </Condition>
         <Condition>
            <Variable>
               <name>user.foo.bar[1}</name>

<node>/dialogs/Dialog/mediaProperties/callvariables/CallVariable/name[.="user.foo.bar[1]"]/../value</node>
```

	<pre><type>CUSTOM</type>
	</Variable>
	<comparator>IS_NOT_EMPTY</comparator>
	</Condition>
	</conditions>
	</ConditionSet>
	<workflowActions>
	<WorkflowAction>
	<name>Google</name>
	<type>BROWSER_POP</type>
	<uri>/finesse/api/WorkflowAction/1234</uri>
	</WorkflowAction>
	<WorkflowAction>
	<name>Company Web Page</name>
	<type>BROWSER_POP</type>
	<uri>/finesse/api/WorkflowAction/9876</uri>
	</WorkflowAction>
	</workflowActions>
	</Workflow></pre>

Example Failure Response:	<pre><ApiErrors>
	<ApiError>
	<ErrorData>Workflow 10009 not found.</ErrorData>
	<ErrorType>Not Found</ErrorType>
	<ErrorMessage>HTTP Status code:404 (Not Found)
	Api Error Type: Not Found
	Error Message: Workflow not found with an id of 10009
	</ErrorMessage>
	</ApiError>
	</ApiErrors></pre>

Workflow—Get List

This API allows an administrator to get a list of workflows.

URI:	http://<FQDN>/finesse/api/Workflows
Example URI:	http://finesse1.xyz.com/finesse/api/Workflows
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 500: Internal Server Error
Example Response:	<Workflows> <Workflow> ...Full Workflow Object... </Workflow> <Workflow> ...Full Workflow Object... </Workflow> <Workflow> ...Full Workflow Object... </Workflow> </Workflows>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>Database read/write error</ErrorData> <ErrorType>Bad Request</ErrorType> <ErrorMessage> HTTP Status code: 400 (Bad Request) Api Error Type: Bad Request Error Message: Database read/write error </ErrorMessage> </ApiError> </ApiErrors>

Workflow—Create

This API allows an administrator to create a new workflow. Finesse supports a maximum of 100 workflows.

Note If you provide two or more duplicate tags during a POST, the value of the last duplicate tag is processed and all other duplicate tags are ignored.

URI:	http://<FQDN>/finesse/api/Workflow/
Example URI:	http://finesse1.xyz.com/finesse/api/Workflow/
Security Constraints:	Only administrators can use this API.
HTTP Method:	POST
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<Workflow> ...Full Workflow Object... </Workflow>

Request Parameters:	id (required): Maps to the primary key of the workflow entry name (required): The name of the workflow description (optional): A description of the workflow Media (optional): The media of the workflow TriggerSet (required): A set of events that cause the conditions to be evaluated ConditionSet (optional): A set of conditions that determine if the workflow is executed workflowActions (optional): A list of workflow actions to execute if the trigger and conditions are satisfied
HTTP Response:	200: Success **Note** Finesse successfully created the new workflow. The server response contains an empty response body and a location header that denotes the absolute URL of the new phone book. 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorData>Duplicate Workflow name.</ErrorData>`
	`<ErrorType>Database constraint violation</ErrorType>`
	`<ErrorMessage>`
	`HTTP Status code: 400 (Bad Request)`
	`Api Error Type: Database constraint violation`
	`Error Message: A workflow with the same name already exists`
	`</ErrorMessage>`
	`</ApiError>`
	`</ApiErrors>`

Workflow—Update

This API allows an administrator to update an existing workflow.

If the attributes (name, description, TriggerSet, ConditionSet, workflowActions) for the specified workflow do not change, the request does not need to include those attributes. If an attribute is not specified, the current value is retained. However, you must specify at least one attribute in the request.

If you only want to change the description of the workflow, you can make the following request:

```
<Workflow>
   <description>New description</description>
</Workflow>
```

Note If you provide two or more duplicate tags during a PUT, the value of the last duplicate tag is processed and all other duplicate tags are ignored.

URI:	http://<FQDN>/finesse/api/Workflow/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/Workflow/769
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<Workflow>`
	`...Workflow Object...`
	`</Workflow>`

Request Parameters:	id (required): Maps to the primary key of the workflow entry name (optional): The name of the workflow description (optional): A description of the workflow Media (optional): The media of the workflow TriggerSet (optional): A set of events that cause the conditions to be evaluated ConditionSet (optional): A set of conditions that determine if the workflow is executed workflowActions (optional): A list of workflow actions to execute if the trigger and conditions are satisfied
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error

Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>For update, at least one field must be set.</ErrorData> <ErrorType>Invalid Input</ErrorType> <ErrorMessage> HTTP Status code: 400 (Bad Request) Api Error Type: Invalid Input Error Message: Updating a Workflow requires specifying at least one value to be changed. </ErrorMessage> </ApiError> </ApiErrors>

Workflow—Delete

This API allows an administrator to delete an existing workflow. The administrator references the existing Workflow object by its ID.

URI:	http://<FQDN>/finesse/api/Workflow/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/Workflow/768
Security Constraints:	Only administrators can use this API.
HTTP Method:	DELETE
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>Workflow 1009 not found.</ErrorData> <ErrorType>Not Found</ErrorType> <ErrorMessage> HTTP Status code: 404 (Not Found) Api Error Type: Not Found Error Message: Workflow not found with an id of 1009 </ErrorMessage> </ApiError> </ApiErrors>

Workflow API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the Workflow object.	—	The id in the URI maps to the primary key of the workflow.
name	String	The name of the workflow.	—	Must be unique. Maximum of 40 characters.
description	String	A description of the workflow.	—	Maximum of 128 characters.

media	String	Media channel of the workflow	—	Media channel maps to the media id.
				Note Domain List can be obtained from the MediaDomain API.
				• For Unified CCE, you can define custom media channels for Voice and Digital Channels.
				• For Unified CCX, the media channels are:
				  • Voice with media id as 1.
				  • Chat with media id as Chat.
				  • Email with media id as Email.
				Note If no media channels are specified, Voice is set as the default media.

TriggerSet	Object	A set of events that cause the conditions to be evaluated.	—	

Parameter	Type	Description	Possible Values	Notes
ConditionSet	Object	A set of conditions that determine whether the workflow executes.	—	You can assign up to five conditions to a workflow.
workflowActions	Object	A list of workflow actions to execute if the trigger and its conditions are met. Actions execute in the order in which they appear in this list.	—	You can assign up to five workflow actions to a workflow. When getting a workflow or list of workflows, this list contains summary workflow actions (name, type, and URL). When creating or updating a workflow, only the URI is required in each workflow action. For more information, see WorkflowAction, on page 249.

ConditionSet Parameters

Parameter	Type	Description	Possible Values	Notes
applyMethod	String	Determines whether any or all of the conditions must be met for the workflow to execute.	ANY, ALL	
conditions	Object	A list of conditions for the workflow.	—	Maximum of five conditions for a workflow. A workflow with no conditions is specified by a conditions parameter with no Condition elements.
Condition	Object	Information about a workflow condition.	—	

Parameter	Type	Description	Possible Values	Notes
Variable	Object	A piece of data from the Trigger event used to filter the event.	—	Leading and trailing spaces are removed from the variable during evaluation. Comma-separated values in a list also have leading and trailing spaces removed. If the value contains only spaces, it is treated as an empty value.
comparator	String	The operator used to compare the event variable to the desired value.	IS_EQUAL, IS_NOT_EQUAL, BEGINS_WITH, ENDS_WITH, CONTAINS, IS_EMPTY, IS_NOT_EMPTY, IS_IN_LIST, IS_NOT_IN_LIST	
value	String	The value to compare the event variable with.	When type is SYSTEM, valid values are CALL_ARRIVES, CALL_ANSWERED, CALL_ENDS, CALL_IS_MADE, and CALL_IS_PREVIEWED.	If the comparator is IS_IN_LIST or IS_NOT_IN_LIST, the value is one of a comma-separated list of values. If an explicit comma is needed, it must be escaped with a backslash (\,). If a backslash is needed, it must be escaped with a backslash (\\) (for example, apple,slash\\ here,comma\,here,ball).

TriggerSet Parameters

Parameter	Type	Description	Possible Values	Notes
type	String	The type of TriggerSet.	SYSTEM	

Parameter	Type	Description	Possible Values	Notes
name	String	The name of the TriggerSet	When type is SYSTEM, valid values are CALL_ARRIVES, CALL_ANSWERED, CALL_ENDS, CALL_IS_MADE, and CALL_IS_PREVIEWED.	
allow Overlapping CallWorkflow	Boolean	Indicates whether workflow for a second simultaneous call can fir while the call for this trigger is in process.	TRUE, FALSE	Default for this parameter is FALSE.
triggers	Object	List of Trigger subobjects.	—	For workflow admin, this field is not returned and is ignored if the type is SYSTEM.

Trigger Parameters

Parameter	Type	Description	Possible Values	Notes
Variable	Object	A piece of data from the trigger event to be used to filter the event. Contains a name, node, and type.	—	
name	String	A unique name for the variable. Used as a readable, unique key for the variable.	—	
node	String	The XPath to use to extract the value of the variable from an XMPP event that might contain it.	—	

Parameter	Type	Description	Possible Values	Notes
type	String	Indicates whether this is a system or custom variable.	SYSTEM, CUSTOM	SYSTEM variables are name references to the values returned by SystemVariable and do not require a node value. CUSTOM variables are self-defining and require a node and a unique name that does not conflict with any system variable.

Nodes can contain the following predefined variables as part of their XPath. When the node is evaluated, the current value as received in the most recent User event will be substituted in place of the variable. Variables are surrounded by ${} when specified in XPath as shown in the table below.

Note These variables are a subset of those defined by the SystemVariable resource

SYSTEM variables are name references to the values returned by SystemVariable and do not require a node value. CUSTOM variables are self-defining and require a node and a unique name that does not conflict with any system variable.

Variable Name	Value	Data Type
${userExtension}	The extension this user is currently using.	String
${userLoginId}	The login ID of the user.	String
${userLoginName}	The user's login name.	String
${userTeamName}	The name of the team the user belongs to.	String
${userTeamId}	The ID of the team the user belongs to.	String
${userFirstName}	The first name of the user.	String
${userLastName}	The last name of the user.	String

Workflow API Errors

Status	Error Type	Description
400	Bad Request	The request body is invalid.
400	Finesse API Error	API error such as the object is stale or does not exist.

Status	Error Type	Description
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
404	Not Found	The specified resource cannot be found.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

WorkflowAction

The WorkflowAction object represents a workflow action that can be assigned to a workflow. Finesse supports a system-wide maximum of 100 workflow actions.

The WorkflowAction object is structured as follows:

```
<WorkflowAction>
    <uri>/finesse/api/WorkflowAction/{id}</uri>
    <name></name>
    <type></type>
    <handledBy></handledBy>
    <params>
        <Param>
            <name><name>
            <value></value>
        </Param>
        <Param>
            <name></name>
            <value></value>
        </Param>
    </params>
    <actionVariables>
        <ActionVariable>
            <name></name>
            <type></type>
        </ActionVariable>
    </actionVariables>
</WorkflowAction>
```

There are two types of workflow actions: BROWSER_POP and HTTP_REQUEST.

The BROWSER_POP type is structured as follows:

```
<WorkflowAction>
    <uri>/finesse/api/WorkflowAction/{id}</uri>
    <name>DuckDuckGo</name>
    <type>BROWSER_POP</type>
    <handledBy>FINESSE_DESKTOP</handledBy>
    <params>
```

```
        <Param>
     <name>path<name>
           <value>http://www.example.com?q=${callVariable1}</value>
     </Param>
     <Param>
     <name>windowName</name>
           <value>theWindow</value>
      </Param>
    </params>
    <actionVariables>
     <ActionVariable>
     <name>callVariable1</name>
           <type>SYSTEM</type>
     </ActionVariable>
    </actionVariables>
</WorkflowAction>
```

The HTTP_REQUEST type is structured as follows:

```
<WorkflowAction>
    <name>Test with Content Type</name>
    <type>HTTP_REQUEST</type>
    <handledBy>FINESSE_DESKTOP</handledBy>
        <Param>
        <name>path</name>
           <value>http://www.example.com?q=${callVariable1}</value>
        </Param>
        <Param>
            <name>method</name>
            <value>PUT</value>
        </Param>
        <Param>
            <name>authenticationType</name>
            <value>BASIC</value>
        </Param>
        <Param>
            <name>location</name>
            <value>OTHER</value>
        </Param>
        <Param>
            <name>contentType</name>
            <value>application/xml</value>
        </Param>
        <Param>
            <name>body</name>
            <value>${callVariable1},${callVariable2}</value>
        </Param>
    </params>
    <actionVariables>
        <ActionVariable>
            name>callVariable1</name>
            <type>SYSTEM</type>
        </ActionVariable>
        <ActionVariable>
            <name>callVariable2</name>
            <type>SYSTEM</type>
        </ActionVariable>
    </actionVariables>
</WorkflowAction>
```

WorkflowAction APIs

WorkflowAction—Get

This API allows an administrator to get a specific WorkflowAction object.

URI:	http://<FQDN>/finesse/api/WorkflowAction/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/WorkflowAction/674
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error

Example Response:	`<WorkflowAction>`
	`...Full WorkflowAction Object...`
	`</WorkflowAction>`

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorData>Action 674 not found.</ErrorData>`
	`<ErrorType>Not Found</ErrorType>`
	`<ErrorMessage>HTTP Status code:404 (Not Found)`
	`Api Error Type: Not Found`
	`Error Message: Workflow not found with an id of 674`
	`</ErrorMessage>`
	`</ApiError>`
	`</ApiErrors>`

WorkflowAction—Get List

This API allows an administrator to get a list of workflow actions.

URI:	http://<FQDN>/finesse/api/WorkflowActions
Example URI:	http://finesse1.xyz.com/finesse/api/WorkflowActions

Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 500: Internal Server Error
Example Response:	<WorkflowActions> <WorkflowAction> <name>WorkflowAction 1</name> <type>HTTP</name> <uri>/finesse/api/WorkflowAction/{id}</uri> </WorkflowAction> <WorkflowAction> <name>WorkflowAction 2</name> <type>DELAY</name> <uri>/finesse/api/WorkflowAction/{id}</uri> </WorkflowAction> </WorkflowActions>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>Database read/write error</ErrorData> <ErrorType>Bad Request</ErrorType> <ErrorMessage> HTTP Status code: 400 (Bad Request) Api Error Type: Bad Request Error Message: Database read/write error </ErrorMessage> </ApiError> </ApiErrors>

WorkflowAction—Create

This API allows an administrator to create a new workflow action.

Note If you provide two or more duplicate tags during a POST, the value of the last duplicate tag is processed and all other duplicate tags are ignored.

URI:	http://<FQDN>/finesse/api/WorkflowAction/

Example URI:	http://finesse1.xyz.com/finesse/api/WorkflowAction/
Security Constraints:	Only administrators can use this API.
HTTP Method:	POST
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<WorkflowAction>`
	`...Full WorkflowAction Object...`
	`</WorkflowAction>`

Request Parameters (Browser Pop):	name (required): The name of the workflow action type (required): The type of workflow action handledBy (required): Indicates what handles the action params (required): List of Params for the workflow action actionVariables (required): list of actionVariables for the workflow path (required): The path to use in the action windowName (optional): The window name to pop open
Request Parameters (HTTP Request):	name (required): The name of the workflow action type (required): The type of workflow action handledBy (required): Indicates what handles the action params (required): List of Params for the workflow action actionVariables (required): list of actionVariables for the workflow path (required): The path to use in the action method (required): The method to use in the request authenticationType (optional): The authentication type to use in the request location (required): Whether the request is to Finesse or a third party contentType (optional): The value of the content type header to send with the request body (optional): The body to send with the request

HTTP Response:	200: Success **Note** Finesse successfully created the new workflow action. The server response contains an empty response body and a location header that denotes the absolute URL of the new workflow action. 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorData>Action Type is invalid.</ErrorData>`
	`<ErrorType>Invalid Input</ErrorType>`
	`<ErrorMessage>`
	`HTTP Status code: 400 (Bad Request)`
	`Api Error Type: Invalid Input`
	`Error Message: type is invalid`
	`</ErrorMessage>`
	`</ApiError>`
	`</ApiErrors>`

WorkflowAction—Update

This API allows an administrator to update an existing workflow action.

If the attributes (name, description, TriggerSet, ConditionSet, workflowActions) for the specified workflow do not change, the request does not need to include those attributes. If an attribute is not specified, the current value is retained. However, you must specify at least one attribute in the request.

If you only want to change the description of the workflow, you can make the following request:

```
<Workflow>
   <description>New description</description>
</Workflow>
```

Note If you provide two or more duplicate tags during a PUT, the value of the last duplicate tag is processed and all other duplicate tags are ignored.

URI:	http://<FQDN>/finesse/api/WorkflowAction/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/WorkflowAction/769
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	`<WorkflowAction>`
	`...WorkflowAction Object...`
	`</WorkflowAction>`

Request Parameters:	id (required): Maps to the primary key of the workflowAction entry name (required): The name of the workflow action type (required): The type of workflow action handledBy (required): Indicates what handles the action params (required): List of Params for the workflow action actionVariables (required): list of actionVariables for the workflow
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorData>Duplicate Action name.</ErrorData>`
	`<ErrorType>Database constraint violation</ErrorType>`
	`<ErrorMessage>`
	`HTTP Status code: 400 (Bad Request)`
	`Api Error Type: Database constraint violation`
	`Error Message: An action with the same name already exists`
	`</ErrorMessage>`
	`</ApiError>`
	`</ApiErrors>`

WorkflowAction—Delete

This API allows an administrator to delete an existing workflow action. The administrator references the existing WorkflowAction object by its ID.

URI:	http://<FQDN>/finesse/api/WorkflowAction/<id>
Example URI:	http://finesse1.xyz.com/finesse/api/WorkflowAction/768
Security Constraints:	Only administrators can use this API.
HTTP Method:	DELETE
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—

HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>Action 768 not found.</ErrorData> <ErrorType>Not Found</ErrorType> <ErrorMessage> HTTP Status code: 404 (Not Found) Api Error Type: Not Found Error Message: This is not a valid action </ErrorMessage> </ApiError> </ApiErrors>

WorkflowAction API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the WorkflowAction object.	—	The id in the URI maps to the primary key of the WorkflowAction.
name	String	The name of the workflow action.	—	Must be unique. Maximum of 64characters.
type	String	The type of workflow action	BROWSER_POP, HTTP_REQUEST	

Parameter	Type	Description	Possible Values	Notes
handledBy	String	Indicates what handles the action when it is triggered by a workflow.	FINESSE_DESKTOP, OTHER	For FINESSE_DESKTOP, the Finesse workflow engine executes the action. For OTHER, the action event is published on the OpenAJAX hub but is not executed by the Finesse desktop. This allows a third-party gadget to execute the action.
params	Object	A list of Param subobjects.	—	
-->Param	Object	Includes a name and value pair.	—	Params are flexible and can contain any value. Validation is based on the type of the WorkflowAction in which they are contained. See the following tables for more information.
--->name	String	The name of the parameter.	—	
--->value	String	The value of the parameter.	—	
actionVariables	Object	List of ActionVariable subobjects.	—	
-->ActionVariable	Object	Set of information about one ActionVariable.	—	You can assign up to five ActionVariable parameters to a workflow.
--->name	String	The name of the variable.	—	Maximum of 32 characters.

Parameter	Type	Description	Possible Values	Notes
--->node	String	The XPath to extract from the dialog XML.	—	Maximum of 500 characters. SYSTEM variables are name references to the values returned by SystemVariable and do not require a node value. CUSTOM variables are self-defining and require a node and a unique name that does not conflict with any system variable.
--->type	String	Indicates the type of variable	CUSTOM, SYSTEM	
--->testValue	String	The value used to test the variable.	—	Maximum of 128 characters.

Param Values (BROWSER_POP)

Parameter	Description	Possible Values	Size	Required?
path	The path to use in the BROWSER_POP action	The URL path is validated only to make sure its length is at least 1 and no longer than the maximum length. It is up to the user to provide a valid URL. Variables can be embedded into the URL by using a dollar sign and curly braces. For example: `http://www.example.com?q=${callVariable1}` causes the workflow engine to substitute the value of callVariable1 into the path. If a literal curly brace or dollar sign is needed in the URL, it must be escaped with a backslash (for example, \{). A literal backslash must be escaped with another backslash (\\).	500	Yes
windowName	The window name to pop open	The window name is passed to the browser Window Open method by the work flow engine. The value can be any string other than _parent, _self, or _top. It can also be an empty string or missing entirely, in which case the workflow engine passes _blank to the Window Open method.	40	No

Param (HTTP_REQUEST)

Parameter	Description	Possible Values	Size	Required?

path	The path to use in the HTTP_REQUEST action	The URL path is validated only to make sure its length is at least 1 and no longer than the maximum length. It is up to the user to provide a valid URL. Variables can be embedded into the URL by using a dollar sign and curly braces. For example:
		`http://www.example.com?q=${callVariable1}`
		will cause the workflow engine to substitute the value of callVariable1 into the path. If a literal curly brace or dollar sign is needed in the URL, they must be escaped with a backslash (e.g. \{). A literal backslash must be escaped with another backslash (e.g. \\).
		When location is FINESSE, the protocol, host, and port should not be specified. These will be inferred automatically by Finesse when it executes the REST request. For example, to send a dialog request for dialog id 32458, the following URL should be entered:
		`/finesse/api/Dialog/32458`
			500	Yes

method	The method to use in the HTTP_REQUEST	PUT, POST		Yes
authenticationType	The authentication type to use in the HTTP_REQUEST	BASIC: A basic access authentication header is included in the REST request each time it is made. NONE: No authentication is used with the request, no authentication headers or other negotiation is done as part of the request.		No
location	Defines if the HTTP_REQUEST is to Finesse or to a third party application	FINESSE: The request is made to Finesse and passes the credentials of the currently logged-in user NONE: No credentials are included as part of the request.		No
contentType	The value of the content type header to send with the HTTP_REQUEST	The content type is only validated to ensure it does not exceed the maximum length. You must make sure you provide a valid content type. If the parameter is empty, no content type header is sent with the HTTP_REQUEST.	500	No

body	The body to send with the HTTP_REQUEST	A free form text string that is included in the body of the request. It may be JSON, XPATH or any other format. It is not validated. If xml is included in the value it must be well formed xml. Variables may be embedded into the body by using a dollar sign curly braces. For example:
		`<foo>${callVariable1}</foo>`
		causes the workflow engine to substitute the value of callVariable1 into the body. If a literal curly brace or dollar sign is needed in the body it must be escaped with a backslash:
		`\{`
		A literal backslash must be escaped with another backslash :
		`\\`
			2000	No

WorkflowAction API Errors

Status	Error Type	Description
400	Bad Request	The request body is invalid.
400	Finesse API Error	API error such as the object is stale or does not exist.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
404	Not Found	The specified resource cannot be found.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

Team

The Team object represents a team and the resources associated with that team. For more information, see Team, on page 140.

The administrator uses the Team configuration APIs to assign or unassign resources (such as reason codes, wrap-up reasons, phonebooks, layout configuration, and workflows) to a specific team.

Team APIs

Team—Get List

This API allows an administrator to get a list of teams. The team must have agents or supervisors assigned to it for the team to appear in the retrieved list.

URI:	http://<FQDN>/finesse/api/Teams
Example URI:	http://finesse1.xyz.com/finesse/api/Teams
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Response:	`<Teams>`
	`  <Team>`
	`  ...Summary Team Object...`
	`  </Team>`
	`  <Team>`
	`  ...Summary Team Object...`
	`  </Team>`
	`  <Team>`
	`  ...Summary Team Object...`
	`  </Team>`
	`</Teams>`

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorType>Unauthorized</ErrorType>`
	`  <ErrorMessage>The user is not authorized to perform this operation.</ErrorMessage>`
	`  </ApiError>`
	`</ApiErrors>`

Team—Get List of Reason Codes

This API allows an administrator to get a list of reason codes for the specified category assigned to a specific team. The list is in the same format as defined in the section *ReasonCode*.

URI:	http://<FQDN>/finesse/api/Team/<id>/ReasonCodes?category=<category>
Example URI:	http://finesse1.xyz.com/finesse/api/Team/574/ReasonCodes?category=NOT_READY
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error

Example Response:	`<ReasonCodes category="NOT_READY">`
	`  <ReasonCode>`
	`  ... Full Reason Code Object ...`
	`  </ReasonCode>`
	`  <ReasonCode>`
	`  ... Full Reason Code Object ...`
	`  </ReasonCode>`
	`  <ReasonCode>`
	`  ... Full Reason Code Object ...`
	`  </ReasonCode>`
	`....`
	`</ReasonCodes>`

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorData>500</ErrorData>`
	`  <ErrorType>finesse.api.team.team_assignment_invalid_`
	`  team&</ErrorType>`
	`  <ErrorMessage>HTTP Status code: 404 (Not Found)`
	`  Api Error Type:finesse.api.team.team_assignment_invalid_team`
	
	`  Error Message:`
	`  This is not a valid team</ErrorMessage>`
	`  </ApiError>`
	`</ApiErrors>`

Team—Update List of Reason Codes

This API allows an administrator to assign or unassign a list of reason codes of the specified category to a team.

If multiple users try to update the reason code for the same team at the same time, the changes made by the last user to update overwrite the changes made by the other users.

This list includes all reason codes of the specified category that are assigned to a team. Any reason codes that you assign or unassign overwrite the current reason code list.

Note The category attribute of the ReasonCodes tag is not required for the update. If it is included in the request, it is ignored. However, all the reason codes in the list must have a category specified in the category query parameter. Inclusion of a reason code whose category does not match results in a Finesse API error (Status 400).

URI:	http://<FQDN>/finesse/api/Team/<Id>/ReasonCodes?category=<category>
Example URI:	http://finesse1.xyz.com/finesse/api/Team/574/ReasonCodes?category=NOT_READY
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<ReasonCodes> <ReasonCode> <uri>/finesse/api/ReasonCode/123</uri> </ReasonCode> <ReasonCode> <uri>/finesse/api/ReasonCode/456</uri> </ReasonCode> <ReasonCode> <uri>/finesse/api/ReasonCode/789</uri> </ReasonCode> .... </ReasonCodes>
Request Parameters:	id (required): The database ID for the team category (required): The category of reason code (NOT_READY or LOGOUT)

HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error

Example Failure Response:	`<ApiErrors>`
	`  <ApiError>`
	`  <ErrorData>category NOT_READ is invalid</ErrorData>`
	`  <ErrorType>Invalid Input</ErrorType>`
	`  <ErrorMessage>HTTP Status code:400 (Bad Request)`
	`  Api Error Type:Invalid Input`
	`  Error Message:Category must be NOT_READY`
	`  or LOGOUT</ErrorMessage>`
	`  </ApiError>`
	`</ApiErrors>`

Team—Get List of Wrap-Up Reasons

This API allows an administrator to get a list of wrap-up reasons assigned to a specific team. The list is in the same format as defined in the section WrapUpReason, on page 196.

URI:	http://<FQDN>/finesse/api/Team/<id>/WrapUpReasons
Example URI:	http://finesse1.xyz.com/finesse/api/Team/574/WrapUpReasons
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error

Example Response:	<WrapUpReasons> <WrapUpReason> ... Full WrapUpReason Object ... </WrapUpReason> <WrapUpReason> ... Full WrapUpReason Object ... </WrapUpReason> <WrapUpReason> ... Full WrapUpReason Object ... </WrapUpReason> .... </WrapUpReasons>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>500</ErrorData> <ErrorType>finesse.api.team.team_assignment_invalid_ team&</ErrorType> <ErrorMessage>HTTP Status code: 404 (Not Found) Api Error Type:finesse.api.team.team_assignment_ invalid_team Error Message: This is not a valid team</ErrorMessage> </ApiError> </ApiErrors>

Team—Update List of Wrap-Up Reasons

This API allows an administrator to assign or unassign a list of wrap-up reasons to a team.

This API restricts the maximum number of non-global wrap-up reasons that can be assigned to a single team to 100.

If multiple users try to update the wrap-up reasons for the same team at the same time, the changes made by the last user to update overwrite the changes made by the other users.

This list includes all wrap-up reasons that are assigned to a team. Any wrap-up reasons that you assign or unassign overwrite the current wrap-up reason list.

URI:	http://<FQDN>/finesse/api/Team/<Id>/WrapUpReasons
Example URI:	http://finesse1.xyz.com/finesse/api/Team/574/WrapUpReasons
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML

HTTP Request:	<WrapUpReasons> <WrapUpReason> <uri>/finesse/api/WrapUpReason/123</uri> </WrapUpReason> <WrapUpReason> <uri>/finesse/api/WrapUpReason/456</uri> </WrapUpReason> <WrapUpReason> <uri>/finesse/api/WrapUpReason/789</uri> </WrapUpReason> .... </WrapUpReasons>
Request Parameters:	id (required): The database ID for the team
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 400: Maximum Exceeded 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>574</ErrorData> <ErrorType>finesse.api.team.team_assignment_ invalid_team</ErrorType> <ErrorMessage>HTTP Status code: 404 (Not Found) Api Error Type:finesse.api.team.team_assignment_ invalid_team Error Message: This is not a valid team</ErrorMessage> </ApiError> </ApiErrors>

Team—Get List of Phone Books

This API allows an administrator to get a list of phone books assigned to a specific team. The list is in the same format as defined in the section PhoneBook, on page 216.

URI:	http://<FQDN>/finesse/api/Team/<id>/PhoneBooks
Example URI:	http://finesse1.xyz.com/finesse/api/Team/574/PhoneBooks
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—

Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error

Example Response:	`<PhoneBooks>`
	`<PhoneBook>`
	`... Full PhoneBook Object ...`
	`</PhoneBook>`
	`<PhoneBook>`
	`... Full PhoneBook Object ...`
	`</PhoneBook>`
	`<PhoneBook>`
	`... Full PhoneBook Object ...`
	`</PhoneBook>`
	`....`
	`</PhoneBooks>`

Example Failure Response:	`<ApiErrors>`
	`<ApiError>`
	`<ErrorData>574</ErrorData>`
	`<ErrorType>finesse.api.team.team_assignment_invalid_team&</ErrorType>`
	`<ErrorMessage>HTTP Status code: 404 (Not Found) Api Error Type:finesse.api.team.team_assignment_invalid_team Error Message: This is not a valid team</ErrorMessage>`
	`</ApiError>`
	`</ApiErrors>`

Team—Update List of Phone Books

This API allows an administrator to assign or unassign a list of phone books to a team.

If multiple users try to update the phone books for the same team at the same time, the changes made by the last user to update overwrite the changes made by the other users.

This list includes all phone books that are assigned to a team. Any phone books that you assign or unassign overwrite the current phone book list.

URI:	http://<FQDN>/finesse/api/Team/<Id>/PhoneBooks
Example URI:	http://finesse1.xyz.com/finesse/api/Team/574/PhoneBooks
Security Constraints:	Only administrators can use this API.

HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<PhoneBooks> <PhoneBook> <uri>/finesse/api/PhoneBook/123</uri> </PhoneBook> <PhoneBook> <uri>/finesse/api/PhoneBook/456</uri> </PhoneBook> <PhoneBook> <uri>/finesse/api/PhoneBook/789</uri> </PhoneBook> .... </PhoneBooks>
Request Parameters:	id (required): The database ID for the team
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>574</ErrorData> <ErrorType>finesse.api.team.team_assignment_ invalid_team</ErrorType> <ErrorMessage>HTTP Status code: 404 (Not Found) Api Error Type:finesse.api.team.team_assignment_ invalid_team Error Message: This is not a valid team</ErrorMessage> </ApiError> </ApiErrors>

Team—Get Layout Configuration

This API allows an administrator to get the layout configuration assigned to a specific team.

URI:	http://<FQDN>/finesse/api/Team/<id>/LayoutConfig
Example URI:	http://finesse1.xyz.com/finesse/api/Team/574/LayoutConfig
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET

Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error
Example Response:	<TeamLayoutConfig> <useDefault>false</useDefault> <layoutxml> <finesseLayout xmlns="http://www.cisco.com/vtg/finesse"> <layout> <role>Agent</role> ... </layout> <layout> <role>Supervisor</role> ... </layout> </finesseLayout> </layoutxml> </TeamLayoutConfig>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>574</ErrorData> <ErrorType>finesse.api.team.team_assignment_invalid_ team&</ErrorType> <ErrorMessage>HTTP Status code: 404 (Not Found) Api Error Type:finesse.api.team.team_assignment_ invalid_team Error Message: This is not a valid team</ErrorMessage> </ApiError> </ApiErrors>

Team—Update Layout Configuration

This API allows an administrator to assign or unassign a layout configuration to a team.

If multiple users try to update the layout configuration for the same team at the same time, the changes made by the last user to update overwrite the changes made by the other users.

URI:	http://<FQDN>/finesse/api/Team/<Id>/LayoutConfig
Example URI:	http://finesse1.xyz.com/finesse/api/Team/574/LayoutConfig

Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	Example of assigning a team-specific layout: <TeamLayoutConfig> <useDefault>false</useDefault> <layoutxml> <finesseLayout xmlns="http://www.cisco.com/vtg/finesse"> <layout> <role>Agent</role> ... </layout> <layout> <role>Supervisor</role> ... </layout> </finesseLayout> </layoutxml> </TeamLayoutConfig> Example of assigning the default layout to a team: <TeamLayoutConfig> <useDefault>true</useDefault> </TeamLayoutConfig>
Request Parameters:	id (required): The database ID for the team useDefault (required): Whether to use the default desktop layout for this team layoutxml (required if useDefault is false): The XML data that determines the layout of the Finesse desktop
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error

Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>574</ErrorData> <ErrorType>finesse.api.team.team_assignment_ invalid_team</ErrorType> <ErrorMessage>HTTP Status code: 404 (Not Found) Api Error Type:finesse.api.team.team_assignment_ invalid_team Error Message: This is not a valid team</ErrorMessage> </ApiError> </ApiErrors>

Team—Get List of Workflows

This API allows an administrator to get a list of workflows assigned to a specific team. The list is in the same format as defined in the section Workflow, on page 231.

URI:	http://<FQDN>/finesse/api/Team/<id>/Workflows
Example URI:	http://finesse1.xyz.com/finesse/api/Team/574/Workflows
Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 403: Forbidden 404: Not Found 500: Internal Server Error
Example Response:	<Workflows> <Workflow> ... Summary Workflow Object ... </Workflow> <Workflow> ... Summary Workflow Object ... </Workflow> <Workflow> ... Summary Workflow Object ... </Workflow> .... </Workflows>

Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>574</ErrorData> <ErrorType>finesse.api.team.team_assignment_invalid_ team&</ErrorType> <ErrorMessage>HTTP Status code: 404 (Not Found) Api Error Type:finesse.api.team.team_assignment_ invalid_team Error Message: This is not a valid team</ErrorMessage> </ApiError> </ApiErrors>

Team—Update List of Workflows

This API allows an administrator to assign or unassign a list of workflows to a team.

If multiple users try to update the workflows for the same team at the same time, the changes made by the last user to update overwrite the changes made by the other users.

This list includes all workflows that are assigned to a team. Any workflows that you assign or unassign overwrite the current workflow list.

Note Because the order in which workflows are evaluated is important, the order of the workflows in the list is preserved in the GET method (see Team—Get List of Workflows, on page 271).

URI:	http://<FQDN>/finesse/api/Team/<Id>/workflows
Example URI:	http://finesse1.xyz.com/finesse/api/Team/574/Workflows
Security Constraints:	Only administrators can use this API.
HTTP Method:	PUT
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	<Workflows> <Workflow> <uri>/finesse/api/Workflow/123</uri> </Workflow> <Workflow> <uri>/finesse/api/Workflow/456</uri> </Workflow> <Workflow> <uri>/finesse/api/Workflow/789</uri> </Workflow> .... </Workflows>
Request Parameters:	id (required): The database ID for the team

HTTP Response:	200: Success 400: Bad Request 400: Finesse API Error 401: Authorization Failure 401: Invalid Authorization User Specified 403: Forbidden 404: Not Found 500: Internal Server Error
Example Failure Response:	<ApiErrors> <ApiError> <ErrorData>574</ErrorData> <ErrorType>finesse.api.team.team_assignment_ invalid_team</ErrorType> <ErrorMessage>HTTP Status code: 404 (Not Found) Api Error Type:finesse.api.team.team_assignment_ invalid_team Error Message: This is not a valid team</ErrorMessage> </ApiError> </ApiErrors>

Team API Parameters

Parameter	Type	Description	Possible Values	Notes
uri	String	The URI to get a new copy of the Team, ReasonCode, WrapUpReason, LayoutConfig, or Workflow object.	—	
id	String	The unique identifier for the team.		
name	String	The name of the team.	—	
category	String	Specifies the type of reason code.	NOT_READY, LOGOUT	
useDefault	Boolean	Determines whether to use the default desktop layout for this team.	true, false	
layoutxml	String	The XML data that determines the desktop layout.	—	If useDefault is set to true and the layoutxml is provided in a request, the layoutxml is ignored.

Team API Errors

Status	Error Type	Description
400	Bad Request	The request body is invalid.
400	Finesse API Error	API error such as the object is stale or does not exist.
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
404	Not Found	The specified resource cannot be found.
500	Internal Server Error	Any runtime exception is caught and responded with this error.

SystemVariable

The SystemVariable object represents a variable that can be extracted from a Finesse event object and displayed on the Finesse desktop or used in a workflow.

The SystemVariable object is structured as follows:

```
<SystemVariable>
   <name></name>
   <node></node>
</SystemVariable>
```

SystemVariable APIs

SystemVariable—List

This API allows an administrator to get a list of all system variables.

Note The Outbound variable BACustomerNumber only appears in the response when Finesse is deployed with Unified CCX.

URI:	http://<FQDN>/finesse/api/SystemVariables
Example URI:	http://finesse1.xyz.com/finesse/api/SystemVariables

Security Constraints:	Only administrators can use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 401: Authorization Failure 403: Forbidden 500: Internal Server Error

Example Response:	

```
<SystemVariables>
   <SystemVariable>
      <name>callVariable1</name>
      <node>>//Dialog/mediaProperties/callvariables/CallVariable/
       name[.="callVariable1"]/../value</node>
   </SystemVariable>
   <SystemVariable>
      <name>callVariable2</name>
      <node>//Dialog/mediaProperties/callvariables/CallVariable/
       name[.="callVariable2"]/../value</node>
   </SystemVariable>
   <SystemVariable>
      <name>callVariable3</name>
      <node>//Dialog/mediaProperties/callvariables/CallVariable/
       name[.="callVariable3"]/../value</node>
   </SystemVariable>
   ...Other callVariables (4 through 10)...
   <SystemVariable>
      <name>BAAccountNumber</name>
      <node>//Dialog/mediaProperties/callvariables/CallVariable/
       name[.="callVariable3"]/../value</node>
   </SystemVariable>
   <SystemVariable>
      <name>callVariable5</name>
      <node>//Dialog/mediaProperties/callvariables/CallVariable/
       name[.="BAAccountNumber"]/../value</node>
   </SystemVariable>
   <SystemVariable>
      <name>BABuddyName</name>
      <node>//Dialog/mediaProperties/callvariables/CallVariable/
       name[.="BABuddyName"]/../value</node>
   </SystemVariable>
   ...Other Outbound Variables...
   <SystemVariable>
      <name>DNIS</name>
      <node>//Dialog/mediaProperties/DNIS</node>
   <SystemVariable>
      <name>fromAddress</name>
      <node>//Dialog/fromAddress</node>
   </SystemVariable>
   <SystemVariable>
      <name>Extension</name>
      <node>//User/Extension</node>
   </SystemVariable>
   <SystemVariable>
      <name>loginId</name>
      <node>//User/loginId</node>
   </SystemVariable>
   <SystemVariable>
      <name>teamName</name>
      <node>//User/teamName</node>
   </SystemVariable>
   <SystemVariable>
      <name>teamId</name>
      <node>//User/teamId</node>
   </SystemVariable>
   <SystemVariable>
      <name>firstName</name>
      <node>//User/firstName</node>
   </SystemVariable>
   <SystemVariable>
      <name>lastName</name>
      <node>//User/lastName</node>
   </SystemVariable>
```

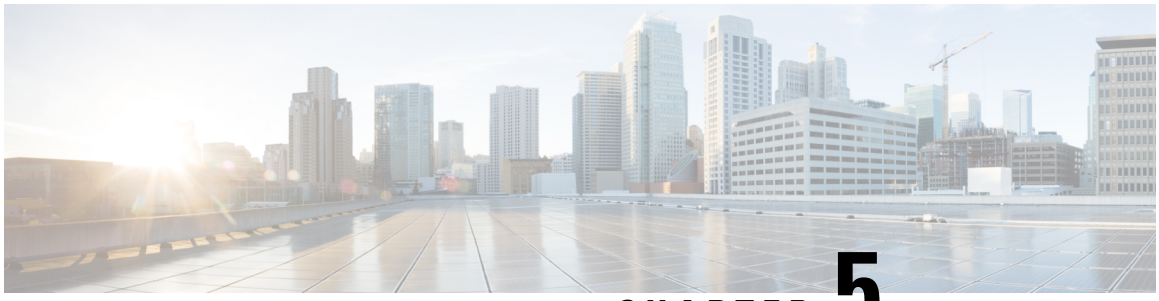
	`</SystemVariables>`
Example Failure Response:	No API errors are returned. Responses are 401/403/404 Errors.

SystemVariable API Parameters

Parameter	Type	Description	Possible Values	Notes
name	String	A unique name for the variable.	—	The name is used as a readable, unique key for the variable. Maximum of 32 characters.
node	String	The XPath to use to extract the value of this variable from an XMPP event that may contain the variable.	—	Maximum of 500 characters.

SystemVariable API Errors

Status	Error Type	Description
401	Authorization Failure	Unauthorized (for example, the user is not yet authenticated in the Web Session). The user is not authorized to use the API (the user is not an administrator).
403	Forbidden	The user attempted to run the API against the secondary Finesse server. Configuration APIs cannot be run against the secondary Finesse server.
500	Internal Server Error	Any runtime exception is caught and responded with this error.



CHAPTER 5

Cisco Finesse Serviceability APIs

Note If a user repeatedly passes an invalid password in the basic authorization header to a serviceability API, on the fifth invalid attempt, Finesse blocks the user's access to all serviceability APIs for 5 minutes. This lock period differs from the 30-minute lock period implemented for the Finesse administrator console.

SystemInfo

The SystemInfo object represents the Finesse system and includes the deployment type (whether Finesse is deployed with Unified CCE or Unified CCX), the peripheral ID (for Unified CCE only), the installed license (for Unified CCX only), the current system state, the XMPP server and pubSub domains, the system auth mode (whether Non-SSO, SSO, or Hybrid) where Hybrid is for Unified CCE only, and the hostnames of the primary and secondary (if configured) Finesse nodes.

The SystemInfo object is structured as follows:

```
<SystemInfo>
   <currentTimestamp></currentTimestamp>
   <deploymentType></deploymentType>
   <license/>
   <peripheralId></peripheralId>
   <primaryNode>
      <host></host>
   </primaryNode>
   <secondaryNode>
      <host></host>
   </secondaryNode>
   <status></status>
   <statusReason></statusReason>
   <systemAuthMode>NON_SSO</systemAuthMode>
   <timezoneOffset>/timezoneOffset>
   <uri>/finesse/api/SystemInfo</uri>
   <xmppDomain></xmppDomain>
   <xmppPubSubDomain></xmppPubSubDomain>
</SystemInfo>
```

SystemInfo—Get

This API allows a user to get information about the Finesse system.

URI:	http://<FQDN>/finesse/api/SystemInfo
Example URI:	http://finesse1.xyz.com/finesse/api/SystemInfo
HTTP Method:	GET
Content Type:	Application/XML
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success 500: Internal Server Error
Example Response:	<SystemInfo> <deploymentType>UCCE<deploymentType> <peripheralId>5001</peripheralId> <license></license> <currentTimeStamp>2014-01-27T13:07:08.687Z</currentTimeStamp> <status>IN_SERVICE</status> <statusReason></statusReason> <timezoneOffset>300</timezoneOffset> <xmppDomain>xmppserver.xyz.com</xmppDomain> <xmppPubSubDomain>pubsub.xmppserver.xyz.com</xmppPubSubDomain> <primaryNode> <host>10.1.1.1</host> </primaryNode> <secondaryNode> <host>10.1.1.2</host> </secondaryNode> </SystemInfo>
Example Failure Response:	<ApiErrors> <ApiError> <ErrorType>Internal Server Error</ErrorType> <ErrorMessage>Runtime Exception</ErrorMessage> <ErrorData></ErrorData> </ApiError> </ApiErrors>

SystemInfo API Parameters

Parameter	Type	Description	Possible Values	Notes
deploymentType	String	The type of deployment for Finesse.	UCCE, UCCX	

Parameter	Type	Description	Possible Values	Notes
peripheralId	String	The ID of the Unified CCE peripheral to which Finesse is connected.		This parameter is blank for Unified CCX deployments.
license	String	The Unified CCX license.	STANDARD, ENHANCED, or PREMIUM	This parameter is blank for Unified CCE deployments.
currentTimeStamp	String	The current time (GMT time) in the following format: YYYY-MM-DDThh:MM:ss.SSZ	—	
statusReason	String	The reason for which Finesse system is down.	Possible out-of-service scenarios returned by Finesse system: • Cisco Finesse Database is down. • Cisco Finesse Notification Service is down. • Finesse connection to CTI Server is down. • CTI Peripheral ID xxx is down. • System is initializing. • Local Unified CCX Engine is not in Service. (Unified CCX only)	This parameter is blank when Finesse system is IN_SERVICE.

Parameter	Type	Description	Possible Values	Notes
status	String	The state of the Finesse system.	IN_SERVICE: The system is in service and normal operations are accepted. OUT_OF_SERVICE: The system is out of service and normal operations result in a 503 Service Unavailable response.	
timezoneOffset	Integer	The difference (in minutes) between the server time and GMT time.	—	For example, a value of 300 means the server time is GMT + 5 hours. A value of -300 means the server time is GMT - 5 hours.
xmppDomain	String	The XMPP server domain.		
xmppPubSubDomain	String	The XMPP server pubsub domain.		
primaryNode - host	String	The hostname or IP address of the primary Finesse node.		
secondaryNode - host	String	The hostname or IP address of the secondary Finesse node.		

SystemInfo API Errors

Status	Error Type	Description
500	Internal Server Error	Any runtime exception is caught and responded with this error.

Diagnostic Portal APIs

Diagnostic Portal APIs are primarily to integrate Finesse with the Cisco Prime Contact Center Module and get information about the health of the Finesse system. You can access these APIs only through HTTPS.

Note The Diagnostic Portal APIs are not usable unless Finesse has initially gone IN_SERVICE, after which Finesse can go OUT_OF_SERVICE and the APIs should continue to work.

Diagnostic Portal—Get Performance Information

The Diagnostic Portal—Get Performance Information API allows an administrator to get performance information to a Diagnostic Portal object.

URI:	https://FQDN/finesse-dp/rest/DiagnosticPortal/GetPerformanceInformation
Example URI:	https://finesse1.xyz.com/finesse-dp/rest/DiagnosticPortal/GetPerformanceInformation
Security Constraints:	A user must be signed in as an administrator to use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—
HTTP Response:	200: Success **Note** All requests that reach the Finesse Diagnostic Portal web application return a 200 response. However, requests that are not successfully handled return XML that includes an error code and optionally, an error string. 401: Authorization Failure 404: Not Found 500: Internal Server Error

Successful Response:	<?xml version="1.0" encoding="UTF-8" standalone="yes"?> <dp:GetPerformanceInformationReply ReturnCode="0" xmlns:dp="http://www.cisco.com/vtg/diagnosticportal"> <dp:Schema Version="1.0" /> <dp:PerformanceInformation> <dp:PropertyList> <dp:Property Value="109441280" Name="Tomcat/Heap Memory Utilized"/> <dp:Property Value="50921904" Name="Tomcat/Non Heap Memory Utilized"/> <dp:Property Value="0" Name="CTI Statistics/Incoming Responses Queue"/> <dp:Property Value="0" Name="CTI Statistics/Outgoing Responses Queue"/> <dp:Property Value="0" Name="Tomcat/Average Request Process Time"/> <dp:Property Value="0" Name="Tomcat/Longest Request Process Time"/> <dp:Property Value="1.47" Name="Average System Load"/> <dp:Property Value="183" Name="Tomcat/Thread Count"/> <dp:Property Value="183" Name="Tomcat/Peak Thread Count"/> <dp:Property Value="0" Name="CTI Statistics/Events In Queue"/> <dp:Property Value="0" Name="CTI Statistics/Decoding Responses Queue"/> <dp:Property Value="0" Name="Active Totals/Logged In Agents"/> <dp:Property Value="0" Name="Active Totals/Current Calls"/> <dp:Property Value="0" Name="Running Totals/Calls Received or Initiated"/> <dp:Property Value="0" Name="Running Totals/Calls Failed"/> </dp:PropertyList> </dp:PerformanceInformation> </dp:GetPerformanceInformationReply>
Example Failure Response:	<?xml version="1.0" encoding="UTF-8" ?> <dp:GetProductLicenseReply ReturnCode="1" ErrorString="License file license.txt could not be read" xmlns:dp="http://www.cisco.com/vtg/diagnosticportal"> <dp:Schema Version="1.0"/> </dp:GetProductLicenseReply>

Diagnostic Portal—Get Product Version

This API allows an administrator to get product version information for Finesse.

URI:	https://FQDN/finesse-dp/rest/DiagnosticPortal/GetProductVersion
Example URI:	https://finesse1.xyz.com/finesse-dp/rest/DiagnosticPortal/GetProductVersion
Security Constraints:	A user must be signed in as an administrator to use this API.
HTTP Method:	GET
Content Type:	—
Input/Output Format:	XML
HTTP Request:	—

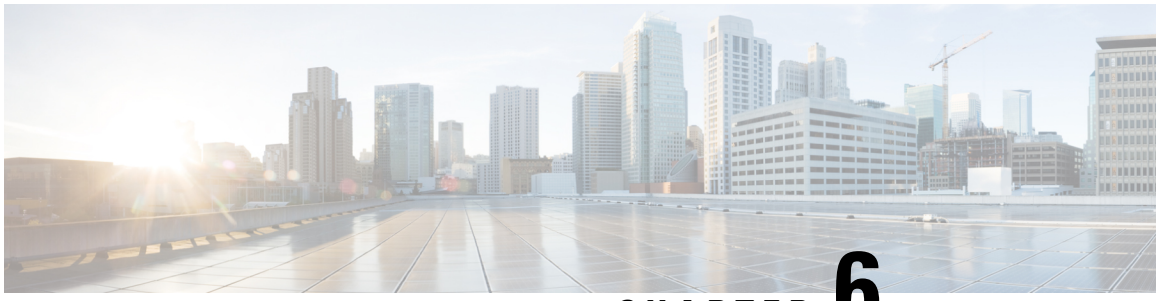
HTTP Response:	200: Success **Note** All requests that reach the Finesse Diagnostic Portal web application return a 200 response. However, requests that are not successfully handled return XML that includes an error code and optionally, an error string. 401: Authorization Failure 404: Not Found 500: Internal Server Error

Successful Response:	`<?xml version="1.0" encoding="UTF-8" standalone="yes"?>`
	`<dp:GetProductVersionReply xmlns:dp="http://www.cisco.com/vtg/ diagnosticportal" ReturnCode="0">`
	`<dp:Schema Version="1.0"/>`
	`<dp:ProductVersion VersionString="10.5(1)" Maintenance="1" Minor="5" Major="10" Name="Cisco Finesse"/>`
	`<dp:ComponentVersionList/>`
	`</dp:GetProductVersionReply>`

Example Failure Response:	`<?xml version="1.0" encoding="UTF-8" ?>`
	`<dp:GetProductLicenseReply ReturnCode="1" ErrorString="License file license.txt could not be read" xmlns:dp="http://www.cisco.com/vtg/ diagnosticportal">`
	`<dp:Schema Version="1.0"/>`
	`</dp:GetProductLicenseReply>`

Diagnostic Portal API Errors

Status	Error Type	Description
401	Authorization Error	The user is not authorized to access this API.
404	Not Found	The resource is not found (for example, the DiagnosticPortal has been deleted).
500	Internal Server Error	Any runtime exception is caught and responded with this error.



CHAPTER 6

Cisco Finesse Notifications

About Cisco Finesse Notifications

The Cisco Finesse Web Service sends notifications to clients that subscribe to that class of resource.

For example, a client that is subscribed to *User* notifications receives a notification when an agent signs in or out of the Finesse desktop, information about an agent changes, or an agent's state changes.

Note The preceding example illustrates some cases where notifications are sent. It is not intended to be an exhaustive list.

Note Notification payloads are XML-encoded. If these payloads contain any special XML characters, you must ensure that the client decodes this information correctly before processing it further.

Notification Frequency

Finesse publishes notifications when a change occurs in the resource characteristics.

Subscription Management

Finesse clients can interface directly with the Cisco Finesse Notification Service to send subscribe and unsubscribe requests. Clients subscribe to notification feeds published to their respective nodes (such as /finesse/api/User/1000) by following the XEP-0600 standard.

Each agent is automatically subscribed to the following notification feeds, where {id} represents the agent ID for that agent:

- User - /finesse/api/User/{id}
- Dialogs - /finesse/api/User/{id}/Dialogs
- Media - /finesse/api/User/{id}/Media/{mrd-id}

- SystemInfo - /finesse/api/SystemInfo

To receive notifications for feeds to which they are not automatically subscribed, clients must explicitly subscribe to the node on which the notifications are published. For example, agent state change notifications for all agents on a specific team are published to the node /finesse/api/Team/{id}/Users. Clients must request a subscription to this node to receive notifications on this feed.

To avoid increasing notification traffic for other users, use a full JID (username@domain/resource) when making explicit subscriptions.

Make sure to unsubscribe to any explicit subscriptions before disconnecting the XMPP session. Any subscriptions that are left behind persist on that node in the Cisco Finesse Notification Service.

The following example shows how to subscribe to agent state change notifications for a specific team:

```
<iq type='set'
    from='CharlesNorrad@finesse-server.cisco.com'
    to='pubsub.finesse-server.cisco.com'
    id='sub1'>
  <pubsub xmlns='http://jabber.org/protocol/pubsub'>
    <subscribe
        node='/finesse/api/Team/TheA/Users'
        jid='ChuckieNorrad@finesse-server.cisco.com'/>
  </pubsub>
</iq>
```

The following example shows how to unsubscribe to agent state change notifications for a specific team:

```
<iq type='set'
    from='ChuckieNorrad@finesse-server.cisco.com'
    to='pubsub.finesse-server.cisco.com'
    id='unsub1'>
  <pubsub xmlns='http://jabber.org/protocol/pubsub'>
     <unsubscribe
         node='/finesse/api/Team/TheA/Users'
         jid='userid@finesse-server.cisco.com'/>
  </pubsub>
</iq>
```

Perform a GET using the SystemInfo API (http://<server>/finesse/api/SystemInfo) to obtain connection details. The returned payload provides the domain and pubsub addresses used to interact with the Cisco Finesse Notification Service.

```
<SystemInfo>
   <status>IN_SERVICE</status>
   <xmppDomain>xmppserver.cisco.com</xmppDomain>
   <xmppPubSubDomain>pubsub.xmppserver.cisco.com</xmppPubSubDomain>
</SystemInfo>
```

Users are identified in the following manner: userid@xmppserver.cisco.com

Stanzas are sent to the pubsub domain (pubsub.xmppserver.cisco.com).

Clients should ensure that any subscriptions that are no longer required are cleaned up.

Subscription Persistence

All subscriptions are stored in a database and persist through the following shutdown events:

- Finesse experiences a CTI failover.
- The Cisco Finesse Notification Service restarts.
- Cisco Finesse Tomcat restarts.

In each of the preceding events, the client does not need to resubscribe to explicit subscriptions.

However, subscriptions do not persist across multiple Finesse servers. If a client fails over to an alternate Finesse server, that client must resubscribe to any explicit subscriptions.

Resources

User Notification

Finesse sends a User notification when information about a user changes.

Format:	XML
Node:	/finesse/api/User/{id}
Source:	/finesse/api/User/{id}
Data:	User
Payload:	<Update> <event>{put|delete}</event> <source>/finesse/api/User/{id}</source> <data> <user> <!-- full User object --> </user> </data> </Update>

Sample Notification Payload:	<Update> <event>put</event> <source>/finesse/api/User/csmith</source> <data> <User> <dialogs>/finesse/api/User/1001001/Dialogs</dialogs> <extension></extension> <firstName>AGENT</firstName> <lastName>1001001</lastName> <loginId>1001001</loginId> <loginName>agent1</loginName> <pendingState></pendingState> <reasonCodeId>2</reasonCodeId> <ReasonCode> <uri>/finesse/api/ReasonCode/{id}</uri> <code>10</code> <label>Team Meeting</label> </ReasonCode> <settings> <wrapUpOnIncoming>OPTIONAL</wrapUpOnIncoming> </settings> <roles> <role>Agent</role> </roles> <state>LOGOUT</state> <stateChangeTime></stateChangeTime> <teamId>5000</teamId> <teamName>FunctionalAgents</teamName> <uri>/finesse/api/User/1001001</uri> </User> </data> </Update>
Notification Triggers:	• Addition of a user Addition of a user • Deletion of a user • State change • First or last name change • Role change • Pending state change

Dialog Notification

Finesse sends a Dialog notification when information (or an action) changes for a call to which the user belongs or when the user adds or removes a dialog.

For the purpose of notifications, the fromAddress and toAddress parameters of the Dialog object are defined as follows:

- fromAddress: The extension of the caller who initiated the original call. If an unmonitored caller placed the call, the fromAddress is the unmonitored caller's extension. If an agent placed the call, the fromAddress is the agent's extension. For an Outbound Option Dialer call, the fromAddress is the extension of the

agent on the outbound call. For a reservation call in Preview Outbound mode, the fromAddress is the dialer port. .

For a reservation call in Direct Preview Outbound mode, the fromAddress is the dialer port.

- toAddress: The dialed number of the original call. If the caller calls a route point, the toAddress is the route point. If the caller calls an agent directly, the toAddress is the agent's extension. For an Outbound Option Dialer call, the toAddress is the customer phone number called by the dialer. For a reservation call in Outbound Option Preview mode, the toAddress is the extension of the agent who received the call.

  For a reservation call in Direct Preview Outbound mode, the toAddress is the extension of the agent on the outbound call.

When a call is transferred, the fromAddress and toAddress in subsequent dialog notifications are those of the surviving call. For example, if an agent who is on a call places a consult call and then transfers the original call, the fromAddress and toAddress in the subsequent dialog notifications are those of the original call because the original call is the surviving call. However, if the agent puts the consult call on hold, retrieves the original call, and then transfers the consult call, the fromAddress and toAddress in subsequent dialog notifications are those of the consult call. In this case, the consult call is the surviving call.

When an agent who is on a call places a consult call, the original call will be on hold and the consult call will be active. Once the call is complete where the agent either transfers or places the call on conference, the surviving call's dialog notifications will contain the dropped call's dialog id in the secondary id field.

During Dialog notifications, there are two types of notifications that get sent to the Dialog node.

- When a dialog is added or removed from the Dialog collection of the user.

Format:	XML
Node:	/finesse/api/User/{id}/Dialogs
Source:	/finesse/api/User/{id}/Dialogs (when a Dialog is added or removed from the Dialog collection for the user)
Data:	Dialogs
Payload:	<Update> <data> <dialogs> <Dialog> <!-- full Dialog object --> </Dialog> </dialogs> </data> <event>{POST|DELETE}</event> <requestId>xxxxxxxxx</requestId> <source>/finesse/api/User/{id}/Dialogs</source> </Update>

Sample Notification Payload:	

```
<Update>
    <data>
        <dialogs>
            <Dialog>
                <associatedDialogUri></associatedDialogUri>
                <fromAddress>1112554</fromAddress>
                <id>2130715746</id>
                <secondaryId>2130715747</secondaryId>
                <mediaProperties>
                    <mediaId>1</mediaId>
                    <DNIS>90101</DNIS>
                    <callType>CONSULT</callType>
                    <dialedNumber>90101</dialedNumber>
                    <outboundClassification></outboundClassification>
                    <callvariables>
                        <CallVariable>
                            <name>callVariable1</name>
                            <value>1</value>
                        </CallVariable>
                         ....
                        <CallVariable>
                            <name>callVariable2</name>

<value>0123456789ABCDEFGHIJ0123456789ABCDEFGHIJ</value>
                        </CallVariable>
                        <CallVariable>
                            <name>callVariable3</name>

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                        </CallVariable>
                        <CallVariable>
                            <name>callVariable4</name>

<value>0123456789ABCDEFGHIJ0123456789ABCDEFGHIJ</value>
                        </CallVariable>
                        <CallVariable>
                            <name>callVariable5</name>

<value>0123456789ABCDEFGHIJ0123456789ABCDEFGHIJ</value>
                        </CallVariable>
                        <CallVariable>
                            <name>callVariable6</name>

<value>0123456789ABCDEFGHIJ0123456789ABCDEFGHIJ</value>
                        </CallVariable>
                        <CallVariable>
                            <name>callVariable7</name>

<value>0123456789ABCDEFGHIJ0123456789ABCDEFGHIJ</value>
                        </CallVariable>
                        <CallVariable>
                            <name>callVariable8</name>

<value>0123456789ABCDEFGHIJ0123456789ABCDEFGHIJ</value>
                        </CallVariable>
                        <CallVariable>
                            <name>callVariable9</name>

<value>0123456789ABCDEFGHIJ0123456789ABCDEFGHIJ</value>
                        </CallVariable>
                        <CallVariable>
                            <name>callVariable10</name>

<value>0123456789ABCDEFGHIJ0123456789ABCDEFGHIJ</value>
```

<table>
<tr><td></td><td><pre>
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                    </callvariables>
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                    <callKeyPrefix>152018</callKeyPrefix>
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                <participants>
                    <Participant>
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                            <action>UPDATE_CALL_DATA</action>
                            <action>DROP</action>
                        </actions>
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                        <mediaAddressType>AGENT_DEVICE</mediaAddressType>

                        <startTime>2016-05-03T21:49:36.512Z</startTime>
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                        <stateCause></stateCause>

<stateChangeTime>2016-05-03T21:49:36.512Z</stateChangeTime>
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                <toAddress>90101</toAddress>
                <uri>/finesse/api/Dialog/2130715746</uri>
            </Dialog>
        </dialogs>
    </data>
    <event>POST</event>
    <requestId>edc7064f-1178-11e6-8bd0-005056000005</requestId>
    <source>/finesse/api/User/112554/Dialogs</source>
</Update>
</pre></td></tr>
<tr><td>Notification Triggers:</td><td>• Incoming call
• Ending a call</td></tr>
</table>

- When dialog properties associated with the specified Dialog id is modified.

Format:	XML
Node:	/finesse/api/User/{id}/Dialogs
Source:	/finesse/api/Dialog/{id} (when a Dialog within the Dialogs collection for the user is modified)
Data:	Dialog

Payload:	<pre><Update>
	  <data>
	  <dialog>
	  <!-- full Dialog object -->
	  </dialog>
	  </data>
	  <event>{PUT}</event>
	  <requestId>xxxxxxxxx</requestId>
	  <source>/finesse/api/Dialog/16804377</source>
	</Update></pre>

Sample Notification Payload:	

```
<Update>
    <data>
        <dialog>
            <associatedDialogUri></associatedDialogUri>
            <fromAddress>1081001</fromAddress>
            <id>16804377</id>
            <mediaProperties>
                <mediaId>1</mediaId>
                <DNIS>1081002</DNIS>
                <callType>AGENT_INSIDE</callType>
                <callvariables>
                    <CallVariable>
                        <name>callVariable1</name>
                        <value></value
                <queueNumber>5022</queueNumber>
                <queueName>UCM_PIM.Func.Agents.SG</queueName>
                <callKeyCallId>217</callKeyCallId>
                <callKeyPrefix>152018</callKeyPrefix>
                <dialedNumber>1081002</dialedNumber>
                </mediaProperties>
                <mediaType>Voice</mediaType>
                <participants>
                    <Participant>
                        <actions>
                            <action>TRANSFER_SST</action>
                            <action>CONSULT_CALL</action>
                            <action>HOLD</action>
                            <action>UPDATE_CALL_DATA</action>
                            <action>SEND_DTMF</action>
                            <action>DROP</action>
                        </actions>
                        <mediaAddress>1081001</mediaAddress>

<mediaAddressType>AGENT_DEVICE</mediaAddressType>
                         <startTime>2014-02-04T15:33:16.653Z</startTime>

                        <state>ACTIVE</state>
                        <stateCause></stateCause>

<stateChangeTime>2014-02-04T15:33:16.653Z</stateChangeTime>
                    </Participant>
                    <Participant>
                        <actions>
                            <action>UPDATE_CALL_DATA</action>
                            <action>DROP</action>
                            <action>RETRIEVE</action>
                        </actions>
                        <mediaAddress>1081002</mediaAddress>

<mediaAddressType>AGENT_DEVICE</mediaAddressType>
                         <startTime>2014-02-04T15:33:16.653Z</startTime>

                        <state>HELD</state>
                        <stateCause></stateCause>

<stateChangeTime>2014-02-04T15:33:27.584Z</stateChangeTime>
                    </Participant>
                </participants>
                <state>ACTIVE</state>
                <toAddress>1081002</toAddress>
                <uri>/finesse/api/Dialog/16804377</uri>
        </dialog>
    </data>
    <event>PUT</event>
```

	<requestId>xxxxxxxxx</requestId> <source>/finesse/api/Dialog/16804377</source> </Update>
Notification Triggers:	• Modification of participant state (for example, when a participant answers or hangs up a call) • A new participant on the call • Modification of the call data or actions

Dialogs/Media Notification

Finesse sends a Dialogs/Media notification when information (or an action) changes for a nonvoice dialog to which the user belongs.

Important For an interruptible Media Routing Domain configured to accept interrupts, Finesse sends only a Media state change when an agent is interrupted in that MRD. It does not send Dialogs/Media notifications with the action list modified to reflect the fact that actions not permitted on the tasks in that media. The state change is the only indication to the Finesse applications that no actions are allowed on the interrupted dialogs.

During Dialog notifications, there are two types of notifications that get sent to the Dialog node.

- When a dialog is added or removed from the Dialog collection of the user.

Format:	XML
Node:	/finesse/api/User/{id}/Dialogs/Media
Source:	/finesse/api/User/{id}/ Media/{mrdId}/Dialogs (when a Dialog is added or removed from the Dialog collection for the user, for example offered or closed)
Data:	Dialogs
Payload:	<Update> <data> <dialogs> <Dialog> <!-- full Dialog object --> </Dialog> </dialogs> </data> <event>{POST|DELETE}</event> <requestId>xxxxxxxxx</requestId> <source>/finesse/api/User/{id}/Media{mrdld}/Dialogs</source> </Update>

Sample Notification Payload	<Update> <data> <dialogs> <Dialog> <associatedDialogUri>/finesse/api/Dialog/3216_5432_1</associatedDialogUri> <id>1234_5423_1</id> <mediaType>Cisco_Chat_MRD</mediaType> <mediaProperties> <mediaId>5002</mediaId> <dialedNumber></dialedNumber> <callvariables> <CallVariable> <name>callVariable1</name> <value>Chuck Smith</value> </CallVariable> <CallVariable> <name>callVariable2</name> <value>Cisco Systems, Inc.</value> ...Other CallVariables ... </callvariables> <queueNumber>5022</queueNumber> <queueName>UCM_PIM.Func.Agents.SG</queueName> <callKeyCallId>217</callKeyCallId> <callKeyPrefix>152018</callKeyPrefix> </mediaProperties> <participants> <Participant> <actions> <action>ACCEPT</action> </actions> <mediaAddress>1001001</mediaAddress> <startTime>2015-11-19T06:04:27.864Z</startTime> <state>OFFERED</state> <stateChangeTime>2015-11-19T06:04:27.864Z</stateChangeTime> </Participant> </participants> <state>OFFERED</state> <uri>/finesse/api/Dialog/1234_5423_1</uri> </Dialog> </dialogs> </data> <event>POST</event> <requestId>xxxxxxxxx</requestId> <source>/finesse/api/User/10010012/Media{5002}/Dialogs</source> </Update>
Notification Triggers:	• Incoming dialog

- When dialog properties associated with the specified Dialog id is modified.

Format:	XML
Node:	/finesse/api/User/{id}/Dialogs/Media
Source:	/finesse/api/Dialog/{id} (when a Dialog within the Dialogs collection for the user is modified, for example accepted, started, paused, or wrapped up)

Data:	Dialog
Payload:	<Update> <data> <dialog> <!-- full Dialog object --> </dialog> </data> <event>{PUT}</event> <requestId>xxxxxxxxx</requestId> <source>/finesse/api/Dialogs{id}</source> </Update>
Sample Notification Payload	Update> <data> <dialog> <associatedDialogUri/> <id>151705_33542697_1</id> <mediaProperties> <mediaId>5000</mediaId> <dialedNumber>mark_test_dn</dialedNumber> <callvariables> <CallVariable> <name>callVariable1</name> <value>cv1_value</value> </CallVariable> <CallVariable> <name>callVariable2</name> <value>cv2_value</value> </CallVariable> <CallVariable> <name>user.finesse.ecc1</name> <value>ecc1</value> </CallVariable> </callvariables> <queueNumber>5022</queueNumber> <queueName>UCM_PIM.Func.Agents.SG</queueName> <callKeyCallId>217</callKeyCallId> <callKeyPrefix>152018</callKeyPrefix> </mediaProperties> <mediaType>Cisco_Chat_MRD</mediaType> <participants> <Participant> <actions> <action>START</action> <action>CLOSE</action> <action>TRANSFER</action> </actions> <mediaAddress>1001010</mediaAddress> <startTime>2016-05-10T20:25:12.302Z</startTime> <state>ACCEPTED</state> <stateChangeTime>2016-05-10T20:25:17.372Z</stateChangeTime> </Participant> </participants> <state>ACCEPTED</state> <uri>/finesse/api/Dialog/151705_33542697_1</uri> </dialog> </data> <event>PUT</event> <requestId/> <source>/finesse/api/Dialog/{id}</source> </Update>

Notification Triggers:	• Modification of participant state (for example, when a participant accepts or closes a dialog)

Dialog CTI Error Notification

Call operations performed on a dialog (such as MAKE_CALL, HOLD, RETRIEVE, ANSWER, END, TRANSFER, CONSULT, and CONFERENCE) may result in CTI errors. The notification system sends these errors as asynchronous updates. Error notifications include the error type and the CTI error code and error constant. The error type is “Call Operation Failure”.

Format:	XML
Node:	/finesse/api/User/{id}/Dialogs
Source:	/finesse/api/Dialog/{id}
Data:	apiErrors

Payload:	`<Update>`
	`  <data>`
	`  <apiErrors>`
	`  <apiError>`
	`  <errorData>[CTI Error Code]</errorData>`
	`  <errorMessage>[CTI Error Constant]</errorMessage>`
	`  <errorType>Call Operation Failure</errorType>`
	`  </apiError>`
	`  </apiErrors>`
	`  </data>`
	`  <event>PUT</event>`
	`  <requestId></requestId>`
	`  <source>/finesse/api/Dialog/[ID]</source>`
	`</Update>`

Sample Notification Payload	`<Update>`
	`  <data>`
	`  <apiErrors>`
	`  <apiError>`
	`  <errorData>34</errorData>`
	`<errorMessage>CF_RESOURCE_OUT_OF_SERVICE</errorMessage>`
	`  <errorType>Call Operation Failure</errorType>`
	`  </apiError>`
	`  </apiErrors>`
	`  </data>`
	`  <event>PUT</event>`
	`  <requestId></requestId>`
	`  <source>/finesse/api/Dialog/12345</source>`
	`</Update>`

Notification Triggers:	The notification system delivers this error notification if call operations on a Dialog (such as MAKE_CALL, HOLD, RETRIEVE, ANSWER, END, TRANSFER, CONSULT, and CONFERENCE) result in a CTI error

Asynchronous Errors

Note When accessing the Finesse REST API through the Finesse JavaScript library, asynchronous errors have a status code of 400. When receiving the asynchronous error directly through XMPP, the error message has the format described in the description above for Dialog CTI Error Notification.

ErrorType	Reason	Deployment Type
Call Operation Failure	Attempt to exceed maximum allowed conference participants.	Unified CCE

Team Notification

Finesse sends a team notification when the agent name or agent state changes for an agent who belongs to that team.

Format:	XML
Node:	/finesse/api/Team/{id}/Users
Source:	/finesse/api/User/{id}
Data:	Summary version of the User object
Payload:	<Update> <event>{put}</event> <source>/finesse/api/User/{id}</source> <requestId>xxxxxxxxx</requestId> <data> <user> <uri>/finesse/api/User/{id}</uri> <loginId>{id}</loginId> <firstName>Jack</firstName> <lastName>Brown</lastName> <state>NOT_READY</state> <stateChangeTime>2012-03-01T17:58:21.123Z</stateChangeTime> <ReasonCode> <uri>finesse/api/ReasonCode/1</uri> <code>10</code> <label>Team Meeting</label> <category>NOT_READY</category> <id>1</id> </ReasonCode> </user> </data> </Update>

Sample Notification Payload:	<Update> <event>put</event> <source>/finesse/api/Team/1004</source> <requestId>xxxxxxxxx</requestId> <data> <team> <uri>/finesse/api/Team/1004</uri> <id>1004</id> <name>Shiny</name> <users> <User> <uri>/finesse/api/User/1234</uri> <loginId>1004</loginId> <firstName>Charles</firstName> <lastName>Norrad</lastName> <pendingState></pendingState> <state>LOGOUT</state> <stateChangeTime>2012-03-01T17:58:21.123Z</stateChangeTime> </User> <User> <uri>/finesse/api/User/9876</uri> <loginId>9876</loginId> <firstName>Jack</firstName> <lastName>Brown</lastName> <state>NOT_READY</state> <stateChangeTime>2012-03-01T17:58:21.134Z</stateChangeTime> <ReasonCode> <uri>/finesse/api/ReasonCode/1</uri> <code>10</code> <label>Team Meeting</label> <category>NOT_READY</category> <id>1</id> </ReasonCode> </User> ... other users ... </users> </team> </data> </Update>
Notification Triggers:	• Agent name is changed for an agent who belongs to the team • Agent state is changed for an agent who belongs to the team

Queue Notifications

Finesse sends a queue notification every 10 seconds (if queue statistics change).

Note Finesse sends notifications for this node only for a stand-alone Finesse deployment with Unified CCE. Notifications for this node are not sent for a coresident Finesse deployment with Unified CCX.

Format:	XML
Node:	/finesse/api/Queue/{id}
Source:	/finesse/api/Queue/{id}

Data:	Queue object
Payload (PUT):	<Update> <event>{put}</event> <source>/finesse/api/Queue/{id}</source> <requestId>xxxxxxxxx</requestId> <data> <Queue> <uri>/finesse/api/Queue/{id}</uri> <name>Sales</name> <statistics> <callsInQueue>3</callsInQueue> <startTimeOfLongestCallInQueue>2012-02-15T17:58:21Z</startTimeOfLongestCallInQueue> <agentsReady>1</agentsReady> <agentsNotReady>2</agentsNotReady> <agentsTalkingInbound>3</agentsTalkingInbound> <agentsTalkingOutbound>4</agentsTalkingOutbound> <agentsTalkingInternal>5</agentsTalkingInternal> <agentsWrapUpNotReady>6</agentsWrapUpNotReady> <agentsWrapUpReady>7</agentsWrapUpReady> </statistics> </Queue> </data> </Update>
Payload (DELETE):	<Update> <event>{delete}</event> <source>/finesse/api/Queue/{id}</source> <requestId></requestId> <data> <Queue> <uri>/finesse/api/Queue/{id}</uri> </Queue> </data> </Update>
Sample Notification Payload (PUT):	<Update> <event>put</event> <source>/finesse/api/Queue/1004</source> <requestId>xxxxxxxxx</requestId> <data> <Queue> <uri>/finesse/api/Queue/1004</uri> <name>Sales</name> <statistics> <callsInQueue>3</callsInQueue> <startTimeOfLongestCallInQueue>2012-02-15T17:58:21Z</startTimeOfLongestCallInQueue> <agentsReady>1</agentsReady> <agentsNotReady>2</agentsNotReady> <agentsTalkingInbound>3</agentsTalkingInbound> <agentsTalkingOutbound>4</agentsTalkingOutbound> <agentsTalkingInternal>5</agentsTalkingInternal> <agentsWrapUpNotReady>6</agentsWrapUpNotReady> <agentsWrapUpReady>7</agentsWrapUpReady> </statistics> </Queue> </data> </Update>

Sample Notification Payload (DELETE):	<Update> <event>delete</event> <source>/finesse/api/Queue/1004</source> <requestId></requestId> <data> <Queue> <uri>/finesse/api/Queue/1004</uri> </Queue> </data> </Update>
Notification Triggers:	Finesse publishes a notification • every 10 seconds, if queue statistics change • when a queue name changes • when a queue is deleted

User/Queue Notification

Finesse sends a User/Queues notification when a queue is added or removed from the user's list of queues or if a queue assigned to that user is removed from the system.

Note Finesse sends notifications for this node only for a stand-alone Finesse deployment with Unified CCE. Notifications for this node are not sent for a coresident Finesse deployment with Unified CCX.

Format:	XML
Node:	/finesse/api/User/{id}/Queues
Source:	/finesse/api/User/{id}/Queues
Data:	User/Queues object

Payload (POST):	<Update> <event>{post}</event> <source>/finesse/api/User/{id}/Queues</source> <requestId></requestId> <data> <Queues> <Queue> <uri>/finesse/api/Queue/{id}</uri> <name>Sales</name> <statistics> <callsInQueue>3</callsInQueue> <startTimeOfLongestCallInQueue>2012-02-15T17:58:21Z</startTimeOfLongestCallInQueue> <agentsReady>1</agentsReady> <agentsNotReady>2</agentsNotReady> <agentsTalkingInbound>3</agentsTalkingInbound> <agentsTalkingOutbound>4</agentsTalkingOutbound> <agentsTalkingInternal>5</agentsTalkingInternal> <agentsWrapUpNotReady>6</agentsWrapUpNotReady> <agentsWrapUpReady>7</agentsWrapUpReady> </statistics> </Queue> ... more queues ... </Queues> </data> </Update>
Payload (DELETE):	<Update> <event>{delete}</event> <source>/finesse/api/User/{id}/Queues</source> <requestId></requestId> <data> <Queues> <Queue> <uri>/finesse/api/Queue/{id}</uri> </Queue> <Queue> <uri>/finesse/api/Queue/{id}</uri> </Queue> <Queue> <uri>/finesse/api/Queue/{id}</uri> </Queue> ... more queues ... </Queues> </data> </Update>

Sample Notification Payload (POST):	<pre>Update>
	    <event>post</event>
	    <source>/finesse/api/User/1001001/Queues</source>
	    <requestId></requestId>
	    <data>
	       <Queues>
	          <Queue>
	             <uri>/finesse/api/Queue/1215</uri>
	             <name>Sales</name>
	             <statistics>
	                 <callsInQueue>3</callsInQueue>
	
	<startTimeOfLongestCallInQueue>2012-02-15T17:58:21Z</startTimeOfLongestCallInQueue>
	
	                 <agentsReady>1</agentsReady>
	                 <agentsNotReady>2</agentsNotReady>
	                 <agentsTalkingInbound>3</agentsTalkingInbound>
	                 <agentsTalkingOutbound>4</agentsTalkingOutbound>
	                 <agentsTalkingInternal>5</agentsTalkingInternal>
	                 <agentsWrapUpNotReady>6</agentsWrapUpNotReady>
	                 <agentsWrapUpReady>7</agentsWrapUpReady>
	             </statistics>
	           </Queue>
	          ... more queues ...
	      </Queues>
	    </data>
	</Update></pre>

Sample Notification Payload (DELETE):	<pre><Update>
	    <event>delete</event>
	    <source>/finesse/api/User/1001001/Queues</source>
	    <requestId></requestId>
	    <data>
	       <Queues>
	          <Queue>
	             <uri>/finesse/api/Queue/1326</uri>
	          </Queue>
	          <Queue>
	             <uri>/finesse/api/Queue/1364</uri>
	          </Queue>
	          <Queue>
	             <uri>/finesse/api/Queue/1389</uri>
	          </Queue>
	          ... more queues ...
	      </Queues>
	    </data>
	</Update></pre>

Notification Triggers:	• A queue is added or removed from the user's list of queues. • A queue assigned to the user is removed from the system.

Media Notification

Finesse sends a Media notification when information about a user in a Media Routing Domain changes.

Format:	XML
Node:	/finesse/api/User/{id}/Media
Source:	/finesse/api/User/{id}/Media/{mrdId}

Data:	Media
Payload:	<Update> <event>{put|delete}</event> <source>/finesse/api/User/{id}/Media/{mrdId}</source> <data> <Media> <!-- full Media object --> </user> </data> </Update>
Sample Notification Payload:	<Update> <event>put</event> <source>/finesse/api/User/1001004/Media/5000</source> <requestId>xxxx-xxxx</requestId> <data> <Media> <uri>/finesse/api/User/1001004/Media/5000</uri> <description>Chat MRD</description> <dialogLogoutAction>CLOSE</dialogLogoutAction> <id>5000</id> <interruptible>true</interruptible> <maxDialogLimit>10</maxDialogLimit> <name>Cisco_Chat_MRD</name> <ReasonCode> <category>NOT_READY</category <code>10</code> <forAll>true</forAll> <id>16</id> <label>Team Meeting</label> <uri>/finesse/api/ReasonCode/16</uri> </ReasonCode> <reasonCodeId>16</reasonCodeId> <routable>true</routable> <state>NOT_READY</state> <stateChangeTime>2015-09-11T06:55:14.782Z</stateChangeTime> </Media> </data> </Update>
Notification Triggers:	• State change

Media and Dialogs/Media Asynchronous Error Notification

If an operations performed on a Media or nonvoice Dialog results in an asynchronous error, the error notifications include the error type, error code, and error constant. The ErrorMedia parameter indicates the Media Routing Domain to which the error applies.

Format:	XML
Node:	/finesse/api/User/{id}/Media /finesse/api/User/{id}/Dialogs/Media

Source:	/finesse/api/User/{id}/Media/{mrdId} /finesse/api/User/{id}/ Media/{mrdId}/Dialogs (when a Dialog is added or removed from the Dialog collection for the user, for example offered or closed.) /finesse/api/Dialog/{id} (when a Dialog within the Dialogs collection for the user is modified, for example accepted, started, paused, or wrapped up.)
Data:	Media Dialog
Payload:	<Update> <data> <apiErrors> <apiError> <errorData>[Error Code]</errorData> <errorMedia>5001</errorMedia> <errorMessage>[Error Constant]</errorMessage> <errorType>[Error Type]</errorType> </apiError> </apiErrors> </data> <event>PUT</event> <requestId>xxx-xxxx</requestId> <source>/finesse/api/User/{id}/Media/{mrdId}</source> </Update>
Sample Notification Payload:	<Update> <data> <apiErrors> <apiError> <errorData>1</errorData> <errorMedia>5001</errorMedia> <errorMessage>E_ARM_STAT_AGENT_ALREADY_LOGGED_IN</errorMessage> <errorType>Agent already logged into MRD</errorType> </apiError> </apiErrors> </data> <event>PUT</event> <requestId>xxx-xxxx</requestId> <source>/finesse/api/User/1001001/Media/5001</source> </Update>
Notification Triggers:	The notification system returns this error if an operation on a Media or nonvoice Dialog results in an asynchronous error.

Media and Dialogs/Media Error Code Descriptions

Errors for Agent State and Mode Changes

Common Agent State and Mode Change Errors

This table describes common errors returned if agent state or mode changes fail.

Error Constant	Error Code	Description
E_ARM_STAT_AGENT_NOT_FOUND	2	The specified agent is not configured in CCE.
E_ARM_STAT_MRD_LIST_ENTRY_NOT_FOUND	3	The specified Media Routing Domain is not configured in CCE.
E_ARM_STAT_AGENT_NOT_LOGGED_IN	6	The specified agent is not logged into the MRD. This error is not returned when logging the agent into an MRD.

Agent Login Errors

Error Constant	Error Code	Description
E_ARM_STAT_AGENT_ALREADY_LOGGED_IN	1	The specified agent is already logged in to this MRD.
E_ ARM_STAT_CANT_LOGIN_TO_VOICE_MRD	11	The agent cannot log in to the voice MRD. The application attempted to log an agent into the voice MRD using the Media API instead of the User API.
E_ARM_STAT_LOGIN_NOT_ALLOWED_FOR_APP_PATH	27	The MRD and peripheral specified in the agent login request are not members of the application path associated with the Finesse server that sent the request.
E_ARM_STAT_PERFORMANCE_LIMIT_EXCEEDED	34	This code is used in the Packaged CCE deployment. When the PG reaches the Maximum Concurrent Number of Logged in Agents for that peripheral, all the ARMMediaLoginReqs for that Peripheral are rejected with this status code.
E_ARM_STAT_CC_OFFLINE	36	The log in request failed because the Central Controller is offline.
E_ ARM_STAT_LOGIN_TIMEOUT	37	The log in request timed out.
E_ARM_STAT_PQ_LOGIN_FAILED	38	The agent log in request to the precision queue failed.
E_ARM_STAT_LOGIN_REQUEST_ALREADY_PENDING	41	There is already a pending request for the agent to log in to the Media Routing Domain.

Agent Not Ready Errors

Error Constant	Error Code	Description
E_ARM_STAT_ALREADY_HAVE_PENDING_MAKE_AGENT_NOT_READY	9	There is already a pending request to make this agent Not Ready in this Media Routing Domain.
E_ARM_STAT_DO_THIS_WITH_TASK_SENT_RECENTLY	14	The agent cannot be made Not Ready because the agent has a pending incoming task; Finesse has received an offered dialog for the agent.
E_ARM_STAT_ALREADY_IN_REQUESTED_AGENT_STATE	39	The specified agent is already in the Not Ready state. If reason codes are enabled, then an agent state change from Not Ready to Not Ready with a different reason code is allowed.

Agent Mode Change Errors

Error Constant	Error Code	Description
E_ARM_STAT_ALREADY_HAVE_PENDING_MAKE_AGENT_NOT_ROUTABLE	8	There is already a pending request to make this agent Not Routable in this Media Routing Domain.
E_ARM_STAT_ALREADY_IN_REQUESTED_AGENT_MODE	40	The agent is already in the requested mode.

Internal Errors

If you receive these errors, Contact Cisco Technical Support for assistance.

Error Constant	Error Code
E_ARM_STAT_NO_ACTIVE_SKILL_GROUPS_IN_MRD_LIST_ENTRY	5

Errors for Dialogs

Common Dialog Errors

This table describes common errors returned if Dialog actions fail.

Error Constant	Error Code	Description
E_ARM_STAT_AGENT_NOT_FOUND	2	The specified agent is not configured in CCE.
E_ARM_STAT_MRD_LIST_ENTRY_NOT_FOUND	3	The specified Media Routing Domain is not configured in CCE.
E_ARM_STAT_AGENT_NOT_LOGGED_IN	6	The specified agent is not logged into the MRD.

Error Constant	Error Code	Description
E_ARM_STAT_TASK_OBJECT_NOT_FOUND	18	The specified dialog cannot be found.
E_ARM_STAT_INCONSISTENT_MEDIA_ROUTING_DOMAIN_IDS	20	The Media Routing Domain ID does not match the MRD ID for this skill, service, or dialog.
E_ARM_STAT_NOT_VALID_AFTER_INTERRUPT_ADVISORY_ACCEPT	30	The dialog has been interrupted by a dialog in a different MRD. Typically, this code indicates that a voice call interrupted the agent working on a chat or an email.
INVALID_DIALOG_ID: <DIALOG ID>	6030	The dialog API request is made and the synchronous response received but the dialog is removed before contacting CCE.

Internal Errors

If you receive these errors, Contact Cisco Technical Support for assistance.

Error Constant	Error Code
E_ARM_STAT_INVALID_MESSAGE_SEQUENCE	19
E_ARM_STAT_NO_OFFER_OR_PRE_CALL_RECEIVED	21
E_ARM_STAT_INCONSISTENT_AGENT_IDS	22
E_ARM_STAT_SKILL_GROUP_NOT_FOUND	32
E_ARM_STAT_SERVICE_NOT_FOUND	33

Notification Parameters

Name	Data Type	Description	Possible Values
Data	Object	Provides the new representation of the modified User, Team, Dialog, Queue, User/Queues, or Media object. This information is not provided when a user is deleted. For a Dialog or Media Error notification, provides the list of ApiError objects that represent the failure conditions detected by the server.	The entire User, Team, Dialog, Queue, or Media object in its most current, updated form. The Team object includes all of its agents. For the User/Queues object, specifies a list of queues that were added or deleted from the user's list.

Name	Data Type	Description	Possible Values
Event	String	The type of modification that occurred to the User, Team, Dialog, Queue, User/Queues, or Media object.	**PUT:** A property of the User, Dialog, Team, Queue, or Media object that was modified. **DELETE:** A User, Dialog, Team, Queue, or Media object has been deleted. For a User/Queues modification, the queues removed from the user's list of queues. **POST:** A User, Dialog, Team, Queue, or Media object has been added. For a User/Queues modification, specifies the queues that were added to the user's list of queues.
Source	String	The resource location for the User, Dialog, Team, Queue, User/Queues, or Media object that was modified.	/finesse/api/User/{id} /finesse/api/Dialog/{id} /finesse/api/Team/{id} /finesse/api/User/{id}/Dialogs /finesse/api/User/{id}/Dialogs/Media /finesse/api/Queue/{id} /finesse/api/User/{id}/Queues /finesse/api/User/{id}/Media
RequestId	String	The requestId that was returned when the triggering REST API request was made. If the event was unsolicited, this tag is empty. This tag is empty for a User/Queues notification.	An opaque, unique string, used to correlate the originating request with the resulting event

Managing Notifications in Third-Party Applications

For applications that are neither gadgets in the Cisco Finesse Desktop nor in a third-party OpenSocial container, you can use one of the following methods to establish a BOSH XMPP connection with the Cisco Finesse Notification Service:

- Any client-side XMPP library such as Jabberwerx
- Cisco Finesse Desktop EventTunnel (for browser applications only)

This section describes how to use the Cisco Finesse Desktop EventTunnel. This method requires knowledge of how to use postMessage to pass messages between different frames in the browser.

The EventTunnel.js file is located at http://<hostname>:<port>/tunnel/EventTunnel.js (where hostname is the hostname of the Cisco Finesse server and the port is either 7071 for HTTP or 7443 for HTTPS). This class is designed to be loaded within an iframe in the browser application and uses postMessage to communicate between frames.

Using the EventTunnel, the application can perform the following operations:

- Establish the BOSH connection
- Subscribe to XMPP nodes
- Unsubscribe from XMPP nodes

The following is a sample file you can use to instantiate and initialize the EventTunnel in the iframe:

```
<!DOCTYPE HTML>
<html>
<head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <script type="text/javascript">
    //Set the JabberWerx connect to unsecure because the custom authentication
    //on the XMPP server does not support encrypted credentials.
    var jabberwerx_config = {unsecureAllowed: true};
    </script>
    <script type="text/javascript" src="thirdparty/jquery/jquery-1.5.min.js"></script>
    <script type="text/javascript" src="thirdparty/jabberwerx/jabberwerx.js"></script>
    <script type="text/javascript" src="thirdparty/util/converter.js"></script>
    <script type="text/javascript" src="EventTunnel.js"></script>
    <script type="text/javascript">
    jQuery(document).ready(function () {
        var tunnel = new finesse.EventTunnel();
        tunnel.init();
    });
    </script>
</head>
</html>
```

Connect to XMPP over HTTP (BOSH) using Finesse EventTunnel

To initialize the BOSH connection, the following information must be passed to the EventTunnel before it can proceed:

1. Agent ID
2. XMPP Domain
3. Agent Password
4. XMPP PubSub Domain
5. Agent XMPP Resource (Optional)

The postMessage payload has the following message structure:

```
message = type + "|" + message;
```

where type is a number that has the following mapping:

Message Type	Value	Description
EVENT	0	XMPP events received by the EventTunnel and published out to the parent frame
ID	1	Agent XMPP ID
PASSWORD	2	Agent XMPP password
RESOURCEID	3	Agent XMPP resource
STATUS	4	Status of the BOSH connection published by the EventTunnel
XMPPDOMAIN	5	Domain of the XMPP service
PUBSUBDOMAIN	6	PubSub domain of the XMPP service
SUBSCRIBE	7	Request to subscribe to an XMPP node
UNSUBSCRIBE	8	Request to unsubscribe form an XMPP node
PRESENCE	9	Request to subscribe to XMPP presence
DISCONNECT_REQ	11	Request to disconnect the BOSH connection. This request attempts to unsubscribe the application from all nodes to which it subscribed during the session and then disconnects the session.

For example, a postMessage call to send the agent ID is as follows:

```
message = "1|1001001"                                   // 1 - type: ID, 1001001 - agent ID
tunnelFrame.postMessage(message, tunnelOrigin);         // where tunnelFrame is the frame
                                                        // corresponding to the iframe hosting
                                                        // the EventTunnel and tunnelOrigin is
                                                        // the URL of the EventTunnel i.e.
                                                        // http://<host>:<port> where host is
                                                        // the host of the Cisco Finesse
                                                        // server and port is the port of
                                                        // the Cisco Finesse Notification
                                                        // Service, either 7071 for http or
                                                        // 7443 for https
```

Be sure to also wire up a callback to receive messages using postMessage from the EventTunnel frame, for example:

```
if (window.addEventListener) { //Firefox, Opera, Chrome, Safari
    window.addEventListener("message", cb, false);
} else { //Internet Explorer
    window.attachEvent("onmessage", cb);
}
```

where cb is the callback that handles any messages received using postMessage and that can parse the messages sent by the EventTunnel.

Connect to XMPP over TCP

Any third party XMPP client can connect to the Finesse Notification Service through TCP sockets for sending and receiving notifications. You can connect to ports 5222 (non-secure connection) and 5223 (secure connection).

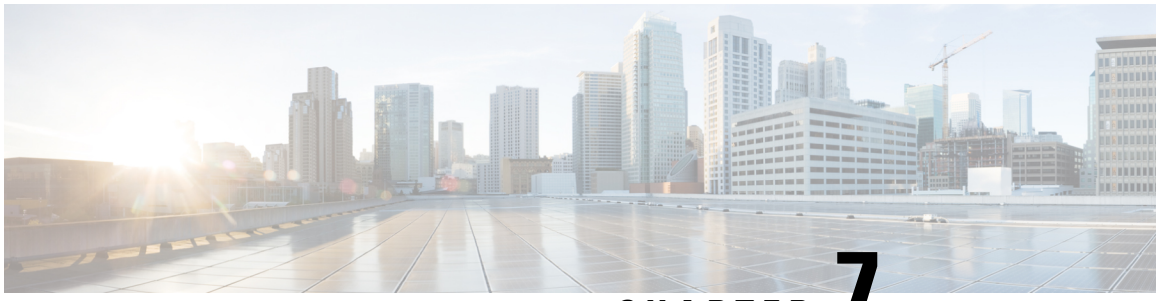
Note Cisco Finesse, Release 12.5(1) onward, the 5222 port (non-secure connection) is disabled by default. Set the **utils finesse set_property webservices enableInsecureOpenfirePort** to *true* to enable this port.

For more information, see *Service Properties* section in *Cisco Finesse Administration Guide* at https://www.cisco.com/c/en/us/support/customer-collaboration/finesse/products-maintenance-guides-list.html.

Connect to Secure Port 5223 over SSL/TLS

Third party clients need to add the Finesse Notification certificate to their respective trust stores. Finesse Notification Service shares the same certificate with Cisco Finesse Tomcat. To download the certificate:

1. Sign in to the Cisco Unified Operating System Administration through the URL (https://FQDN:8443/cmplatform, where FQDN is the fully qualified domain name of the primary Finesse server and 8443 is the port number).
2. Click **Security** > **Certificate Management**.
3. Click **Find** to get the list of all the certificates.
4. In the Certificate List screen, choose **Certificate** from the **Find Certificate List where** drop-down menu, enter **tomcat** in the **begins with** option and click **Find**.
5. Click the FQDN link which appears in the **Common Name** column parallel to the listed tomcat certificate.
6. In the pop-up that appears, click the option **Download .PEM File** to save the file on your desktop.



CHAPTER 7

Finesse High Availability

Availability of a Finesse server is determined by the following information (and in this order):

1. The status of the server as provided by the SystemInfo object:

   The status of the server indicates whether the server is in service and available to accept requests.

2. The status and availability of a BOSH connection to the Cisco Finesse Notification Service:

Note In a Unified CCX deployment, this service is called the Unified CCX Notification Service.

   An active BOSH connection to the Cisco Finesse Notification Service is required to receive notifications. Loss of this connection may mean that the server itself is unavailable or that the client cannot reach the server.

3. The presence of the 'finesse' BOSH user:

   Presence indicates whether Finesse has an active connection to the Cisco Finesse Notification Service (Unified CCE) or the Cisco Unified CCX Notification Service (Unified CCX) . An UNAVAILABLE presence for the 'finesse' BOSH user may mean that the connection is lost or that the Finesse web app crashed.

A Finesse server must meet the following criteria to be fully available for client use:

1. The status of the server must be IN_SERVICE.
2. A successful BOSH connection is made.
3. The presence of the 'finesse' BOSH user is AVAILABLE.

Ensure that the preceding conditions are checked in the order listed, as failure of the criteria at the top of the list means the rest of the criteria will also fail or will not be relevant. For example the presence of the 'finesse' BOSH user cannot be checked without a BOSH connection. A BOSH connection is not useful if the server is OUT_OF_SERVICE.

Failure Scenarios

The following table lists possible failure scenarios and describes how a client can determine when a failure occurs.

Scenario	Notification mechanism
Cisco Finesse Notification Service goes down. **Note** In a Unified CCX deployment, this service is called the Cisco Unified CCX Notification Service.	Client loses BOSH connection to the Cisco Finesse Notification Service. **Note** This condition can occur while the Cisco Finesse Notification Services is running if the client loses network connectivity to the server (for example, a client experiences a complete loss of network connectivity).
Cisco Finesse Tomcat goes down.	The 'finesse' user presence becomes UNAVAILABLE (if BOSH is still connected to the Cisco Finesse Notification Service).
Finesse web app goes down.	The 'finesse' user presence becomes UNAVAILABLE (if BOSH is still connected to the Cisco Finesse Notification Service).
Finesse loses connection to the CTI server.	Finesse sends a SystemInfo notification of status OUT_OF_SERVICE (if BOSH is still connected to the Cisco Finesse Notification Service).

Recovery

When any of the preceding failure scenarios are detected, the course of action is to attempt or detect recovery of the server on which the scenario occurred, as well as to check for the availability of an alternate server using the following criteria (when applicable):

1. The BOSH connection is down.

   Periodically check the SystemInfo object for IN_SERVICE status. After the system is IN_SERVICE, attempt to re-establish the BOSH connection.

2. If BOSH is still connected and a SystemInfo OUT_OF_SERVICE notification is received:

   As long as the BOSH connection remains available, wait for a SystemInfo notification that the system is IN_SERVICE.

3. A 'finesse' user UNAVAILABLE presence is received.

   As long as the BOSH connection remains available, wait for an AVAILABLE presence notification for the 'finesse' user. Then wait for the SystemInfo IN_SERVICE notification.

Desktop Presence and Forced Logout

The Finesse server subscribes to the presence of the XMPP users of the Finesse desktop to monitor the health of the connection between the server and desktop.

Under certain conditions, Finesse sends a forced logout with a reason code of 255 to the CTI server.

In a Unified CCE deployment, the actual behavior of the desktop under these conditions depends on the setting for Logout on Agent Disconnect (LOAD).

In a Unified CCX deployment, the agent is logged out.

Note Finesse takes up to 120 seconds to detect when an agent closes the browser or the browser crashes and Finesse waits 60 seconds before sending a forced logout request to the CTI server. Under these conditions, Finesse can take up to 180 seconds to sign out the agent.

The following table lists the conditions under which Finesse sends a forced logout to the CTI server:

Scenario	Desktop Behavior	Server Action	Race Conditions
The client closes, the browser crashes, or the agent clicks the Back button on the browser.	When you close the browser or navigate away from the Finesse desktop, the Finesse desktop makes a best-effort attempt to notify the server.	Finesse receives a presence notification of *Unavailable* from the client. Finesse waits 60 seconds, and then sends a forced logout request to the CTI server.	**1.** The agent closes the browser window. Finesse receives a presence notification of *Unavailable* for the user. Finesse tries to sign the agent out; however, that agent is already signed out. **2.** If the browser crashes, it can take the Finesse server up to 120 seconds to detect that the client is gone and send a presence notification to Finesse. A situation can occur where the client signs in to the secondary Finesse server before the primary Finesse server receives the presence notification caused by the browser crash. In this case, the agent may be signed out or put into Not Ready state on the secondary Finesse server. **3.** If the Finesse desktop is running over a slower network connection, Finesse may not always receive an *Unavailable* presence notification from the client browser. In this situation, the behavior mimics a browser crash, as described in the preceding condition.
The client refreshes the browser	—	Finesse receives a presence notification of *Unavailable* from the client. Finesse waits 60 seconds before sending a forced logout request to the CTI server to allow the browser to reconnect after the refresh.	—

The client encounters a network glitch (Finesse is in service)	Because the connection to the Finesse server temporarily goes down, the client fails over to the secondary Finesse server.	The primary Finesse server receives a presence notification of *Unavailable* from the client. Because Finesse is in service, it sends a forced logout request to the CTI server for the agent.	A situation can occur where the forced logout does not happen before the client signs in to the secondary Finesse server. If the agent is on a call, the primary Finesse server sends the forced logout request after the call ends. In a Unified CCE deployment, the agent is signed out or put into Not Ready state when the call ends, even though the client is already signed in to the secondary Finesse server. In a Unified CCX deployment, the agent is signed out.
In a Unified CCE deployment, when Refresh Token has expired	Finesse desktop sends a forced logout request to the CTI server.	The Finesse server forwards the forced logout request to the CTI server.	**Load parameter = 0** • When the agent's current state is Not Ready, Ready or Wrap-Up, the agent's state after force logout is changed to Not Ready – Force Not Ready. • When the agent's current state is Talking, the Agent goes into Not-Ready – Force Not Ready state after the call ends. **Load parameter = 1** • When the agent's current state is Not Ready, Ready or Wrap-Up, the agent goes to Logged Out – System Failure. • When the agent's current state is Talking, the Agent goes to Logged Out – System Failure immediately even though the call is still active.

Failure Handling for Task Routing Clients

Task Routing applications that use the Finesse APIs must be able to handle failure scenarios involving Finesse and CCE services.

To recover REST and XMPP/BOSH connections, follow the steps described for failure recovery earlier in this chapter.

Once you recover the connections, perform more actions to recover nonvoice media state and nonvoice dialogs. The actions you perform depend on whether your application is built with the Finesse REST APIs or the finesse.js javascript library.

Recovery Actions for Finesse REST APIs

If your application is built with Finesse REST APIs, perform these actions to recover nonvoice media state and nonvoice dialogs:

- Use the Media GET API to synchronize your application with the state of the agent in the application's media. For example:
  `https://finesse_server/finesse/api/User/userId/Media/mediaId`.
- If the maxDialogLimit, interruptAction, or dialogLogoutAction settings do not match the settings set by your application at sign-in time, use the Media Sign In API to reset the settings. The Sign In API returns an "agent already logged in" error. This error is expected. The API call does not affect the agent's state in the media. The call does, however, reset the agent's maxDialogLimit, interruptAction, and dialogLogoutAction settings in the media.
- Use the nonvoice Dialog LIST method to synchronize the application with the set of dialogs that the agent currently is assigned. For example:
  `https://finesse_server/finesse/api/User/userId/Media/ mediaId/Dialogs`.

  Typically, the set of dialogs does not change when you use this command. However, in some failure cases, such as double PG failures, the set of dialogs changes when you use this method.

Recovery Actions for Finesse.js Javascript Library

Media settings (maxDialogLimit, interruptAction, and dialogLogoutAction) can become out of sync after a failure.

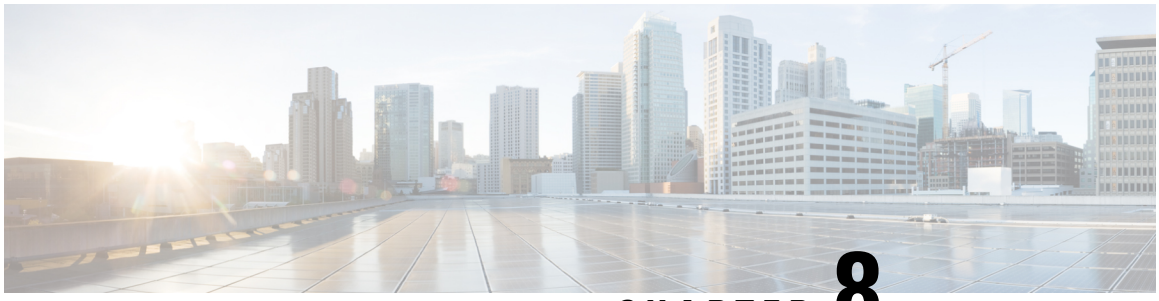
If your application is built with finesse.js, when getting the media object for the application, tell the media object the media options. The finesse.js library uses these settings to ensure that the media object associated with your application's agent has the correct settings after recovering from a failure.

For example:

```
media = _mediaList.getMedia({
    id: mrdID,
    onLoad: handleMediaLoad,
    onError: handleMediaError,
    onChange: handleMediaChange,
    mediaOptions: {
        maxDialogLimit: 3,
        interruptAction: "IGNORE",
        dialogLogoutAction: "CLOSE"
    }
});
```

Related Topics

Failure Scenarios, on page 318
Media - Sign in, on page 147
Media—Get Media, on page 154
User—Get List of Dialogs (Nonvoice Only), on page 32



CHAPTER 8

Finesse Desktop Gadget Development

Finesse Gadgets

Gadgets are web-based software components based on HTML, CSS, and JavaScript. They allow developers to write web applications that work anywhere on the web without modification. They are defined using a declarative XML syntax that is processed by a gadget server into a format that allows them to be embedded into the following contexts:

- standalone web pages
- web applications
- other gadgets

Note Do not use the following JavaScript methods as they block the Finesse agent desktop until the pop up is dismissed. The Finesse backend process can also be interrupted by these methods which may lead to unexpected behavior.

- window.alert()
- window.prompt()
- window.confirm()
- window.showModalDialog()

Prerequisites to Develop Gadgets

For Finesse Gadget development, a basic understanding of the following is necessary:

- How web applications work
- XML
- HTML
- JavaScript

Gadget Description

The gadgets API consists of simple building blocks:

XML: is a general purpose markup language. It describes structured data in a way that both humans and computers can read and write.

XML is the language used to write gadget specifications. A gadget is an XML file, placed on the internet where Google can find it. The XML file that specifies a gadget contains instructions on how to process and render the gadget. The XML file contains all data and code for the gadget, or it can have references (URLs) on where to find the rest of the elements.

HTML: is the markup language used to format pages on the internet. The static content of a gadget is written in HTML. HTML looks similar to XML, but is used to format web documents rather than to describe structured data.

JavaScript: is a scripting language used to add dynamic behavior to your gadgets.

Gadget XML

A gadget and its XML are synonymous. The gadget XML contains all information needed to identify and render a web application. The XML gadget specification consists of the following:

Content

The **<Content>** section specifies the programming logic and the HTML elements that determine the appearance of the gadget. It defines the type of content, and either holds the content itself or has a link to external content. The gadget attributes and user preferences are combined with programming logic and formatting information to become a running gadget.

<Content> provides the actual HTML, CSS, and JavaScript to be rendered by the gadget. Code is provided directly in the gadget XML content section for rendering and control flow. The code is processed by a gadget server and rendered in an IFRAME.

```
<?xml version="1.0" encoding="UTF-8"?>
<Module>
    <ModulePrefs title="Sample Gadget"
      …
</ModulePrefs>
    <UserPref name="scheme" display_name="scheme" default_value="" datatype ="hidden"/>
    <UserPref name="host" display_name="host" default_value="" datatype ="hidden"/>
   <UserPref name="hostPort" display_name="hostPort" default_value="" datatype ="hidden"/>


    <Content type="html">
        <![CDATA[
            <!DOCTYPE html>
```

```
            <!-- Styling -->
            <link rel="stylesheet" href="SampleGadget_Final.css" type="text/css" />
            …
            …
            <script type="text/javascript">
            …
            </script>
        ]]>
     </Content>
</Module>
```

User Preferences

The **<UserPrefs>** section allows you to pass custom properties to the gadget from the gadget XML. The custom properties have to be suffixed with the datatype attribute as hidden.

For example, `<UserPref name="myname" display_name="Name" required="true" datatype="hidden" />`.

The user preferences are defined in the XML specifications as follows:

```
<?xml version="1.0" encoding="UTF-8"?>
<Module>
    <ModulePrefs title="Sample Gadget"
      …
</ModulePrefs>
    <UserPref name="scheme" display_name="scheme" default_value="" datatype ="hidden"/>
    <UserPref name="host" display_name="host" default_value=""  datatype ="hidden"/>
   <UserPref name="hostPort" display_name="hostPort" default_value=""  datatype ="hidden"/>


    <Content type="html">
        <![CDATA[
            <!DOCTYPE html>
            <!-- Styling -->
            <link rel="stylesheet" href="SampleGadget_Final.css" type="text/css" />
<!-- Finesse Library -->
 <script type="text/javascript"
src="__UP_scheme__://__UP_host__:__UP_hostPort__/desktop/assets/js/finesse.js"></script>
            …
            …
            <script type="text/javascript">
            …
            </script>
        ]]>
     </Content>
</Module>
```

Note that for each User Preference, “hangman variables” can be substituted into supported gadget specification fields. Hangman variables are of the form **__<TYPE>_<ID>__**, and are replaced with string values. For each provided User Pref with key foo and value bar, hangman expansion **__UP_foo__ = bar**. Hence, in the above code user preference scheme is available as **__UP_scheme__**. Similarly, for other User Preferences the hangman variables are dynamically substituted. Also, as the datatype value is specified as hidden, the user preferences pop up for the agent to enter their own data does not show up on the gadget.

User preferences are accessed from your gadget using the user preferences JavaScript API, for example:

```
<script type="text/javascript">
  var prefs = new gadgets.Prefs();
  var someStringPref = prefs.getString("StringPrefName");
  var someIntPref = prefs.getInt("IntPrefName");
  var someBoolPref = prefs.getBool("BoolPrefName");
</script>
```

Gadget JavaScript

Contains the business logic for the gadget. It can be written inside the gadget XML under the content section or an external JavaScript file can be created which can then be referred to using the src attribute in the **<script>** tag.

Gadget CSS

Contains the complete styling of the gadget. Similar to the JavaScript, CSS can also be referred to as an external file using href attribute in **<link>** tag.

Gadget Behavior

Rendering a gadget at the page level removes the title bar from the gadget layout.

Simple Example Gadget

Do the following to create and deploy a gadget:

- Use any text editor to write your gadget specification.
- Host the gadget on any web server. See Enable or Reset 3rdpartygadget Account, on page 343.
- Add the gadget to the Finesse Container which can run gadgets. See Upload Third-Party Gadgets, on page 344.

Example Gadget

Use the following lines of code to build a simple gadget. This gadget displays the message "Hello, world!". Copy the following lines of code into a new file named hello_world.xml:

```
<?xml version="1.0" encoding="UTF-8" ?>
<Module>
  <ModulePrefs title="hello world example" />
  <Content type="html">
     <![CDATA[
       Hello, world!
     ]]>
  </Content>
</Module>
```

Note the following about the "Hello World" example:

- Gadgets are specified in XML. The first line is the standard way to start an XML file. This must be the first line in the file.
- The **<Module>** tag indicates that this XML file contains a gadget.
- The **<ModulePrefs>** tag contains information about the gadget such as its title, description, author, and other optional features.
- The line **<Content type="html">** indicates that the gadget's content type is HTML.
- <![CDATA[*...insert HTML here...*]]> is used to enclose HTML when a gadget's content type is html. It tells the gadget parser that the text within the CDATA section should not be treated as XML. The CDATA section typically contains HTML and JavaScript.
- **</Content>** signifies the end of the Content section.

- **</Module>** signifies the end of the gadget definition.

Note For a Finesse specific example, download the LearningSampleGadget from https://github.com/CiscoDevNet/finesse-sample-code/tree/master/LearningSampleGadget, which provides step by step instructions in learning some of the objects in the finesse.js library.

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Import Finesse JavaScript API

For gadgets to work properly, they need to import the Finesse JavaScript library hosted on the Finesse server.

Hosting Third-Party Gadgets on Web Server

To import the JavaScript library, the Finesse FQDN needs to be provided inside the import statement. For building the finesse.js URL, we need to retrieve the following properties from the gadget preferences:

1. **scheme**: http or https
2. **hostname**: FQDN of the Finesse server
3. **port**: port of the Finesse service

These properties are inside the gadget preferences as part of Finesse container initialization. In your gadget XML:

- Define the user preferences that will be used for building the finesse.js import statement.

```
<UserPref name="scheme" display_name="scheme" default_value="" datatype ="hidden"/>
<UserPref name="host" display_name="host" default_value="" datatype ="hidden"/>
<UserPref name="hostPort" display_name="hostPort" default_value="" datatype ="hidden"/>
```

- Import the finesse.js file.

```
<script type="text/javascript"
    src="__UP_scheme__://__UP_host__:__UP_hostPort__/desktop/assets/js/finesse.js">
</script>
```

Hosting Third-Party Gadgets on Finesse Server

Third-party gadgets can be hosted on the Finesse server inside the 3rdpartygadget directory. See Upload Third-Party Gadgets, on page 344.

Since the third-party gadget is hosted on the Finesse server, you can import the Finesse JavaScript API with a relative URL.

```
<script type="text/javascript"src="/desktop/assets/js/finesse.js"></script>
```

alternateHosts Configuration

The <gadget> element in the Finesse Layout XML provides an attribute to specify alternate hosts from which the gadget can be loaded. This allows the Cisco Finesse desktop to load the gadget using a different host if the primary server is unavailable.

The **alternateHosts** attribute contains a comma-separated list of FQDNs that will be used if the primary-host-FQDN is unavailable.

```
<gadget alternateHosts="host1,host2,host3,...">
         https://<primary-host-FQDN>/<gadget-URL>
    </gadget>
```

The **alternateHosts** attribute is only applicable for gadgets with an absolute URL. That is URLs containing the FQDN of a host, an optional port, and the complete URL path to the gadget. For example: <gadget alternateHosts="host1,host2">*http://primary host/relative_path*</gadget>

If loading the gadget from the primary-host fails, the Cisco Finesse container attempts to load the gadget from the alternate hosts in the order specified in the **alternateHosts** attribute.

It is possible that under certain circumstances, the Cisco Finesse desktop fails to load the gadget even if some of the hosts are reachable. In such cases, refresh the Cisco Finesse desktop.

When the gadget is specified with a relative URL, for example: <*gadget*>*/3rdpartygadgets/relative_path*</*gadget*>, the **alternateHosts** attribute does not apply and are ignored by the Cisco Finesse desktop.

Note If the host serving the gadget fails after the Cisco Finesse desktop was successfully loaded, the desktop must be refreshed in order to load the gadget from an alternate host. The gadget does not implement its own failover mechanism.

Supported OpenSocial Features

The Finesse Desktop supports OpenSocial Core Gadget Specification 1.1.

Gadget Specification XML Features

The following table lists supported features that can be specified in the Gadget Specification XML or are available as an API for use in the JavaScript code of a gadget.

Name	Description
Locale	The <Locale> element specifies the locales that the gadget supports. The Finesse Desktop Gadget Container takes the locale provided by the browser and renders the gadget with the specific message bundle when available.

Name	Description
ModulePrefs: Scrolling	The Scrolling attribute of the ModulePrefs tag renders the gadget frame with a value of auto for scrolling. When the content exceeds the viewport, the browser renders a vertical or horizontal scrollbar. For a better user experience, use the gadgets.window.adjustHeight API to dynamically resize the gadget as needed instead of using this feature.
ModulePrefs: Title	The string provided is used for the title of the gadget shown in the title bar. You can also use the gadgets.window.setTitle API to set the title at runtime, which may offer more flexibility.
loadingindicator	Displays a loading message while the gadget is loading.

Required Module pref Feature

Finesse requires that all gadgets use the following module pref feature:

<Require feature="pubsub-2" />: This feature is required for the gadget to load in the OpenAjax Hub.

Note Before you can access the authorization string through the gadget prefs, you must first import the Finesse JavaScript library.

Loading Indicator Feature

The loading indicator is an OpenSocial feature that displays a loading message over gadgets while they are loading. This feature allows you to provide a consistent user experience within Finesse.

Requesting the Loading Indicator

Use the following to request the loading indicator in the gadget ModulePrefs:

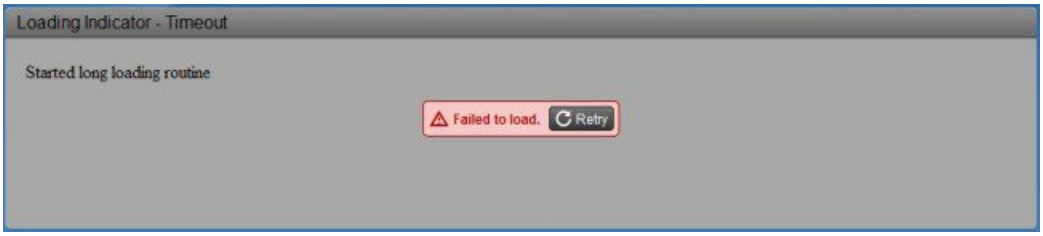
```
<ModulePrefs>
  <Require feature="loadingindicator">
    <Param name="manual-dismiss">false</Param>
    <Param name="loading-timeout">10</Param>
  </Require>
</ModulePrefs>
```

Parameter	Type	Description	Possible Values	Notes
loading-timeout	Integer	The number of seconds to wait before displaying the Retry button. If the loading indicator is dismissed within this time, the Retry button does not appear. Set this to a number that is appropriate for your gadget.	integers	Optional parameter. Default is 10.

Parameter	Type	Description	Possible Values	Notes
manual-dismiss	Boolean	This parameter determines whether the gadget dismisses the loading indicator. If set to false, the feature code dismisses the loading indicator when the gadget has loaded. However, the indicator may be dismissed too soon because the gadget may load before all gadget initialization code is complete. To manually dismiss the loading indicator, set this parameter to true, and then configure the gadget to call gadgets.loadingindicator.dismiss() after the gadget is loaded and initialized.	true, false	Optional parameter. Default is false.

When the gadget is loading, if the loading timeout is reached, the loading indicator changes to a timeout message and displays a Retry button that the user can click to reload the gadget.

Figure 10: Loading Indicator - Timeout



You can change any of the strings displayed by the loading indicator by configuring the gadget to call the following JavaScript methods:

- gadgets.loadingindicator.updateLoadingMessage(text)
- gadgets.loadingindicator.updateTimeoutMessage(text)
- gadgets.loadingindicator.updateRetryButtonText(text)

APIs Available to Gadget JavaScript

The following table lists the available APIs and methods.

Name	Parameters	Description
<static> gadgets.window.adjustHeight(opt_height)	opt_height (integer)—Preferred height in pixels. This parameter is optional. If the opt_height is not specified, the API attempts to fit the gadget to its content.	Adjusts the height of the gadget.
<static> gadgets.window.setTitle(title)	title (string)—Preferred title of the gadget.	Sets the title of the gadget.

Name	Parameters	Description
<static> gadgets.io.makeRequest (url, callback, opt_params)	url (string)—Address from which content is fetched. callback (function)—Executed after content from the url is fetched. opt_params (Map<String, String>)—Additional optional parameters to pass to the request.	Fetches content from the provided URL and feeds that content into the callback function.
<static> gadgets.views.requestNavigateTo (view)	view (string)—The view type to which the gadget is requesting to change.	Sets the view type of the gadget. If the parameter value equals "canvas", the gadget is requesting to be maximized within the tab on which it resides. If any other value is provided, the gadget is requesting to be restored to its default view.
<static> gadgets.loadingindicator.dismiss()	None	Dismisses the loading indicator so that the message is no longer visible.
<static> gadgets.loadingindicator.showLoading()	None	Displays a loading indicator message over the gadget.
<static> gadgets.loadingindicator.showRetry()	None	Displays an error message over the gadget stating that the gadget failed to load, along with a Retry button. When the user clicks the Retry button, the container reloads the gadget.
<static> gadgets.loadingindicator.updateLoadingMessage(text)	text (string)—Text to display as the loading message.	Changes the message that appears when the gadget is loading.
<static> gadgets.loadingindicator.updateTimeoutMessage(text)	text (string)—Text to display when the gadget loading has timed out.	Changes the message that appears when the gadget loading times out.
<static> gadgets.loadingindicator.updateRetryButtonText(text)	text (string)—Text to display on the Retry button.	Changes the message that appears on the Retry button.

Gadget Preferences

The gadgets.Prefs class provides access to user preferences, module dimensions, and messages. Clients can access their preferences by constructing an instance of gadgets.Prefs (and optionally, passing in their module ID). Gadget preferences can then be set using the standard OpenSocial gadget APIs.

```
var myPrefs = new gadgets.Prefs();
myPrefs.set("counter", count +1);
```

In the Finesse Desktop, gadget preferences persist in the browser. After a gadget sets its preferences, anytime that gadget is constructed in the same browser, these preferences continue to be available through the APIs.

```
var myPrefs = new gadgets.Prefs();
helloValue = myPrefs.getString("hello");
```

Note Do not use preferences to persist critical application data. This data is stored in the browser and may be manually purged by the user at will. This storage is meant for preferences (similar to the type of information that is typically stored inside a cookie), and not for complex application data. Additionally, when the browser runs out of the allocated storage space, this data is purged.

If special characters are expected in the value of the preference, they should be escaped inbound and unescaped outbound, as shown in the following example:

```
var myPrefs = new gadgets.Prefs(),
myPrefs.set("hello", gadgets.util.escapeString("!@#$%^&*()<>?");
…
var myPrefs = new gadgets.Prefs(),
helloValue = gadgets.util.unescapeString(myPrefs.getString("hello"));
```

Note Do not use special characters within the name of the preference. The use of special characters within the name of the preference is not supported.

Caveats

Although OpenSocial is a web standard, gadgets may exhibit different behaviors in various OpenSocial containers. You should always thoroughly test gadgets in Finesse to ensure that functionality is in accordance with customer requirements. The Finesse team will document known issues as they are discovered to help customers and partners build gadgets for the Finesse Desktop.

Gadget Caching

Gadget caching is enabled on the Finesse container. If you add a gadget, delete a gadget, or change the layout of the gadget on the desktop, you must restart Cisco Finesse Tomcat to clear the cache.

If you make changes to the code of an existing gadget, you can restart Cisco Finesse Tomcat or you can pass a “nocache” parameter in the URL to clear the cache. You can pass the nocache parameter at the root level or at the desktop web app.

Example:

- http://server?nocache
- http://server/desktop?nocache
- http://server/desktop/container?nocache

Notifications on Finesse Desktop

The Finesse desktop contains support for OpenSocial Core Gadget Specification 1.1. OpenSocial Core Gadget Specification 1.1 supports an intergadget notification system that is based on the OpenAjax Hub 2.0 Specification.

The Finesse desktop automatically establishes a BOSH connection to the Notification Service upon sign-in. The Finesse desktop publishes notifications that it receives from the Notification Service to OpenAjax Hub topics. An OpenAjax topic is a string name that identifies a particular topic type to which a client can subscribe or publish. Gadgets must subscribe to these topics to receive notifications.

If the BOSH connection is disconnected, the Finesse desktop attempts to recover based on the recovery strategy described in Finesse High Availability, on page 317 . If the BOSH connection cannot be re-established, the Finesse Desktop triggers a failover to the alternate Finesse server.

Review the OpenSocial and OpenAjax Hub specifications before you implement gadget support for notifications on the Finesse Desktop.

Finesse Notifications in Third-Party Containers

Strict requirements must be followed to leverage the Finesse Desktop notification framework on a third-party container.

1. Clients must add a specific Finesse gadget, which establishes the BOSH connection and publishes notifications to Finesse-specific OpenAjax topics.
2. Third-party containers (that is, those other than the Finesse Desktop) must provide support for the OpenSocial Core Gadget Specification 1.1 to ensure that gadgets can subscribe to Finesse-specific notifications through the OpenAjax Hub.

Finesse Topics

A gadget that is within the Finesse environment has the ability to subscribe or publish to a set of Finesse Desktop topics via OpenAjax Hub. The following sections provide details for the available topics.

Connection Information

Topic Name	finesse.info.connection
Topic Type	Gadgets subscribe to this topic.

Gadgets subscribe to the finesse.info.connection topic to receive status information about the BOSH connection, which is automatically established by the Finesse Desktop or a Finesse Desktop gadget (within a non-Finesse container). Connection status information can be used to determine the state of the connection so that a gadget can act appropriately. Additionally, a resource ID is provided in the published data to allow the gadget to construct a subscribe request to the Finesse Web Services. Connection information is published every time there is a connection state change.

The published data is a JavaScript object with the following properties:

```
{
    status: string,
    resourceID: string
}
```

The *status* parameter describes the BOSH connection status. It can have any one of the following values:

- connected
- connecting
- disconnected
- disconnecting
- reconnecting
- unloading

Note A BOSH connection status of "unloading" indicates that an action in the browser (such as refreshing the browser or clicking the back button) caused the BOSH connection to initiate the unloading process.

The *resourceID* parameter is a unique identifier for the BOSH connection. Although the resourceID parameter is provided with every connection status change, the ID is not available until after a BOSH connection has been successfully established. It is possible that the BOSH connection reconnects with a different resourceID.

A situation can occur where a gadget is loaded after the Finesse Desktop or gadget has already published connection information. In this case, have the gadget publish a request to a Finesse request topic, which forces the Finesse Desktop to publish the connection information again. For more information, see Finesse Requests.

Finesse Notifications

Topic Name	finesse.api.[resourceObject].[resourceID]
Topic Type	Gadgets subscribe to this topic.

If a user has any subscriptions for a particular notification, either created by the Finesse Desktop or by an explicit subscribe request (see Subscription Management on Finesse Desktop), the Cisco Finesse Notification Service delivers updates through the established BOSH connection. The Finesse Desktop automatically handles the management of the BOSH event connection to the Notification Service. Any notifications that are delivered through the connection are converted to JavaScript Object, and then published by the Finesse Desktop to an OpenAjax Hub topic. The name of the topic matches the node on the Finesse Notification Service on which the notification was published. However, to comply with OpenAjax topic conventions, all slashes (/) are replaced with dots (.) and the leading slash is removed.

To receive notifications, the gadgets must

1. Subscribe to the OpenAjax topic for a particular notification feed. This action ensures that no notifications are missed after sending the subscription request to Finesse Web Services.
2. If required, make a request to the Cisco Finesse Notification Service to create a subscription for the notification feed (see Subscription Management on Finesse Desktop).

When connecting to the Cisco Finesse Notification Service, you must always specify a resource to identify your connection. Issues occur if the resource is omitted when the connection is created.

The resource “desktop” is reserved for the Finesse Desktop. Do not use this resource for other connections as it causes a conflict with the Finesse Desktop.

In Finesse, each notification type has an equivalent topic to which gadgets can subscribe. For a list of available Finesse notifications, see Cisco Finesse Notifications and look under the "node" property. These notifications are structured as follows:

```
{
    content : Raw object payload as a String,
    object : JavaScript object representation of the payload
}
```

Sample Notification Payload

```
{
    event: "PUT"
    source: "/finesse/api/User/1000"
    data: {}
}
```

To receive notifications for User object updates, a client within the Finesse Desktop must subscribe to *finesse.api.user.1000*.

```
{
    content: "<Update>
                  <data>[User Object]</data>
                  <event>PUT</event>
                  <source>/finesse/api/User/{id}</source>
              </Update>"
    object: {
        Update: {
            data: [User Object],
            event: "PUT",
            source: "/finesse/api/User/{id}"
        }
    }
}
```

Finesse Requests

Topic Name	finesse.info.requests
Topic Type	Gadgets publish to this topic.

Communication between gadgets and the Finesse Desktop or other gadgets is done through inter-gadget notification via OpenAjax Hub. A gadget can send an operation request to the Finesse Desktop by publishing a request object to the Finesse request topic.

The gadget must construct an object to be published to the request topic with the following structure:

```
{
    type: string,
    data: object
}
```

The *type* parameter describes the request type.

The *data* parameter provides additional information for the Finesse Desktop to respond to the request. The contents of this data depends on the type of request.

The following sections describe the different types of requests supported.

Note More request types may be added in the future.

ConnectionInfoReq

Sending an "ConnectionInfoReq" request forces the Finesse Desktop to publish a connection information object to all gadgets subscribed to the *finesse.info.connection* topic. This request allows gadgets to determine the current state of the BOSH connection and retrieve the resource ID. The gadget must be subscribed to the connectionInfo topic to receive the event.

The gadget should publish the following object to the topic *finesse.info.requests*:

```
{
    type: “ConnectionInfoReq”,
    data: { }
}
```

It is possible that the gadget may come up before the Finesse Desktop is ready to start responding to a request to send connection information. For this reason, gadgets should subscribe to the *finesse.info.connection* topic regardless. When the Finesse Desktop or gadget is ready, it starts publishing connection information immediately.

Note The topic *finesse.info.connection* is shared across all subscribed gadgets. Gadgets that subscribe to this topic may receive duplicate notifications. Gadgets must be able to handle duplicate notifications appropriately.

ConnectionReq

Sending a "ConnectionReq" forces the Finesse Desktop to attempt to establish a BOSH connection with the Notification Service. This request can only go through if either no active connection currently exists or if the current connection is in the "disconnected" state.

The gadget should publish the following object to the topic *finesse.info.requests*:

```
{
    type: "ConnectionReq",
    data: {
        id: ID,
        password: password,
        xmppDomain: xmppDomain
    },
}
```

The *id* and *password* parameters specify the ID and password of the XMPP user for which to establish a BOSH connection. The *xmppDomain* parameter specifies the domain of the XMPP server.

SubscribeNodeReq

Sending a "SubscribeNodeReq" request causes the managed BOSH connection to send an XEP-0060 standard subscribe request (described in About Cisco Finesse Notifications) to subscribe to the notification feed for the specified node. The response to this request is published on the response topic finesse.info.responses.{invokeID}, where the invokeID must be generated by the gadget to identify this unique request and subscription. For more details, see Finesse Responses. The Cisco gadgets use an RFC1422v4-compliant universally unique identifier (UUID) for this invokeID.

To guarantee that the gadget receives the response, it must subscribe to the response topic (on the OpenAjax Hub) of its self-generated invokeID before sending the following object to the topic finesse.info.requests:

```
{
    type: "SubscribeNodeReq",
    data: {
        node: "/finesse/api/Team/{id}/Users" // the node of interest
    },
    invokeID: "xxxxxxxx-xxxx-4xxx-yxxx-xxxxxxxxxxxx"
}
```

The *node* parameter specifies the node to subscribe to. The *invokeID* parameter is self-generated and is used to track this particular subscription. This parameter is also used as part of the OpenAjax topic to which the response of the request is published.

UnsubscribeNodeReq

Sending an "UnsubscribeNodeReq" request causes the managed BOSH connection to send an XEP-0060 standard unsubscribe request (described in section 7.1 About Cisco Finesse Notifications) to unsubscribe from the specified node. The response of this request is published on the response topic finesse.info.responses.{invokeID}, where the invokeID must be generated by the gadget to identify this unique request. For more details, see Finesse Responses. The Cisco gadgets use an RFC1422v4-compliant UUID for this invokeID. For more details, see the Finesse SDK.

To guarantee that the gadget receives the response, it must subscribe to the response topic (on the OpenAjax Hub) of its self-generated invokeID before sending the following object to the topic finesse.info.requests:

```
{
    type: "UnsubscribeNodeReq",
    data: {
        node: "/finesse/api/Team/{id}/Users",
        subid: "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx"
    },
    invokeID: "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxy"
}
```

The *node* parameter specifies the node to subscribe to. The *subid* parameter specifies the subscription to remove, which is uniquely identified by the invokeID that was used in the subscribe request. The *invokeID* parameter is self-generated and is used as part of the OpenAjax topic to which the response of the request is published.

Finesse Responses

Topic Name	finesse.info.responses.{invokeID}
Topic Type	Gadgets subscribe to this topic.

Responses to requests are published to these channels. When a request is made, the gadget generates and specifies a unique invokeID as part of the request. This invokeID is used as the trailing token in the topic to which the response of the request is published.

Because this topic is only used to communicate the response of a single request and never used again, be sure to unsubscribe from the topic as part of the callback handler in the subscribe request. For example:

```
// Generate invokeID and construct request
var UUID = _util.generateUUID(),
data = {
    type: "ExampleReq",
    data: {},
    invokeID: UUID
},


// Subscribe to the response channel to ensure we don't miss the response
OAAsubid = gadgets.Hub.subscribe("finesse.info.responses."+ UUID, function (topic, data) {
    // Unsubscribe from the response topic to prevent memory leaks
    // Do this before processing the response in case the processing throws an exception
    gadgets.Hub.unsubscribe(OAAsubid);

    // Process the response here
});


// Publish the request after we have registered our response callback on the response topic
gadgets.Hub.publish("finesse.info.requests", data);
```

Workflow Action Event

Topic Name	finesse.containerservices.workflowActionEvent
Topic Type	Gadgets subscribe to this topic.

Gadgets subscribe to the finesse.containerservices.workflowActionEvent topic to receive workflow action events to execute as a result of workflow evaluations.

Note Third-party gadgets subscribing directly to the OpenAjax Hub for the Workflow Action Event topic might cause the Finesse Workflow Engine to lose its subscription and no longer be able to execute workflow actions. Third party gadgets should instead implement something like the following:

```
var _containerServices = finesse.containerservices.ContainerServices.init();
    _containerServices.addHandler("finesse.containerservices.workflowActionEvent",
function(data) {
         // Perform logic on "data", which is a WorkflowActionEvent object
        });
```

The published data is a JavaScript object with the following properties:

```
{
  uri: string,
  name: string,
  type: string,
  params: [
```

```
    {
      name: string,
      value: string,
      expandedValue: string
    }
  ],
  actionVariables: [
    {
      name: string,
      node: string,
      type: string,
      testValue: string,
      actualValue: string
    }
  ]
}
```

Field	Description
uri	In the uri, the id maps to the primary key of the WorkflowAction entry.
name	The name of the workflow action.
type	The type of workflow action. Possible value is BROWSER_POP.
params	List of Param subobjects (see below).
actionVariables	List of ActionVariable subobjects (see below). There can be at most 5 Action Variable subobjects assigned to a workflow action.

The Param subobject uses the following fields:

Field	Description
name	The name of the parameter.
value	The value of the parameter.
expandedValue	The value of the parameter with variables substituted with their values.

The ActionVariable subobject uses the following fields:

Field	Description
name	The name of the variable.
node	The XPath to extract from the dialogs XML.
type	Indicates if this is a SYSTEM or CUSTOM variable.
testValue	The value used to test the variable.
actualValue	The actual value of the variable in context of the events used by the workflow evaluation.

Finesse Container Timer

Because too many timers that run concurrently can cause issues for JavaScript, you should not use setTimeout() or setInterval() directly. The Finesse container provides a service (the TimerTickEvent) that you can leverage for your third-party gadgets.

Finesse publishes the TimerTickEvent to the OpenAJAX hub every 1000 milliseconds. To use this service:

- Have the gadget subscribe to the TimerTickEvent:

```
finesse.containerservices.ContainerServices.addHandler(finesse.containerservices.ContainerServices.Topics.
TIMER_TICK_EVENT, callback);
```

- Define a callback method (see boilerplate gadget tick code - _timerTickHandler()) and, optionally, an update method (see boilerplate gadget tick code - _processTick()).

Cisco provides a boilerplate gadget tick code that you can use to define the callback method.

Boilerplate gadget tick code:

```
//Gadget defined field: _lastProcessedTimerTick
_lastProcessedTimerTick = null,

//Gadget defined field: _maxTimerCallbackThreshold
_maxTimerCallbackThreshold = 500,

//Gadget defined field: _forceTickProcessingEvery (10 seconds)
_forceTickProcessingEvery = 10000,

/**
  * Processes a timer tick - updating the UI.
  * @param start is the time that the tick was received
  * @returns {boolean} true
  */
_processTick = function (start) {

   //Developer's add UI update logic here
   //...
   //...

   _lastProcessedTimerTick = start;

  return true;
},

/**
  * Timer tick callback handler.
  * @param data
  */
_timerTickHandler  = function (timerTickEvent) {
   var start, end, diff, discardThreshold, processed;

  start = (new Date()).getTime();
  processed = false;

  //Prevent starvation of timer logic
  if (_lastProcessedTimerTick === null) {
     processed = _processTick(start);
  } else {
     if ((_lastProcessedTimerTick + _forceTickProcessingEvery) <= start) {
       //Force processing at least every _forceTickProcessingEvery milliseconds
       processed = _processTick(start);
     }

  end = (new Date()).getTime();
  diff = end - start;
  if (diff > _maxTimerCallbackThreshold) {
    _clientLogs.log("GadgetXYZ took too long to process timer tick (_maxTimerCallbackThreshold
 exceeded).");
```

```
  }
},
```

If you choose not to use the boilerplate gadget tick code, you should ensure the following:

- Callback calculates entry and exit time.
- Callback for timer tick is quick (log when callback takes to long - only when exceeding threshold).
- Callback provides discard capability (as outlined in the boilerplate gadget tick code) to prevent events from piling up.
- Callback adds a _lastProcessedTimerTick and uses it to force an update to occur at regular intervals (such as every 10 seconds). The intent is to prevent starvation in a heavily-loaded system that cannot respond quickly enough, such that all events are being discarded.

Note Because the timer callback triggers every 1 second and the JavaScript engine is single-threaded, it is important to process as quickly as possible. Using the boilerplate code makes gadget development issues more obvious and easier to debug.

Handling Special Characters in CSS

When using CSS in a gadget, the Finesse Desktop Gadget Container restricts the following special characters:

@ ^ $ * :: ~

If the CSS contains any of the special characters listed above, copy the following JavaScript code into your gadget's *.js file:

```
/**
 * Injects css or js files into DOM dynamically.
 * This is to bypass gadget container's restriction for special chars in CSS 3 files.
 * E.g. @Keyframes
 */
injectResource : function (url){
     var node = null;
     // url null? do nothing
     if(!url) {
        return;
     }
     // creates script node for .js files
     else if(url.lastIndexOf('.js')=== url.length-3){
         node = document.createElement("script");
         node.async = false;
         node.setAttribute('src', url);
     }
     // creates link node for css files
     else if(url.lastIndexOf('.css')== url.length-4){
         node = document.createElement("link");
         node.setAttribute('href', url);
         node.setAttribute('rel', 'stylesheet');
     }
     // inserts the node into dom
     if(node) {
       document.getElementsByTagName('head')[0].appendChild(node);
```

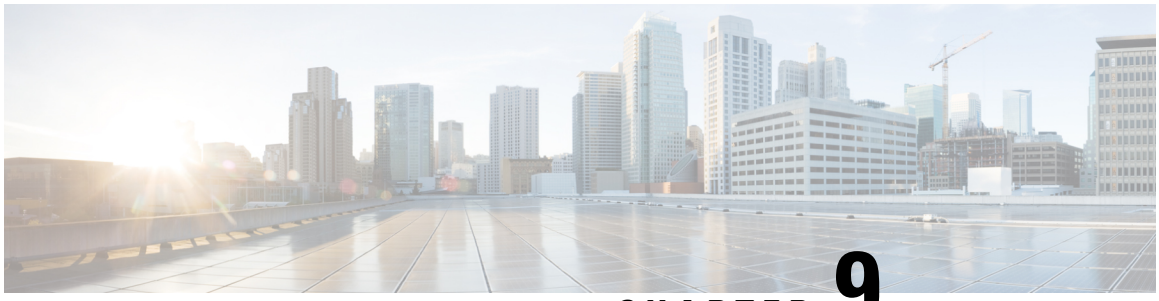
```
    }
}
```

In your gadget's *.xml file, call the injectResource function that you have copied above. The parameter to the injectResource function is the path to your css file:

```
<script type="text/javascript">
       <your gadget namespace>.injectResource('<path to CSS file>/<CSS filename>.css');
</script>
```

Subscription Management on Finesse Desktop

Because the Finesse desktop provides a managed BOSH connection to the Cisco Finesse Notification Service, the ability to subscribe or unsubscribe to a particular notification feed is also provided as an interface using the SubscribeNodeReq and UnsubscribeNodeReq requests described in Finesse Requests.



CHAPTER 9

Third-Party Gadgets

Cisco Finesse provides a mechanism for you to upload third-party gadgets to the Finesse server. This mechanism allows one user in the Finesse system to upload gadgets to one directory using secure FTP (SFTP).

The account used to upload gadgets is named 3rdpartygadget.The directory where third-party gadgets are deployed is:

```
/files
```

The 3rdpartygadget account only has permission to this directory (and any directories created under it).

Enable or Reset 3rdpartygadget Account

Use the following CLI command to enable (or reset) the password for the 3rdpartygadget account:

utils reset_3rdpartygadget_password

You are prompted to enter a password. After you enter a password, you are prompted to confirm the password.

You must set the password before you can upload gadgets using SFTP.

Note You must enable or reset the password for the 3rdpartygadget account on install. The password must be between 5 and 32 characters long and must not contain spaces or double quotes (").

CSS Requirements

By default, Finesse rewrites the linked CSS in your gadget, which in some cases is not desirable as it results in a loss of functionality if the CSS you are loading refers to other asynchronous elements. As a result, for all third-party gadgets, you can bypass the content rewriting for CSS by including the following in your gadget XML:

1. Add the optional feature "content-rewrite" to disable the CSS rewrite:

```
<Optional feature="content-rewrite">
        <Param name="expires">86400</Param>
        <Param name="include-url">.*</Param>
        <Param name="exclude-url">.css</Param>
</Optional>
```

2. Include UserPref for "externalServerHost":

```
<UserPref name="externalServerHost"/>
```

3. To reference the CSS file, perform one of the following:

   - If the gadget is hosted on the Finesse server, reference the CSS file using externalServerHost:

     ```
     <link rel="stylesheet"
     href="__UP_externalServerHost__/3rdpartygadget/files/<yourgadgetname>/<path to CSS
     file>/<CSS filename>.css"
     type="text/css"/>
     ```

     where you must update `<yourgadgetname>` to the filename of your gadget under the 3rdpartygadget `/files` folder and update the remaining path variables to the location of the CSS file for your gadget.

   - If the gadget is hosted on a server external to Finesse, reference the CSS file using the URL:

     ```
     <link rel="stylesheet"
     href="[http:|:]//<hostname>/<path to CSS file>/<CSS filename>.css"
     type="text/css"/>
     ```

     where you must update the URL variables to the location of the CSS file on your external server, and where specifying the protocol (http or) is optional. (If you omit the protocol, Finesse uses the default protocol of the page.)

Note Finesse Desktop Gadget Container restrains special characters while loading a CSS3 file. See Handling Special Characters in CSS, on page 341

Upload Third-Party Gadgets

After you set the password for the 3rdpartygadget account, you can use SFTP to upload third-party gadgets to the Finesse server, as illustrated in the following example.

Note Finesse allows you to upload third-party gadgets to your own web server, however, you must ensure that the Finesse server has access to your web server.

```
my_workstation:gadgets user$ sftp 3rdpartygadget@<finesse>
3rdpartygadget@<finesse>'s password:
Connected to <finesse>.
sftp> cd /files
sftp> put HelloWorld.xml
Uploading HelloWorld.xml to /files/HelloWorld.xml
HelloWorld.xml
sftp> exit
```

After you upload a gadget, it is available under the following URL:

http://<finesse>/3rdpartygadget/files/

Note For Unified CCX deployments you must specify port 8082.

To access the gadget uploaded in the previous example, use the following URL:

http://<finesse>/3rdpartygadget/files/HelloWorld.xml

When you add a gadget to the desktop layout, that gadget can be referenced using a relative path. For more information on adding third party gadgets to the Finesse desktop layout, see the section *Manage Desktop Layout* in the *Cisco Finesse Administration Guide*.

To include the gadget that was uploaded in the previous example in the desktop layout, add the following XML (highlighted) to the layout:

```
<finesseLayout xmlns="http://www.cisco.com/vtg/finesse">
      <layout>
        <role>Agent</role>
        <page>
          <gadget>/desktop/gadgets/CallControl.jsp</gadget>
          <gadget>/3rdpartygadget/files/HelloWorld.xml</gadget>
        </page>
        ...
      </layout>
      <layout>
        <role>Supervisor</role>
        <page>
          <gadget>/desktop/gadgets/CallControl.jsp</gadget>
          <gadget>/3rdpartygadget/files/HelloWorld.xml</gadget>
        </page>
        ...
      </layout>
    </finesseLayout>
```

Note You cannot delete, rename or change permissions of a folder while using SFTP in 3rd party gadget accounts for Unified CCX deployments. In order to perform these actions, SELinux has to be in permissive mode. This can be accomplished by executing the CLI command:

utils os secure permissive

Note Because of browser caching and caching in the Finesse web server, you may need to clear the browser cache or restart the Cisco Finesse Tomcat service before gadget changes take effect. If you make a change to a gadget and the change is not reflected on the Finesse desktop, clear your browser cache.

If you do not see the changes after you clear the browser cache, use the following CLI command to restart the Cisco Finesse Tomcat service:

admin:utils service restart Cisco Finesse Tomcat

Permissions

If a newly uploaded third-party gadget does not render via the desktop layout or when you launch it directly in a browser, the gadget files may not have the correct permissions. If gadget files do not have read permissions for everyone else (for example, the file permission is 770), Cisco Finesse Tomcat cannot read them. The minimum file permission should be 644.

If a gadget file does not have the correct permissions, when you launch it directly in the browser, you receive a 404 “Resource not available” error. When you try to launch the gadget via the desktop layout, you receive an error message that states the requested resource is not available.

To change file permissions on the Finesse server, use SFTP (CLI or client program) as shown in the following example:

```
$ sftp 3rdpartygadget@172.27.184.59
3rdpartygadget@172.27.184.59's password:
Connected to 172.27.184.59.
sftp> cd files
sftp> ls -l
---------- 1 751 751 0 Dec 6 19:40 MyGadget.xml
sftp> chmod 644 MyGadget.xml
Changing mode on /files/MyGadget.xml
sftp> ls -l
-rw-r--r-- 1 751 751 0 Dec 6 19:40 MyGadget.xml
sftp>
```

Replication

You must set the password for the 3rdpartygadget account on both the primary and secondary Finesse servers.

Gadgets must be manually uploaded to both the primary and secondary Finesse servers.

Migration

When you perform an upgrade, third-party gadgets are migrated to the new version.

The 3rdpartygadget account password is not migrated across upgrades. After an upgrade, you must reset the password for the 3rdpartygadget account before you can make changes to third-party gadgets. You must reset the password on both the primary and secondary Finesse servers.

Backup and Restore

Third-party gadgets are preserved when you perform a DRS backup and restore.

Restrictions

Any attempt to GET JavaServer Pages (jsp) using the URL http://<finesse>/3rdpartygadget/files is blocked. You will receive a 403 (Access Denied) error code when attempting to retrieve a jsp.

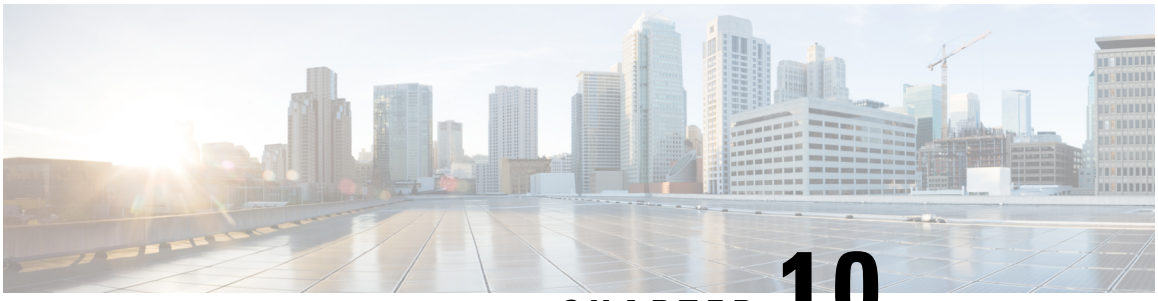
CORS Support for Finesse REST API

If third-party web applications instantiated from a third-party web server need to make calls to Finesse Desktop APIs, they require Cross-Origin Resource Sharing (CORS) support. In order to enable this support, Finesse expects them to send a specific header that contains the Origin Host name.

Header name: **Origin**.

The Host name value in **Origin** is used by Finesse to populate the Response Header named **Access-Control-Allow-Origin**.

Note When responding to a credentialed request, Finesse server must specify a domain and cannot use wild card characters, else the request will fail.



CHAPTER 10

Log Collection

Log Collection

These commands prompt you to specify a secure FTP (SFTP) server location to which the files will be uploaded.

To obtain logs:

- Install log: **file get install desktop-install.log**

  Use this command to see the installation log after the system is installed.

  This log is written to the SFTP server and stored as a text file written to this path: *<IP Address>\<date time stamp>\install\desktop-install.log*

- Desktop logs: **file get activelog desktop recurs compress**

  Use this command to obtain logs for the Finesse web applications. This command uploads a zip file that contains the following directories:

  - **webservices:** contains the logs for the Finesse backend that serves the Finesse REST APIs. The maximum size of an uncompressed desktop log file is 100 MB. The maximum size of this directory is approximately 4.5 GB. After a log file reaches 100 MB, that file is compressed and a new log file is generated. Output to the last compressed desktop log file wraps to the log file created next. The log file wrap-up duration can vary, based on the number of users on the system. Timestamps are placed in the file name of each desktop log.

  - **desktop:** contains logs from the Finesse agent desktop gadget container that holds the Finesse desktop gadgets. Any container-level errors with Finesse agent desktop will appear in these log files.

  - **admin:** contains logs from the Finesse administration gadget container that holds the administration gadgets. Any container-level errors with the Finesse administration console appear in these log files.

    - **audit-log:** Audit logs contain all admin operations (including Finesse admin UI and REST client operations). The maximum size of an uncompressed audit log file is 100 MB. The maximum size of total audit log files (including compressed log files) is approximately 1 GB. After a log file reaches 100 MB, that file is compressed and a new log file is generated. The log file wrap-up duration can vary, based on the number of users on the system. The log contains the following parameters:

- Timestamp
- User Id of the administrator
- Method of operation (PUT, POST, DELETE). GET operations will not be logged
- URL
- Payload

- **clientlogs:** contains the client-side logs submitted from the Finesse agent desktop to the Finesse server. Each log file is no larger than 1.5 MB and contains a timestamp and the agent ID of the agent who submitted the file. A new log file is created each time an agent submits client-side logs (the data is not appended to an existing log file). The maximum size of this directory is 100 MB. The directory holds a maximum number of 25000 clientlog files. When the directory exceeds the size limit or the file count, the oldest files are deleted.
- **openfireservice:** contains startup and shutdown-related information logs for the Cisco Finesse Notification Service.
- **openfire:** contains limited error and information logs for the Cisco Finesse Notification Service.
- **realm:** contains the logs for authentication requests from clients that are handled by the Finesse backend.
- **db:** contains the logs pertaining to the Finesse database.
- **/finesse/logs:** contains the logs for the Cisco Finesse Tomcat service.
- **fippa:** contains logs for the Finesse IP Phone Agent (IPPA) application.
- **finesse-auth:** contains the logs for Finesse authentication with the Cisco Context Service.
- **jmx:** contains the JMX counters data generated by the JMX logger process. It contains important jmx counters exposed by Finesse and openfire.

These logs are stored to the following path on the SFTP server: *<IP address>\<date time stamp>\active_nnn.tgz* , where nnn is timestamp in long format.

- Context Service registration log: **file get activelog ccbu/logs/fusion-mgmt-connector**

  Use this command to obtain the fusion-mgmt-connector logs generated by Finesse during the registration and deregistration with Cisco Context Service.

  These logs are stored to the following path on the SFTP server: *<IP address>\<date time stamp>\active_nnn.tgz* , where nnn is timestamp in long format.

- Servm log: **file get activelog platform/log/servm*.* compress**

  Use this command to obtain logs generated by the platform service manager that manages the starting and stopping of the Finesse services.

  The desktop and servm logs are compressed to one set of files.

  These logs are stored to the following path on the SFTP server: *<IP address>\<date time stamp>\active_nnn.tgz* , where nnn is timestamp in long format.

- Platform Tomcat logs: **file get activelog tomcat/logs recurs compress**

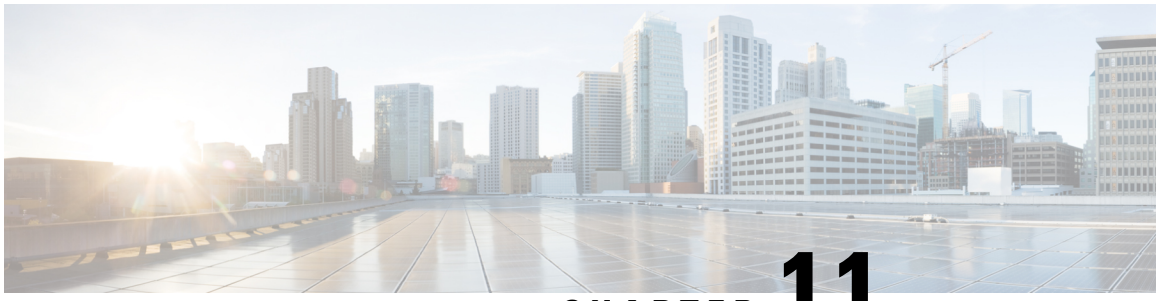
These logs are stored to the following path on the SFTP server: *<IP address>\<date time stamp>\active_nnn.tgz* , where nnn is timestamp in long format.

- Install log: **file get install install.log**

  These logs are stored to the following path on the SFTP server: *<IP address>\<date time stamp>\active_nnn.tgz* , where nnn is timestamp in long format.

Note Log collection may fail when you use the compress flag if there are a lot of log files. If collection fails, run the command again without the compress flag.

Log Collection



CHAPTER 11

Documents and Documentation Feedback

Documents and Documentation Feedback

Documents

The *Cisco Finesse Web Services Developer Guide* is available from Cisco DevNet at the following link:

https://developer.cisco.com/site/finesse/

If you have development questions, you can post them to the Cisco Finesse forums on Cisco DevNet, located at the following link: https://communities.cisco.com/community/developer/finesse.

The following documents are available from the Finesse page on Cisco.com (http://www.cisco.com/en/US/products/ps11324/tsd_products_support_series_home.html):

- *Cisco Finesse Installation and Upgrade Guide*
- *Cisco Finesse Administration Guide*
- *Release Notes for Cisco Finesse*

JavaScript Library and Sample Gadgets

The Finesse JavaScript library and sample gadgets are available on Cisco DevNet at the following link: https://developer.cisco.com/site/finesse/

Documentation Feedback

You can provide comments about this document by sending email to the following address: contactcenterproducts_docfeedback@cisco.com

We appreciate your comments.

Documents and Documentation Feedback