

Brekeke CIM 2.7 Client API Specification

Rev. 1.00α.140319

Brekeke Japan, Inc.

Revision History

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1.00		Updated from CIM 2.5 ClientAPI Specification Rev. 1.00

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1. SummaryDescription

Brekeke CIM Client API is a generic Javascript API required to utilize the CIM client functionalities from the web application.

2. Environment

- Browsers that supports XMLHttpRequest level2.

3. API Usage

Load the following two js files within the webpage where the CIM Client API is being used:

- `http://<cim-application-url>/client/lib/cim-common.js`
- `http://<cim-application-url>/client/lib/cti-client-core.js`

[Examples]:

```
<script type="text/javascript" src="http://192.168.0.1:8080/cim/client/lib/cim-common.js"></script>
```

```
<script type="text/javascript" src="http://192.168.0.1:8080/cim/client/lib/cti-client-core.js"></script>
```

4. API Specification

4.1. Class (Object) List

Class Name	SummarySummary
Brekeke.CTI	Root class for providing CIM Client API. Object has already been generated.
Brekeke.CTI.Constants	CIM Client API Costant Definition class. Object has already been generated.
Brekeke.CTI.Server	Abstract Class for CIM Server. This is a private inner class and the object can be retrieved by factory method.
Brekeke.CTI.Agent	Abstract class for Agents or Users. This is a private inner class and the object can be retrieved by factory method.

4.2. List of Methods

Brekeke.CTI	
getServer(url)*	Generate and obtain Brekeke.CTI.Server object.

Brekeke.CTI.Server	
getAgent(listeners)*	Generate and obtain Brekeke.CTI.Server.Agent object.

Brekeke.CTI.Agent	
getObjectState()*	Get the state of object.
getAgentInfo()*	Get the agent information.
getAgentConfig()*	Get the configuration information of the agent.
getAgentState()*	Get the state of agent.
getCallsInfo()	Get the call information.
getCallState()	Get the state of call.
getWrapUpCallInfo()	Get the call information of the calls that is in the WrapUp state.
getRelatedCallsInfo()	Get the call information of related calls.
getAcdsInfo()	Returns the ACD information being assigned.
getHelpRequests()*	Get help request information.
getOnlineAgents()*	Get the Agent information of Online Agent.
setEventListener(listeners)*	Configure the event listener.
operate(operationName, parameters, id)*	Execute the operation.

4.3. List of Operations

Brekeke.CTI.Agent	
signin*	Sign in to CIM Server.
signout*	Sign out from CIM Server.
changeAgentState	Change Agent state
makeCall	Make a call.
consultationCall	Forward the call.
conferenceCall	Change the forwarded call to a conference mode.
holdCall	Hold the call.
unholdCall	Cancel the hold on the call.
clearCall	Turn off the call.
answerCall	Answer the calls.
changeCallInfo	Change the optional information of the specified call.
setExtCallInfo	Add information to the specified call.
getExtCallInfo	Get information of the specified call.
reserveRelatedCall	Reserve the related calls.
unreserveRelatedCall	Cancel the reservation of the related called.
unrelateRelatedCall	Unrelate the related calls that are attached to the specified call.
updateAgentInfo*	Update the agent information to the latest information.
updateCallsInfo	Update the call information to the latest information
updateWrapUpCallInfo	Update the call information of the call in the Wrap Up state to the latest information.
updateRelatedCallsInfo()	Update the information of related calls to the latest information.
updateAcdsInfo	Update the assigned ACD information to the latest.
updateHelpRequests*	Update the help request information to the latest information.
updateOnlineAgents*	Update the Online Agent information to the latest information.
requestHelp*	Request Help.
dismissHelpRequest*	Dismiss the request help.
supervise	Join other calls as supervisor mode.
manageAgentState*	Change the state of other agent.
sendMessage*	Send message.

sendInnerMessage*	Send internal message.
loadUserConfig*	Get user configuration information.
saveUserConfig*	Save user configuration information.

4.4. List of Events

Brekeke.CTI.Agent	
objectStateChanged(ev)*	Occurs when the state of object changed.
signedIn(ev)*	Occurs when the agent signs in.
signedOut(ev)*	Occurs when the agent signs out.
agentStateChanged(ev)*	Occurs when the agent state changes.
callOffered(ev)	Occurs when the call is offered.
callInfoChanged(ev)	Occurs when the call information changes.
callStateChanged(ev)	Occurs when the call state changes.
relatedCallInfoChanged(ev)	Occurs when the related call information changes.
queuedCallCountChanged(ev)	Occurs when the call number in the assigned ACD in the Queue changes.
helpRequested(ev)*	Occurs when the help is requested.。
helpRequestDismissed(ev)*	Occurs when the help request is dismissed.
messageReceived(ev)*	Occurs when the message is received.
innerMessageReceived(ev)*	Occurs when the internal message is received.
agentActive(ev)*	Occurs when the Online state of the other agent changes.
errorOccurred(ev)*	Occurs when the error occurred.
windowChanged(ev)*	Occurs when the window operated by CIM client changes.
pollingTimeout(ev)*	Occurs when the polling with CIM server times out.
operationResult(ev)*	Occurs when the operation is completed.

4.5. Brekeke.CTI Class Method

4.5.1. `getServer (url)`

Description	This is a factory method to get the Brekeke.CTI.Server Object. This is implemented in the Singleton pattern as only one server object should be generated per one session. When this is called for the first time, Brekeke.CTI.Server Object is created based on the url parameters in the arguments, for the 2 nd time on, the object reference that is already generated is returned. However, the url values differ in first and 2 nd time, it is determined as it's against the coding restriction and the exception error will be thrown.	
Arguments	url	Application Address of CIM Server. Example: " http://192.168.0.1:8080/cim/ "
Returns	Brekeke.CTI.Server Object	

4.6. Brekeke.CTI.Server Class Method

4.6.1. getAgent (listeners)

Desription	<p>Factory Method for getting Brekeke.CTI.Agent Object.</p> <p>This is implemented in the Singleton patter as only one object should be generated per one session. When this is called for the first time, Agent Object is created based on the url parameters in the arguments, for the 2nd time on, the object reference that is already generated is returned.</p> <p>When Agent Object is generated, if the agent is signed in already to the CIM server with current session, the agent information of onlien state will be recovered and when it's not signed in, it will be the offline state object.</p> <p>Object Initialization process is done with CIM Server Anachronistically, the object feature cannot be used until the initialization is completed. Whether or not if the Object can be used can be detected in getObjectState method or objectStateChanged event.</p> <p>When listeners arguments are specified, it assigns event listener change to the Agent object then the reference is returned.</p> <p>Related Event: <i>objectStateChanged</i></p>	
Arguments	listeners (Optional)	<p>Mapping of Events and Listeners.</p> <p>Specifies using Object list {Event: Callback function}</p> <p>It will only assign to the events specified in the arguments and omitted event will keep the assignment configuration previously set. Please specify null in the callback function in the event for canceling event notification.</p> <p>Example1:</p> <pre>listeners = { agentStateChanged: onAgentStateChanged, callOffered: onCalloffered, callStateChanged: onCallStateChanged, error: onError }</pre> <p>Example2:</p>

		listeners = { callStateChanged: null }
Returns	Brekeke.CTI.Agent Object	

4.7. Brekeke.CTI.Agent Class Method

4.7.1. getObjectState()

Description	Get Object state. Normally, the object state is “Unavailable”, “Initializing”, “Available”
Arguments	None
Returns	Constant Value that shows object state.

4.7.2. getAgentInfo()

Description	Get information related to the signed in agent. When offline, null is returned.
Arguments	None
Returns	Object stored in Agent Information return { tenantName: string, Tenant Name agentId: string, Agent ID phoneId: string, Assigned Phone ID.(Login type is user then null) agentAcd: string, Assigned ACD List(Login type is user then null). agentName: string, Agent Name agentGroupId: string, Agent Group ID userType: number, User Type groupUrl: string, Group Homepage agentState: number, Agent State(Login type is user then Offline or Work). isAgent: boolean, When login type is set to agent – true, if it's set to user false. timestamp: number Timestamp (CIM Server time) }

4.7.3. getAgentConfig()

Description	Get configuration information of signed in agent. When it's offline state, null is returned.
Arguments	None
Returns	<p>Object that stores the Agent configuration information.</p> <pre> return { "callReason": { "codes": [{ "value": "reason1", "description": "" }], "required": false }, "stateReasons": { "ready": { "codes": [{},{}], "required": true }, "work": { "codes": null, "required": false }, "idle": { "codes": null, "required": false } }, "functions": { "chat": true, "relation": false, "acd": false, "help": true }, "applications": [{ "title": "Brekeke CIM", "url": "http://brekeke.jp" }, { "title": "Brekeke CA", "url": "http://brekeke.jp" }], "groupUrl": "http://brekeke.jp" } </pre>

4.7.4. getAgentState()

Desription	Get Agent State.
Arguments	None
Returns	<p>Object that stores the Agent State Information</p> <pre>return { agentState: number, Constant Value for Agent State agentStateReason: string, String for describing the Agent state reason timestamp number Timestamp (CIM Server time) }</pre>

4.7.5. getCallsInfo()

Desription	Get list of call information that are assigned to current agent. When there is no assigned calls, an empty array of zero object is returned.
Arguments	None
Returns	Call Information Object Array, return [{ <div> <div>callId: string,</div> <div>Call ID</div> </div> <div> <div>callType: number,</div> <div>Call Type</div> </div> <div> <div>callSource: string,</div> <div>Call Source</div> </div> <div> <div>customerNumber: string,</div> <div>Customer Number</div> </div> <div> <div>customerInfo: string,</div> <div>Customer Information</div> </div> <div> <div>appUrl: string,</div> <div>Application URI</div> </div> <div> <div>contactId: string,</div> <div>Contact ID</div> </div> <div> <div>logParam: string,</div> <div>Parameter for logging</div> </div> <div> <div>projectInfo: string,</div> <div>Project Information</div> </div> <div> <div>callReason: string,</div> <div>Call Reason</div> </div> <div> <div>callTag1: string,</div> <div>Call Tag1</div> </div> <div> <div>callTag2: string,</div> <div>Call Tag2</div> </div> <div> <div>sessionTag1: string,</div> <div>Session Tag1 (Range changes for each agent)</div> </div> <div> <div>sessionTag2: string,</div> <div>Session Tag2(Range changes for each agent)</div> </div> <div> <div>callState: number,</div> <div>Call State</div> </div> <div> <div>applInfo: string,</div> <div>External Application Information</div> </div> <div> <div>rcode number,</div> <div>Response Code</div> </div> <div> <div>q850 number,</div> <div>Response Code(Q850)</div> </div> <div> <div>externalNumber: string,</div> <div>Center side Number (DNIS/ANI)</div> </div> <div> <div>acd: string,</div> <div>ACD ID right before this operation</div> </div> <div> <div>startTime number,</div> <div>Call start date/time</div> </div> <div> <div>firstAgentCallType number,</div> <div>Call type when agent first received the call</div> </div> <div> <div>from string,</div> <div>From</div> </div> <div> <div>transferSourceAgent string,</div> <div>Transfer from Agent ID</div> </div> <div> <div>extCallInfo hash,</div> <div>Call Information</div> </div> <div> <div>timestamp</div> <div>timestamp(CIM Server or PBX Server time)</div> </div>

	}...]
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4.7.6. **getCallState(callId)**

Description	Get call state.	
	When the call with the specified ID does not exist, it returns 0 CALL_STATE_NONE is returned	
Arguments	callId	Call ID for the call to find out its state.
Returns	Constant Value for call state.	

4.7.7. getWrapUpCallInfo()

Description	<p>Get the call information of calls in Wrap Up state.</p> <p>When the Agent state is in Wrap up state, the call information of the call is returned.</p>
Arguments	None
Returns	<p>Call Information Object.</p> <p>Same returned value as getCallsInfo() method. However, this method returns the Call Information Object Array but single list of Call information Object is returned.</p> <p>Agent state being in other than Wrap up returns null.</p>

4.7.8. getRelatedCallsInfo()

Description	<p>Returns the call information of associated calls.</p> <p>Returns the call information associate dto the logge din agent.</p> <p>When there's no associated calls, an empty array with 0 element will be returned.</p>
Arguments	None
Returns	<p>Call Information Object Array.</p> <pre>return [{ callId: string, Call ID callHolders: string[], Array for Reserving Agent ID callType: number, Call Type customerNumber: string, Customer Number customerInfo: string, Customer Information startTime: number, Call Start date and time message: string, Message reserved: boolean, If reserved yourself, it's set to true. timestamp Timestamp(CIM server or PBX Server)timestamp(CIM Server or PBX Server time) },...]</pre>

4.7.9. getAcdsInfo()

Desription	Get Assigned ACD Information. Once agent logs in, the assigned ACD Information is returned.
Arguments	None
Returns	ACD Information Object Array. return [{ acd: string, ACD ID description: string, ACDDescription fromNumber: string, From Number queuedCallCount: number, Call Counts in queue queueAlertThresholdLow: number, Alert threshold (low) queueAlertThresholdHigh: number, Alert threshold (high) timestamp Timestamp (CIM Server time) }, ...]

4.7.10. getHelpRequests()

Desription	Get the list of Agents who are requesting help. Get the list of agents who are requesting help who are associated to the signed in user. When signed in user type is Admin, all help requests, if it's SV, managing agents' help requests, if it's agent, the help request information of your own will be returned. When there's no help requests, an empty array with 0 element will be returned.
Arguments	None
Returns	Array for Help Requestor Information Object return [{ agentId: string, Agent ID that is requesting help agentName: string, Agent Name agentGroupId: string, Agent Group ID timestamp: number Timestamp }, ...]

4.7.11. getOnlineAgents()

Desription	Retrieve the list of Online Agent. Retrieve the Agent list that can be referenced by the signed in users.
Arguments	None
Returns	Array of Online Information Object. return [{ agentId: string, Agent ID agentName: string, Agent Name agentGroupId: string, Agent Group ID userType number, User Type active number, 0 = Offline, 1= Online isAgent boolean, Login Type true=Agent, false=User timestamp: number Timestamp }, ...]

4.7.12. setEventListener(listeners)

Desription	Sets the Event Listener.	
Arguments	listeners	<p>Mapping of the event and lister.</p> <p>Specify in Object list {Event: Call back function}</p> <p>Only the events specified in the arguments are assigned and the omitted events will keep the configuration previously assigned.</p> <p>Please specify null for the call back unction when you want to cancel the Event notification for the events.</p> <p>Example1:</p> <pre>listeners = { agentStateChanged: onAgentStateChanged, callOffered: onCallOffered, callStateChanged: onCallStateChanged, helpRequested: onHelpRequested, messageReceived: onMessageReceived, error: onError }</pre> <p>Example2:</p> <pre>listeners = { callStateChanged: null }</pre>
Returns	None	

4.7.13. operate(operationName, parameters, id)

Description	<p>Execute the operation.</p> <p>In CIM Client API, the process of sending the request to the CIM server anachronistically is differentiated as “operations” and executes using the operate() method instead of using the generic way of method call.</p> <p>Normally, when the operation is completed, the processed results are notified through operationResult event, however, if the operation fails by any reason, the operationResult even will not occur, instead error is reported in the errorOccurred event.</p> <p>Related Event: <i>operationResult</i>, <i>errorOccurred</i></p>	
Arguments	operationName	<p>Operation executed.</p> <p>Example; “signin”, “signout”, “changeAgentState”</p>
	parameters	<p>Parameters for operation executed.</p> <p>Specify in Object List { Parameter Name: Parameter Value}.</p> <p>Specify null on the operations with no arguments.</p> <p>Example1;</p> <pre>params = { agentId: “1001”, password: “pw1011”, phoneId: “tenant1_1001”, tenant: “tenant1” }</pre> <p>agent.operate(“signin”, params, “myid”);</p> <p>Example2:</p> <p>agent.operate(“updateAgentInfo”, null);</p>
	id (Optional)	<p>ID to differentiate the operation.</p> <p>This is the parameter used to easily tie to the operationResult, application implementation admin uses this by specifying the optional ID.</p>
Returns	None	

4.8. Brekeke.CTI.Agent Class Operations

4.8.1. signin

Description	Signs in to CIM Server. Attempt to sign in using the specified Agent ID, password, phone ID and tenant ID to CIM Server. When succeeded, the agent state changes to non-Offline state. When the call is made to Online state Object, it will be against the coding rule and the exception will be thrown. Related Event; <i>signedIn, agentStateChanged</i>	
Parameters	agentId	Agent ID
	password	Agent Password.
	phoneId (Optional)	Phone ID being used for the terminal. If null or undefined is set, the user will attempt to login.
	tenantName (Optional)	Tenant Name For single tenant, it can be omitted.
Returns	None	

4.8.2. signout

Description	Sign out from CIM Server. Attempt to sign out from the CIM server you are currently logged in. When succeeded, the agent state changes to offline and all the information in the agent object is cleared. When this operation is called for offline state Object, no action is taken. Related Event: <i>signedOut, agentStateChanged</i>	
Parameters	forceSignout (Optional)	Set to true if you want to force sign out. If omitted it's set to false. After the request is sent to the CIM Server, it will not wait for the agent state change event to change the user state to offline with force.

		In that case, the signedOut and agentStateChanged events will be confirmed.
Returns	None	

4.8.3. changeAgentState

Description	<p>Changes the Agent state</p> <p>Attempts to transfer the agent status to specified one.</p> <p>When succeeds, agent state changes.</p> <p>Related Event: <i>agentStateChanged</i></p>	
Parameters	agentState	<p>Constant Value for Agent State. The values are as follows:。</p> <ul style="list-style-type: none">• AGENT_STATE_READY = 1 Ready• AGENT_STATE_IDLE = 2 Idle• AGENT_STATE_ONCALL = 3 On Call• AGENT_STATE_WRAPUP = 4 Wrap Up• AGENT_STATE_WORK = 5 Work(※AGENT_STATE_OFFLINE = 0 is out of scope)
	agentStateReason	<p>String that describes the Agent state reason. If null or undefined, it's considered as not specified.</p>
Returns	None	

4.8.4. makeCall

Description	Make a call	
	Make a call using the call information specified, When the call succeeds, the state changes as the call is being generated. Realted Event; <i>agentStateChanged, callOffered, callStateChanged</i>	
Parameters	from	Calling From: Example: contactInfo = { from: "0311112222", customer: "1234567890", contactid: "000-00001", appUrl: "http://brekeke.jp" }; agent.operate("makeCall", contactInfo);
	customer	Customer Number to call to Example: agent.operate("makeCall", {customer: "123456790"});
	customerInfo	Customer Information
	appUrl	Application Url that get redirected when call is connected.
	contactId	Unique ID referenced from the external Application
	appInfo	Unique information referenced from the external Application.
	logParam	Information reported to CIM Log.
Returns	None	

4.8.5. consultationCall

Description	Forward the call and put the call hold. Calls the specified destination of the specified on-hold call. Regardless of call results, the call state does not change.	
Parameters	callId	Call ID of target call.
	destination	Calling Phone Number
	extCallInfo (Optional)	Call Information. Specify in Object list:{ key: value,,, } If argument is specified, the information is added to the call then the call is forwarded.
Returns	None	

4.8.6. conferenceCall

Description	Make the call conference call for the specified forwarded call on hold. When it succeeds, the call state changes. Related Event: <i>callStateChanged</i>	
Parameters	callId	Call ID of target call.
Returns	None	

4.8.7. holdCall

Description	Put the specified call on hold When the call is successfully put on hold, the call state changes. Related Event: <i>callStateChanged</i>	
Parameters	callId	Call ID of target call.
Returns	None	

4.8.8. unholdCall

Description	Unhold the call specified call. If the call is being forwarded, call with forwarded destination is ended and returns to the call. When the unhold finishes successfully, the call state changes.	

	Related Event: <i>callStateChanged</i>	
Parameters	callId	Call ID of target call.
Returns	None	

4.8.9. clearCall

Description	<p>Hung up the specified call.</p> <p>If the call is being forwarded, the call state changes to 'On Call' for both forwarded agent and customer and ends the call for his/herself.</p> <p>When the call is successfully hang up, the state changes.</p> <p>Related Event: <i>agentStateChanged, callStateChanged</i></p>	
Parameters	callId	Call ID of target call.
Returns	None	

4.8.10. answerCall

Description	<p>Answer the call that is being received being specified.</p> <p>When the call is answered and connected, the Call State changes.</p> <p>Related Event: <i>callStateChanged</i></p>	
Parameters	callId	Call ID of target call.
Returns	None	

4.8.11. changeCallInfo

Description	<p>Update the optional call information of the specified call.</p> <p>Change the values of specified parameters.</p> <p>Related Event: <i>callInfoChanged</i></p>	
Parameters	callId	Call ID of target call.
	callInfo	<p>List of parameters of call information to change</p> <p>The followings are changeable call information fields:</p> <pre>{ contactId: string, Contact ID appInfo: string, External Application Information logParam: string, Parameter for logging }</pre>

		<pre>callReason: string, callTag1: string, callTag2: string, sessionTag1: string, sessionTag2: string, }</pre>	<p>Call Reason</p> <p>Call Tag 1</p> <p>Call Tag 2</p> <p>Session Tag 1 (Range is different per Agent)</p> <p>Session Tag 2 (Range is different per Agent)</p>
Returns	None		

4.8.12. setExtCallInfo

Description	Add Call Information to the specified call.	
	Configure the specified key and its value(string) to the call of the specified ID.	
	Added Information is stored in CTIM server and can be retrieved by getExtCallInfo().	
	Therefore, if the call is forwarded, the forwarded destination's getExtCallInfo().	
Parameters	Parameters with key Name starting with _ (underscore), the extCallInfo parameter (that gets referenced by the getCallsInfo) in the Call Information Object automatically as Object List.	
	callId	Call ID of target call.
	key	Key for the Call Information.
Returns	value	String of Call Information
	None	

4.8.13. getExtCallInfo

Description	Retrieve the call information from the specified call.	
	From the specified ID, values(String) of the specified keys are retrieved.	
Parameters	callId	Call ID of target call.
	key	Key for the Call Information.
Returns	String of Call Information	

4.8.14. reserveRelatedCall

Description	Reserves the related calls.	
	When it's an invalid call or if there is a restriction for the agent on permission to change by configuration, no action is taken.	
	Related Event: <i>relatedCallInfoChanged</i>	
Parameters	callId	Call ID of target call.
Returns	None	

4.8.15. unreserveRelatedCall

Description	Cancel the reservation of related calls.	
	When it's an invalid call or if there is a restriction for the agent on permission to change by configuration, no action is taken.	
	Related Event: <i>relatedCallInfoChanged</i>	
Parameters	callId	Call ID of target call.
Returns	None	

4.8.16. unrelateRelatedCall

Description	Remove the related calls associated to the call.	
	When it's an invalid call or if there is a restriction for the agent on permission to change by configuration, no action is taken.	
	Related Event: <i>relatedCallInfoChanged</i>	
Parameters	callId	Call ID of target call.
Returns	None	

4.8.17. updateAgentInfo

Description	Updates the Agent Information to the latest information. Agent information in the Agent Object is re-requested to CIM Server and is updated to the latest. Updated results are reflected to the getAgentInfo() Method.
Parameters	None
Returns	Same returned values as getAgentInfo method.

4.8.18. updateCallsInfo

Description	Updates the call information to the latest information. Call information in the Agent Object is re-requested to CIM Server and is updated to the latest. Updated results are reflected to the getCallsInfo() Method.
Parameters	None
Returns	Same returned values as getCallsInfo method.

4.8.19. updateWrapUpCallInfo

Description	Updates the call information of the calls in the Wrap Up state to the latest information. Related call information of the calls in the Wrap Up state that is kept in the Agent Object is re-requested to CIM Server and is updated to the latest. Updated results are reflected to the getWrapUpCallInfo() Method.
Parameters	None
Returns	Same returned values as getWrapUpCallsInfo method.

4.8.20. updateRelatedCallsInfo

Description	Updates the related call information to the latest information. Related call information is re-requested to CIM Server and update to the latest. Updated results are reflected to the getRelatedCallsInfo() Method.
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Parameters	None
Returns	Same returned values as getRelatedCallsInfo method.

4.8.21. updateAcdsInfo

Description	Updates the assigned ACD information to the latest information. Assigned ACD information is re-requested to CIM Server and update to the latest. Updated results are reflected to the getAcdsInfo() Method.
Parameters	None
Returns	Same returned values as getAcdsInfo method.

4.8.22. updateHelpRequests

Description	<p>Update the Agent List who is requesting help to the latest information.</p> <p>Agent List who is requesting help in the Agent Object is re-requested to CIM Server and update to the latest.</p> <p>The updated results are reflected to getHelpRequests() method results.</p>
Parameters	None
Returns	Same returned values as getHelpRequests method.

4.8.23. updateOnlineAgents

Description	<p>Update the Online Agent List to the latest information.</p> <p>Online Agent List in the Agent Object is re-requested to CIM Server and update to the latest.</p> <p>The updated results are reflected to getOnlineAgents() method results.</p>
Parameters	None
Returns	Same returned value as the getOnlineAgents method.

4.8.24. requestHelp

Description	<p>Request Help. (Only Agents)</p> <p>Attempt to request help using the agent ID of your own.</p> <p>Only</p> <p>Only when the signed in user type is agent, it allows to request help and for other user type, no action is taken.</p> <p>Related Event: <i>helpRequested</i></p>
Parameters	None
Returns	None

4.8.25. dismissHelpRequest

Description	Dismiss the help request. Attempt to dismiss the help request by specifying the Agent ID. If the signed in user type is administrator, dismiss all help requests from all agents, if it's SV, dismiss help requests from managing agents, if it's agent, dismiss the help request for yourself is reported. If the specified Agent ID is not requesting help, no action is taken. Related Event <i>helpRequestDismissed</i>	
Parameters	agentId	Agent ID
Returns	None	

4.8.26. supervise

Description	Joins the call as supervisor mode (Admin/SV Only) When the agent is not yet on the call, no action is taken. Only when the signed in user type is set to Administrator or SV, it allows to join and for other types of users, no action is taken. Related Event: <i>agentStateChanged, callOffered, callStateChanged</i>	
Parameters	agentId	Agent ID
	listen	Join with mute is set to false, for others, it's set to true
	speakType	Join with speaking muted is set to 0, tutor mode is set to 2, other than that it's set to 1.
	extCallInfo (Optional)	Call Information Specify as Object List: { key: value,,, } When arguments are specified, the call information is added to the call then joins the call.
Returns	None	

4.8.27. manageAgentState

Description	Changes the agent state of other agent. (Admin/SV Only).
on	No action will be taken when the state is not changeable for example due to the invalid call or

	permission restriction.	
Parameters	agentId	Agent ID on target
	agentState	Constant Value for Agent State
Returns	None	

4.8.28. sendMessage

Description	<p>Send messages.</p> <p>Attempt to send messages to the specified address. When the message is received, the message is sent to the sender and receiver through messageReceived Event.</p> <p>Agent ID list or group list can be specified as the To Address and when the To Address is set to group, the message is sent to all the online agents who belong to the group at once.</p> <p>Related Event: <i>messageReceived</i></p>	
Parameters	destination	<p>Object for specifying the To Address of the message.</p> <p>Specify as Object list: { To Address Type: [Address,,,],,, }</p> <p>Supported To Address Types are agentId, groupId.</p> <p>Example1:</p> <pre>destination = { agentId: ["1001", "1002"] }</pre> <p>Example2:</p> <pre>destination = { agentId: ["1001", "1002"], groupId: ["GroupA", "GroupB"] }</pre>
	message	Message string to send
Returns	None	

4.8.29. sendInnerMessage

Description	<p>Send internal message.</p> <p>The operation usage is the same as sendMessage, however, this operation is used for internal messaging such as the communication between the clients by application implementation administrator.</p> <p>When the message is received, the message is reported thru innerMessageReceived event.</p> <p>Related Event: <i>innerMessageReceived</i></p>
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Parameters	Same as the parameters of sendMessage operation.
Returns	None

4.8.30. loadUserConfig

Description	<p>Obtains the user configuration information.</p> <p>Specify ID and load the Signed in user's configuration information.</p> <p>When the configuration information of specified ID does not exist in the CIM, the config value will be set to null.</p>	
Parameters	configId	Configuration Information ID
Returns	<p>Object that stores the configuration information.</p> <pre>{ configId: string, Configuration Information ID config: string, Configuration Information timestamp number Timestamp (CIM Server time) }</pre>	

4.8.31. saveUserConfig

Description	<p>Saves the user configuration informaiton.</p> <p>Specify ID and saves the Signed in user's configuration information to CIM.</p> <p>When the configuration information of specified ID already exists in the CIM, the configuration information is overwritten.</p>	
Parameters	configId	Configuration Information ID
	config	Configuration Information
Returns	<p>Object that stores the saved results.</p> <pre>{ configId: string, Configuration Information ID overwrote: boolean, If overwriten, true timestamp number Timestamp (CIM Server time) }</pre>	

4.9. Brekeke.CTI.Agent Class Events

4.9.1. objectStateChanged(ev)

Description	Event when the object state changes.	
Arguments	ev	Object that contains event information. ev = { objectState: number, Object State timestamp Timestamp (CIM Server time) }
Returns	None	

4.9.2. signedIn(ev)

Description	Event reported when the agent signs in.	
Arguments	ev	Object that contains event information. Same as returned values of getAgentInfo method.
Returns	None	

4.9.3. signedOut(ev)

Description	Event reported when the agent signs out.	
Arguments	ev	Object that contains event information. ev = { timestamp Timestamp (CIM Server time) }
Returns	None	

4.9.4. agentStateChanged(ev)

Description	Event reported when the agent state changes.	
Arguments	ev	Object that contains event information. ev = { agentState: number, Agent State after the change }

		<div>agentStateReason string, Agent State reason after the change</div> <div>timestamp Timestamp (CIM Server time)</div> <div>}</div>
Returns	None	

4.9.5. callOffered(ev)

Description	Event reported when the call happens in the case when the new call is started or received.	
Arguments	ev	Object that contains event information. However in this event, it's not the Call Information Object array but single Help Call Information Object is returned.
Returns	None	

4.9.6. callInfoChanged(ev)

Description	Event reported when the call information is changed by the changeCallInfo operation.	
Arguments	ev	Object that contains event information. Same as the returned values of getCallsInfo(). However However in this event, it's not the Call Information Object array but single Help Call Information Object is returned. Event is reported to the agent who performed the changeCallInfo operation.
Returns	None	

4.9.7. callStateChanged(ev)

Description	Event reported when the call state changes.	
Arguments	ev	Object that contains event information. ev = { callId: string, Call ID callState: number, Call State timestamp Timestamp (PBX Server time) }
Returns	None	

4.9.8. relatedCallInfoChanged(ev)

Description	Event reported when the related call information is changed.	
Arguments	ev	<p>Object that contains event information.</p> <pre>ev = { callId: string, Call ID callHolders: string[], Array of Agent ID with reservation callType: number, Call Type customerNumber: string, Customer's Number customerInfo: string, Customer's Information startTime: number, Call Start Date and time message: string, Message removed: boolean, If info is removed, true timestamp Timestamp (CIM Server time) }</pre>
Returns	None	

4.9.9. queuedCallCountChanged(ev)

Description	Event reported when the call number in the assigned ACD queue changes.	
Arguments	ev	<p>Object that contains event information.</p> <pre> ev = { acd: string, ACD ID description: string, ACD の Description fromNumber: string, From Number queuedCallCount: number, Queued Call Count queueAlertThresholdLow: number, Alert Threshold (Low) queueAlertThresholdHigh: number, Alert Threshold (High) timestamp Timestamp (CIM Server time) }</pre>
Returns	None	

4.9.10. helpRequested(ev)

Description	Event reported when the help is requested.If the signed in user type is administrator, help requests from all agents, if it's SV, help requests from managing agents, if it's agent, help request for yourself is reported.	
Arguments	ev	Object that contains event information. Same as the returned values of getHelpRequests(). However in this event, it's not the Help Requestor Information Object array but single Help Requestor Information Object is returned.
Returns	None	

4.9.11. helpRequestDismissed(ev)

Description	Event reported when the help request is dismissed. If the signed in user type is administrator, help requests dismiss from all agents, if it's SV, help requests dismiss from managing agents, if it's agent, help request dismiss for yourself is reported.	
Arguments	ev	Object that contains event information. Same as the returned values of getHelpRequests(). However in this event, it's not the Help Requestor Information Object array but single Help Requestor Information Object is returned.
Returns	None	

4.9.12. messageReceived(ev)

Description	Event reported when message is received.。	
Arguments	ev	<p>Object that contains event information.</p> <pre>ev = { from.agentId: string, From Agent ID from.agentName: string, From Agent Name from.agentGroupId: string, From Agent Group ID from.userId: number From User type to.agentId: string, To Agent ID to.agentName: string, To Agent Name to.agentGroupId: string, To Agent Group ID to.userId: number To User type message: string, Message timestamp Timestamp (CIM Server time) }</pre>
Returns	None	

4.9.13. innerMessageReceived(ev)

Description	Event when the internal messages are received.	
Arguments	Same as the arguments for messageReceived event.	
Returns	None	

4.9.14. agentActive(ev)

Description	Event when the online state of other agent changes.	
Arguments	ev	<p>Object that contains event information.</p> <p>Same as returned value of getOnlineAgents(). However in this event, it's not the Online Information Object array but single online information object is returned.=</p>
Returns	None	

4.9.15. errorOccurred (ev)

Description	Event reported when error occurs.	
Arguments	ev	Object that contains event information. ev = { errorSource: number, Error source errorCode: number, Error code errorMessage: string, Error Message timestamp Timestamp (CIM Server time) }
Returns	None	

4.9.16. windowChanged(ev)

Description	Event reported when the window for the CIM client is changed.	
Arguments	ev	Object that contains event information. ev = { timestamp Timestamp (CIM Server time)Timestamp(CIM Server Time) }
Returns	None	

4.9.17. pollingTimeout(ev)

Description	Event reported when the polling with CIM Server timed out.	
Arguments	ev	Object that contains event information ev = { timestamp Timestamp(CIM Server Time)Timestamp (CIM Server time) }
Returns	None	

4.9.18. operationResult(ev)

Description	<p>Event reported when the operation completes.</p> <p>The returned values from the operation are stored in the value.</p> <p>If the operation does not have any returned values, the value is set to null.</p> <p>When the id is omitted in the operate method, id value is set to null.</p>	
Arguments		<p>Object that contains event information.</p> <pre>ev = { operationName Executed Operation Name value Returned value from the operation id ID that distinguishes the operation timestamp Timestamp (CIM Server time) }</pre>
Returns	None	

4.10. Constant Value List

4.10.1. Agent State

Constant Symbol Name	Constant Value	Summary
AGENT_STATE_OFFLINE	0	Offline
AGENT_STATE_READY	1	Ready
AGENT_STATE_IDLE	2	Idle
AGENT_STATE_ONCALL	3	On Call
AGENT_STATE_WRAPUP	4	Wrap Up
AGENT_STATE_WORK	5	Work

4.10.2. Call State

Constant Symbol Name	Constant Value	Summary
CALL_STATE_NONE	0	Not on call
CALL_STATE_OUTDIAL	1	Dialing
CALL_STATE_TALK	2	Talking
CALL_STATE_ONHOLD	3	On Hold
CALL_STATE_INCOMING	4	Incoming

4.10.3. Call Type

Constant Symbol Name	Constant Value	Summary
CALL_TYPE_EXTENSION	-1	Internal Call
CALL_TYPE_INBOUND	0	Incoming Call (other than ACD)
CALL_TYPE_PREVIEW	1	Preview call
CALL_TYPE_ACD	2	Incoming Call (Call (ACD))
CALL_TYPE_DIALER	3	Dialer Call

4.10.4. User Type

Constant Symbol Name	Constant Value	Summary
USER_TYPE_SV	0	Supervisor

USER_TYPE_ADMIN	1	Administrator
USER_TYPE_AGENT	2	Agent

4.10.5. Error source

Constant Symbol Name	Constant Value	Summary
ERROR_SOURCE_LOCAL	0	Local
ERROR_SOURCE_SERVER	1	CIM Server

4.10.6. Object State

Constant Symbol Name	Constant Value	Summary
OBJECT_STATE_DISABLE	0	Unavailable
OBJECT_STATE_INITIALIZE	1	Initializing
OBJECT_STATE_ENABLE	2	Available