

# **Brekeke Customer Interaction Manager**

**Version 2.x**

## **Scripting Developer's Guide**

**Brekeke Software, Inc.**

### Version

Brekeke Customer Interaction Manager v2.x Scripting Developer's Guide

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# 1. Introduction

Brekeke Customer Interaction Manager (Brekeke CIM) is a software for building a call center. By creating scripts in JavaScript, the Brekeke CTI Server can control behaviors such as the rules for assigning agents and the order to put calls in the queue.

Brekeke CIM is written in Java and the JavaScript will be executed by the Java scripting module. For more information about the JavaScript syntax or the Java scripting, please refer to the following documentation:

([http://java.sun.com/javase/6/docs/technotes/guides/scripting/programmer\\_guide/](http://java.sun.com/javase/6/docs/technotes/guides/scripting/programmer_guide/))

You can use the script for the following five processes:

- DNIS Function
- Queue, Position function
- Agent Selection, Filter function
- Agent Selection, Priority Function
- Executed from the screen, view the information or change the internal state.

Please refer to “Brekeke Customer Interaction Manager Administrator's Guide” for more information on how to configure and process these scripts and process.

This document describes the available objects from these JavaScript functions.

In addition to the classes mentioned in this document, you can access the Java standard API or your own class from the script. If you would like to access your own Java class, then you will need to place the folder hierarchy of the package name under WEB-INF/classes or place it under WEB/lib as a jar file format.

Please do not access other classes offered by Brekeke CIM that are not included in this document. Even with the classes documented here, please avoid accessing the member Methods or Member Fields that are not documented.

This document does not describe the IVR scripting for Brekeke PBX. Please refer to “Brekeke PBX IVR Script Developer's Guide” for more information on IVR scripting.

This document does not describe the JavaScript interface for CIM Client. Please refer to “Brekeke CIM Client Developer's Guide” for more information on the JavaScript interface for CIM Client.

## 2. CTIServer Class

When the Brekeke CIM is started, an instance of CTIServer class is generated. When stopped, the objects are destroyed.

### 1.1. Method Detail

#### 1.1.1. **exec**

public Object **exec**( String scriptname, String func, Object ... param )

Executes the script function specified.

**Parameters:**

scriptname	The name of the script
func	The function name
param	The parameters to pass to the function. variable argument.

**Returns:**

The return value from the function.

#### 1.1.2. **getACD**

public ACD getACD( String acdId )

Gets the instance of ACD class for the specified ACD ID.

**Parameters:**

acdId	ACD ID
-------	--------

**Returns:**

The instance of ACD class if ACD with the specified ID exists. Returns *null* if ACD does not exist.

#### 1.1.3. **getAgent**

public Agent **getAgent**( String agentId )

Gets the instance of Agent class for the specified Agent ID.

**Parameters:**

agentId	Agent ID
---------	----------

**Returns:**

The instance of Agent class if the Agent with the specified Agent ID is Online. Returns *null* if the Agent is Offline or does not exist.

**1.1.4. getAllACDs**

```
public ACD[] getAllACDs()
```

Returns an array containing all instances of ACD class.

**Parameters:**

none

**Returns:**

the array of ACD class

**1.1.5. getAllAgents**

```
public Agent[] getAllAgents()
```

Returns an array containing the instances of Agent class whose status is Online.

**Parameters:**

none

**Returns:**

the array of Agent class

**1.1.6. getDb**

```
public ConnectionManager getDb( String dbname )
```

Returns the instance of Connection Manager class from the JDBC driver. Please refer to the setCallLevel function in the default script \_dnis. Below is an example of database settings that can be added to the Advanced Options.

Example:

```
db1.driver=com.mysql.jdbc.Driver
```

```
db1.url=jdbc:mysql://localhost:3306/com?useUnicode=true&characterEncoding=UTF-8
```

```
db1.user=root
```

```
db1.password=root
```

In this example, db1 is specified as the parameter dbname.

**Parameters:**

dbname	The name of the JDBC setting
--------	------------------------------

**Returns:**

The instance of ConnectionManager class.

**1.1.7. getLogger**

```
public org.apache.log4j.Logger getLogger()
```

Returns the instance of Log4j. If this instance is used to perform the debug output, the output

---

is recorded to WEB-INF/logs/ctiserver.log by default.

Please refer to the Apache project site for more details on how to use Log4j.

**Parameters:**

none

**Returns:**

The instance of org.apache.log4j.Logger

#### 1.1.8. **isExternalNumber**

public boolean isExternalNumber( String number )

Returns whether the number should be considered as an external number.

**Parameters:**

number                      The phone number string

**Returns:**

*true* if this phone number is considered as an external number. Otherwise, *false*.



### 3. ACD Class

ACD is generated immediately after the CTIServer class is generated. Updating the information from the page will also modify the contents of the instance of the ACD class.

#### 1.2. Method Detail

##### 1.2.1. **containsAgent**

public **containsAgent**( String agentId )

Returns whether this agent belongs to ACD.

**Parameters:**

agentId                      Agent ID

**Returns:**

*true* if this agent is assigned to ACD and whose status is Online. Otherwise, *false*.

##### 1.2.2. **countAgents**

public int **countAgents**()

Returns the number of online agents who have been assigned to ACD.

**Parameters:**

none

**Returns:**

The number of online agents assigned.

##### 1.2.3. **getAllAgents**

public Agent[] **getAllAgents**()

Returns an array containing the instances of Agent class whose status is Online and assigned to ACD.

**Parameters:**

none

**Returns:**

the array of Agent class

##### 1.2.4. **getID**

public String **getID**()

Returns the ACD ID.

**Parameters:**

none

**Returns:**

The ACD ID

#### 1.2.5. **getLevel**

public int **getLevel**()

Returns the level

**Parameters:**

none

**Returns:**

The level of ACD.

#### 1.2.6. **getObject**

public Object **getObject**( Object key )

Returns the object saved in the instance.

**Parameters:**

key                      key whose associated object is to be returned.

**Returns:**

The object saved by setObject() for the specified key.

#### 1.2.7. **getQueueSize**

public int **getQueueSize**()

Returns the number of calls in queue.

**Parameters:**

none

**Returns:**

The number of calls that are in the queue at the moment.

#### 1.2.8. **getQueueWaitingCount**

public int **getQueueWaitingCount**( String callid )

Returns the number of calls that precedes the specified call within the call queue.

**Parameters:**

callid      The ID of the call

**Returns:**

The number of calls that precedes the specified call in the call queue.

**1.2.9. setObject**

public void **setObject**( Object key, Object obj )

Saves the specified object to the instance. The saved object can be retrieved by getObject().

**Parameters:**

key	key with which the specified value is to be associated
obj	object to be associated with the specified key

**Returns:**

none

## 4. Agent Class

The instance of Agent Class is generated when the agent signs in and it is held by the CTIServer and the ACD Class Instances until the agent signs out.

### 1.3. Method Detail

#### 1.3.1. **getAllACD**

public ACD[] **getAllACD()**

Returns an array containing the instances of assigned ACD class.

**Parameters:**

none

**Returns:**

The array of ACD class

#### 1.3.2. **getCallInfo**

public CallInfo[] **getCallInfo()**

Returns an array containing the instances of CallInfo class related to the calls that the agent is handling.

**Parameters:**

none

**Returns:**

The array of CallInfo class

#### 1.3.3. **getID**

public String **getID()**

Returns the Agent ID.

**Parameters:**

none

**Returns:**

The Agent ID

#### 1.3.4. **getObject**

public Object **getObject**( Object key )

Returns the object saved in the instance.

**Parameters:**

key                      key whose associated object is to be returned.

**Returns:**

---

The object saved by setObject() for the specified key.

#### 1.3.5. **getPhoneId**

public String getPhoneId()

Returns the ID assigned to the client of the agent.

**Parameters:**

none

**Returns:**

The client ID

#### 1.3.6. **getSkillLevel**

public int **getSkillLevel**( String skill )

Returns the skill level of the agent.

**Parameters:**

skill                      Skill

**Returns:**

The skill level, or the default skill level (20) if the skill is not set.

#### 1.3.7. **getStatus**

public short **getStatus**()

Returns the status of agents as a value.

**Parameters:**

none

**Returns:**

The agent status:

0	Offline
1	Ready
2	Idle
3	Talking
4	Wrap Up
5	Work
6 and up	Custom

#### 1.3.8. **getStatusString**

public String **getStatusString**()

Returns the status of agents as a string.

**Parameters:**

none

**Returns:**

The agent status:

0	OFFLINE
1	READY
2	IDLE
3	ONCALL
4	WRAPUP
5	WORK
6 and up	CUSTOM1、CUSTOM2 .... CUSTOM*

**1.3.9. setObject**

public void **setObject**( Object key, Object obj )

Saves the specified object to the instance. The saved object can be retrieved by getObject().

**Parameters:**

key	key with which the specified value is to be associated
obj	object to be associated with the specified key

**Returns:**

none

**1.3.10. setSkillLevel**

public void **setSkillLevel**( String skill, int level )

Sets(updates) the skill level of the agent.

**Parameters:**

skill	The skill
level	The skill level

**Returns:**

none

## 5. CallInfo Class

It is a class that manages the call information.

### 1.4. Method Detail

#### 1.4.1. **getACD**

```
public ACD getACD()
```

Returns the instance of ACD class associated at the moment.

**Parameters:**

none

**Returns:**

The instance of ACD class.

#### 1.4.2. **getContactInfo**

```
public ContactInfo getContactInfo()
```

Returns the contact information of the other party. (Outbound call only)

**Parameters:**

none

**Returns:**

The instance of ContactInfo class.

#### 1.4.3. **getDNIS**

```
public String getDNIS()
```

Returns the DNIS number.

**Parameters:**

none

**Returns:**

The DNIS Number

#### 1.4.4. **getID**

```
public String getID()
```

Returns the call ID.

**Parameters:**

none

**Returns:**

The call ID.

**1.4.5. getParamKeys**

```
public String[] getParamKeys()
```

Returns an array containing all the keys of parameters associated to this call.

**Parameters:**

none

**Returns:**

The array of keys.

**1.4.6. getParam**

```
public String getParam( String key )
```

Returns an array containing all the parameters associated to the specified key.

**Parameters:**

key                      The key whose associated parameters to be returned

**Returns:**

The value of parameters of the specified key.

**1.4.7. isInQueue**

```
public Boolean isInQueue()
```

Returns whether this call is in queue.

**Parameters:**

none

**Returns:**

*true* if this call in queue, if not *false*.

**1.4.8. setParam**

```
public void setParam( String key, String value )
```

Sets the parameter associating with the call.

**Parameters:**

key                      The key of the parameter value to be set

value                    The value of the parameter to be set

**Returns:**

none



## 6. ConnectionManager Class

This class manages the database connection. It is obtained using `getDB()` Method Detail of `CTIServer` class. You can get the `java.sql.Connection` object from `java.sql.Driver` class on your own.

### 1.5. Method Detail

#### 1.5.1. getConnection

```
public java.sql.Connection getConnection()
```

Returns the connection to the database.

**Parameters:**

none

**Returns:**

The database connection. Returns *null* if the database connection settings are invalid or no connections were made. Please make sure to close the instance of `Connect` class always after using. (The actual database connection is returned back to connection pool and retained). Please refer to Java API manual on how to use `java.sql.Connection` interface.

## 7. ContactInfo Class

This class manages the contact information of the other party on the call. Normally, it is used for an outbound call only.

It can be retrieved using `CallInfo.getContactInfo()` Method Detail.

### 1.6. Field Detail

#### 1.6.1. **agent**

`public String agent;`

The agent ID.

#### 1.6.2. **app\_info**

`public String app_info;`

The application specific parameters.

#### 1.6.3. **app\_url**

`public String app_url;`

The application URL.

#### 1.6.4. **contactid**

`public String contactid;`

The contact ID configured in the application.

#### 1.6.5. **customer**

`public String customer;`

The number of the customer.

#### 1.6.6. **customer\_info**

`public String customer_info;`

The customer information

#### 1.6.7. **from**

`public String from;`

The PBX User who originated the call.

#### 1.6.8. **log\_param**

`public String log_param;`

The parameter to be output to the log.

#### 1.6.9. **type**

public short **type**;

The type of dialing

- |   |                     |
|---|---------------------|
| 1 | Progressive dialing |
| 2 | Predictive dialing  |
| 3 | Preview dialing     |