



## **Cisco Webex Contact Center 1.0 Business Rules Engine User Guide**

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### **Americas Headquarters**

Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
<http://www.cisco.com>  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 527-0883

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## Preface

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## Change History

This table lists changes made to this guide. Most recent changes appear at the top.

Change	Date
Initial Release of Document	May 2021

## About this Guide

The Webex Contact Center Business Rules Engine User Guide describes how to integrate Cisco Webex Contact Center with Business Rules Engine. This guide also describes how to configure the Business Rules Engine.

## Audience

This document is intended for users who use Cisco Webex Contact Center to run their contact centers.

## Related Documents

To view the list of Cisco Webex Contact Center documents, go to page <https://www.cisco.com/c/en/us/support/customer-collaboration/webex-contact-center/series.html>.

To view Cisco Webex Contact Center developer documents and API references, go to page <https://apim-dev-portal.devus1.ciscocservice.com/documentation/getting-started>.

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[Cisco Bug Search Tool](#) (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.

## Documentation Feedback

Provide your comments about this document to: [mailto:contactcenterproducts\\_docfeedback@cisco.com](mailto:contactcenterproducts_docfeedback@cisco.com).

## Conventions

This guide uses the following conventions.

Convention	Description
<b>boldface</b> font	<p>Boldface font is used to indicate commands, such as user entries, keys, buttons, and folder and submenu names. For example:</p> <ul style="list-style-type: none"> <li>• Choose <b>Edit</b> &gt; <b>Find</b></li> <li>• Click <b>Finish</b>.</li> </ul>

Convention	Description
<i>italic font</i>	<p>Italic font is used to indicate the following:</p> <ul style="list-style-type: none"><li>• To introduce a new term. Example: A <i>skill group</i> is a collection of agents who share similar skills.</li><li>• For emphasis. Example: <i>Do not</i> use the numerical naming convention.</li><li>• An argument for which you must supply values. Example: <i>IF (condition, true-value, false-value)</i></li><li>• A book title. Example: <i>See the Cisco Webex Contact Center Getting Started Guide.</i></li></ul>
window font	<p>Window font, such as Courier, is used for the following:</p> <ul style="list-style-type: none"><li>• Text as it appears in code or information that the system displays. Example: <code>&lt;html&gt;&lt;title&gt; Cisco Systems, Inc. &lt;/title&gt;&lt;/html&gt;</code></li><li>• File names. Example: <code>tserver.properties.</code></li><li>• Directory paths. Example: <code>C:\Program Files\Adobe</code></li></ul>





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# CHAPTER 1

## Introduction

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## Introduction

The Cisco Business Rules Engine (BRE) provides a means to upload customer specific data. The data can be retrieved at runtime to be used for routing decisions or information to be displayed to the agent.

For example, a tenant who wants to route calls to a specific group of agents based on the ANI dialed could simply upload a list of ANIs. If the ANI of the incoming call is on that list, it is routed to the group of agents specified. If the ANI is not on the list, it is routed straight through to the general queue.

A typical BRE implementation involves these major components:

- **Business Rules Engine utility** provides an interface for creating domains and rule sets. The BRE requires an incoming decision request to be associated with a *domain*. The domain contains a set of rules. Each rule is assigned a priority. The BRE tries to match the domain's highest priority rule with the decision request based on the conditions in the rules.
- **Call Control Script** interface provides a way to create a control script that invokes the BRE in the Webex Contact Center Routing Strategy module.
- **BRE DataSync** configuration utility provides an interface for defining the Data Sync instances to import data into the BRE database. After a Data Sync instance is defined, the tenant can upload a `.csv` file. The uploaded `.csv` data is converted into records in the BRE database.





# CHAPTER 2

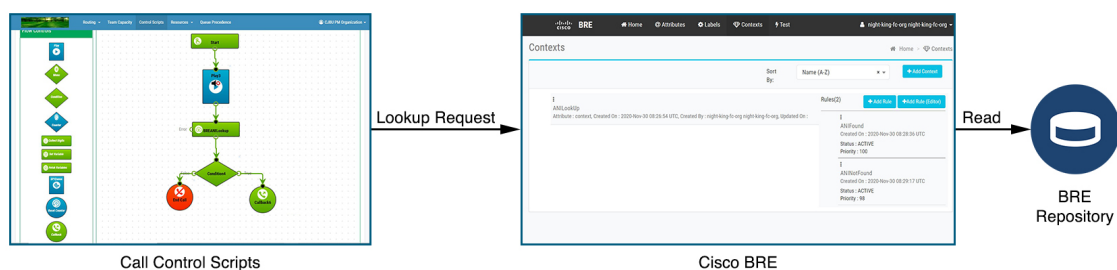
## Business Rules Engine Implementation

BRE consists of a real-time rules engine that gets invoked by the flow associated with an entry point. Typically the ANI of the incoming call along with other information associated with the call (such as an account number) are used by the rules engine to assess whether any special handling is needed for that call. This rules engine typically consults with a data repository to assess the desired call handling. The BRE configuration requires:

- [Create a Set of Rules, on page 3](#)
- [Configure a BRE DataSync Instance, on page 6](#)
- [Create the Call Control Script, on page 8](#)

### Create a Set of Rules

The Business Rule Engine utility is invoked by the control script when a new voice request is presented to the ACD. This section explains how rules can be set up so that the BRE utility can assist the ACD to route the incoming request.



The BRE requires that there must be an incoming decision request for the BRE to be associated with a domain and a set of rules. The BRE tries to match the highest priority rule with the decision request based on conditions in the rules.

Be sure to create a rule set to cover all cases. For example, you should create rules for both *Match Found* and *Match Not Found* conditions. Or you could set up rules for multiple conditions. For example, *ANI Match* or *ANI No Match*, then *Gold* or *Silver*. In this case, you must create a rule for each possibility. For example:

- ANI Match and Gold
- ANI Match and Silver
- ANI No Match and Gold
- ANI No Match and Silver

To create a set of rules:

### Procedure

**Step 1** Log in to the Cisco Webex Contact Center Management Portal.

**Step 2** From the Webex Contact Center Management Portal navigation bar, click **Business Rules** to launch the Business Rules Engine utility.

BRE uses Common Identity and a Single Sign-On interaction. If the tenants have already logged in to Cisco Webex Contact Center Management Portal, they will automatically gain access to the BRE utility for their organization.

**Step 3** Create an attribute to associate with your organization:

- Select **Attributes** and click **Add** on the **Attributes** page.
- On the **Attributes** page, enter **context** in the **Name** field.
- From the **Data Type** drop-down list, select **Text**.

The data type has to be **Text** in the BRE utility.

d) Click **Save**.

**Step 4** Select **Contexts** to display the **Contexts** page.

- Enter **Name** and an optional **Description**.
- If more than one attribute has been created, select the attribute that you want to associate with this context from the **Attribute** drop-down list.
- Click **Save**.

**Step 5** To create rules, select the **Contexts** page.

- (Optional) Click **Add Rule** section of the page. Specify the settings that are described in the following table:

Field	Description
Name	The name of the rule.
Description	An optional description of the rule.
Active	Select the check box to specify that the rule is active.
Priority	<p>Drag the slider to assign a priority to the rule. The rules will be executed based on the assigned priority, from highest (100) to lowest.</p> <p>It is recommended that you start assigning priorities from 100 in the descending order.</p>
Conditions	Specify the conditions from the drop-down list and select the attributes and values.

- (Optional) Click **Add Rule (Editor)** section of the page. Specify the settings that are described in the following table:

Field	Description
Name	The name of the rule.
Description	An optional description of the rule.
Active	Select the check box to specify that the rule is active.
Priority	Drag the slider to assign a priority to the rule. The rules will be executed based on the assigned priority, from highest (100) to lowest.
Conditions	Select the conditions from the drop-down list and specify the attributes and values.
Rule Editor	Enter the rule.

c) Click **Save**.

### Example

The following example returns the value for an attribute named *routeInfo* if the number that the caller dialed from (ANI) matches the ANI on the list of tenants that are uploaded to the BRE database. Copy and paste the following rule in the Rule Editor:

```
when
  c: Contact()
  eval(c.getGlobalValuesManager().getAsString(c.getTenantId(),
    c.getAttribute("context")+"."+
    c.getAttribute("ani")) != null)
then
  c.putAttribute("routeInfo",
    c.getGlobalValuesManager().getAsString(c.getTenantId(),
    c.getAttribute("context")+"."+ c.getAttribute("ani")));
end
```

The screenshot shows the Cisco Business Rules Engine (BRE) interface. The top navigation bar includes 'BRE', 'Home', 'Attributes', 'Labels', 'Contexts', and 'Test'. The user is logged in as 'wxcc-engine-qa-org'. The main content area is titled 'Contexts' and shows a form for creating a context. The form fields are: Name (ANIFound), Description (Description), Active (checked), Label (ANI), and Priority (slider). Below the form is the Rule Editor, which contains the following code:

```
1 when
2 c: Contact()
3 eval(c.getGlobalValuesManager().getAsString(c.getTenantId(),
4 c.getAttribute("context")+"." + c.getAttribute("ani")) != null)
5 then
6 c.putAttribute("routeInfo", c.getGlobalValuesManager().getAsString(c.getTenantId(),
7 c.getAttribute("context")+"." + c.getAttribute("ani")));
8 end
```

At the bottom of the form are buttons for View, Save, Reset, and Cancel.

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**Example** The following example code returns the value *NotFound* for the attribute *routeInfo*, if a number that the caller dialed from (ANI) did not match an ANI on the list of tenants that are uploaded to the BRE database. Copy and paste the following rule in the Rule Editor:

```
when
  c: Contact()
  eval(c.getGlobalValuesManager().getAsString( c.getTenantId(),
  c.getAttribute("context")+ "." + c.getAttribute("ani")) == null)
then
  c.putAttribute("routeInfo", "NotFound ");
end
```

The screenshot shows the Cisco Business Rules Engine (BRE) interface. The top navigation bar includes 'Home', 'Attributes', 'Labels', 'Contexts', and 'Test'. The current page is 'Contexts', with a breadcrumb trail 'Home > Contexts > Rules > Add'. The context configuration form is displayed with the following fields:

- Name:** ANINotFound
- Description:** Description
- Active:**
- Label:** ANI
- Priority:** A slider control is shown.
- Rule Editor:** A code editor containing the following rule:
 

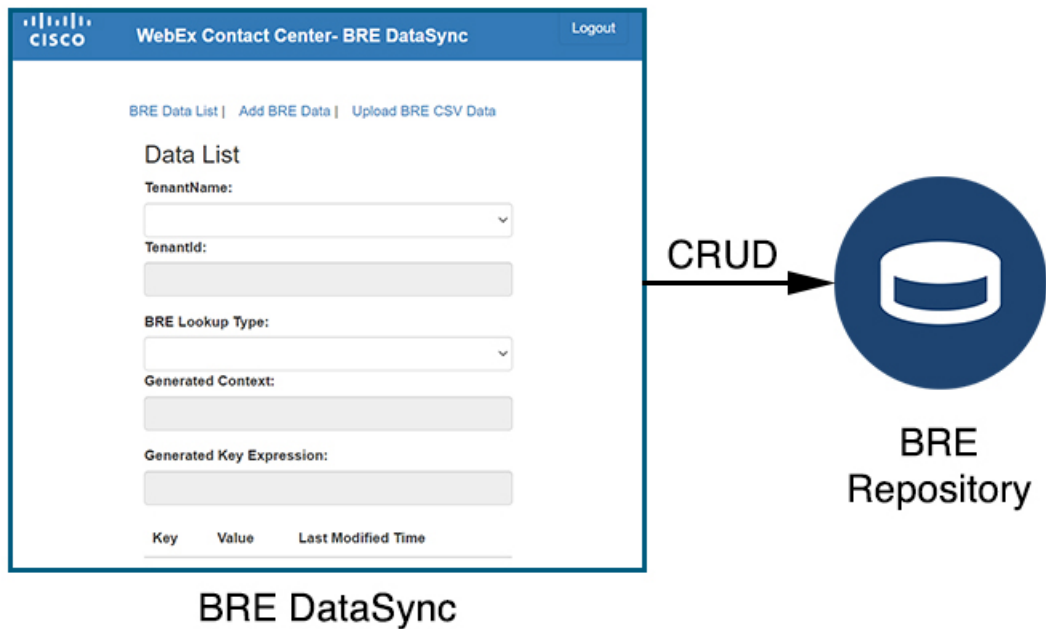
```
1 when
2 c: Contact()
3 eval(c.getGlobalValuesManager().getAsString( c.getTenantId(),
4 c.getAttribute("context")+ "." + c.getAttribute("ani")) == null)
5 then
6 c.putAttribute("routeInfo", "NotFound");
7 end
```

At the bottom of the form are buttons for 'View', 'Save', 'Reset', and 'Cancel'. A vertical label '511190' is visible on the right side of the interface.

## Configure a BRE DataSync Instance

The BRE DataSync accesses a database to make routing decisions. You must periodically update the database with the appropriate information. This section describes how the BRE DataSync utility can be configured to update the BRE repository.

Figure 1: BRE DataSync Utility



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The tenant administrator must create a BRE DataSync instance for every data set that the Rules Engine will be consulting during its decision-making process. The administrator can create the data set or upload a CSV file. The data is converted into records in the BRE repository.



**Note** Agents do not have access to the BRE DataSync utility.

### Before you begin

Contact Cisco Customer Service Account Manager to get access to the BRE DataSync account.

### Procedure

- Step 1** As an administrator, log in to the BRE DataSync utility.  
 The BRE DataSync utility URL is: <https://rules.cjp.cisco.com/datasync/index.html>.  
 The region specific BRE DataSync URLs are:  
<https://rules.wxcc-eu1.cisco.com/datasync/index.html>  
<https://rules.wxcc-eu2.cisco.com/datasync/index.html>  
<https://rules.wxcc-anz1.cisco.com/datasync/index.html>  
<https://rules.wxcc-ca1.cisco.com/datasync/index.html>
- Step 2** Select **BRE Data List** to view all the information that is related to the tenant organization.
- Step 3** (Optional) Select **Add BRE Data** to add data to the BRE repository.

- a) Select the organization name from the **TenantName** drop-down list.
- b) Select the **BRE Lookup Type** from the drop-down list.
- c) Click **Add Data** to enter the **Key** and **Value**.
- d) (Optional) Click **Remove** to delete an existing **Key** and **Value**.
- e) Click **Submit**.

**Step 4** Select **Upload BRE CSV Data** to upload the CSV file.

- a) Select the organization name from the **TenantName** drop-down list.
- b) Select the **BRE Lookup Type** from the drop-down list.
- c) Select **Upload** to browse and upload the CSV file.
- d) Click **Submit**.

*Figure 2: Sample CSV File with Data*

ANI	Extension	Action
972516001	6001	Delete
972516002	6002	Update
972555999	5999	Add

The actions Delete, Update, and Add are not case sensitive. You can also use the syntax 725160001, , Delete to delete the data.

## Create the Call Control Script

You can create a call flow using the call control script interface available in the Webex Contact Center Management Portal only for a BRE implementation.

### Before you begin

To create a call control script that interacts with the BRE, you will need the following information:

- Name of the attribute associated with your organization. For example, [context](#).
- The URL to use in the call flow for executing the BRE request. This URL is provided by the Cisco Customer Service Account Manager.
- The TenantId provided by the Cisco Customer Service Account Manager during BRE DataSync account creation.

### Procedure

**Step 1** Log in to the Webex Contact Center Management Portal as an administrator.


**Step 2** Navigate to **Routing Strategy > Control Scripts**.


The call control scripts editor is displayed.

**Step 3** Click **+New** on the **Control Scripts** page.



A new call control script is created for BRE. For more information about creating a call control script, see *Creating Call Control Scripts* in the [Cisco Webex Contact Center 1.0 Setup and Administration Guide](#).

**Step 4** In the **Control Scripts** page, drag and drop the  icon in the editor.

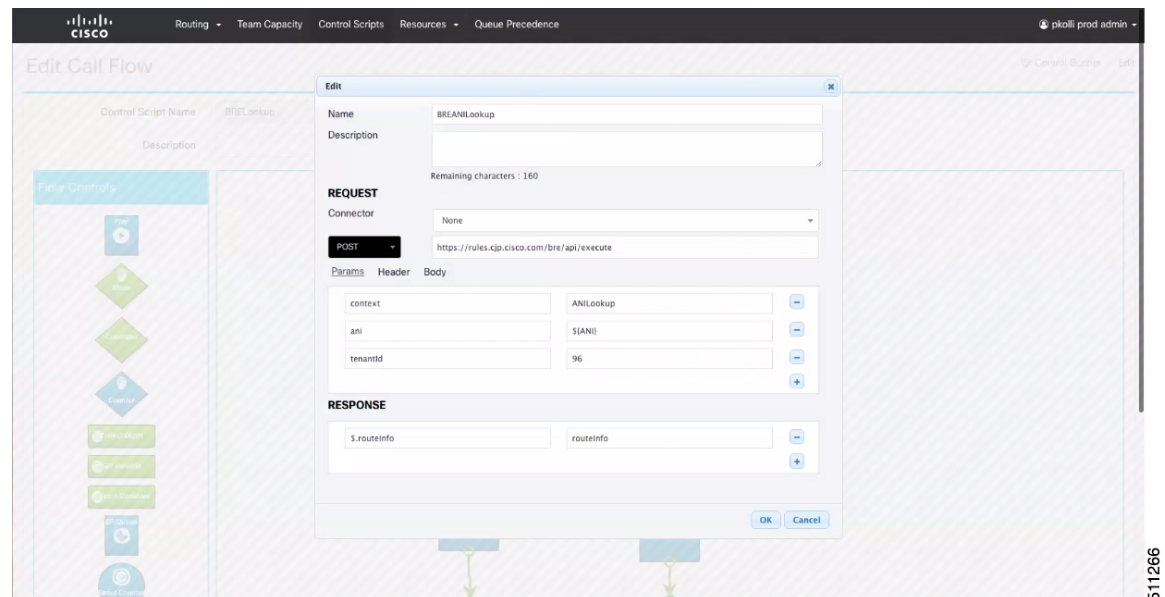
**Step 5** In the **Control Scripts** page, double-click the  icon to edit the values for BRE.

Edit **Fetch Variables** with the following parameters:

Parameter	Value
Request URL	Enter the URL that was provided by Cisco Customer Service Account Manager for executing the BRE request.
Connector	It is not required to specify the connector.
Request Variables	Select the names of the CAD variables to be sent on the request. The tenantId is provided by Cisco Customer Service Account Manager. For example, see <a href="#">Figure 3: BRE Fetch Variables Values</a> , on page 9.
Response Variables	Add the name of the variable that will hold the data that is returned by the BRE, as defined in the rule. For example, you would add a variable <i>routeInfo</i> for the rule that is illustrated in <a href="#">routeInfo</a> .

Refer to the following image to edit the values:

**Figure 3: BRE Fetch Variables Values**



a) Click **OK** to save the values.

**Step 6** Finish the control script based on the *routeInfo* returned in the Response.

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