



Advanced Call Router[™]

Manual

MaxACD Release 7.1

September 2018

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Advanced Call Router

Advanced Call Router is the standard Altigen Call Router application plus call router service. Advanced Call Router requires the purchase and activation of an Advanced Call Router license.

Note: The workgroup to which incoming trunk calls will be routed via Call Router must be assigned to the IVR menu whose Action is set to “Adv - Advanced Call Router,” with **Ext Num** set to the virtual extension you use to configure Call Router.

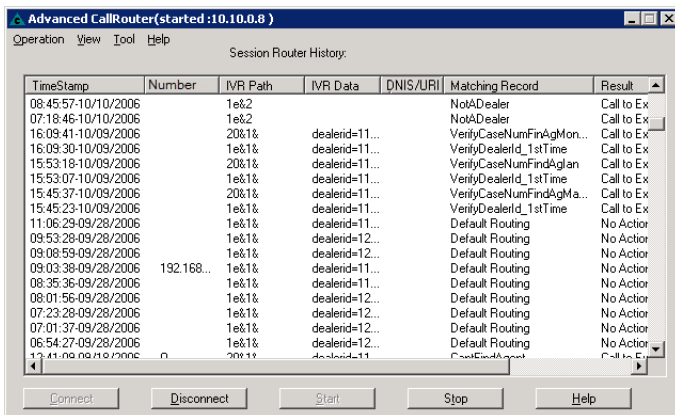
Installing Advanced Call Router

To install Advanced Call Router,

1. Run the .exe file from the Advanced Call Router folder of the MaxACD installation media.
2. Setup will confirm the destination for the Call Router application (default is C:\Program Files\Altigen\Advanced Call Router). To select a different location, use the **Browse** button to choose the new location.
3. Click **Next** to proceed.

Configuring Advanced Call Router

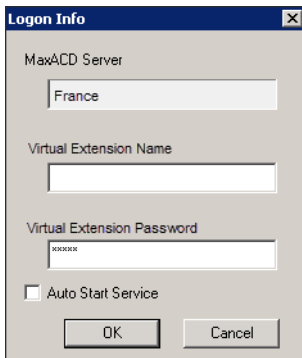
1. Launch Call Router from the Windows **Start** menu.



2. Click the **Connect** button to enter the Call Router Server Name or IP address to connect to, then click **OK**.

To disconnect from this server, click the **Disconnect** button.

3. Select **Operation > Logon Info**.



4. In the **Logon Info** window, enter the **MaxACD Server** that Advanced Call Router will connect to, along with the **Virtual Extension Name** and **Password** then click **OK**.

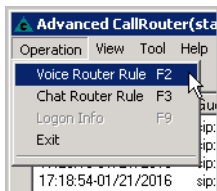
(Optional) Check **Auto Start Service** to have Advanced Call Router start routing calls automatically, after the system restarts or after Advanced Call Router service has been stopped and restarted.

Note: Up to 8 login attempts are allowed, after which login will be disabled from 1 to 24 hours (depending on the setting in MaxACD).

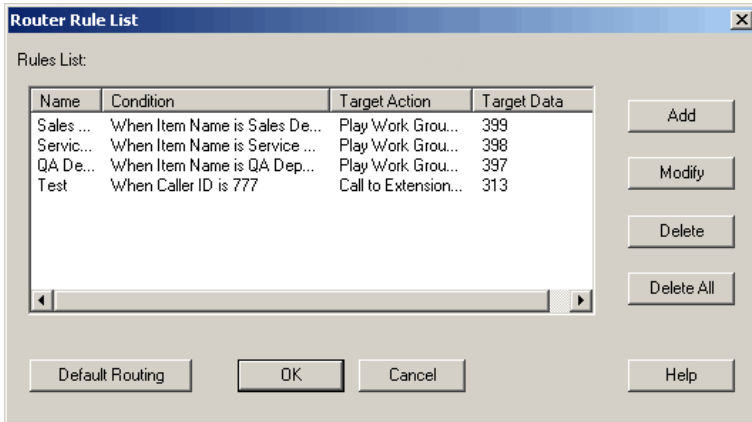
5. Click **Start** to run Advanced Call Router. When Advanced Call Router is stopped, you can configure the server and login information.
6. Route Rules and Show Monitor can be configured after Advanced Call Router is started.

Advanced Call Router Route Rules

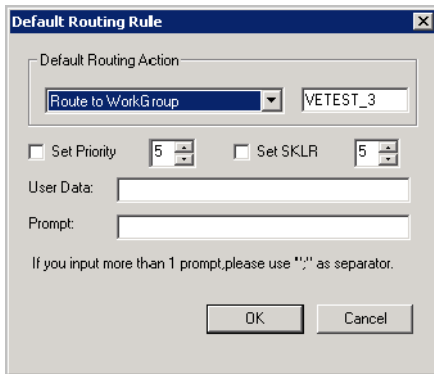
To create rules that will be used to route calls, select **Operation > Voice Router Rule** or **Chat Router Rule**.



The window shows the existing rules. This is where you can view existing route rules, add new rules, and modify or delete rules.



- **Add** – Opens a Custom Record window, where you can create a new record and build the conditions for the record.
- **Modify** – Opens the selected rule, so that you can edit the rule.
- **Delete** – Deletes the selected rule.
- **Delete All** – Deletes all rules in this rule list.
- The **Default Routing** button opens a **Default Routing Rule** dialog box, where you can specify the action for Call Router to take if no match is found in the rules or in the database.



The default actions vary, depending upon whether you've chosen voice rules or chat rules: No Action, Goto Top Level, Repeat Current Level, Route to Workgroup, Dial by Name, Directory Service, Record Message (specify target data in accompanying text box), Mailbox Access, Disconnect, Collect Digits (specify fields in accompanying

Collect Digit dialog box), Play WG Queue Status (specify target data in accompanying text box), Route to SIP URI.

Creating Route Rules

To create a route rule,

1. Select **Operation > Voice Router Rule** or **Chat Router Rule**.
2. Click **Add** to create a new rule (or select a rule and click **Modify** to change an existing rule).
3. In the **Rule Name** field, enter or modify the rule name.

Rule

Rule Name:

1. Build the Conditions for your rule:

If session contains:

Item	Data	DSN
<input checked="" type="checkbox"/> Number		
<input type="checkbox"/> IVR Path		
<input type="checkbox"/> IVR Data		
<input type="checkbox"/> Form Data		
<input checked="" type="checkbox"/> ItemName	<input type="text" value="Queue"/>	
<input type="checkbox"/> DNIS/URI		

2. Target action of the Rule: Name:

Set Priority Set SKLR

User Data:

Prompt:

If you input more than 1 prompt, please use ";" as separator.

4. Select the data to match against routing rules.
 - **If Caller Info contains** – Lets you select Call Route Request data to match against the customer record.
 - a) Select **“Match one”** or **“Match all”** from the drop-down list.
 - b) Select the items you want by checking those boxes.
 - c) Click in the **Data** column and type to specify the data.

To manually specify data for an item, right-click the item, select **Input data** and enter information in the column.

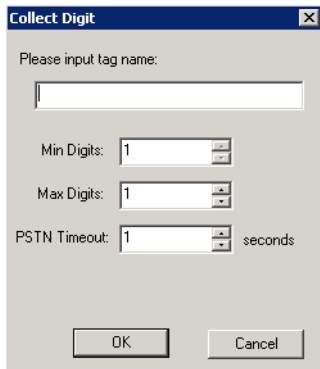
- Caller Entered Digits must be numeric only.
- You can enter “*” as a wildcard character for any length of digits, or “?” for a single digit.

For example, if you specify Number “510252*,” this will match all items 510-252-xxxx. If you specify “510252????,” this will match all items 510 252-xxxx.

- To specify data from an existing database, right-click the item, select **From user database**, and enter information in the **DataSource** dialog box.

5. Select a **Target action** for Call Router to perform when Router Request data matches this record.

Collect Digit Dialog Box



- **Tag name** – For example, “password” (gathered from a response to an IVR prompt or another Altigen SDK application)
- **Minimum Digits** and **Maximum Digits** to collect
- **PSTN** timeout value

Note: **Play WG Queue Status** – If you select “Play WG Queue Status,” Advanced Call Router must log on as a workgroup extension with password (**View > Show Workgroup Status > Add**) and Call Router’s virtual extension and password. (The virtual extension that Call Router uses does not have to be a member of the workgroup.) Specify this workgroup name in the textbox that appears when you select **Play WG Queue Status**. (See “Queue Announcements” on page 12.)

If you want to apply the “**Play WG Queue Status**” Target action to several different workgroups, create separate rules for each.

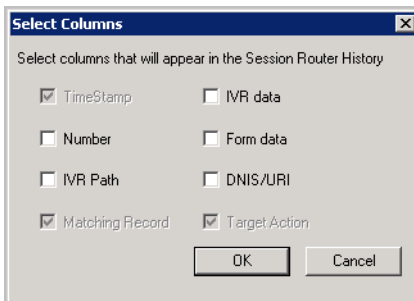
6. Enter optional data to match against the routing rule:
 - **Set Priority** – Check the box and choose a priority level.
 - **Set SKLR** – Check the box and choose a skill level.
 - **User Data** – Gathered from a response to an IVR prompt or another Altigen SDK application, or the text an agent typed in the User Data dialog box using the method DISP=
 - **Prompt** – The prompt to play to the customer.
7. Click **OK**.

Viewing Advanced Call Router History Menu

The Advanced Call Router window gives a history of all incoming trunk calls to Advanced Call Router.

To specify Call Router History window content,

1. Choose **View > Select Column**.
2. Select the following columns to display in the Call Router history window:
 - Number
 - IVR Path
 - IVR data
 - Form Data
 - DNIS/URI



Call Route Request Data

The “Call Router Request” message sent by MaxACD to Call Router contains data about the incoming call or chat, which Call Router attempts to match against your routing rules. Call Route Request data can consist of Number, IVR Path, IVR data and DNIS/URI, all collected via real-time monitoring.

TimeStamp	Number	IVR Path	IVR Data
17:36:38-01/21/2016	sip:wimguest@engsf...	2&	
17:35:49-01/21/2016	sip:wimguest@engsf...	2&	
17:23:19-01/21/2016	sip:wimguest@engsf...	2&	

Note: IVR Path shows the IVR menu assignment for the workgroup that receives the call. If the workgroup’s IVR assignment is 5, this item shows “0 & 5”; if the IVR assignment is 3, the item shows “0 & 3,” and so on. The “0” indicates transfer to an IVR.

Call Route Response Data

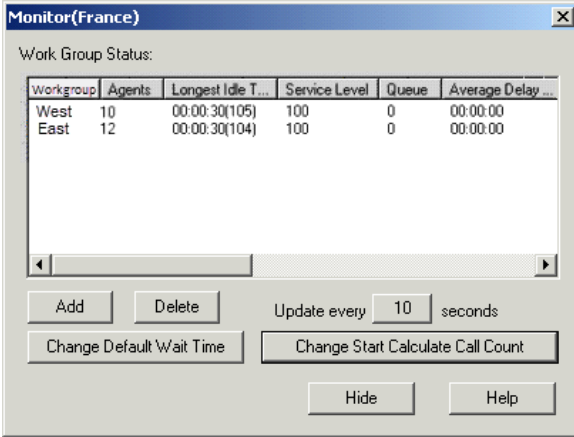
The “Call Route Response” message, sent from Call Router to MaxACD, contains the search results of the Call Route Request Message. In the Call Router History window, this data shows how Call Router handled each call or chat. Call Route Response data includes Matching Record (routing rule Call Router referred to for call routing) and Result (how and where the call was routed), all collected via real-time monitoring.

Path	IVR Data	Form Data	DNIS/URI	Matching Record	Result
		customersessionid...	sip:qawim@...	QAFORM	Route to WorkGroup
		customersessionid...	sip:qawim@...	QA1	Route to WorkGroup
		customersessionid...	sip:qawim@...	QA1	Route to WorkGroup

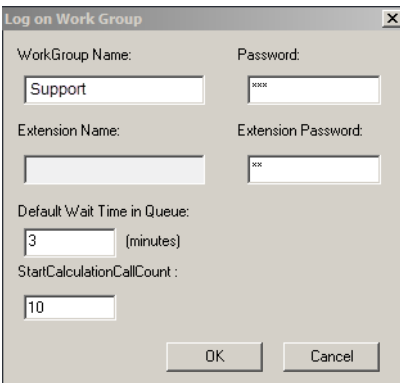
Note: If no match is found between the Call Route Request Data and the routing rules, the call is routed according to the business rules that check monitored workgroups for the longest available agent, maximum service level, and minimum expected delay.

Show Workgroup Status

To view real-time data on incoming trunks to workgroup, select **View > Show Workgroup Status**.



- The main panel displays the following workgroup fields: **Name**, **Agents**, **Longest Idle Time**, **Service Level**, **Queue**, **Average Delay** and **Default Wait Time**.
- **Add** button – Click **Add** to log on to a workgroup whose incoming trunk call data you want to monitor.



Enter the **WorkGroup name** and **password**, and enter the virtual extension's **name** and **password**. In the field for **Default Wait Time in Queue**, type in the desired minutes. (By default, the **Extension Name** field is grayed out.)

- **Delete** button – Click **Delete** to remove the selected workgroup from the display.
- **Change Default Wait Time** – Click this button to change the default anticipated wait time associated with the workgroup queue.

Note: The workgroup to which incoming trunk calls will be routed via Call Router must be assigned to the IVR menu whose **Action** is set to “Avd - Advanced Call Router,” with **Ext Num** set to the virtual extension you use to start Call Router.

If you want to announce queue status to callers (**Target action** of any routing rule is “Play WG Queue Status,”) complete the **Virtual Extension Name** and **Virtual Extension** password fields using the workgroup agent extension (and its password) specified in the rule.

To log on to multiple workgroups:

- Click **Add** again and enter the next workgroup name and password.
- **Change Start Calculate Call Count** – Click this button to change the starting point for the number of calls to be reached for Call Router to start calculating call data.

Clearing Advanced Call Router History Data

To clear data from the Advanced Call Router History window,

1. Go to the directory “Program Files\Altigen\Advanced Call Router” and locate the **Call Router.csv** file.
2. Open **Call Router.csv** and delete all contents.
3. Save and close **Call Router.csv**.

Building SQL Queries

To build an SQL query that Call Router will send to your database, use the **DNIS/URI Datasource** dialog box. The customer information retrieved from your database will be used in the routing rule.

DNIS/URI DataSource

DSN: User Name: Password:

Condition

DNIS/URI	Field Type	Field Name	Table Name
	char	sessionid	rtmcall

Where:

Data Retrieve from User Database

Input the field name and field type,server will get the field value from database

Field Name	Field Type	Table
callerpad	char	rtmcall

SQL Query Sentence:

```
Select rtmcall.sessionid rtmcall.callerpad From rtmcall
Where rtmcall.sessionid = @DNIS/URI
```

Note: In run time, the ### will replace with digits we get from Caller.

OK Cancel

To open the Datasource dialog box:

1. Right-click a data **Item** (in the Add Rule panel) that you want to specify using information from an existing database.
2. Select **From user database**:

To build a SQL query:

1. Enter User Name and Password information for the database.
2. Enter information for the database you are querying against. For example:

DSN – BankAccount

Table Name – AccountBalance

Matched Field Name – CustomerPhoneNumber

Matched Field Data Type – char

As you build the query, **SQL query sentence** will appear in the window at the bottom.

3. Specify the condition for this query.
 - a. Select the **Caller Match Item** data for this query - **IVR Path, DNIS, Item name** or **IVR data**.
 - b. Add any additional condition. For example Where - && Balance>1000
4. Click **OK**. You return to the **Rule** dialog box, where the SQL query will appear in the **Data** column and the database will appear in the **DSN** column.

Queue Announcements

Note: Queue announcements can now be done directly through the MaxACD Administrator portal. Or use Advanced Call router for this function.

If you use Advanced Call Router to inform customers of their position in a workgroup queue, there are two requirements:

1. In Call Router, you must create a rule with Target action “Play WG Queue Status.” In addition, enter an Item Name that matches the name of the IVR menu’s “Advanced Call Routing” name. The workgroup extension information you specify in the rule must also be entered when Call Router logs on in the Monitor window. Thus, it is a **requirement** to use the same virtual extension if you are writing several different queue announcement rules.
2. In the MaxACD Administrator portal, you must configure one of the IVR numbers to which Call Router is assigned to “Advanced Call Router.” 1) Enter the same “Item Name” you use in the rule discussed immediately above. 2) Replace the “No Action” level with “Route – to Workgroup,” and enter the workgroup extension number.

If your organization has multiple workgroups and you want queue announcement for several or all of them, you must create separate rules for each, with workgroup extension information pertinent to each workgroup.

Example:

Suppose you use the virtual extension **ACR1** to log in to Call Router, and you have two workgroups, Sales and Support:

- Workgroup Names: **Sales** and **Support**
- Call Router Virtual Extension Name: **ACR1**

For both workgroups, you want Call Router to check incoming calls for DNIS/URI and IVR Path, and to play the WG queue status if a match is found and all agents are busy.

In MaxACD Admin, you configure the IVR menu to which Call Router is assigned as shown below. (The example uses digit 2.) Note that you must enter a different Item Name for each level.

IVR

Name *

Media Type [Add Media](#)

Configuration

Item 02

Item Name

Prompt

Set Session Priority

Set Skill Level Requirement

Actions

Virtual Extension

Timeout seconds

For Sales, you create a rule as shown below.

Rule

Rule Name: Queue Announcement Sales

1. Build the Conditions for your rule:

If session contains: Match one of these items

Item	Data	DSN
<input checked="" type="checkbox"/> Number	5102521001	
<input type="checkbox"/> IVR Path		
<input type="checkbox"/> IVR Data		
<input type="checkbox"/> Form Data		
<input checked="" type="checkbox"/> ItemName	Queue Sales	
<input type="checkbox"/> DNIS/URI		

2. Target action of the Rule: WG Name: Sales

Play WG Queue Status

Warning: To make this rule work, you must make sure that you add this workgroup to Call Router's monitor list.

Set Priority 5 Set SKLR 5

User Data:

Prompt:

If you input more than 1 prompt, please use ";" as separator.

OK Cancel Help

Similarly, for Support, you create a rule as shown below.

Rule Name: Queue Announcement Support

1. Build the Conditions for your rule:

If session contains: Match one of these items

Item	Data	DSN
<input type="checkbox"/> Number		
<input type="checkbox"/> IVR Path		
<input checked="" type="checkbox"/> IVR Data		
<input type="checkbox"/> Form Data		
<input checked="" type="checkbox"/> ItemName	Queue Support	
<input type="checkbox"/> DNIS/URI		

2. Target action of the Rule: Play WG Queue Status

WG Name: Support

Warning: To make this rule work, you must make sure that you add this workgroup to Call Router's monitor list.

Set Priority 5 Set SKLR 5

User Data:

Prompt:

If you input more than 1 prompt, please use ";" as separator.

OK Cancel Help

In the Monitor window (click **View > Show Workgroup Status**), click **Add** to log on to Sales, entering the workgroup name and password as well as the virtual extension name and password you specified in the IVR "Sales Queue Announcement" rule:

Monitor(France)

Work Group Status:

Workgroup	Agents	Longest Idle T...	Service Level	Queue	Average Delay
Sales	10	00:00:30(105)	100	0	00:00:00
Support	12	00:00:30(104)	100	0	00:00:00

Add Delete Update every 10 seconds

Change Default Wait Time Change Start Calculate Call Count

Hide Help

Log on Work Group

WorkGroup Name: Password:

Extension Name: Extension Password:

Default Wait Time in Queue: (minutes)

StartCalculationCallCount :

OK Cancel

In the Monitor window, click **Add** to log on to Support, entering both the workgroup name and password as well as the virtual extension name and password you specified in the IVR “Sales Queue Announcement” rule:

Log on Work Group

WorkGroup Name: Password:

Extension Name: Extension Password:

Default Wait Time in Queue: (minutes)

StartCalculationCallCount :

OK Cancel

The Monitor window shows that Call Router is logged on to both workgroups. Calls to each workgroup will be checked against the rules and will trigger a queue announcement if a match is found and all agents are busy.

Testing Call Router

To test the performance of Call Router, you can access a test tool from the Call Router main menu. Call Router must be stopped in order to run the test.

To test Call Router,

1. With Call Router function stopped, go to **Test** in the Tool list of the Call Router main menu for the **Test** dialog box.

The image shows a dialog box titled "Test" with a light green background. It is divided into two main sections: "Configuration" and "Result".

Configuration section:

- "Number of concurrent calls:" with a text input field containing the number "5".
- "Interval between calls:" with a text input field containing "10" and the label "seconds" to its right.
- "Number of test cycles:" with a text input field containing "100".

Result section:

- "Total calls:" with a text input field containing "0".
- "Average response time per call:" with a text input field containing "0" and the label "seconds" to its right.

At the bottom of the dialog box, there are three buttons: "Start", "Stop", and "Cancel".

2. In the **Configuration** fields, you can enter the following test parameters:
 - **Number of concurrent calls**
 - **Interval between calls**
 - **Number of test cycles**

For example, entering **5** for **concurrent calls**, **3** for **interval between calls**, and **4** for **test cycles** means that every 3 seconds, there will be 5 concurrent call requests to Call Router. Total cycles of concurrent requests will be 4 times.

3. After entering the test parameters, click **Start**. During the test, you can click **Stop** to stop the test. The title of the **Test** dialog box will appear as "**Test(Started)**" while the test runs.

Test(Started)

Configuration

Number of concurrent calls:

Interval between calls: seconds

Number of test cycles:

Result

Total calls:

Average response time per call: seconds

The total calls processed and average time per call will be updated in real-time. You will know how many calls were processed and the average response time per call at that time.

- After the test has finished, the title of the dialog box will appear as “Test(Stopped).”

Test(Stopped)

Configuration

Number of concurrent calls:

Interval between calls: seconds

Number of test cycles:

Result

Total calls:

Average response time per call: seconds

- The **Total calls** that Call Router processed and **Average response time per call** of this test will appear in the **Result** fields.

Testing SQL Server Database

To test SQL server database access performance of Call Router:

1. Add a database for the SQL server.

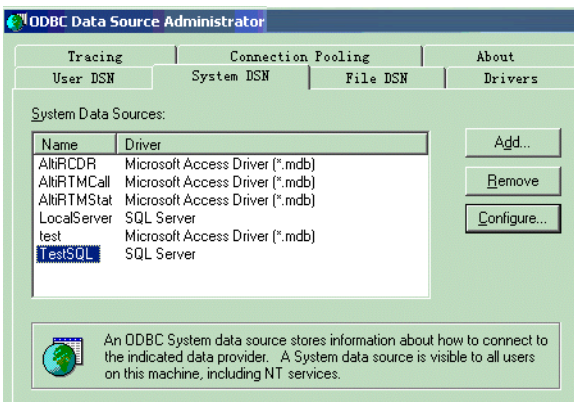
For example, for a database “calldb” and table name “RTMCall”, 10,000 records are added to the table.

WadeID	SessionID	InternalCall	Direction	StartTime	EndTime	CallerType	CallerPad
1	1039470405	0	2	1039575519	1039575521	12	0223
1	1039470406	0	2	1039575527	1039575529	12	0223
1	1039470407	0	2	1039575535	1039575537	12	0223
1	1039470408	0	2	1039575543	1039575545	12	0223
1	1039470409	0	2	1039575551	1039575553	12	0223
1	1039470410	0	2	1039575559	1039575561	12	0223
1	1039470411	0	2	1039575567	1039575569	12	0223
1	1039470412	0	2	1039575575	1039575577	12	0223
1	1039470413	0	2	1039575583	1039575585	12	0223
1	1039470414	0	2	1039575591	1039575593	12	0223
1	1039470415	0	2	1039575599	1039575601	12	0223
1	1039470416	0	2	1039575607	1039575609	12	0223
1	1039470417	0	2	1039575615	1039575617	12	0223
1	1039470418	0	2	1039575623	1039575625	12	0223
1	1039470419	0	2	1039575631	1039575633	12	0223
1	1039470420	0	2	1039575639	1039575641	12	0223
1	1039470421	0	2	1039575647	1039575649	12	0223
1	1039470422	0	2	1039575655	1039575657	12	0223
1	1039470423	0	2	1039575663	1039575665	12	0223
1	1039470424	0	2	1039575671	1039575673	12	0223
1	1039470425	0	2	1039575679	1039575681	12	0223
1	1039470426	0	2	1039575687	1039575689	12	0223
1	1039470427	0	2	1039575695	1039575697	12	0223
1	1039470428	0	2	1039575703	1039575705	12	0223

Note: Because the data of DDR request has been hard coded, if you want a rule match, you need to add the record to the table. The DNIS/URI of test request will be “1039470405.” IVR Path of test request will be “0&9.”

To use the “SessionId” field in the table to match the DNIS/URI of the request, you must add a record to the table and set the SessionId value to “1039470405”. Then during match process, the matched result will be true.

2. Add a data source to “ODBC” configuration in Windows.



The “TestSQL” is the newly added data source. This data source is connected to the SQL server’s “calldb” database.

3. In Call Router, add a rule to access the database.

DNIS/URI DataSource

DSN: |testsq| User Name: sa Password: **

Condition

DNIS/URI	Field Type	Field Name	Table Name
DNIS/URI	char	sessionid	rtmcall

Where: []

Data Retrieve from User Database
Input the field name and field type, server will get the field value from database

Field Name	Field Type	Table
callerpad	char	rtmcall

SQL Query Sentence:
Select rtmcall.sessionid rtmcall.callerpad From rtmcall
Where rtmcall.sessionid = @DNIS/URI

Note: In run time, the ### will replace with digits we get from Caller.

OK Cancel

You can change the rule configuration to fit your own conditions.

During the test, Call Router will use this rule to match the DDR request. When using this rule, Call Router will access the SQL server to execute the SQL query.

