



ALTIGEN  
COMMUNICATIONS

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## New Features Guide

## MAXCS 7.0 Update 1

May 20, 2014



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## Introduction

This guide describes the enhancements that have been added in MaxCS Release 7.0 update 1, including the following features:

- Changes to the operating systems supported by MaxCS ([Operating System Support](#) on page 3)
- Location-based E911 configuration (see [Location-Based E911 Support](#) on page 3)
- Salesforce integration (see [Salesforce Integration](#) on page 10)
- Encrypted email server support for AltiReport (see [AltiReport Enhancements](#) on page 12)
- Client enhancements (see [Client Enhancements](#) on page 12)
- Outlook 2013 support for MaxOutlook (see [MaxOutlook Support for Outlook 2013](#) on page 12)
- Advanced Call Router enhancements, new target action *Route by Query Result* (see [Advanced Call Router Enhancements](#) on page 16)

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## Operating System Support

Because Microsoft is ending support for Windows XP effective in April, 2014, MaxCS 7.0 Update 1 does not support that operating system. (See <http://www.microsoft.com/en-us/windows/enterprise/endofsupport.aspx> for the official statement from Microsoft.)

MaxCS 7.0 Update 1 also supports Windows 2012 R2.

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## Location-Based E911 Configuration (For Roaming Users)

This feature is designed for roaming users who frequently log into various IP phones at different locations, to use those phones as their extension.

E911 Caller ID (CID) information is sent to PSAPs (Public Safety Answering Point) when a user calls 911 from an IP phone. A new feature has been added to MaxCS that allows administrators to configure unique E911 Location IDs for specific locations. Each AltiGen IP phone can then be assigned an appropriate E911 Location ID.

Configuring E911 Location IDs ensures that emergency calls placed from these IP phones:

- Will call the appropriate PSAP, based upon the phone's physical location.
- Will transmit the appropriate Caller ID information that will help emergency response teams find the right physical address.

### About E911 Location IDs

Each Location ID entry will contain information:

- The phone number of the local PSAP
- The E911 Caller ID (which is used by PSAPs to determine the correct street address) which is transmitted to emergency personnel when an emergency call is placed
- A default callback phone number (optional)



E911 Location ID information is associated with the IP phone itself, rather than being tied to a specific user or extension. This way, no matter who logs into an IP phone, the correct E911 Location ID will be transmitted during an emergency call.

Once these E911 Location IDs are configured within MaxCS Administrator, administrators can either push the correct information to the AltiGen IP phones or update the E911 information on each AltiGen IP phone via the phone's menus.

Administrators can also configure whether users must enter a password in order to update an IP phone's assigned E911 Location ID themselves.

**Note:** When an IP phone is moved to a different location, the Administrator must update the phone's E911 Location ID accordingly, either by pushing it from within MaxCS Administrator or by requesting that a user update the IP phone via the phone's menus.

## IP Phones Supporting E911 Caller ID

The following AltiGen IP phones are supported:

- IP705 (requires firmware version 22A6)
- IP710 (requires firmware version 21A6)
- IP720 (requires firmware version 23A6)
- IP805 (requires firmware version 21, which will appear as "1121" in MaxAdministrator and on the phone itself)

If an IP phone does not have the correct firmware version, then you cannot configure an E911 Location ID for the phone until you upgrade its firmware.

New AltiGen IP phones are shipped with the default E911 Location ID entry of 0.

The following phones are not supported:

- AltiGen IP600
- Analog phones connected to the MaxCS server
- Other 3<sup>rd</sup> party SIP phones

## Designing E911 Location IDs for Your Organization

Administrators can set up various E911 Location IDs (up to 10,000).

The strategy of how you implement E911 Location IDs will depend upon your unique business.

Some businesses may choose to set up location IDs for each building in a complex, something similar to this:

- Location ID 10 – Building 315 West
- Location ID 11 – Building 315 Warehouse
- Location ID 20 – Building 316
- Location ID 30 – Building 317

Or, if you have various branch offices, your Location ID schema may look more like this approach:

- Location ID 1 – San Jose Sales Office
- Location ID 2 – Palo Alto Dev Center



- Location ID 3 – Redwood City Support Center
- Location ID 4 – Redwood City Manufacturing

Another organization may choose to create different E911 Location IDs for each floor of a large office building, similar to this approach:

- Location ID 1 – Basement/garage
- Location ID 2 – Floor 1
- Location ID 3 – Floor 2
- Location ID 4 – Floor 3

Yet another schema could be to implement E911 Location IDs by the type of use of various building sections, by floor, similar to the following method. This convention uses the first digit as the floor and the second digit as an area within that floor.

- Location ID 11 – Warehouse
- Location ID 12 – Floor 1 Lab 1
- Location ID 13 – Floor 1 Lab 2
- Location ID 14 – Floor 1 Shipping/Receiving
- Location ID 15 – Floor 1 Manufacturing
- Location ID 21 – Floor 2 Test Lab
- Location ID 22 – Floor 2 Imaging

What's important is to come up with a set of entries that works for you, based upon your type of organization and your geographic specifics.

## E911 Hierarchy

The system follows this hierarchy to retrieve E911 information when a user places a 911 call from an IP phone:

1. The system will transmit the information in the E911 Location ID entry that is assigned to the IP phone, if you have entered E911 Location IDs and if the IP phone has an E911 location ID assigned to it.
2. If no E911 Location ID entry has been assigned to the IP phone, or if the assigned LID does not match any entry in the Location ID table then the system will transmit the E911 information configured for the extension in MaxAdministrator under **PBX > Extension Configuration** (see the chapter *Extension Configuration* in the Administration Manual for details)
3. If no E911 data has been configured for the extension under **PBX > Extension Configuration**, then the system will transmit the extension's DID number.
4. If there is no DID number assigned to the extension, then the system will transmit the trunk's *Transmitted Caller ID* (which is set in the *Trunk Configuration* window).
5. If the Area Code and Phone Number have not been configured for the trunk, the *System Main Number* in the *System Configuration* window will be sent.

## E911 Caller ID Configuration Process

Following is an overview of how to configure E911 data for IP phones:

1. Administrators create the various E911 Location IDs, one for each site or building. See [Configuring E911 Location ID Entries](#).

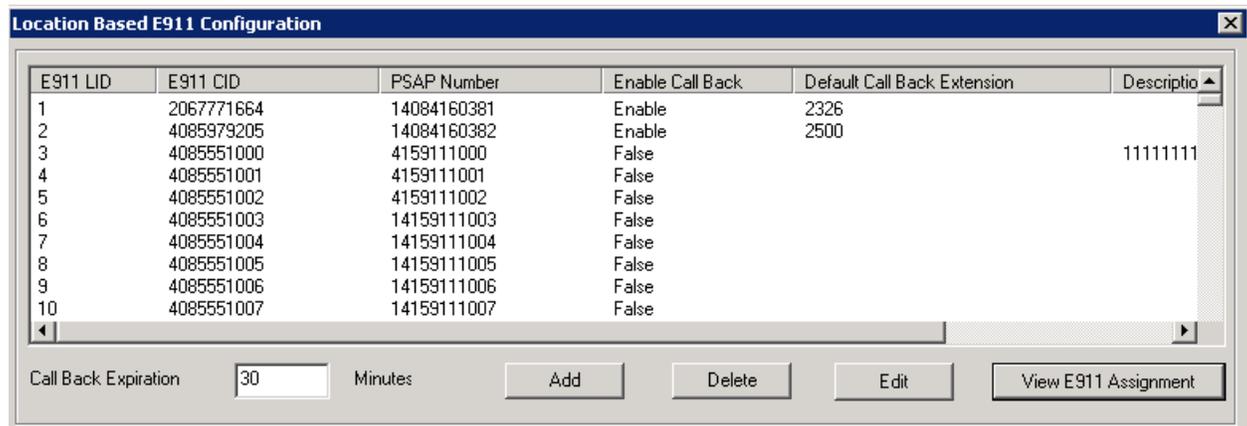
- Administrators configure password protection, so that changing the E911 information for a phone requires a user to enter a password (optional). See [Requiring a Password to Change E911 Location ID](#) on page 8 for details.
- Administrators view (and update) the E911 assignments for IP phones. Administrators can either push the updated information to the phones or have users enter the appropriate information on the phone itself. See pages 9 and **Error! Bookmark not defined..**

## Creating the E911 Location ID Table

To configure location-based E911 information,

- In MaxAdministrator, select **PBX > Location Based E911 Configuration**. The panel shows the current E911 entries.

To sort the table, click a column heading.



E911 LID	E911 CID	PSAP Number	Enable Call Back	Default Call Back Extension	Description
1	2067771664	14084160381	Enable	2326	
2	4085979205	14084160382	Enable	2500	
3	4085551000	4159111000	False		11111111
4	4085551001	4159111001	False		
5	4085551002	4159111002	False		
6	4085551003	14159111003	False		
7	4085551004	14159111004	False		
8	4085551005	14159111005	False		
9	4085551006	14159111006	False		
10	4085551007	14159111007	False		

Call Back Expiration:  Minutes

Buttons: Add, Delete, Edit, View E911 Assignment

Figure 1: The Location Based E911 Configuration panel

The following table describes the information shown in this panel.

Table 1: Location-based E911 Fields

Location-based E911 Field	Description
E911 LID (Location ID)	1-10,000. Enter a unique number for this entry.
E911 CID (Caller ID)	The location-specific E911 Caller ID for this entry. This entry must be unique; each E911 LID must have a different E911 CID.
PSAP (Public Safety Answering Point) Number	The PSAP phone number to call when this IP phone makes an E911 call.

Location-based E911 Field	Description
Enable Callback	<p>This setting determines the routing for the call back from the PSAP center.</p> <ul style="list-style-type: none"> <li>With Callback enabled, the DNIS number of incoming calls is used to match the E911 CID of the 911 call history to determine the callback extension.</li> <li>With Callback disabled, call will be routed to the standard incoming call routing of MaxCS, regardless of the E911 call history.</li> </ul> <p>The default setting is <b>Disabled</b>.</p>
Default callback extension	<p>The default call back extension; this applies only if Callback is enabled.</p> <ul style="list-style-type: none"> <li>If the DNIS number from the PSAP does not match the designated CID from the call history, then the response call will be routed to this callback extension.</li> <li>If you do not enter a default callback extension, the response call goes through the standard incoming call routing.</li> </ul>
Description	A brief description for this E911 LID entry.

- Below the table, for the *Call Back Expiration Time xx Minutes* option set the global expiration time for E911 response calls. The default interval is 30 minutes.

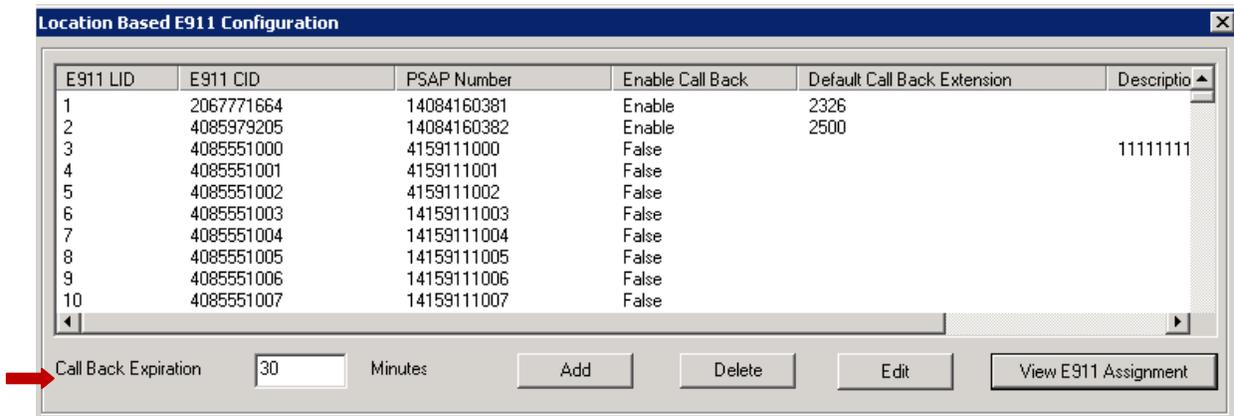
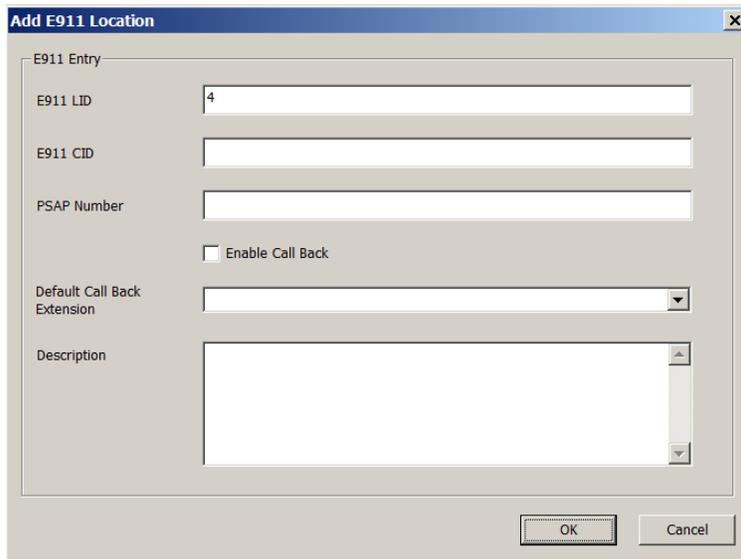


Figure 2: The Call Back Expiration field

When *Enable Callback* is checked, this field sets the expiration time for the routing of response calls. Response calls will be routed to the last extension that placed an E911 call if the response arrives within that expiration time. After this interval has expired, response calls will be routed using the standard incoming call routing configured in MaxCS.

- Click **Add**.



The dialog box titled "Add E911 Location" contains the following fields:

- E911 LID: Text box containing "4"
- E911 CID: Empty text box
- PSAP Number: Empty text box
- Enable Call Back:
- Default Call Back Extension: Dropdown menu
- Description: Large text area

Buttons: OK, Cancel

Figure 3: Add a new E911 Location entry

- In the dialog box, complete each field and click **OK**. Refer to Table 1 for field descriptions.

**Note:** In order to support E911 LIDs across multiple servers, such that if one server fails the other will correctly handle E911 LID calls, we recommend that each server have an identical list of E911 Location IDs.

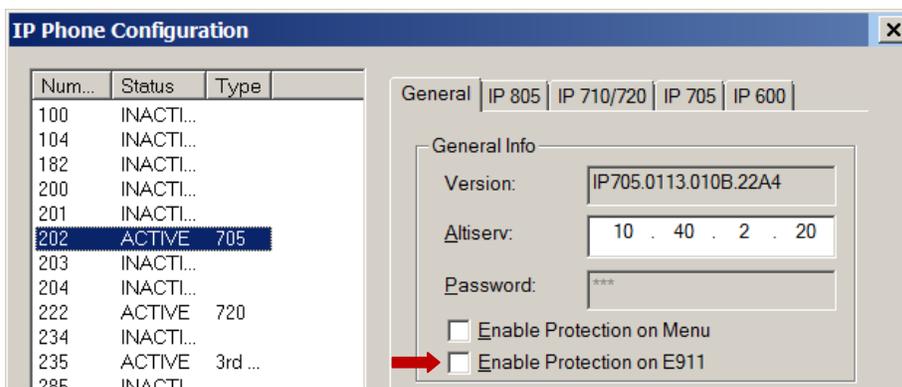
## Requiring a Password to Change E911 Location ID

Administrators can configure whether users must enter a password in order to update an AltiGen IP phone's assigned E911 Location ID.

This requirement can be enabled or disabled for each individual IP phone.

To enable password protection for a phone's E911 information,

- In MaxAdministrator, select **PBX > AltiGen IP Phone Configuration**.
- On the *General* tab, select the phone in the left panel and then check the *Enable Protection on E911* checkbox.



The "IP Phone Configuration" dialog box shows a list of IP phones on the left and configuration options on the right. The "General" tab is selected.

Num...	Status	Type
100	INACTI...	
104	INACTI...	
182	INACTI...	
200	INACTI...	
201	INACTI...	
202	ACTIVE	705
203	INACTI...	
204	INACTI...	
222	ACTIVE	720
234	INACTI...	
235	ACTIVE	3rd ...
285	INACTI...	

General Info section:

- Version: IP705.0113.010B.22A4
- Altiserv: 10 . 40 . 2 . 20
- Password: \*\*\*\*
- Enable Protection on Menu
- Enable Protection on E911 (indicated by a red arrow)

Figure 4: Enable password protection for E911 entry

- Once you check that checkbox, the *Password* field above it becomes active. Enter a password. Your entry will be the password that the user must enter in order to change the Location ID assigned to the phone. Click **OK**.

You can use the *Apply To* feature to apply this requirement and the password to multiple phones.

## Assigning E911 Location IDs on AltiGen IP Phones

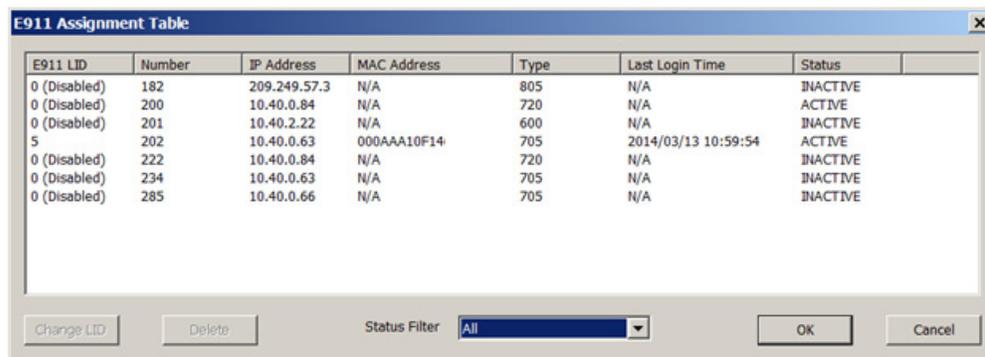
Administrators can either push the correct E911 Location ID to an AltiGen IP phone, or they can have users enter the Location ID manually on the phone itself.

To push an E911 Location ID assignment to an IP phone,

- In MaxAdministrator, select **PBX > Location Based E911 Configuration**.
- Click **View E911 Assignments**.

The table lists devices that have, at some point, registered with MaxCS.

- Click a column to sort the table. You can also filter the data by choosing **All**, **Active**, or **Inactive** from the *Status Filter* pulldown menu.



E911 LID	Number	IP Address	MAC Address	Type	Last Login Time	Status
0 (Disabled)	182	209.249.57.3	N/A	805	N/A	INACTIVE
0 (Disabled)	200	10.40.0.84	N/A	720	N/A	ACTIVE
0 (Disabled)	201	10.40.2.22	N/A	600	N/A	INACTIVE
5	202	10.40.0.63	000AAA10F14	705	2014/03/13 10:59:54	ACTIVE
0 (Disabled)	222	10.40.0.84	N/A	720	N/A	INACTIVE
0 (Disabled)	234	10.40.0.63	N/A	705	N/A	INACTIVE
0 (Disabled)	285	10.40.0.66	N/A	705	N/A	INACTIVE

Figure 5: The E911 Assignment table

The following table describes the fields in this panel.

Table 2: E911 Assignment fields

E911 Assignment Field	Description
E911 LID (Location ID)	The Location ID assigned to this IP phone. <b>Note:</b> A phone with a Location ID of "0 (Disabled)" either does not have the correct firmware or does not have any E911 Location ID assigned to it.
Number	The extension number of this IP phone.
IP Address	The IP address of this IP phone.
MAC Address	The MAC address of this IP phone.
Type	The type / model number of this IP phone.
Last Login Time	The last date and time that this IP phone logged into the MaxCS system.



E911 Assignment Field	Description
Status	The current state of this IP phone. You can filter the results as needed. <ul style="list-style-type: none"><li>• <b>Active</b> – The IP phone is currently registered with the MaxCS system.</li><li>• <b>Inactive</b> – The IP phone is not currently registered with the MaxCS system (the phone may have been unplugged or was logged out of the system).</li></ul>

4. To change the E911 Location ID for an IP phone, select the entry and click **Change LID**.

**Note:** If you cannot click the **Change LID** button for that phone (in other words, if the button is disabled), that indicates that the phone does not have the correct firmware; you must upgrade the firmware on the phone before you can set the phone's E911 Location ID.

5. Make your changes and click **OK**. The data will be pushed to the phone, and the phone will automatically re-register to apply the updated configuration.
6. To remove an E911 LID assignment for an extension, select the entry and click **Delete**. (Note that you can delete assignments only for *inactive* AltiGen IP phones.)

To have a user update the E911 Location ID on an IP phone, provide the user with the appropriate Location ID number. Instruct the user to open the phone's menu, choose **System > E911 LID**, and enter the Location ID number.

## Assigning E911 Location IDs to FXS Gateways

On an FXS gateway, Administrators can configure an E911 Location ID in the SIP User ID field for analog phones. Use the following syntax:

```
xatgnemx(E911 LID)
```

For example, to assign E911 Location ID 3 to the gateway, enter the following string:

```
xatgnemx3
```

---

## Salesforce Integration

Salesforce.com provides a CTI toolkit to telephony-enable its cloud-based CRM application. When enabled, a softphone control panel appears in the web browser, for agent call control.

AltiGen encapsulates the CTI toolkit into a connector for MaxCS Release 7.0 Update 1, to integrate an AltiGen IP PBX system with Salesforce.com.

A Salesforce Integration Seat license has been added to the License Information and Client Seat License Management pages.

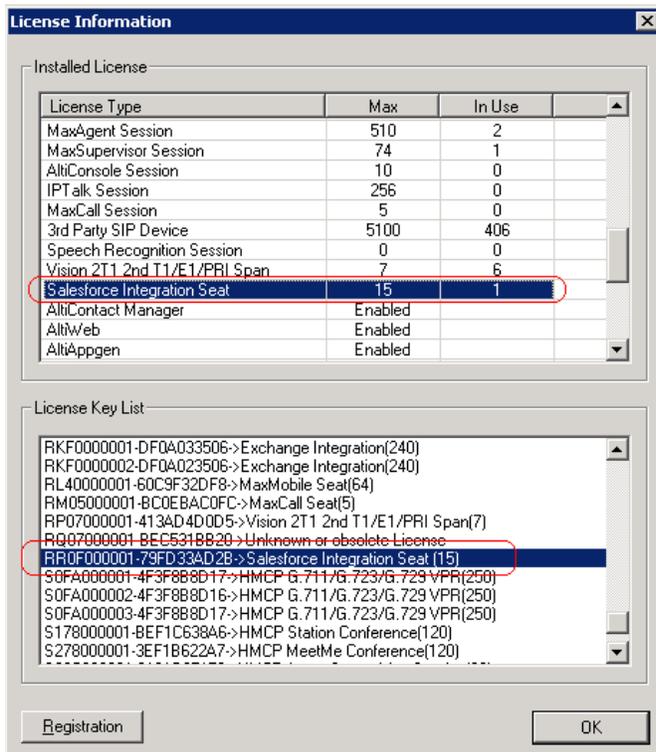


Figure 6: The License Information page

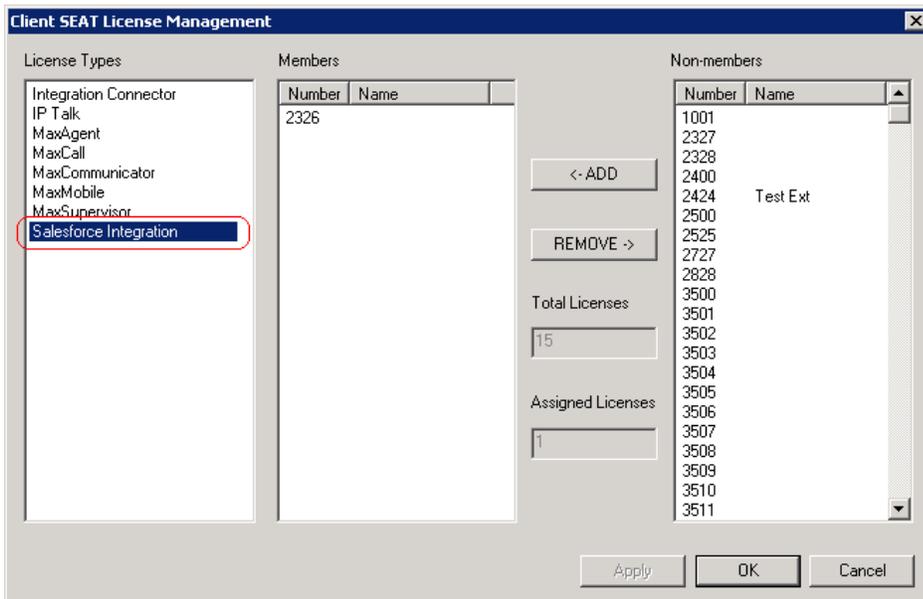


Figure 7: The Client SEAT License Management page

For details on how to configure this connector, refer to the separate document, *Application Notes: MaxCS 7.0 Connector for Salesforce*.



## AltiReport Enhancements

AltiReport uses an email server to send scheduled reports. In MaxCS 7.0 Update 1, AltiReport can now communicate with encrypted email servers such as the Google mail server (Gmail) or the Hotmail server.

AltiReport detects the requirements of the specified email server automatically; no configuration is needed to indicate whether the email server requires encryption.

Configuration	Mail Server Configuration
<b>Administrator Profile</b>	AltiReport Server Name (DNS name or IP address) <input type="text" value="10.30.8.68"/>
<b>CDR Database Registration</b>	Web Server or Tomcat TCP Port <input type="text" value="8080"/>
<b>MAXCS Registration</b>	Sender Email Address <input type="text" value="johndoe@yahoo.com"/>
<b>User Management</b>	Outgoing Mail (SMTP) Server <input type="text" value="smtp.mail.yahoo.com"/>
<b>Mail Server Configuration</b>	SMTP Server Requires Authentication <input checked="" type="checkbox"/>
<b>Backup and Restore</b>	SMTP Account Name <input type="text" value="johndoe@yahoo.com"/>
<b>Log Configuration</b>	SMTP Password <input type="password" value="*****"/>
	Send Test Message to this Email Address <input type="text" value="lee@altigen.com"/>
	<input type="button" value="Update"/>

Figure 8: Mail Server configuration page

**Note:** When using an encrypted email server, for authentication purposes the *Sender Email Address* entry must be the same as the *SMTP Account Name* entry, as illustrated in Figure 8. The remote email server does not allow users to use a different sender email address than the real email account.

## Client Enhancements

The following client enhancements are introduced in MaxCS 7.0 Update 1:

- The MaxCS 7.0 Update 1 clients now support Windows 8.1 (64-bit).
- MaxOutlook – Support for Outlook 2013 (see page 12)
- MaxSupervisor – Support for up to 50 concurrent MaxSupervisor connections, improved data receiving and display performance. In addition, there is a new automatic re-sort interval for Agent View and Agent Status (see [Automatic Re-sort Interval in MaxSupervisor](#) on page 13)
- MaxCommunicator, MaxAgent, and MaxSupervisor – The application icon now stays on the Windows task bar and in the Windows system tray when you minimize these applications (see page 13). In addition, users can now choose to display either the local time or the server time for voicemail messages (see [Display Voicemail Time as the Local Time or the Server Time](#) on page 13).

## MaxOutlook Support for Outlook 2013

The MaxCS 7.0 Update 1 release of MaxOutlook supports Microsoft Outlook 2007, 2010, and 2013.

**Note:** Only the 32-bit version of Microsoft Outlook is supported.

In order to support Microsoft Outlook 2013, MaxOutlook uses an updated 3<sup>rd</sup> party Outlook integration library. Because of this, the MaxOutlook interface is slightly different from that of previous versions.

**Note:** Users who upgrade their Microsoft Outlook application from version 2007/2010 to Outlook 2013 will need to reinstall MaxOutlook.

The name of the menu in Microsoft Outlook 2013 has changed from “Add-ins” to “MaxOutlook” (see Figure 9).

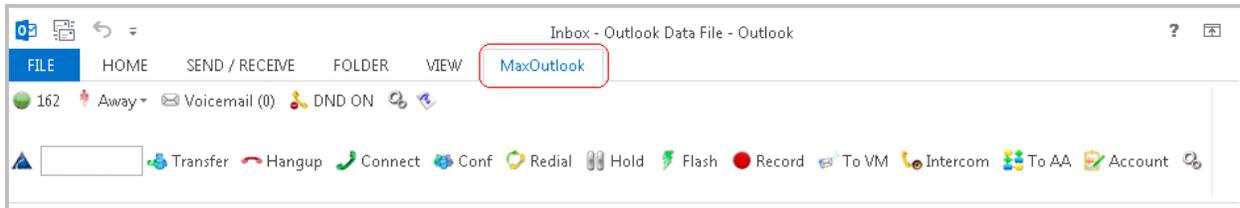


Figure 9: The Outlook 2013 menu with the MaxOutlook menu

## Automatic Re-sort Interval in MaxSupervisor

In this release, MaxSupervisor includes a new automatic sort interval for Agent View and Agent Status. The application will refresh the display based upon the interval you’ve chosen and the field you’ve used to sort the data.

The default interval is 15 seconds.

**Note:** Older systems, and systems with less memory or a slower processor, may exhibit screen flashes while the view is being sorted. For this reason, we recommend that such systems use a relatively long auto-sort interval.

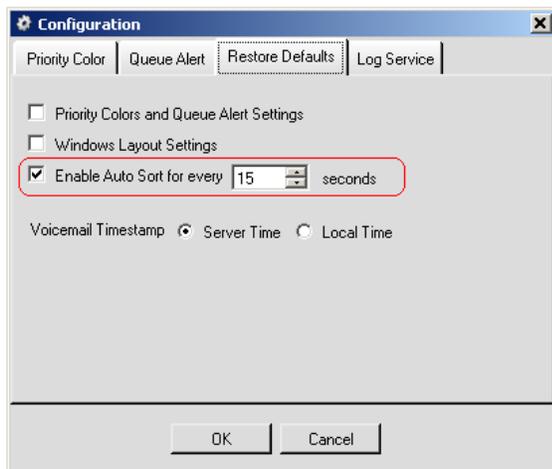


Figure 10: The Auto-sort setting in MaxSupervisor

## Minimize Application Behavior

When users minimize MaxCommunicator, MaxAgent, and MaxSupervisor, the application icon will now stay at Windows task bar and Windows system tray. Users can right-click an icon and choose **Close Window** to exit an application.

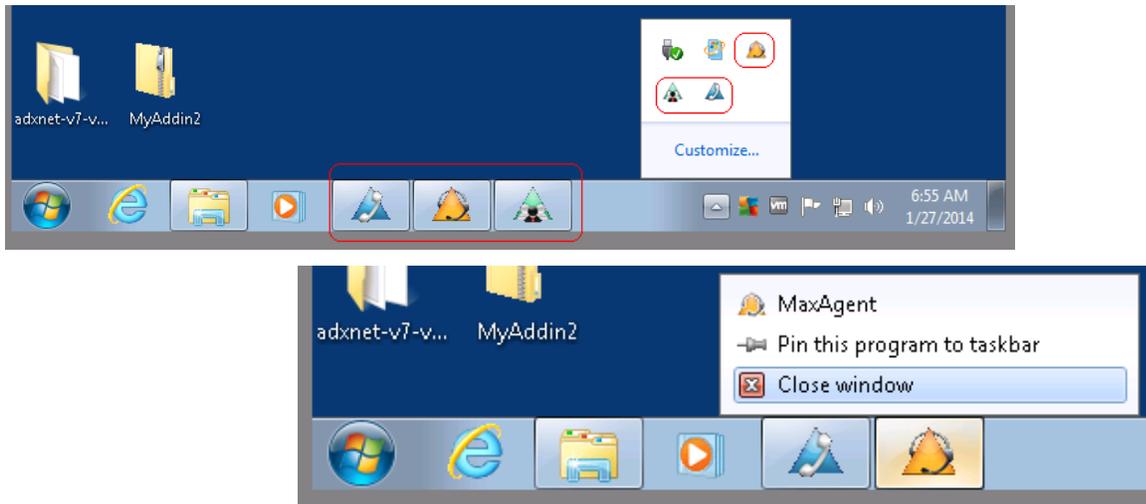


Figure 11: Client applications minimize to task bar and system tray

## Display Voicemail Time as the Local Time or the Server Time

MaxCS 7.0 Update 1 includes the ability to display either the local time or the server time for voicemail messages in MaxCommunicator, MaxAgent, and MaxSupervisor.

This option is only offered if the user's time zone is different from the time zone at the MaxCS server.

From the *Display* pull-down list, users can choose either **Server Time** or **Local Time**. The data in the Date/Time column will update accordingly. The default setting is to display message date and time as *Server Time*.

**Note:** The client applications will need to be restarted if the time zone at the client system or at the MaxCS server is changed.

### MaxCommunicator Voicemail Time Display

In MaxCommunicator, this option has been added to the (personal) Voicemail tab, as shown in the next figure.

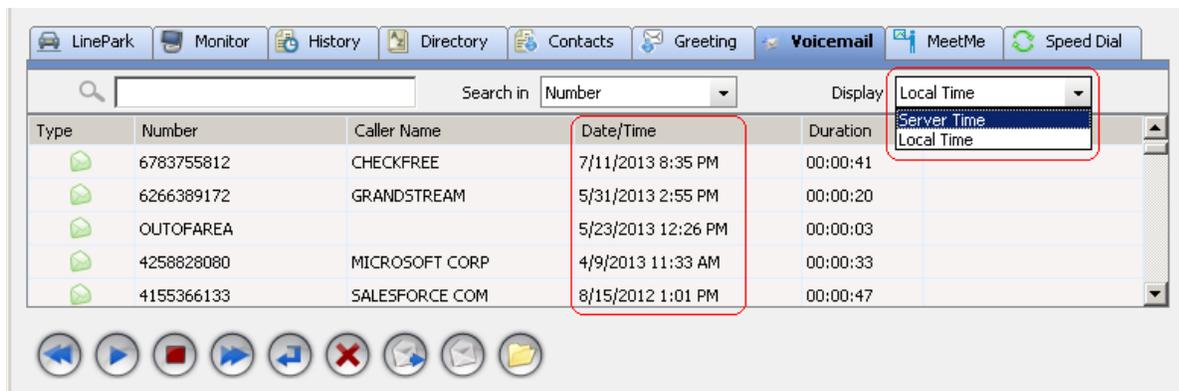


Figure 12: MaxCommunicator display option for voicemail: show server time or local time

## MaxAgent Voicemail Time Display

MaxAgent offers a similar option, not only for personal voicemail, but also for the display of Workgroup voicemail messages.

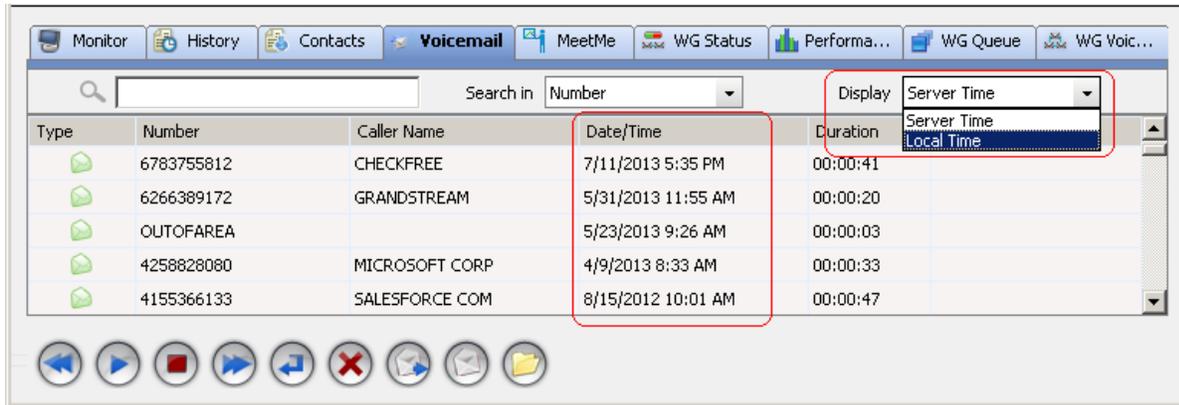


Figure 13: MaxAgent time display options for personal voicemail

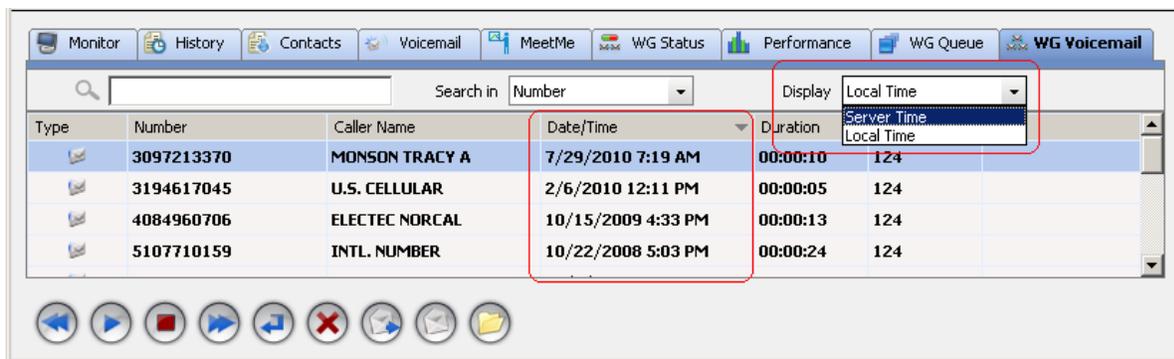


Figure 14: MaxAgent time display options for Workgroup voicemail

The setting for personal voicemail display can be different from the setting for workgroup voicemail display.

## MaxSupervisor Voicemail Time Display

To adjust the voicemail time zone display in MaxSupervisor, users follow these steps:

1. Select the **Restore Defaults** tab.
2. A new option has been added to this panel. For *Voicemail Timestamp*, users choose either **Server Time** or **Local Time** and then click **OK**.

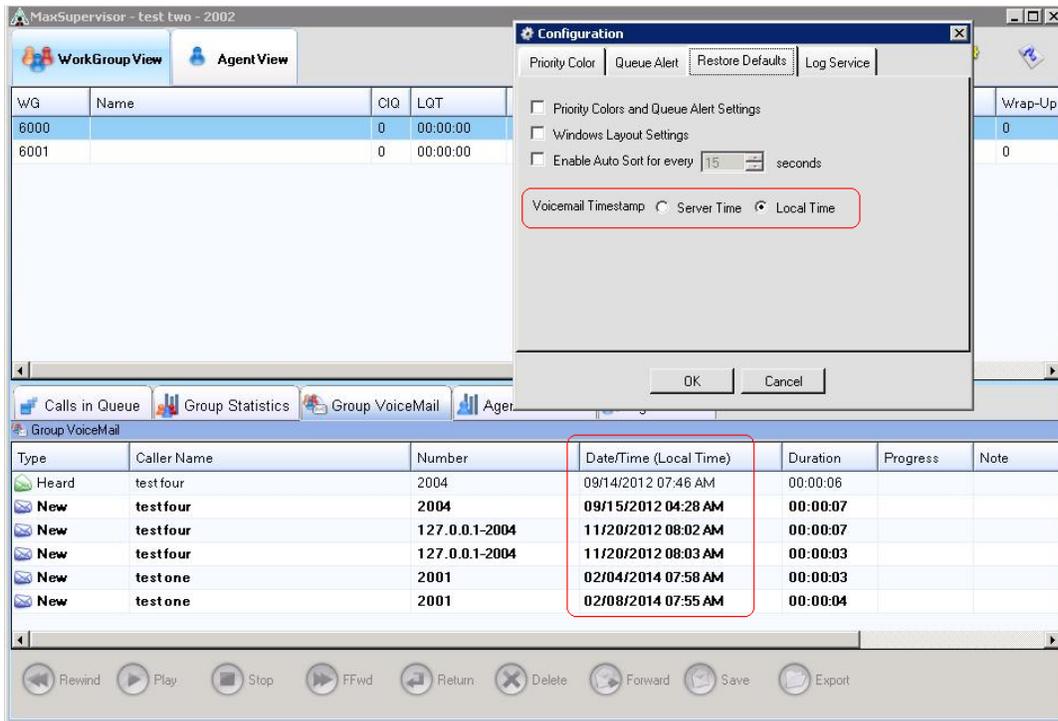


Figure 15: MaxSupervisor voicemail time display option

The Workgroup voicemail Date/Time column will update accordingly.

## Move IP Address between Trusted and Malicious Device List

In some rare scenarios, the MaxCS server can capture regular IP address and add them to the *Malicious SIP Device* list.

Within MaxCS Administrator, select **SIPSP > Board Configuration > Advanced Configuration**.

To easily move address between the lists, two buttons have been added. You can now move a SIP Device IP address from one list directly to the other, instead of removing it from one, then adding it to the other in a separate step.

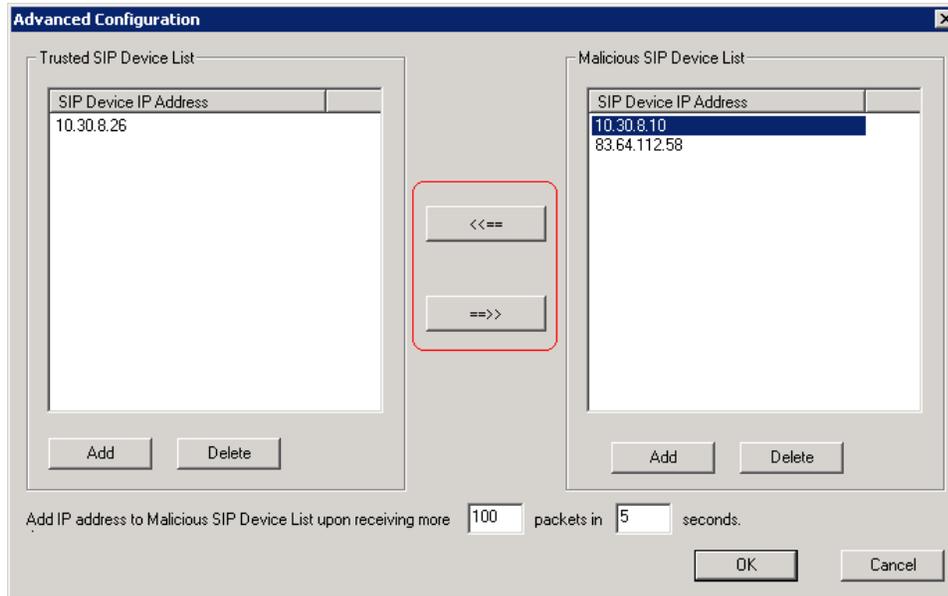


Figure 16: Move Device IP address from one list to the other

## Block Unauthorized SIP Invite Requests

MaxCS 7.0 Update 1 includes a filter to block unauthorized SIP Invite requests. When the MaxCS server receives an SIP Invite request, if the IP address or the caller source is NOT in one of the following lists, the call will be ignored (dropped):

- IP address is in the MaxCS registered IP extension list
- IP address is in the configured SIP Trunk list
- IP address is in the IP dialing table list
- IP address is in the SIP Allow IP list
- The caller is from another AltiGen system
- The caller is from an AltiGen IP phone

The filter is disabled by default. To enable the filter, add the following registry entry and press *VM&SP Log Dump* under the **Diagnostics > Trace** menu (or just restart the system).

HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\AltiGen Communications, Inc.\AltiWare\Service Providers\SIPSP

"BlockSIPUnauthorizedCall"=dword:00000001

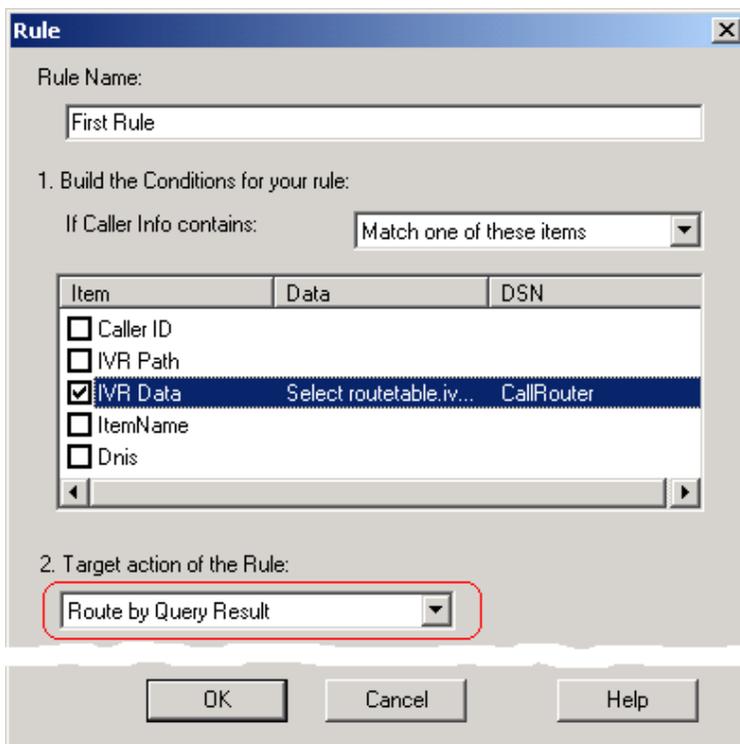
## Advanced Call Router Enhancements

**Note:** Because this feature accesses an external database, 32-bit ODBC must be set up beforehand.

Advanced Call Router (ACR) allows verification of incoming call information against the database. In earlier releases, ACR only confirmed that the specified information existed; it left the transfer target to be configured in the rule settings. This design mandated that every transfer target needed a unique routing rule, which meant that customers had to create numerous rules to handle calls.

In MaxCS 7.0 Update 1, the routing target information can be retrieved from the database record. This means that customers need to create (and maintain) far fewer rules to process calls.

To accomplish this, rules now have an additional Target action, *Route by Query Result*, as shown in the following figure.



**Rule**

Rule Name:

1. Build the Conditions for your rule:  
 If Caller Info contains:

Item	Data	DSN
<input type="checkbox"/> Caller ID		
<input type="checkbox"/> IVR Path		
<input checked="" type="checkbox"/> IVR Data	Select routetable.iv...	CallRouter
<input type="checkbox"/> ItemName		
<input type="checkbox"/> Dnis		

2. Target action of the Rule:

OK Cancel Help

Figure 17: New Advanced Call Router rule Target action, "Route by Query Result" A new coluserdata  
 Some additional fields will need to be configured in the Data Source panel.

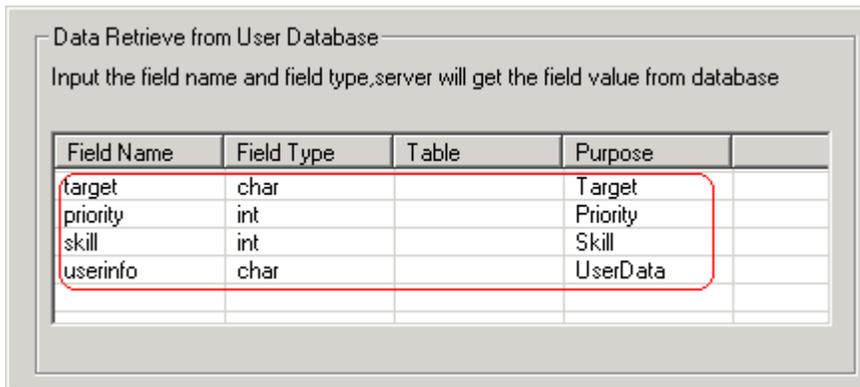


Figure 18: The Data Source panel showing the new Purpose options

A new column, *Purpose*, is now included, to retrieve data for multiple data fields. It offers four options:

- Target – Retrieves data for the call routing target (an extension number or group number); this option is required.
- Priority – Retrieves data for the call priority value.
- Skill – Retrieves data for the call skill value.
- UserData – Retrieves data from the SQL query result and assigns that data to the UserData field. UserData can be displayed in MaxAgent and can be used by the SDK.

With these new options, ACR can retrieve data from the database to set call transfer target, priority, skill level, and user data, so that one rule can perform multiple actions.

When ACR uses call info (Caller ID, IVR input, ItemName, or DNIS) to query the database, it can receive one of the following results:

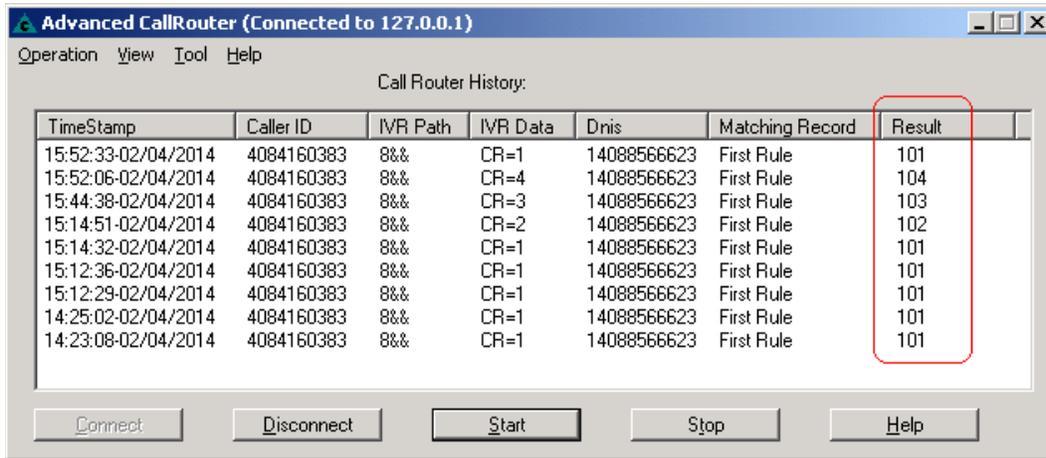
- No match – No matching records are found; ACR will continue to the next rule.
- One match – One matching record is found; ACR will set the call properties (Priority, Skill, and UserData) if configured, and then will route the call according to the target number in the record.
- Multiple matches – More than one matching record was found; ACR will set the call properties (Priority, Skill, and UserData) if configured, and route the call according to the target number in *the first record*.

While configuring rules, be aware of the following behavior:

- If the target extension does not exist, then ACR will behave as if no match was found, and continue to the next rule.
- If the Priority or Skill value is out of range (1-9), then the priority and skill level will not be set. Instead, the original priority and skill level will be used for the call.
- If the query statement or the rule is configured incorrectly, then ACR will behave as if no match was found and will continue to the next routing rule. If the last rule is reached and no match is found, the default route will be used.

Refer to Routing Configuration Examples on page 20 for configuration examples.

The following figure shows an example where calls come in with different IVR tags. ACR searches the database and then retrieves *Target field* data for the destination extension.



TimeStamp	Caller ID	IVR Path	IVR Data	Dnis	Matching Record	Result
15:52:33-02/04/2014	4084160383	8&&	CR=1	14088566623	First Rule	101
15:52:06-02/04/2014	4084160383	8&&	CR=4	14088566623	First Rule	104
15:44:38-02/04/2014	4084160383	8&&	CR=3	14088566623	First Rule	103
15:14:51-02/04/2014	4084160383	8&&	CR=2	14088566623	First Rule	102
15:14:32-02/04/2014	4084160383	8&&	CR=1	14088566623	First Rule	101
15:12:36-02/04/2014	4084160383	8&&	CR=1	14088566623	First Rule	101
15:12:29-02/04/2014	4084160383	8&&	CR=1	14088566623	First Rule	101
14:25:02-02/04/2014	4084160383	8&&	CR=1	14088566623	First Rule	101
14:23:08-02/04/2014	4084160383	8&&	CR=1	14088566623	First Rule	101

Figure 19: Call Router History example

## Routing Configuration Examples

This section contains three examples:

- A single table with a single Purpose field
- A single table with multiple Purpose fields
- Multiple tables

### Example 1: Single Table, Single Purpose Field

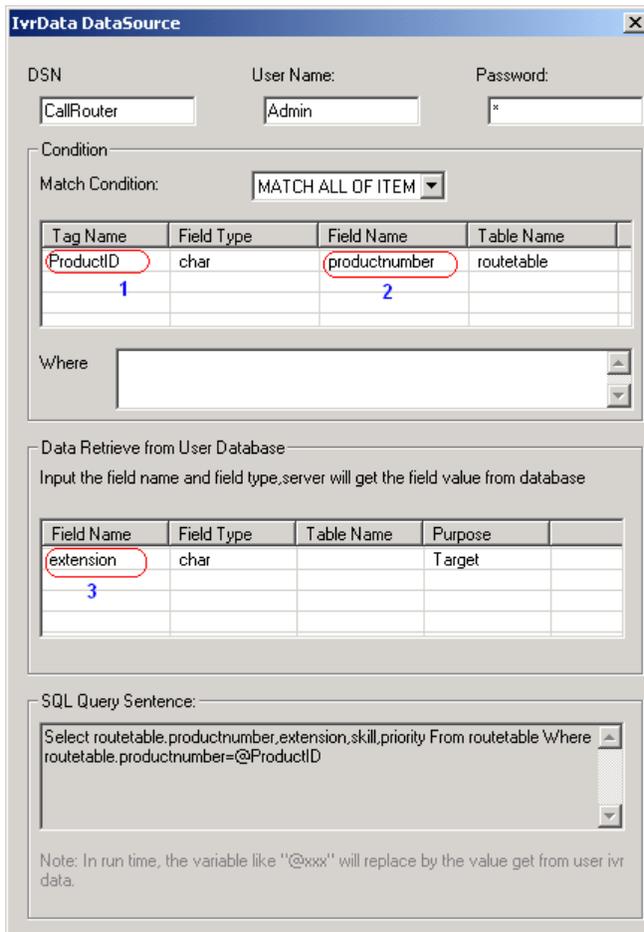
This example illustrates configuration for a single table, which is designed as follows:

Field Name	Field Type	Description
Product Number	Text	Source data Adv Call Router will search for. The caller could enter this string through the Auto Attendant.
Extension	Text	The destination extension to which the call will be routed.

Here is an example of the data in this table (the table name is *RouteTable*):

Product Number	Extension
5001	101
5002	102
5003	103

In this scenario, the call router data source could be configured as shown in the following figure:



DSN: CallRouter, User Name: Admin, Password: \*

Condition: Match Condition: MATCH ALL OF ITEM

Tag Name	Field Type	Field Name	Table Name
ProductID	char	productnumber	routetable
1		2	

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 Name	Purpose
extension	char		Target
3			

SQL Query Sentence:  
 Select routetable.productnumber,extension,skill,priority From routetable Where routetable.productnumber=@ProductID

Note: In run time, the variable like "@xxx" will replace by the value get from user ivr data.

- 1 - Use "ProductID" for the IVR tag. ACR uses this IVR input data as the source to search the database.
- 2 - Use "productnumber" for the Product Number field value. The first record that matches the entered product number will be used.
- 3 - Use "extension" for the routing target. This tells ACR to retrieve this field from the matching record and use that data as the call's routing target.

Figure 20: ACR Example 1 configuration

ACR will use the IVR tag name called *ProductID* to search the *ProductNumber* field in the *RouteTable* table. When a matching record is found, ACR will use the data in the *Extension* field as the call's routing target. In this scenario, the automated SQL query statement suffices; no additional search criteria are needed for the target information.

### Example 2: Single Table, Multiple Purpose Fields

In this example, assume we have a single table, designed as following:

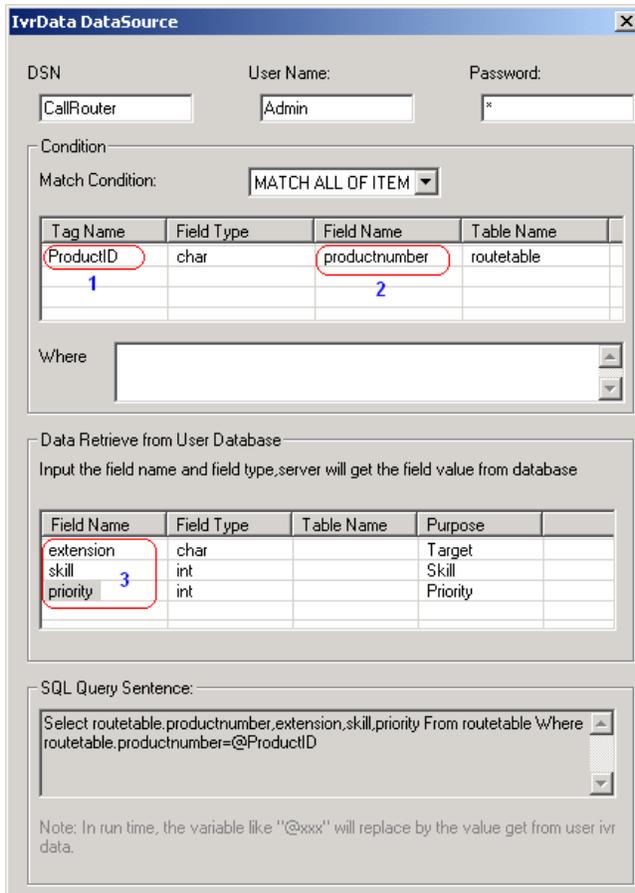
Field Name	Field Type	Description
Product Number	Text	Source data Adv Call Router will search for. The caller could enter this string through the Auto Attendant.
Extension	Text	The destination extension to which the call will be routed.
Priority	Number	The call priority.
Skill	Number	The required skill level for the agent.

Here is an example of the data in this table (the table name is *RouteTable*):

Product Number	Extension	Priority	Skill
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Product Number	Extension	Priority	Skill
5001	101	1	4
5002	102	3	5
5003	103	5	6

The call router data source could be configured as shown in the following figure:



**1** - Use "ProductID" for the IVR tag. ACR uses this IVR input data as the source to search the database.

**2** - Use "productnumber" for the Product Number field value. The first record that matches the entered product number will be used.

**3** - Use "extension" for the routing target, "skill" for the call skill level, and "priority" for the call priority. ACR retrieves these values from the matched record and uses the values to route the call and set call properties.

Figure 21: ACR Example 2 configuration

In this case, the program-generated query statement is enough; no additional search criteria were needed.

### Example 3: Multiple Tables

In this example, assume we have two tables: *RouteTable* for route information and *AgentTable* for agent information. Here are the fields in the *RouteTable* table:

Field Name	Field Type	Description
Product Number	Text	Source data Adv Call Router will search for. The caller could enter this string through the Auto Attendant.
Destination	Text	The destination to which the call will be transferred.

Here is an example of the data in this table:



Product Number	Destination
5001	1001
5002	1002
5003	1003

Here are the fields in the *AgentTable* table:

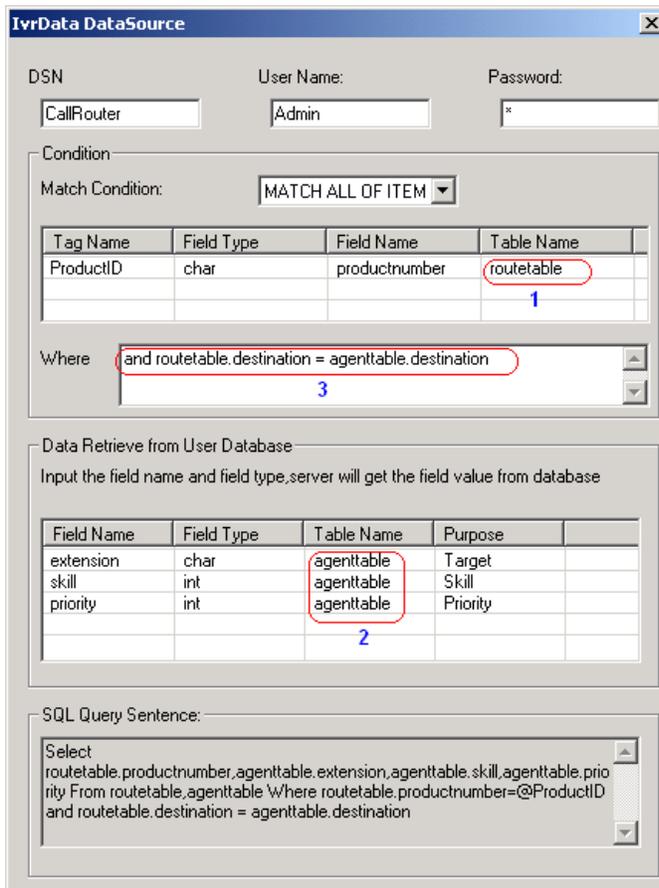
Field Name	Field Type	Description
Destination	Text	The transfer destination.
Extension	Text	The destination extension number.
Priority	Number	The call priority.
Skill	Number	The required skill level for the agent.

Here is an example of the data in this table:

Destination	Extension	Priority	Skill
1001	101	1	4
1002	102	3	5
1003	103	5	6

Both tables have a “Destination” field, which will be used to link records of the two tables.

The call router data source could be configured as following:



**IvrData DataSource**

DSN: CallRouter    User Name: Admin    Password: \*

Condition:  
Match Condition: MATCH ALL OF ITEM

Tag Name	Field Type	Field Name	Table Name
ProductID	char	productnumber	routetable
			1

Where: and routetable.destination = agenttable.destination

3

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 Name	Purpose
extension	char	agenttable	Target
skill	int	agenttable	Skill
priority	int	agenttable	Priority
		2	

SQL Query Sentence:  
Select  
routetable.productnumber,agenttable.extension,agenttable.skill,agenttable.priority  
From routetable,agenttable Where routetable.productnumber=@ProductID  
and routetable.destination = agenttable.destination

**1** - Use "routetable" in the Match Conditions list. ACR will search IVR data from this table.

**2** - Use "agenttable" in the Data Retrieve from User Database list. This specifies the data to be retrieved from the second table.

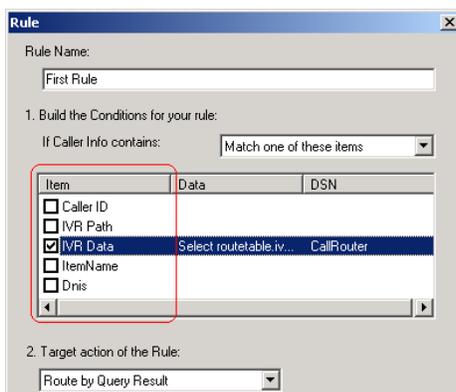
**3** - Enter additional search criteria in the "Where" clause. This will be used to link *AgentTable* with *RouteTable*.

Figure 22: ACR Example 3 configuration

**Note:** You can also create a view, to make the SQL query simpler.

## Routing Notes

Multiple match conditions (IVR data, caller ID, DNIS, etc) are not supported for "Route by Query Result."



**Rule**

Rule Name: First Rule

1. Build the Conditions for your rule:  
If Caller Info contains: Match one of these items

Item	Data	DSN
<input type="checkbox"/> Caller ID		
<input type="checkbox"/> IVR Path		
<input checked="" type="checkbox"/> IVR Data	Select routetable.iv...	CallRouter
<input type="checkbox"/> ItemName		
<input type="checkbox"/> Dnis		

2. Target action of the Rule:  
Route by Query Result

Figure 23: Multiple match conditions are not supported for Route by Query Result



## AltiGen Technical Support

AltiGen does not provide general configuration support for AudioCodes products. For general configuration information, refer to your AudioCodes documentation.

AltiGen provides technical support to Authorized AltiGen Partners and distributors only. End user customers, please contact your Authorized AltiGen Partner for technical support.

Authorized AltiGen Partners and distributors may contact AltiGen technical support by the following methods:

- You may request technical support on AltiGen's Partner web site, at <https://partner.altigen.com>. Open a case on this site; a Technical Support representative will respond within one business day.
- Call 888-ALTIGEN, option 5, or 408-597-9000, option 5, and follow the prompts. Your call will be answered by one of AltiGen's Technical Support Representatives or routed to the Technical Support Message Center if no one is available to answer your call.

Technical support hours are 5:00 a.m. to 5:00 p.m., PT, Monday through Friday, except holidays.

If all representatives are busy, your call will be returned in the order it was received, within four hours under normal circumstances. Outside AltiGen business hours, only urgent calls will be returned on the same day (within one hour). Non-urgent calls will be returned on the next business day.

Please be ready to supply the following information:

- Partner ID
- AltiGen Certified Engineer ID
- Product serial number
- AltiWare or MAXCS version number
- Number and types of boards in the system
- Server model
- The telephone number where you can be reached