Integration of Cisco Agent Desktop for Cisco Unified Contact Center Express with Salesforce.com Customer Relationship Management Application

Overview

Cisco® Agent Desktop for Cisco Unified Contact Center Express is a ready-to-use packaged suite of software applications that contact center agents, supervisors, and administrators use to:

- Perform customer interaction
- Automate customer-agent interaction tasks
- Enable agent-supervisor collaboration
- Manage performance of the virtual contact center

Cisco Agent Desktop has a versatile feature set that allows configuration of its function to suit the unique needs of the global call center or individual agent, but does not require customization or excessive professional services to implement.

Cisco Agent Desktop provides deep integration within the Salesforce.com (SFDC) Customer Relationship Management (CRM) application through configuration of a standard work flow and use of a custom Java method for customer record identification. This document discusses customer benefits and best practices, and tells how to integrate Cisco Agent Desktop with Salesforce.com to meet customer business objectives.

Customer Experience

An office products and services company wanted to provide a highly tailored customer experience for its callers. The company's goals for integration were to achieve a higher service level, reduce call-handling time, and provide the most expert, personalized assistance possible for its customers.

To accomplish these objectives, the company chose integration of Cisco Agent Desktop with the Salesforce.com CRM application used by its customer service agents.

Now, the company uses customer information collected from an interactive-voice-response (IVR) component and data retrieved from Salesforce.com to make skills-based routing decisions, which direct connection of customers with the agents best suited to address their requirements. At the same time, the integration presents the caller record within Salesforce.com at the agent's desktop when the call is received. As a result, the company has achieved a higher level of performance by reducing call-duration and call-waiting times.

Integration Requirements

Before integrating Cisco Agent Desktop and Salesforce.com, do the following:

1. Identify telephony data or user-captured data that you will use to search the Salesforce.com database and present the network-retrievable Webpage from Salesforce.com at the agent's desktop as the call is presented.

In many businesses, not all callers can be readily identified based on automatic number identification (ANI). Collecting an alternative identifier, such as an account number, increases the probability of successful caller identification. Furthermore, businesses may have multiple records for a single ANI or account number, so a best practice is to establish a sequence similar to the following to handle these instances:

- A routing script first looks for ANI.
- If ANI is not available, the Cisco IP IVR system prompts the caller for a phone number or an account number.
- If no Salesforce.com database matches are found on ANI, phone number, or account number, the automatic call distributor (ACD) sends the call to an agent and a blank Advanced Search results page appears within the Cisco Agent Desktop integrated browser.
- If multiple matches are found, a Salesforce.com Advanced Search results page, which shows the agent the contact listings, appears within the Cisco Agent Desktop integrated browser.
- If a single match is found, the Account Detail Salesforce.com page containing the unique customer record appears within the Cisco Agent Desktop integrated browser.

2. Determine Cisco Agent Desktop work-flow (Events, Rules, and Actions) assignments.

   In Cisco Agent Desktop, agents are assigned to work-flow groups so that specific desktop behaviors can be applied. It is a best practice to have these groups configured for individual agents or multiple agents who have common tasks. Within these work-flow groups, task automation and agent management work flows can be configured to satisfy many automated functions. A work flow is a rules-based, event-affected action. When an event occurs, the Cisco Agent Desktop work flow executes a basic sequence wherein it applies the defined rules to the event. If the event conditions fall within the rules, a list of actions is executed. In this example, when the call is presented with appropriate Salesforce.com enterprise data, a work-flow HTTP Action is executed as illustrated below.

   Cisco Agent Desktop Work Flow for Call with ANI or Account Number

   Event: Ringing

   Rule: ANI or SFDC Record ID enterprise data is present

   Action: Launches Salesforce.com-specific URL

3. Determine which Salesfore.com URLs will produce the required customer-specific network-retrievable Webpage used by agents to process customer calls.

   Specific Salesforce.com URLs are used to configure the standard Cisco Agent Desktop HTTP Action within the work flow to open the appropriate Salesforce.com Webpage within the Cisco Agent Desktop integrated browser. Because of the way Salesforce.com presents an Account Detail page, whereby the customer-specific record can be accessed only by a direct URL, the IVR application uses a Java method to identify the specific customer record. Use of a custom Java method is a common technique to perform database lookups in the IVR system, and process the retrieved data for skills-based routing decisions or integration with third-party applications.

Integration Method

A. Telephony Interface – Capturing and Processing Enterprise Data

This section describes the call processing between the Cisco IP IVR application, custom Java method, and Salesforce.com for capturing caller-specific information and using expanded-call-context (ECC) variables to pass this data to Cisco Agent Desktop. In this example, the IVR system uses a custom Java method designed to look up the caller's Salesforce.com Record ID information

based on the caller's ANI or phone number collected from an IVR prompt. If ANI is present, the IVR system then queries the Salesforce.com Contact Object and Account Object records using a Salesforce.com Java application programming interface (API). For reference, a no-cost sample of the Java method used in this example is available; send an e-mail requesting this information to ask-cad@external.cisco.com.

If the Salesforce.com Account ID lookup on ANI is successful, Cisco Unified Contact Center Express passes the caller's Account ID from the Cisco IP IVR application to Cisco Agent Desktop as an ECC variable. The ECC variable used in this example, SFDCRecID, is defined in Contact Center Express system. As the call is delivered to the agent, Cisco Agent Desktop applies a work flow to evaluate the value of the ECC variable provided and initiate a corresponding action that displays the customer-specific Salesforce.com record within the agent's integrated browser. Figure 1 and Tables 1 and 2 give an example of integration based on ANI or phone number for the Salesforce.com and Cisco IP IVR data elements of interest for this integration method.

If no ANI is available, the IVR prompts callers to enter their phone number. If a single match is found in the Contact Object or Account Object lookup, the IVR application collects the corresponding unique Account ID associated with this contact. The customer response solutions (CRS) system, in turn, sends this information as an ECC variable (SFDCRecID) to Cisco Agent Desktop when the call is presented to the agent. As in the previous example, Cisco Agent Desktop applies a work flow to evaluate the value of the SFDCRecID ECC variable and initiate a corresponding action that displays the customer-specific Salesforce.com record within the agent's integrated browser.

If there is no match for the given ANI or phone number in either the Contact Object or Account Object lookups, the IVR application returns a predefined "NoMatchFound" text to the CRS system as the SFDCRecID ECC variable value. Similarly, when there is a System Failure scenario due to Salesforce.com downtimes or slow response time, the IVR application returns the predefined text, "SystemFailure" to the CRS system as the SFDCRecID ECC variable. In both these situations, the CRS system sends the predefined text in the SFDCRecID ECC variable to Cisco Agent Desktop. Cisco Agent Desktop again applies a work flow to evaluate the SFDCRecID ECC variable values and initiates a Salesforce.com Advanced Search Results URL in the Cisco Agent Desktop integrated browser address bar.

If multiple matches for ANI or phone number are found in either the Contact Object or Account Object searches, the Cisco IP IVR application passes the predefined "MultipleMatchesContact" or "MultipleMatchesAccount" text to the CRS system as the SFDCRecID ECC variable value. As in the previous examples, the text is passed as the SFDCRecID ECC variable to Cisco Agent Desktop. Cisco Agent Desktop again applies a work flow to evaluate the SFDCRecID ECC variable value and initiate a dynamic URL that redirects the integrated browser to the Salesforce.com Advanced Search results page.

Figure 1. Salesforce.com Call Flow

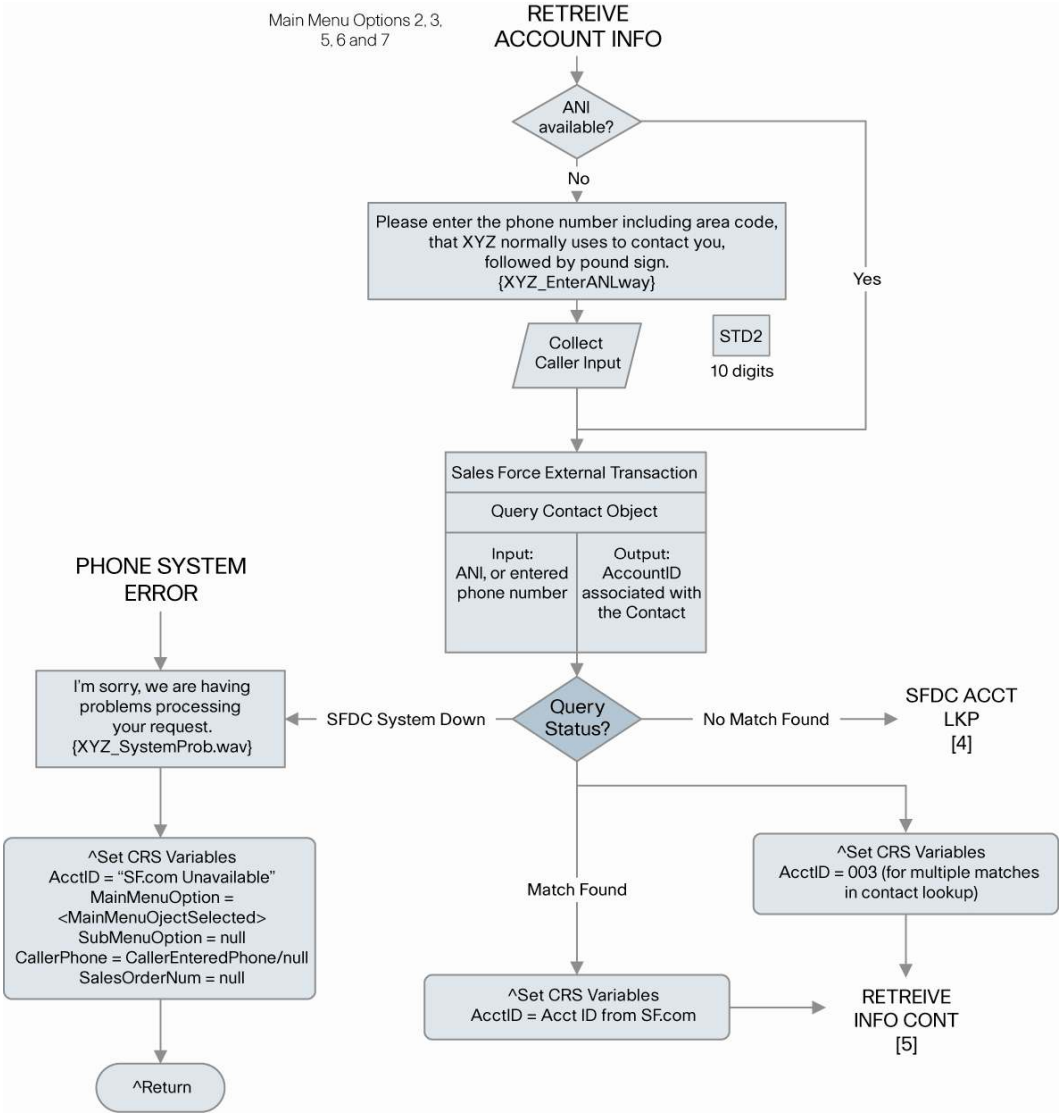


Figure 1. Salesforce.com Call Flow – Continued

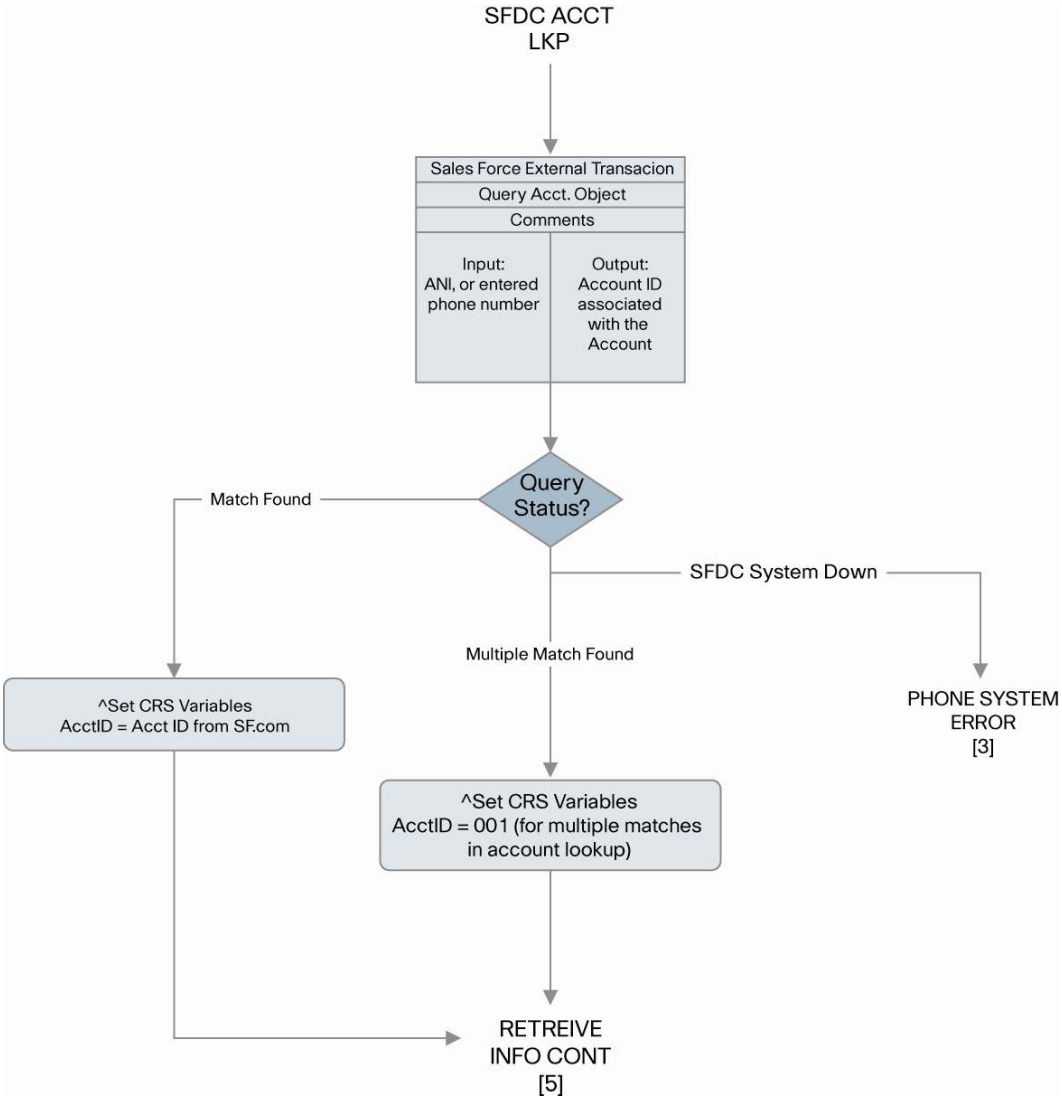


Table 1. Integration Based on ANI, Phone Number, or Account Lookup – Fields of Interest in Salesforce.com

Field	Description
accountId	Unique ID associated with this account: This field is a member of the SObject class.
firstName	First name of the contact
lastName	Last name of the contact
Phone	The phone number associated with this contact; the ANI or phone number lookup is done using this field.

Table 2. Integration Response Based on ANI or Phone Number – IVR Transaction Data s

Field	Description	Data Type
Phone	ANI or phone number	Input
ResultCode	Account ID (Successful Match Found) 001 (Multiple Account Object Match Found) 003 (Multiple Contact Object Match Found) NoMatchFound (No Record Match Found) SystemError (Salesforce.com down, slow response times, or other system error situation)	Output

B. Cisco Desktop Administrator Work-Flow Configuration

The previous section establishes the ECC variable data (SFDCRecID) that is passed from the Cisco IP IVR system to Cisco Agent Desktop in this example. The Cisco Agent Desktop work flow uses the SFDCRecID ECC variable containing the Account ID to create a unique Salesforce.com URL and perform the screen pop. To accomplish the sequences discussed previously in the agent's integrated browser window, the application must be configured in Cisco Desktop Administrator.

The first step in the configuration process requires the addition of a work-flow group and user interface to display the Salesforce.com homepage within the Cisco Agent Desktop integrated browser. Figure 2 illustrates using File > New menu to add a work-flow group. Figure 3 shows configuration of the User Interface Browser Setup for the new work-flow group to enable operation of the agent's integrated Web browser to default on the Salesforce.com login homepage.

Figure 2. Add a Work-Flow Group – Work-Flow Group Name Editor

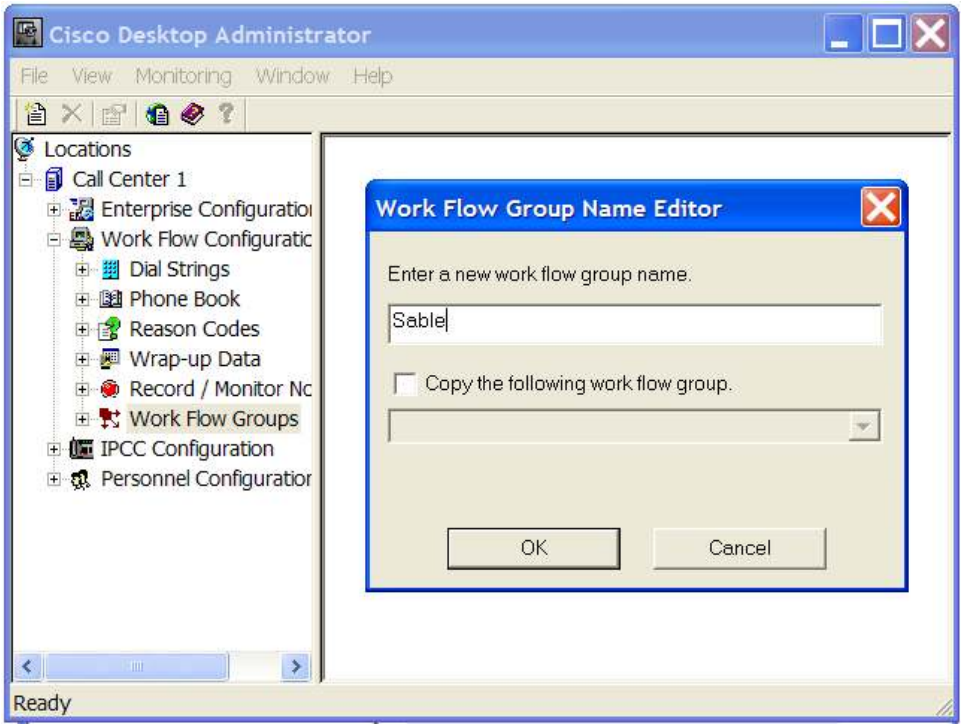
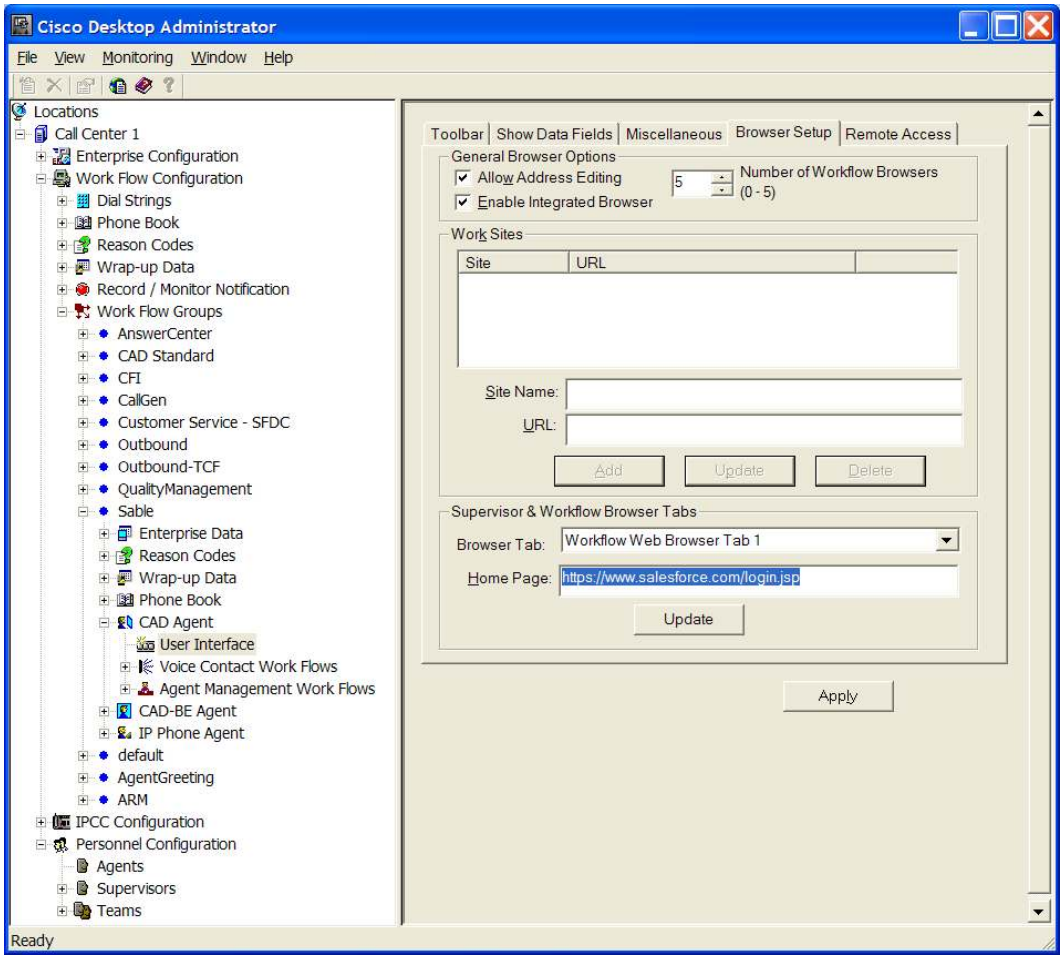
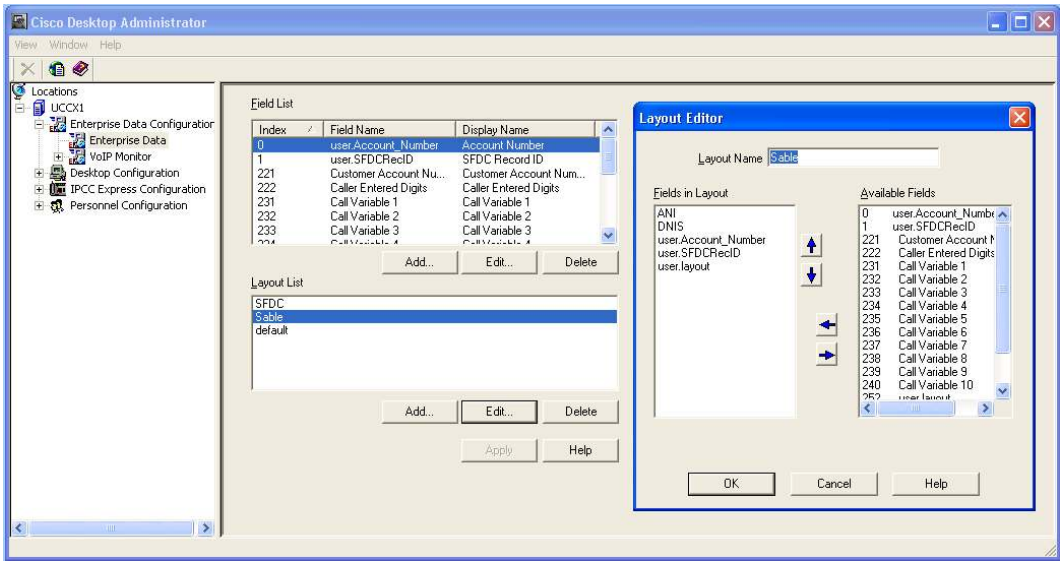


Figure 3. Work-Flow Group – User Interface Browser Setup



Now that the Sable work-flow group is established and integrated browser behavior is configured, the second step in the process is to establish the enterprise data that will be made available in the specific work flow that will be delivered to the desktop to perform the Salesforce.com integration. Figure 4 shows the Layout Editor window where the data variables available from the CRS system are assigned for display in the Enterprise Data pane. These variables are defined in the CRS system, and those selected in Layout Editor will be displayed in the Enterprise Data pane of Cisco Agent Desktop for all agents who are assigned to the Sable work-flow group. The work flow uses the SFDCRecID variable to determine which specific URL will be displayed in the Cisco Agent Desktop integrated browser.

Figure 4. Enterprise Configuration – Layout Editor

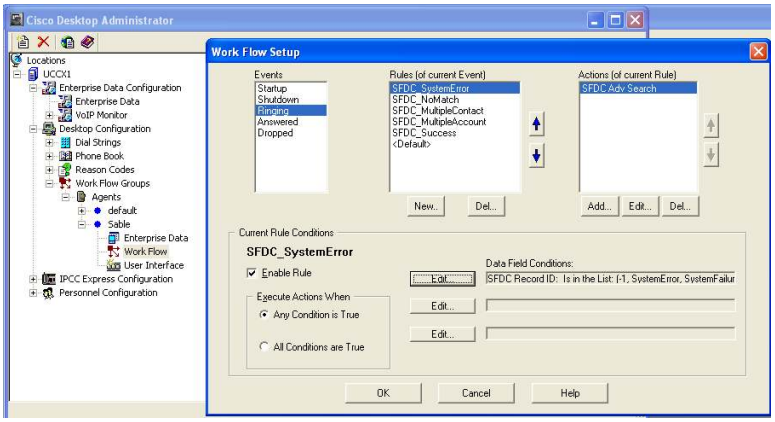


The next step in the configuration process is to add a work flow to the Sable work-flow group. It is the work flow that will evaluate the SFDCRecID ECC variable data and direct the Salesforce.com-specific agent screen by initiating a corresponding action. In this example, the Sable work flow is created to accommodate all call flow-specific scenarios.

C. Work-Flow Rules and HTTP Action

For the Sable work flow, an Event-Rule-Action sequence is configured that will execute based on the value provided in the SFDCRecID ECC variable from the IVR system through the CRS system. In this case, the triggering event is ringing of the agent's phone. Cisco Agent Desktop initiates the Sable work flow as the call is presented when data in the SFDCRecID ECC variable is present. If the rules associated with the work flow apply, the corresponding action associated with the work-flow rule is then initiated. Figures 5 through 9 illustrate the configuration of the Sable work-flow classification and the associated rules and actions for each SFDCRecID ECC variable condition. Details of work-flow setup and configuration are available in the Cisco Desktop Administrator User Guide located at:
http://www.cisco.com/en/US/products/sw/custcosw/ps1846/products_user_guide_list.html.

Figure 5. Sable Work Flow – SystemError



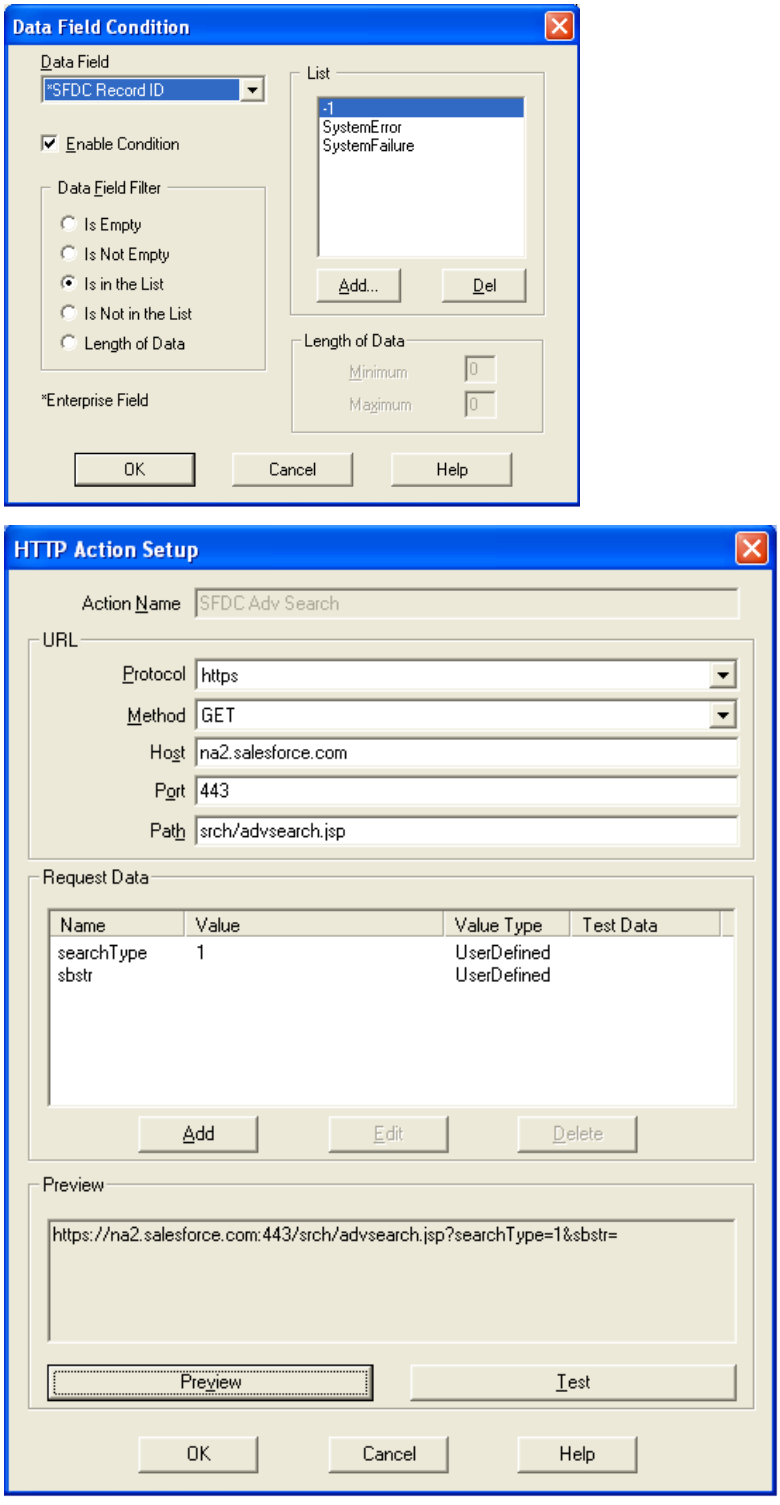
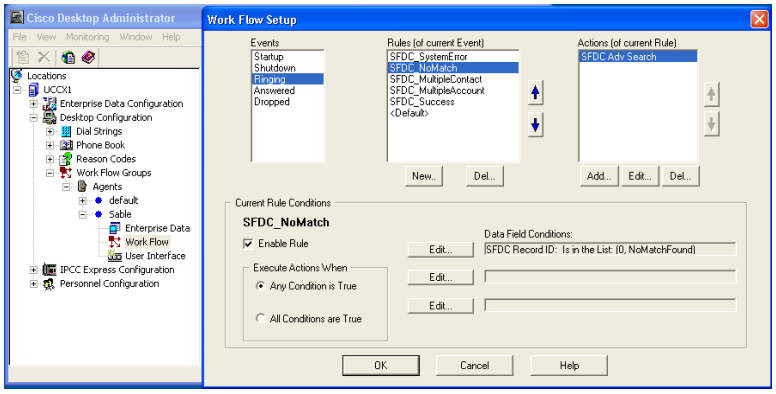
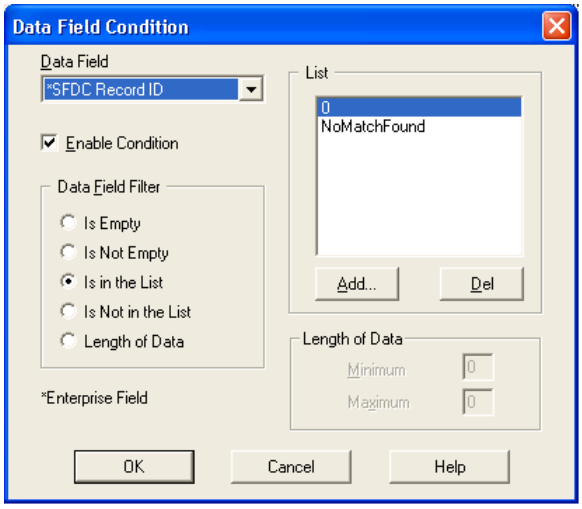


Figure 6. Sable Work Flow – NoMatch





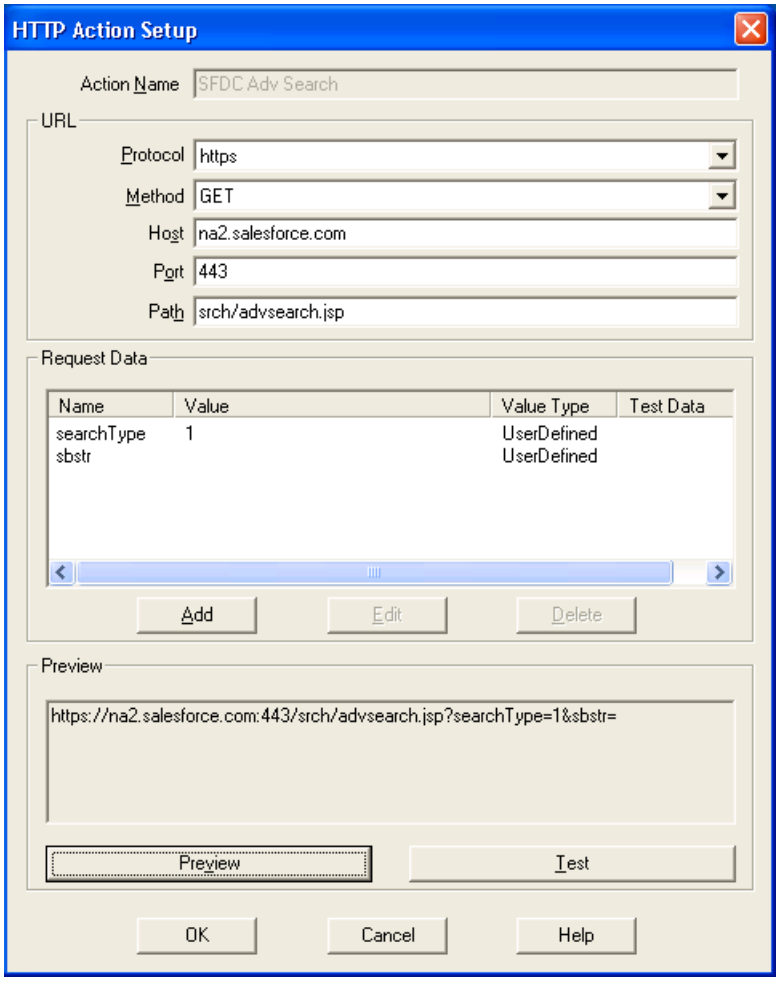
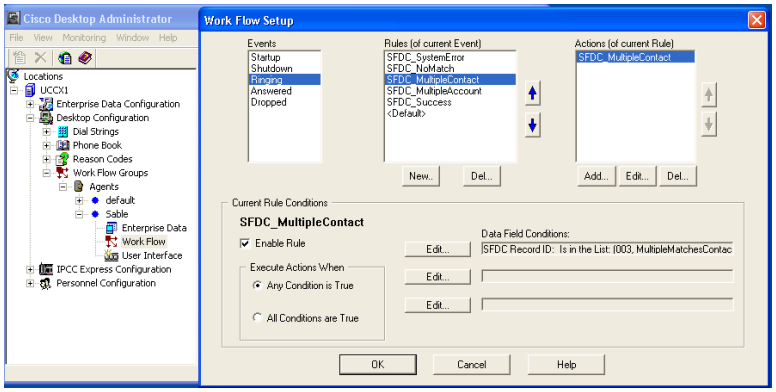


Figure 7. Sable Work Flow – MultipleContact



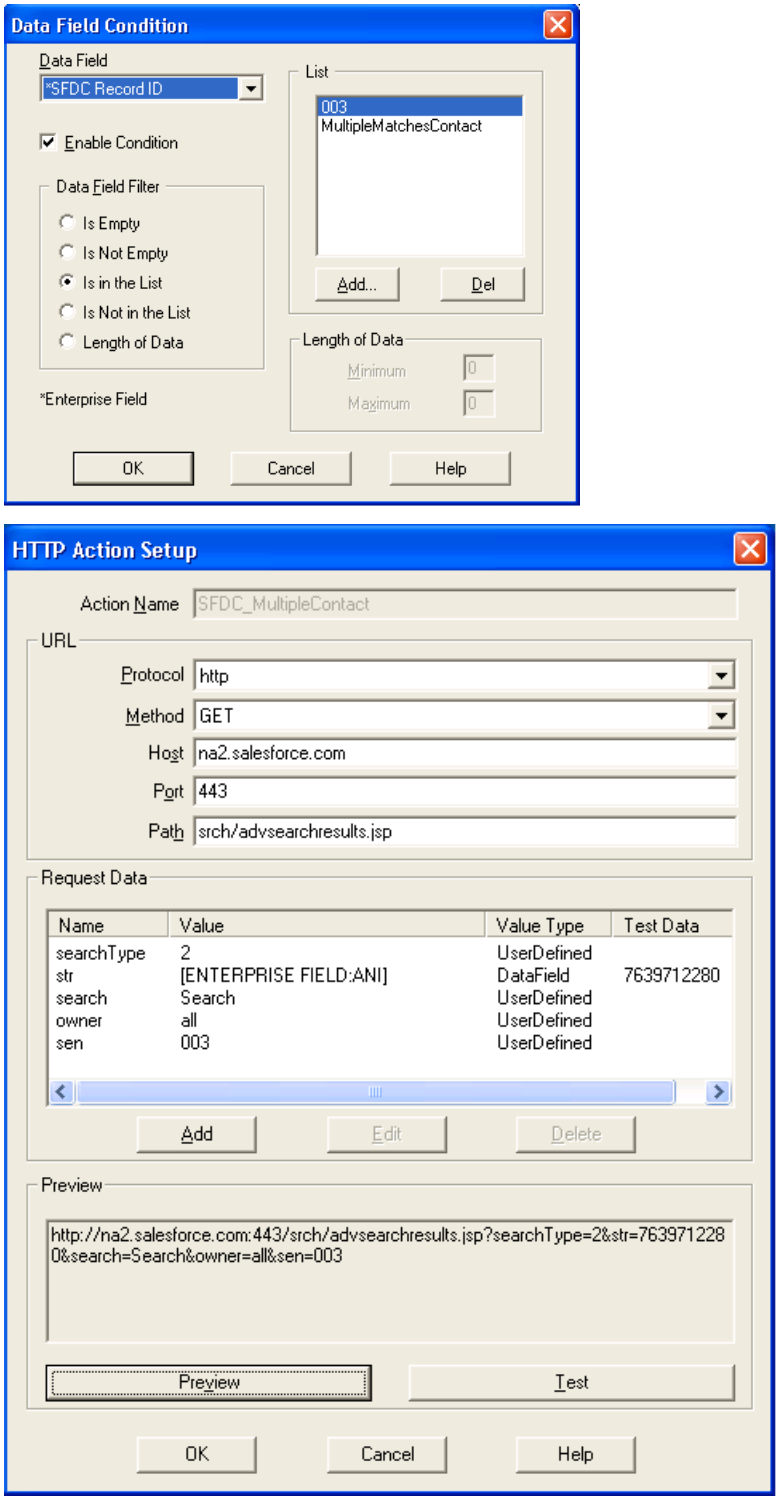
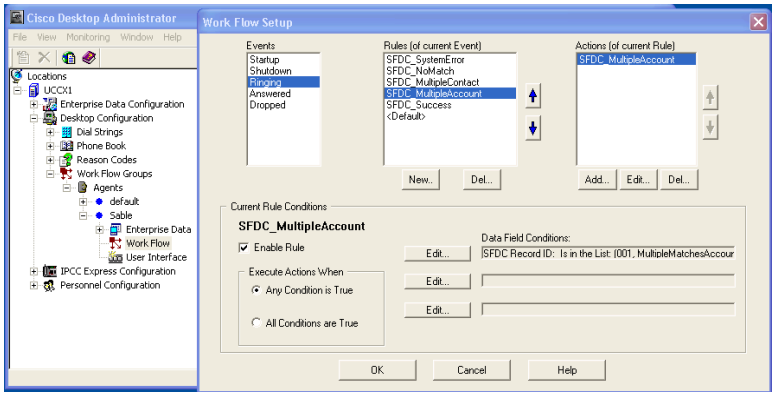
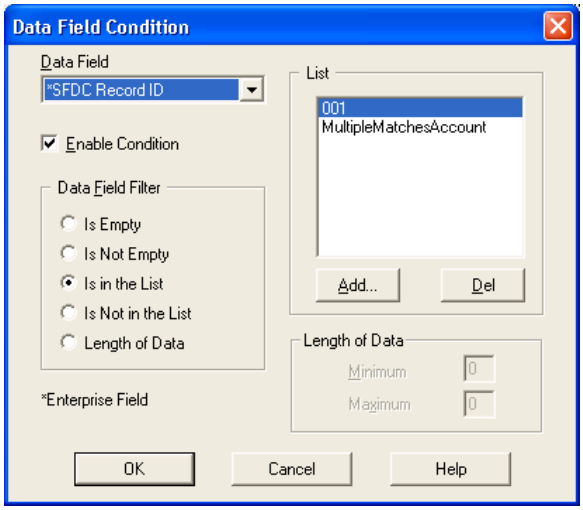


Figure 8. Sable Work Flow – MultipleAccount





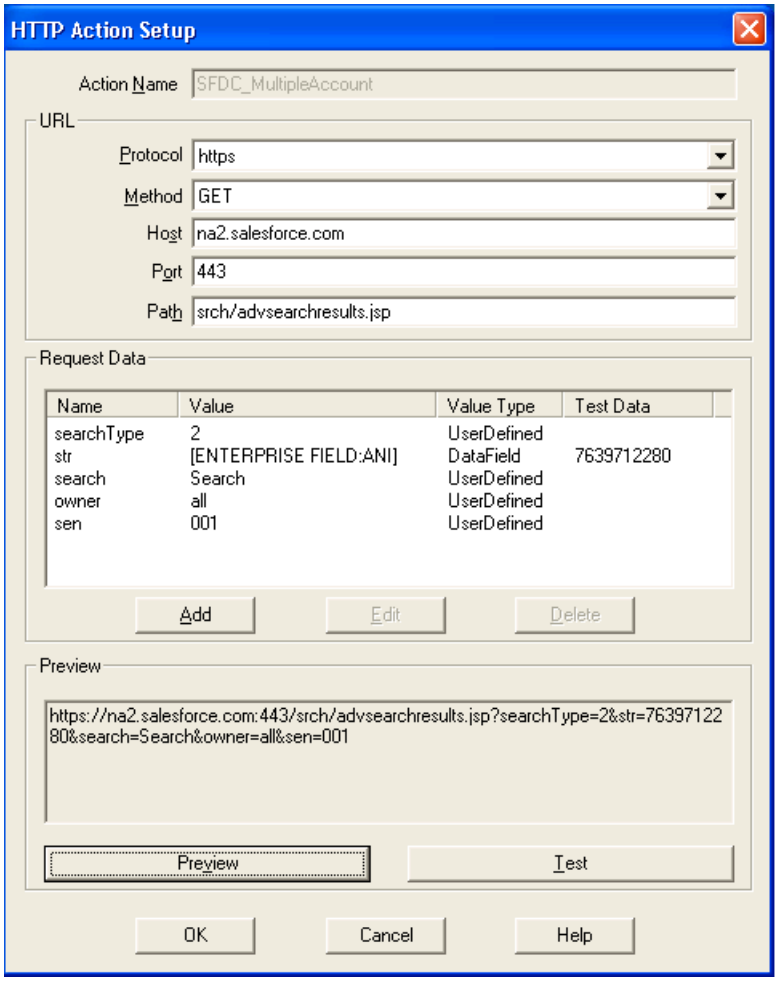
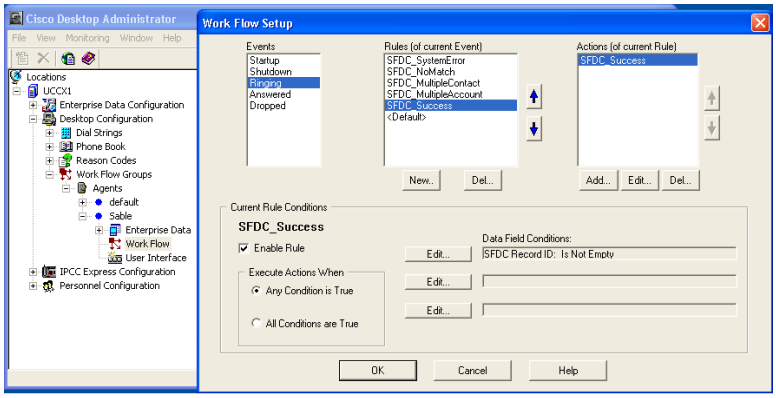
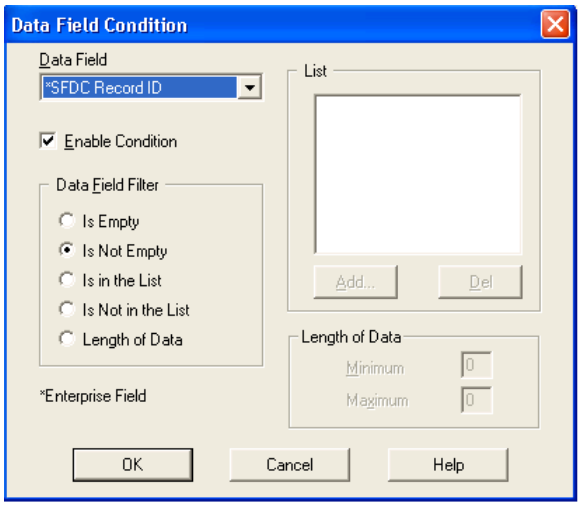
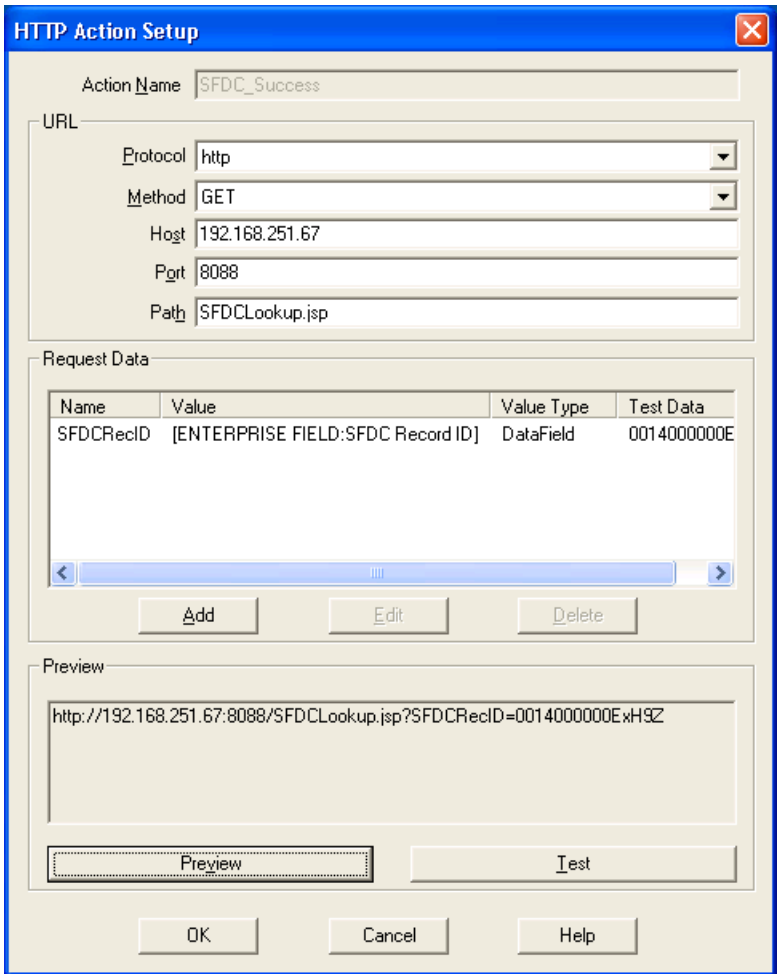


Figure 9. Sable Work Flow – Success



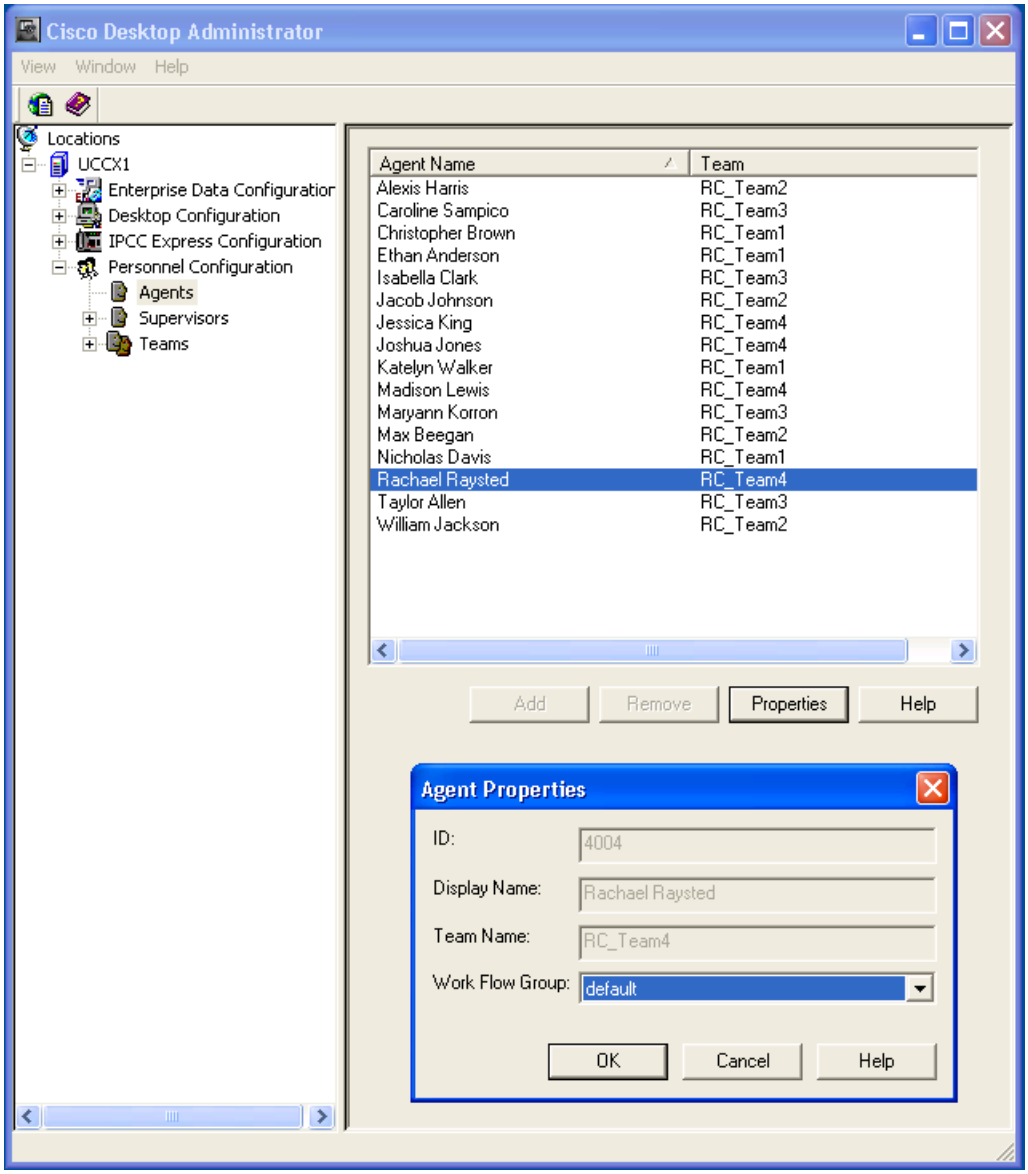




D. Assigning Agents to Work-Flow Groups

After the telephony interface, work-flow group, and work-flow elements are configured and tested, the final step is to assign agents to the new work flow. By highlighting the agents' names in the Personnel Configuration, agent properties can be assigned to the Sable work flow, as shown in Figure 10.

Figure 10. Personnel Configuration – Agent Properties

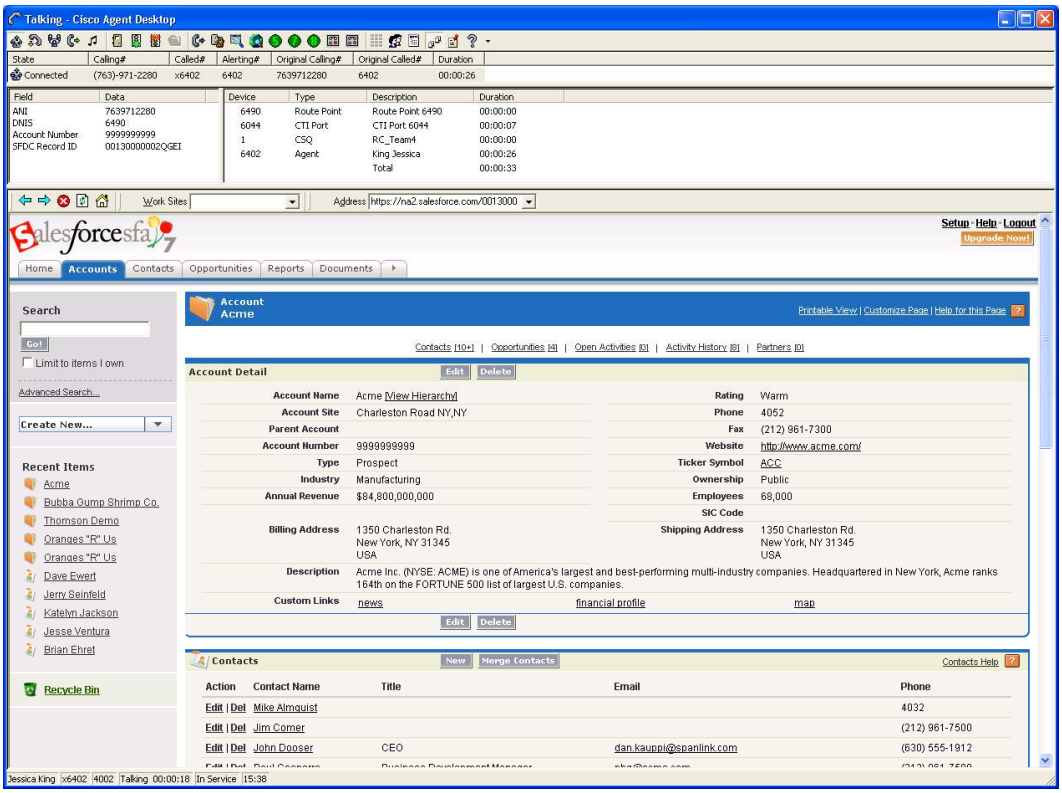


Executing the Screen Pop

At this point, Salesforce.com integration configuration is complete. The following sequence demonstrates how the screen pop of Salesforce.com within the Cisco Agent Desktop integrated browser is executed in this example.

Single Match Found: If a unique Account ID is found from the Contact or the Account Object query, the Cisco Agent Desktop integrated browser is redirected to the Account tab of the Salesforce.com Website with the customer-specific account information displayed, as shown in Figure 11.

Figure 11. Success – Single Match Found



Multiple Matches Found using ANI or phone number: If more than one ID is found in the Salesforce.com Contact Object or Account Object lookup using the given ANI or phone number, the Cisco Agent Desktop browser is redirected to the Salesforce.com Advanced Search results page where the multiple contacts associated with the given ANI or phone number are displayed, as shown in Figures 12 and 13.

Figure 12. Multiple Matches Found in Contact Object

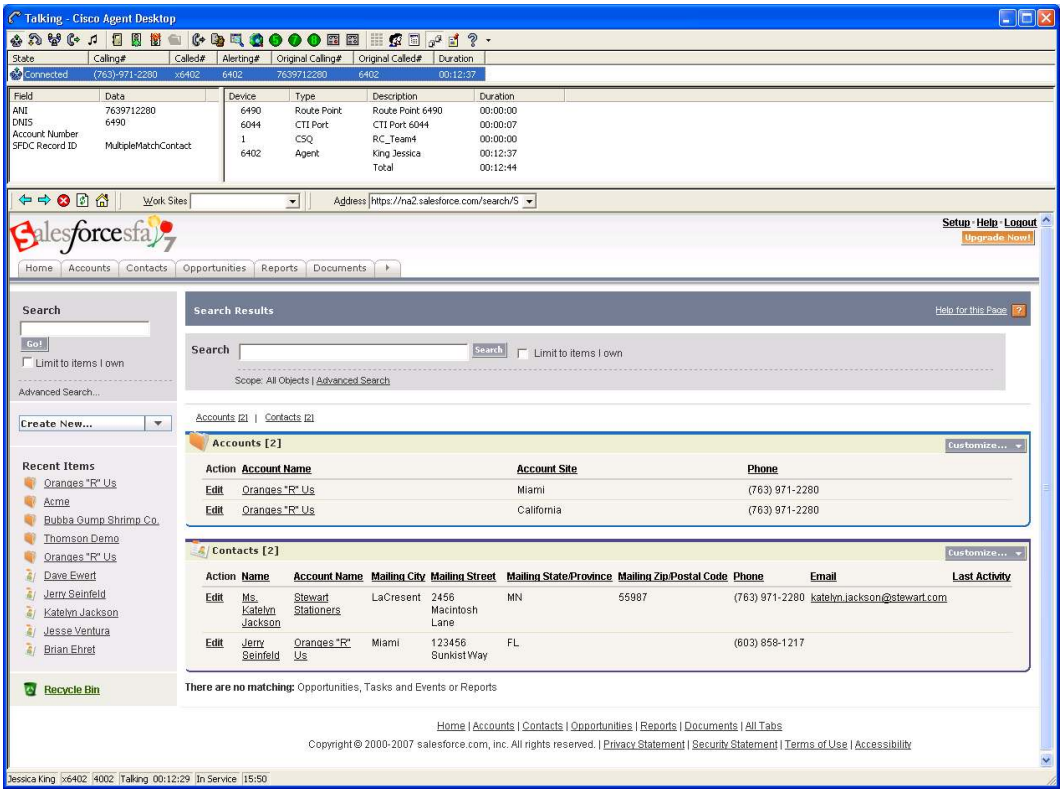
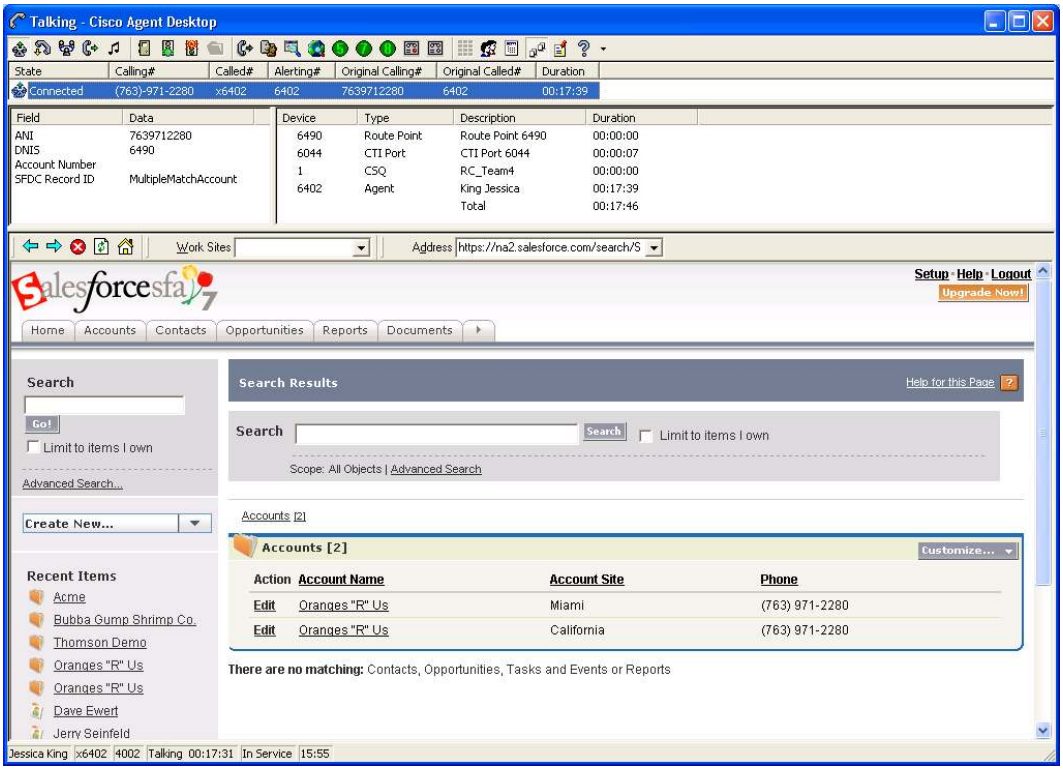
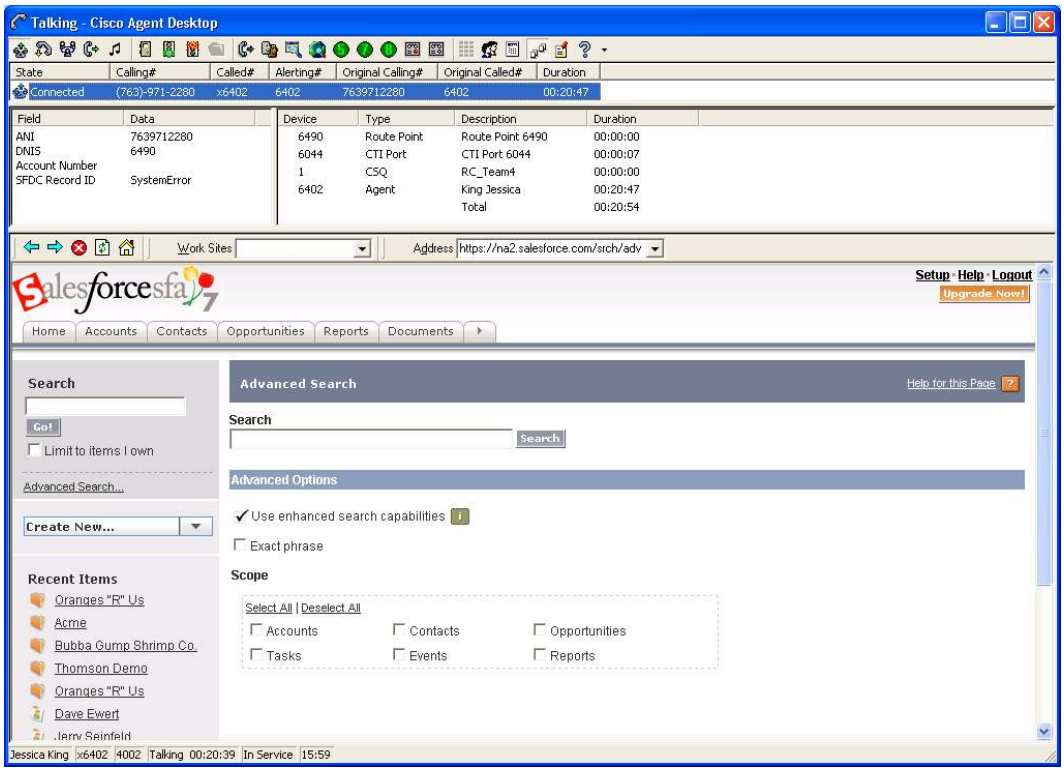


Figure 13. Multiple Matches Found in Account Object



No Match Found or System Failure: If both the Salesforce.com Contact Lookup and Account Lookup queries return no match for a given ANI or phone number, the Cisco Agent Desktop browser is redirected to the Salesforce.com Advanced Search results page, as shown in Figure 14.

Figure 14. No Match Found or System Failure



Summary

Cisco Agent Desktop work flows using HTTP Actions enable the use of call-based data to execute launch of a specific Salesforce.com URL within the Integrated Browser window. The Cisco Agent Desktop work flow with HTTP Action in combination with an IVR script and Java method enables delivery of personalized customer service and reduced call duration by automating record retrieval and eliminating agent keystrokes.

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