GENESYS
AN ALCATEL-LUCENT COMPANY

Universal Routing 7.6

Business Process

User's Guide

About Genesys

Genesys Telecommunications Laboratories, Inc., a subsidiary of Alcatel-Lucent, is 100% focused on software for call centers. Genesys recognizes that better interactions drive better business and build company reputations. Customer service solutions from Genesys deliver on this promise for Global 2000 enterprises, government organizations, and telecommunications service providers across 80 countries, directing more than 100 million customer interactions every day. Sophisticated routing and reporting across voice, e-mail, and Web channels ensure that customers are quickly connected to the best available resource—the first time. Genesys offers solutions for customer service, help desks, order desks, collections, outbound telesales and service, and workforce management. Visit www.genesyslab.com for more information.

Each product has its own documentation for online viewing at the Genesys Technical Support website or on the Documentation Library DVD, which is available from Genesys upon request. For more information, contact your sales representative.

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Preface

Welcome to the *Universal Routing 7.6 Business Process User's Guide*. This guide contains step-by-step instructions for creating business processes, which direct the handling of multimedia interactions through various processing objects including interaction queues, views that extract interactions from queues, and routing strategies containing more specialized processing objects.

This guide is valid only for Universal Routing release 7.6.

Note: For versions of this document created for other releases of this product, please visit the Genesys Technical Support website, or request the Documentation Library DVD, which you can order by e-mail from Genesys Order Management at `orderman@genesyslab.com`.

This preface includes these sections:

Customer Interaction Management

Genesys applications that create and execute business processes are part of the CIM Platform, which consists of the following:

- Management Framework
- Reporting and Analytics
- Interaction Management, which in turn consists of:
  - Universal Routing
  - Interaction Workflow
  - Knowledge Management
  - Content Analysis

- Universal Contact History

On top of the CIM Platform are various media channels. Some, such as Genesys Network Voice, handle traditional telephony. Others, such as Genesys E-mail, handle other media. Figure 1 depicts this graphically.

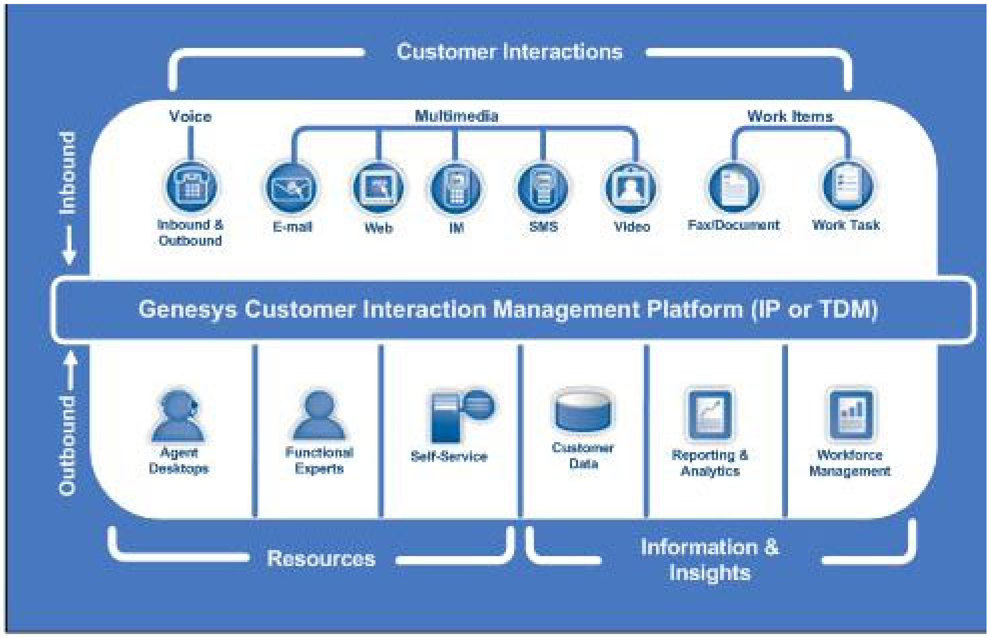

Figure 1: Customer Interaction Management Platform

Intended Audience

This guide is primarily intended for contact center staff responsible for creating business processes. It assumes that you have a basic understanding of:

- Computer-telephony integration concepts, processes, terminology, and applications.
- Network design and operation.
- Familiarity with your own network configurations.
- The Genesys CIM platform.

Ideally, you also have experience designing routing strategies using Interaction Routing Designer (IRD).

Chapter Summaries

When creating a business process, you work mostly in IRD. However, in preparation for working in IRD, you will need to define certain configuration objects using other Genesys interfaces. To simplify configuring these various interfaces and for easy reference, the *Universal Routing 7.6 Business Process User's Guide* divides into three parts, each with its own chapters.

Part One: Introduction to Business Processes

"Introduction to Business Processes" on page 21 contains the following chapters:

- Chapter 1, "Business Process Overview" beginning on page 23, starts by defining a business process. It then provides conceptual diagrams, shows a sample business process, describes the objects that appear in a business process, and compares a business process to a routing strategy. It ends by introducing the `Interaction Design` window and the `Routing Design` window.
- Chapter 2, "Interaction Processing" beginning on page 47, describes types of queues used by Genesys, software components used for workflow control, Genesys e-mail processing, and the communication protocols.

Part Two: User Interfaces

"User Interfaces" on page 55 contains a separate chapter for each user interface that you use to create a business process:

- Chapter 3, "Business Process Interface" beginning on page 57, describes the features and functions of the Interaction Routing Designer (IRD) `Interaction Design` window, including its menus, object browser, and workflow viewer.
- Chapter 4, "Strategy Interface" beginning on page 101, describes the features and functions of the IRD `Routing Design` window, as well as the various views and menus of the IRD main window.
- Chapter 5, "Knowledge Manager Interface" beginning on page 153, describes the interface used to define e-mail classification Categories, Standard Responses, Custom Variables, and Screening Rules used in routing strategies. It also includes login information.
- Chapter 6, "Configuration Layer Interface" beginning on page 169, describes the interface for creating Genesys Configuration Layer objects, such as `Person`, `Agent Group`, `Skill`, and `Business Attribute` objects. It also includes login information.

Part Three: Creating a Business Process

"Creating a Business Process" on page 189, provides step-by-step instructions for creating all the elements of a business process. It includes the following chapters:

- Chapter 7, "Planning a Business Process" beginning on page 193, provides information on the interaction life cycle, how to use the Genesys-provided samples, how to choose strategy-building objects, determining queues and the criteria for extracting interactions from queues, translating fields, and the recommended order of configuration.
- Chapter 8, "Creating Knowledge Manager Objects" beginning on page 217, provides step-by-step instructions for creating Knowledge Manager objects that can be used in routing strategies contained in business processes.
- Chapter 9, "Creating Configuration Manager Objects" beginning on page 231, provides step-by-step instructions for creating Genesys Configuration Layer objects that can be used in routing strategies contained in business processes.
- Chapter 10, "Creating Business Process Objects" beginning on page 241, provides step-by-step instructions for creating a new business process. It covers adding media server endpoints, queues, extracting interactions from queues, submitting interactions to strategies, and creating strategy placeholders.
- Chapter 11, "Creating Strategies" beginning on page 305, provides step-by-step instructions for creating routing strategies contained in business processes. It also covers compiling and checking strategy integrity.
- Chapter 12, Using a Business Process, page 343 beginning on page 343, provides step-by-step instructions for activating, testing, and deactivating strategies.

Appendix

"Business Process Samples" beginning on page 351, describes the Genesys-supplied sample business processes.

Document Conventions

This document uses certain stylistic and typographical conventions—introduced here—that serve as shorthands for particular kinds of information.

Document Version Number

A version number appears at the bottom of the inside front cover of this document. Version numbers change as new information is added to this document. Here is a sample version number:

75r_us_bus_05-2008_v.7.6.000.01

You will need the version number at the bottom of the inside front cover when you are talking with Genesys Technical Support about this product.

Type Styles

Italic

In this document, italic is used for emphasis, for documents' titles, for definitions of (or first references to) unfamiliar terms, and for mathematical variables.

Examples:

- Please consult the *Genesys 7 Migration Guide* for more information.
- *A customary and usual practice* is one that is widely accepted and used within a particular industry or profession.
- Do *not* use this value for this option.
- The formula, $x + 1 = 7$ where x stands for . . .

Monospace Font

A monospace font, which looks like `teletype or typewriter text`, is used for all programming identifiers and GUI elements.

This convention includes the *names* of directories, files, folders, configuration objects, paths, scripts, dialog boxes, options, fields, text and list boxes, operational modes, all buttons (including radio buttons), check boxes, commands, tabs, CTI events, and error messages; the values of options; logical arguments and command syntax; and code samples.

Examples:

- Select the Show variables on screen check box.
- Click the Summation button.
- In the Properties dialog box, enter the value for the host server in your environment.
- In the Operand text box, enter your formula.
- Click OK to exit the Properties dialog box.
- The following table presents the complete set of error messages T-Server® distributes in EventError events.
- If you select true for the inbound-bsns-calls option, all established inbound calls on a local agent are considered business calls.

Monospace is also used for any text that users must manually enter during a configuration or installation procedure, or on a command line:

Example:

- Enter exit on the command line.

Screen Captures Used in This Document

Screen captures from the product GUI (graphical user interface), as used in this document, may sometimes contain a minor spelling, capitalization, or grammatical error. The text accompanying and explaining the screen captures corrects such errors *except* when such a correction would prevent you from installing, configuring, or successfully using the product. For example, if the name of an option contains a usage error, the name would be presented exactly as it appears in the product GUI; the error would not be corrected in any accompanying text.

Square Brackets

Square brackets indicate that a particular parameter or value is optional within a logical argument, a command, or some programming syntax. That is, the parameter's or value's presence is not required to resolve the argument, command, or block of code. The user decides whether to include this optional information. Here is a sample:

```
smcp_server -host [/flags]
```

Angle Brackets

Angle brackets indicate a placeholder for a value that the user must specify. This might be a DN or port number specific to your enterprise. Here is a sample:

```
smcp_server -host <confighost>
```

Related Resources

Consult these additional resources as necessary:

- *Interaction Routing Designer 7.6 Help*, comprised of Routing Design Help and Interaction Workflow Design Help. The information contained in this help file duplicates some of the information contained in this guide, but presents it in a shorter, online format.
- *Universal Routing 7.6 Reference Manual,* which describes and defines routing strategies, IRD objects used in strategies, functions that can be called from strategies, Universal Routing Server and other server options, number translations, pegs, statistics used for routing decisions, and reporting on routing. You will want to consult this guide to get additional information on the IRD objects discussed in "Planning a Business Process" on page 193 of this book.
- *Universal Routing 7.6 Deployment Guide.* The first part of the guide provides information you will need to get started: A high-level overview of Universal Routing features and functions, including product architecture, system availability, redundancy information and deployment-planning. The second part of the guide provides instructions for deploying Universal Routing components, and describes how to start and stop these components once you have configured and installed them.

- *Universal Routing 7.6 Strategy Samples*, which simplifies strategy configuration for first-time users of the strategy development tool, Interaction Routing Designer. To achieve this goal, this document supplies examples of routing strategies that can be used as general guides during the design stage.
- *Universal Routing 7.6 Routing Application Configuration Guide* (previously *Universal Routing 7.6 Routing Solutions Guide*), which contains information on the various types of routing solutions that can be implemented, including skills-based routing, business-priority routing, share agent by service level agreement routing, and proactive routing. It also discusses Universal Routing support for a Genesys Instant Messaging Solution.
- *Universal Routing 7.6 Cost-Based Routing Configuration Guide*, which documents a solution where Universal Routing Server considers the cost of routing to a target, comprised of Infrastructure cost and/or Resource cost, as addition selection criteria when choosing the right target.
- *Genesys 7.6 Proactive Routing Solution Guide*, which documents a solution that enables you to proactively route outbound_preview interactions to Genesys Agent Desktop, as well as to completely process Calling List and Do Not Call List records solely from the logic of a routing strategy without agent intervention.
- *Multimedia 7.6 Deployment Guide,* which provides a high-level overview of features and functions of Genesys Multimedia with architecture information and deployment-planning materials. It also introduces you to some of the basic concepts and terminology used in this product.
- *Multimedia 7.6 User's Guide,* which provides overall information and recommendations on the use and operation of the Genesys Multimedia components.
- *Multimedia 7.6 Reference Manual,* which provides a reference listing of all configuration options and of Field Codes used in Standard Responses.
- *Multimedia 7.6 Knowledge Manager Help,* which is an online guide to Knowledge Manager, the user interface for Genesys Knowledge Base. You use Knowledge Manager to create and manage the Category structure for Standard Responses, create and validate Field Codes, and to create and edit Screening Rules.
- *Genesys 7 Events and Models Reference Manual*, which provides information on most of the published Genesys events and their attributes, and an extensive collection of models describing core interaction processing in Genesys environments. You may also wish to consult *Voice Platform SDK 7.6 .NET API Reference* or *Voice Platform SDK 7.6 Java API Reference.*
- *Genesys 7.6 Resource Capacity Planning Guide,* which provides instructions on using the Genesys Agent Capacity Wizard to set up agent capacity rules, which affect the routing of interactions to agents.

- “Multimedia Log Events” in *Framework 7.6 Combined Log Events Help,* which is a comprehensive list and description of all events that may be recorded in logs.
- *Genesys 7.6 Security Deployment Guide,* which describes Genesys security features and detailed instructions for deploying them. These features provide for secure data transfer between Genesys components, protection against unauthorized access, and protection against data loss in case of component failure.
- The *Genesys 7 Migration Guide*, also on the Genesys Documentation Library DVD, which provides a documented migration strategy from Genesys product releases 5.1 and later to all Genesys 7.x releases. Contact Genesys Technical Support for additional information.
- The Release Notes and Product Advisories for this product, which are available on the Genesys Technical Support website at `http://genesyslab.com/support`.

Information on supported hardware and third-party software is available on the Genesys Technical Support website in the following documents:

- *Genesys 7 Supported Operating Systems and Databases*
- *Genesys 7 Supported Media Interfaces*

Genesys product documentation is available on the:

- Genesys Technical Support website at `http://genesyslab.com/support`.
- Genesys Documentation Library DVD, which you can order by e-mail from Genesys Order Management at `orderman@genesyslab.com`.

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Part

1 Introduction to Business Processes

Part One of this *Universal Routing 7.6 Business Process User's Guide* presents an overview of business processes. It also gives a high level description of Genesys interaction processing. The information in Part One is divided into the following chapters:

- Chapter 1, "Business Process Overview," on page 23.
- Chapter 2, "Interaction Processing," on page 47.

Chapter

1 Business Process Overview

This chapter gives a high-level overview of a business process. It covers the following topics:

Business Process Definition

A business process directs customer interactions arriving at the contact center through various processing objects. It defines what happens to customer interactions from the point of arrival to the point of completion. You can create one large business process or a number of smaller business processes connected via queues. A group of business processes comprise an *interaction workflow*.

Interaction Workflow

An interaction workflow implements the procedures used by agents, supervisors, quality assurance, and other personnel in your company to accomplish business objectives related to incoming interactions. This workflow can be broken down into various segments. IRD enables you to represent such segments as individual business processes.

A business process is a logically-organized series of steps that, working together, handle a task or some aspect of a task and that therefore contributes to your overall workflow processing. Think of business processes as containers for performing general tasks, such as moving interactions in and out of queues and submitting interactions to routing strategies. You can transfer interactions or tasks from one business process to another.

Processing by Media Type

The types of processing applied to interactions varies based on the media type and the contact center's business logic. In most cases, the goal is to generate an appropriate response for the customer.

- In the case of an e-mail interaction, an appropriate response might be an e-mail answering the customer's questions.
- In the case of a chat interaction, an appropriate response might be mailing product brochures to the customer.
- In the case of a fax interaction, an appropriate response might be an e-mail stating the requested materials had been received, and so on.

E-mail Server Example

Assume an e-mail interaction from a customer arrives at the contact center, either via the enterprise mail server or, if the customer sends an e-mail from a web site by filling out a web form, the interaction arrives via the Web API Server.

The media server (E-mail Server Java in this example) stores the body of the interaction in the Universal Contact Server database, and then sends operational data on the interaction to Interaction Server.

Interaction Server parks the interaction's operational data in its cache and starts processing the data according to the first business process in the interaction workflow.

In general, a business process works like this:

- E-mail Server Java directs Interaction Server to place the interaction into an inbound queue. Figure 2 shows an example inbound queue defined in an example E-mail Server Java `Application` object):

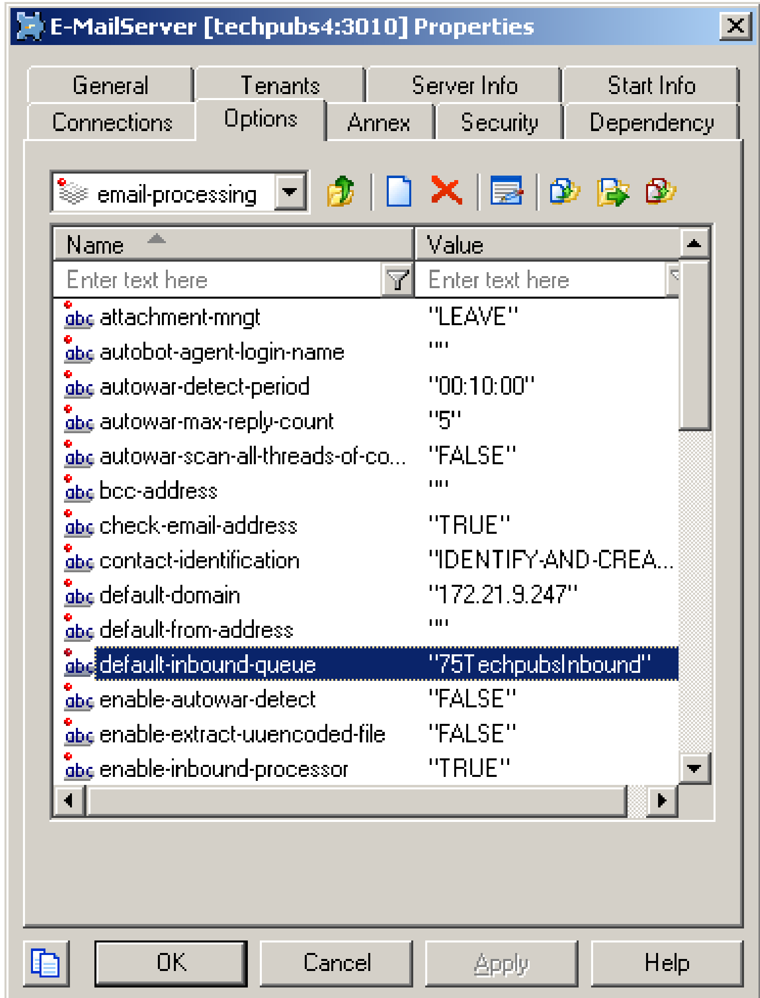


Figure 2: E-mail Server Java Default Inbound Queue

Note: If you are planning to use a single Interaction Server as a Multi-Tenant application, you can configure as many inbound queues as you need for directing media server interactions into queues via the endpoints:<tenant_DBID> section in the E-mail Server Java Application object. For more on endpoints, see page 41.

- The interaction is then taken out of the queue and submitted to a strategy that uses various processing objects (see "Routing Design Toolbar" on page 121 for a summary of available processing objects).
- A strategy performs the processing specified and eventually routes the interaction to a target, but not necessarily the final target. For example, an e-mail interaction may be placed in an agent queue for construction of a response.

- The target processes the interaction and places it into another queue where another strategy may process it. For example, a strategy may send an agent's draft e-mail response to a queue for Quality Assurance checking.
- The cycle of going from queue to strategy to queue continues until processing is stopped or the interaction reaches some final (usually outbound) queue.

Conceptual Diagrams

Figure 25 shows a conceptual diagram of an inbound e-mail business process that ends in outbound Quality Assurance (QA) review.

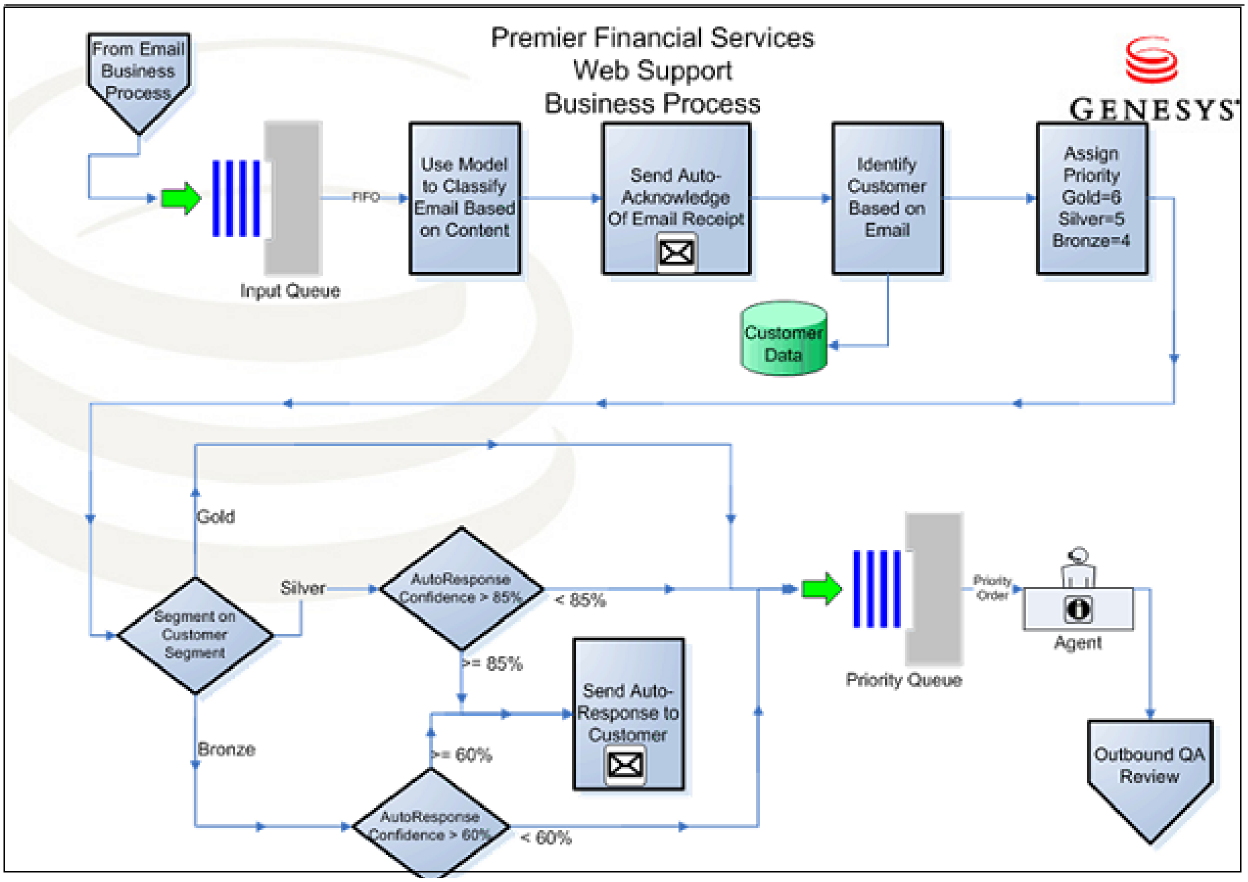


Figure 3: Business Process Conceptual Diagram: Inbound E-mails

Figure 4 continues the conceptual diagram by showing a conceptual diagram of the business process used for outbound QA review.

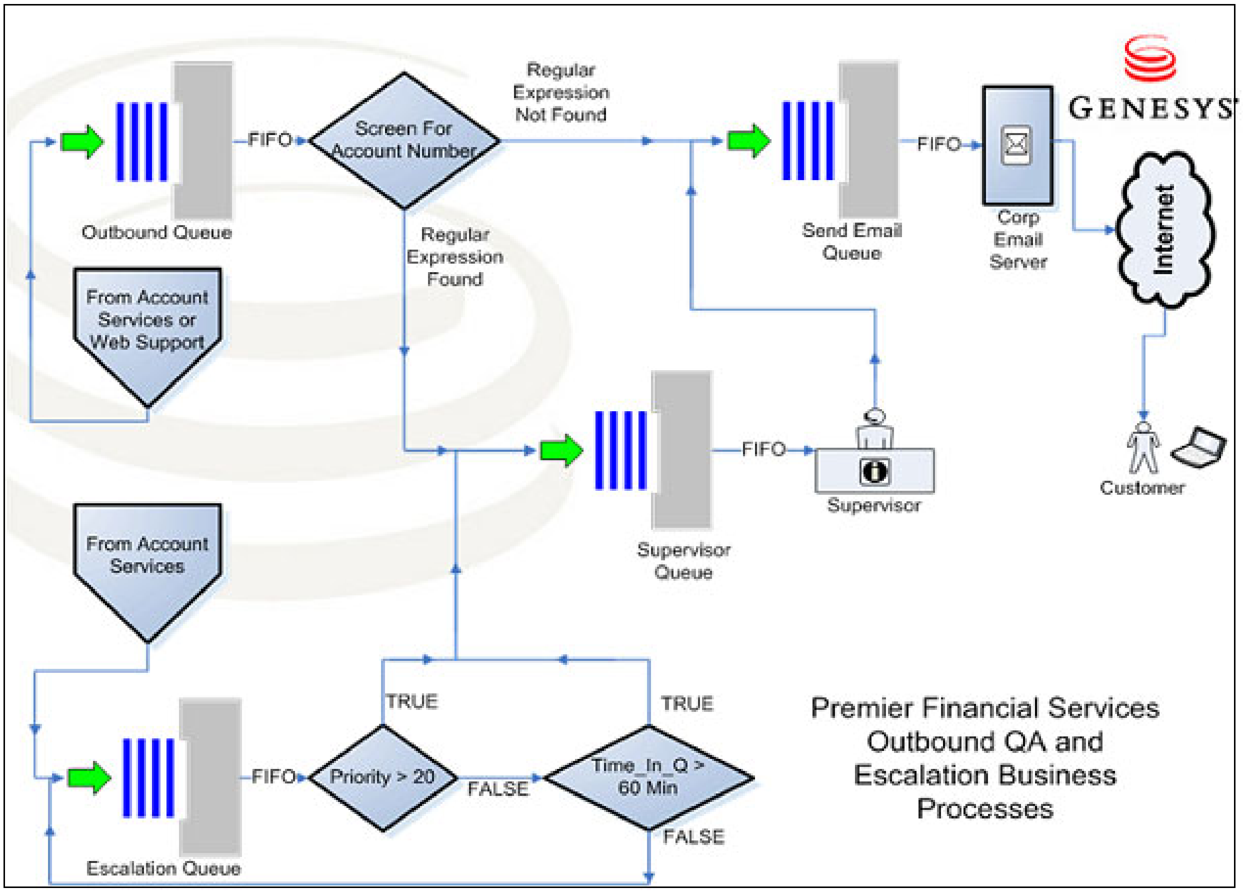


Figure 4: Business Process Conceptual Diagram: Outbound QA Review

Sample Business Process

Note: For information on the interface used to create business processes, see Chapter 3, "Business Process Interface," on page 57.

An actual business process in IRD's `Interaction Design` window resembles a diagram. Figure 5 shows an example business process that forwards incoming chat interactions to agents and processes chat transcripts.

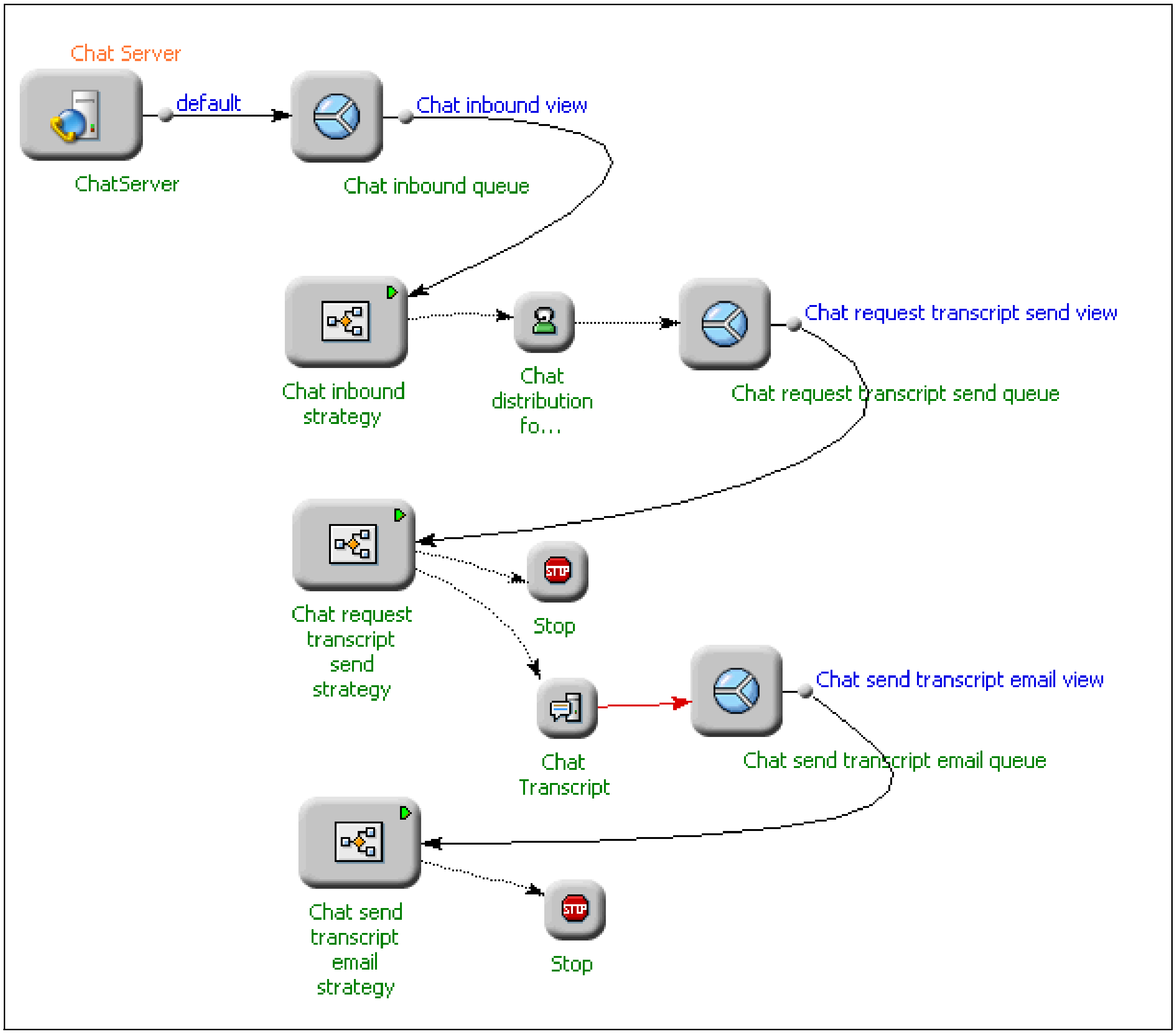


Figure 5: Example Business Process

Objects of several types, together with their properties, define a business process:

- The primary objects are *Queue* (rounded squares in Figure 5), *View* (single small circles in Figure 5), and *Strategy* (rounded rectangles in Figure 5) objects.
- A business process can also contain a *Media Server* object with attached *Endpoints* (`Chat Server` in Figure 5).
- Some objects appear because they are specified as targets in strategies: output queues, agents, agent groups, workbins, and servers (such as `Chat Transcript` in Figure 5). Also see “Strategy-Linked Nodes” on page 34.
- A *Stop* node appears if a strategy contains a Stop object, which notifies Interaction Server that processing for a particular interaction has stopped.

- Lines from queues to routing strategies represent *Submitter* processes (`75tpin` in Figure 5).
- Lines flowing out from routing strategies point to targets (smaller nodes, such as the line connecting to `Chat distribution` in Figure 5).

Business Process Objects

This section discusses the various objects that can appear in a business process.

Queue Object

A *Queue object* represents a logical parking place (persistent queue) for an interaction during its lifetime at the contact center. Figure 6 shows a Queue object, named `Inbound emails`.

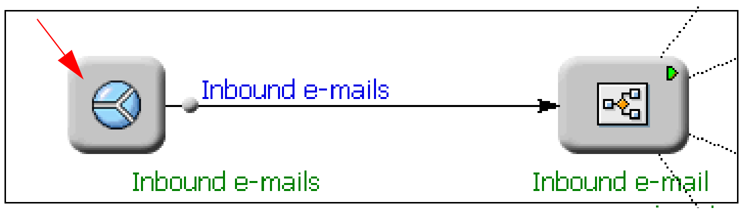


Figure 6: Queue Object

Double-clicking a Queue object opens a properties dialog box (see Figure 7).

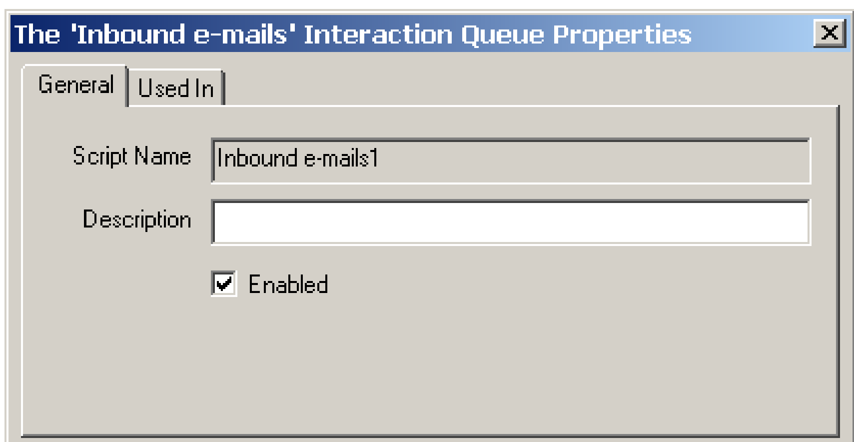


Figure 7: Queue Properties Dialog Box

Note: In this example, the display name (`inbound-e-mails`) and the Configuration Manager `Script object` name (`inbound e-mails1`) are slightly different. Figure 152 on page 173 shows an example Configuration Manager `Scripts` folder for `Script` objects.

A Queue object has special ports for outgoing connections. Such ports represent *View objects*. The same queue can be used in more than one business process; for example to connect one business process to another thereby creating an interaction workflow.

A Queue object may display an *up arrow* in the lower left area of its icon (see Figure 8).

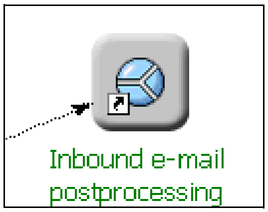


Figure 8: Queue Object With Up Arrow

The up arrow indicates that the queue is “owned” by (originated in) a different business process. You can find the business process that owns the queue by right-clicking the queue and selecting `Locate` from the menu. The queue is then highlighted in the object browser under the business process that owns the queue.

For information on adding Queue objects, see page 251.

View Object

View objects pull interactions from queues and submit them to strategies. Placing an interaction into a queue defines the subsequent actions that are applied to the interaction through *queue-processing rules*, which consist of one or more View objects. Figure 9 shows tan example View object (which appears as a small circle) attached to a Queue object.

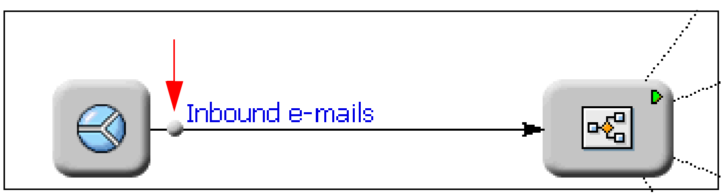


Figure 9: View Objects Attached to Queue Object

Right-clicking a View object in the object browser and selecting `Properties` opens a properties dialog box. You can also open the properties dialog box by right-clicking the associated Queue object and selecting `Properties of` and the name of the View object.

The example in Figure 10 shows a condition for pulling interactions in the `Condition` tab.

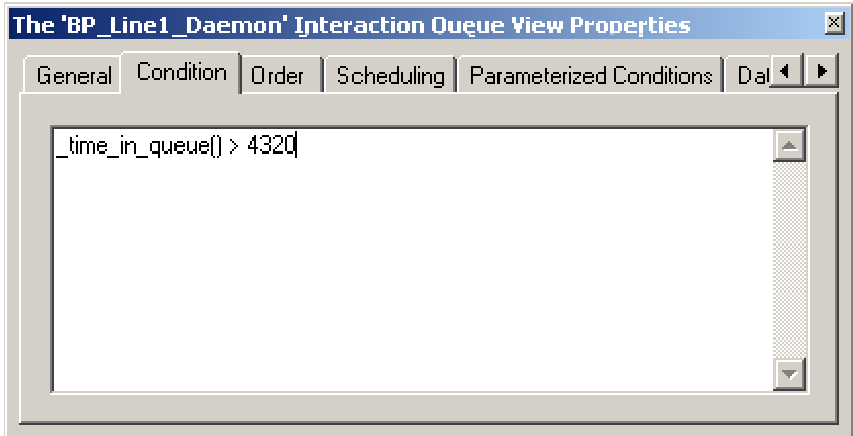


Figure 10: View Properties Dialog Box

A View object defines one or more of the following:

- The name for the View object in the Configuration Manager `Scripts` folder (see page 259).
- The conditions for interaction selection including parameterized conditions, such as those used by Agent Desktop (see pages 260 and 270).
- The order of interaction selection (see page 262).
- The time interval that Interaction Server uses to check for interactions (page 263)
- The schedule for submitting interactions to strategies (see page 263).
- Database hints (see page 271)
- The number of interactions of different segments (see page 272).

In addition, you can use Configuration Manager to limit the number of interactions based on interaction properties, such as `Customer Segment` (see page 275).

For information on adding View objects, see page 255.

Strategy Object

Note: All objects used in a strategy are hidden if the Strategy object represents a shortcut. To view the objects used in such strategy, you have to first locate the business process that owns the strategy by right-clicking the strategy, and then selecting `Locate`. Then open the strategy in that business process.

A *Strategy object* represents a routing strategy, which performs specific processing operations (for examples, see Figure 26 on page 44 or Figure 110 on page 129). Stated another way, a strategy is a set of instructions that

Universal Routing Server follows in deciding how to handle an interaction. Figure 11 shows a Strategy object named `Inbound e-mail preprocessing st`.

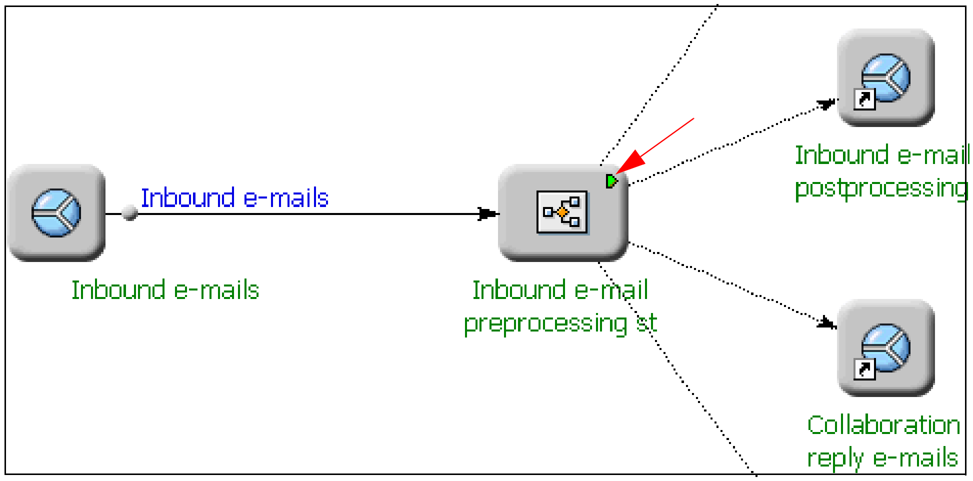


Figure 11: Strategy Object

- Activated strategies that are loaded on a virtual routing point are marked with a small green arrow (see `Inbound e-mail preprocessing st` in Figure 11).
- The same strategy can be used in more than one business process. You can tell this has occurred if a Strategy object displays an *up arrow* in the lower left area of it icon (see Figure 12).

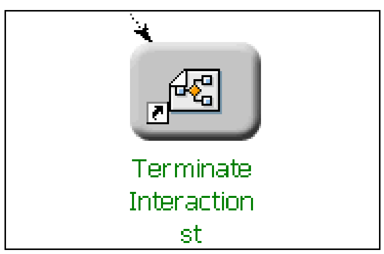


Figure 12: Strategy Object With Up Arrow

The up arrow indicates that the strategy is "owned" by (originated in) a different business process.

You can find the business process that owns the strategy by right-clicking the strategy and selecting `Locate` from the menu. The strategy is then highlighted in the object browser under the business process that owns the strategy.

Double-clicking a Strategy object opens a properties dialog box with the name of the Configuration Manager `Script` object (see Figure 13), its description, and the path where the graphical portion (`.rbn` file) is stored (see page 186).

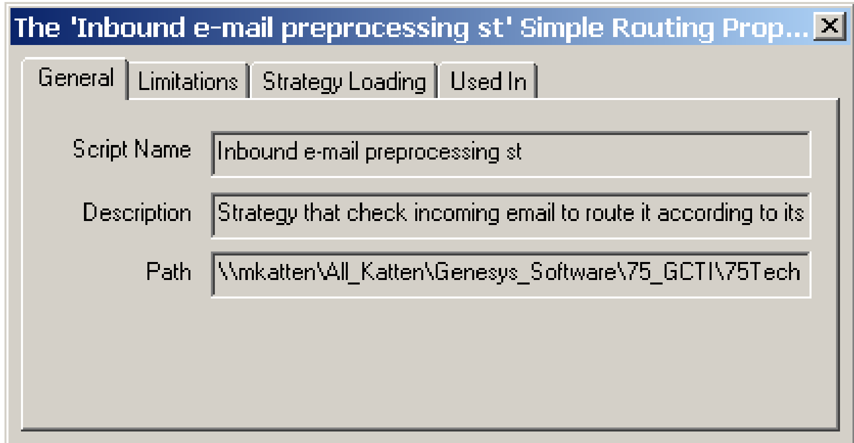


Figure 13: Strategy Properties Dialog Box

- To examine the strategy detail and flow, you can open the strategy for viewing (see Figure 250 on page 293).
- For information on creating Strategy objects, see page 305.

Workbin Object

A workbin is an object that holds interactions for later processing. Figure 14 shows the properties dialog box for a workbin.

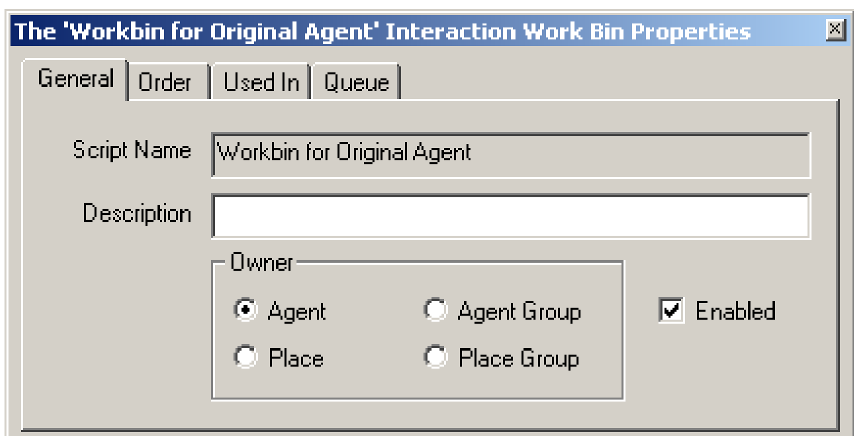


Figure 14: Workbin Properties Dialog Box

- In Genesys Agent Desktop, agents can use workbins to store interactions that they have started working on and wish to continue working on at a later time. For more information, see the *Genesys Desktop 7.6 Deployment Guide*.
- Interactions can be be distributed to workbins by Universal Routing Server when executing a strategy that uses the Workbin object (see “Workbin Strategy-Linked Node” on page 37).

- Workbins may be used in a business process for escalation functionality (see page 286). Multile workbins may be associated with the same interaction queue.

A workbin is similar to a queue in that it holds interactions. A workbin differs from a queue in that, when configured with IRD's Workbin routing object, a workbin can be associated with a particular `Agent/Agent Group/Place/Place Group.` In this case, its major function is to hold interactions for that agent/place/group to process. Agents can view the entire content of a workbin and pull interactions from it in any order. Agents can also pull interactions from queues, but only in the order defined by the queue.

Strategy-Linked Nodes

Outgoing connections automatically appearing from a Strategy object that represent objects specified inside the strategy are called *strategy-linked nodes.* For example, assume a strategy in a business processes contains the following:

- A Queue Interaction object (see Table 9 on page 203)
- A Workbin object (see Table 9 on page 203)
- A Route Interaction object using variable for the name of a the routing target (see Table 9 on page 203)
- A predefined queue called `Stop_Processing(_`

Figure 15 shows the resulting strategy-linked nodes.

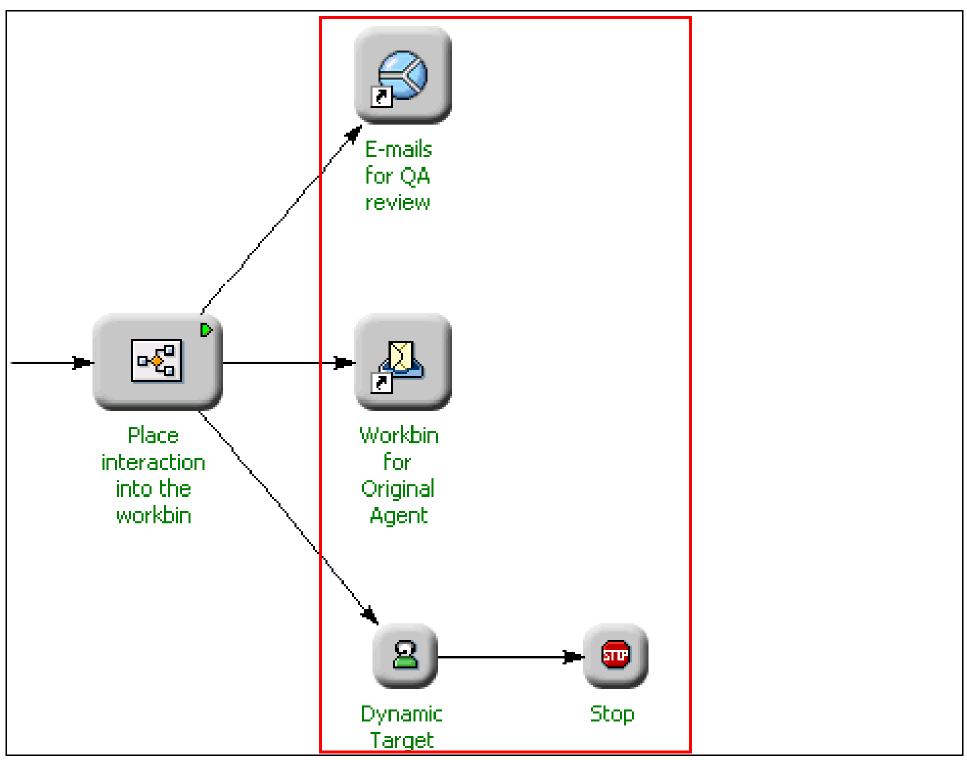


Figure 15: Strategy-Linked Nodes

The next section discusses the various types of strategy-linked nodes.

Queue Strategy-Linked Node

If the Strategy object uses a Multimedia object (see Table 8 on page 199) or a Routing object (see Table 9 on page 203) that names an interaction queue, a queue node with the same name automatically appears in the business process (see `E-mails for QA review` in Figure 16).

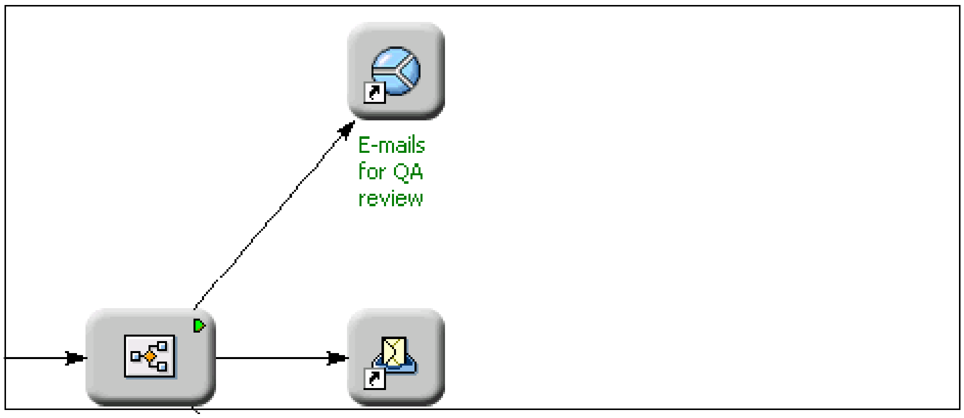


Figure 16: Queue Node Linked to Strategy Object

You can easily tell when a queue node is a strategy-linked node because it flows out of the right side of a strategy and is directly connected to the strategy (see Figure 16).

Server Strategy-Linked Node

If the Strategy object uses a Multimedia object (see Table 8 on page 199) that names a server performing an action or operation, a server node with the same name appears in the business process. Figure 17 shows two example server nodes (`Email:InteractionAutoResponse and Email::InteractionACK`).

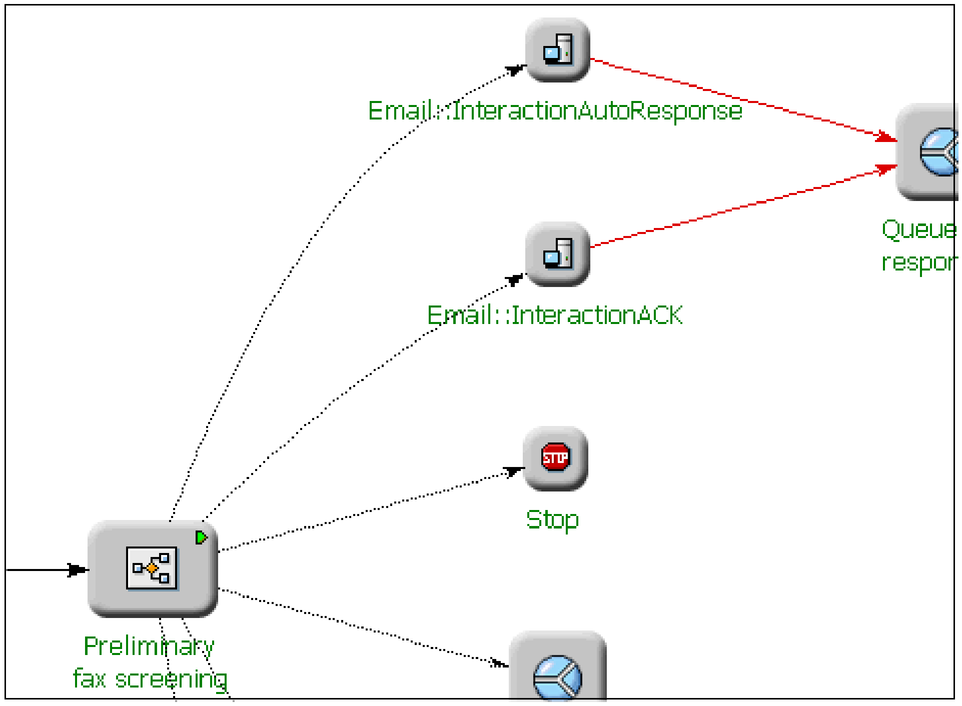


Figure 17: Server Node Linked to Strategy Object

Stop Strategy-Linked Node

If the Strategy object uses a Stop Interaction object (see Table 8 on page 199), a Stop node appears in the business process (see Figure 17). This node specifies the end point for processing of an interaction in a strategy.

Target Strategy-Linked Node

If the Strategy object uses a Route Interaction object (see Table 8 on page 199) that specifies a `Person, Agent Group, or Skill` (see page 234) as a routing target, a node with the same name appears in the business process. Figure 18 shows an example `Agent Group` target node (`Email QA Review group`).

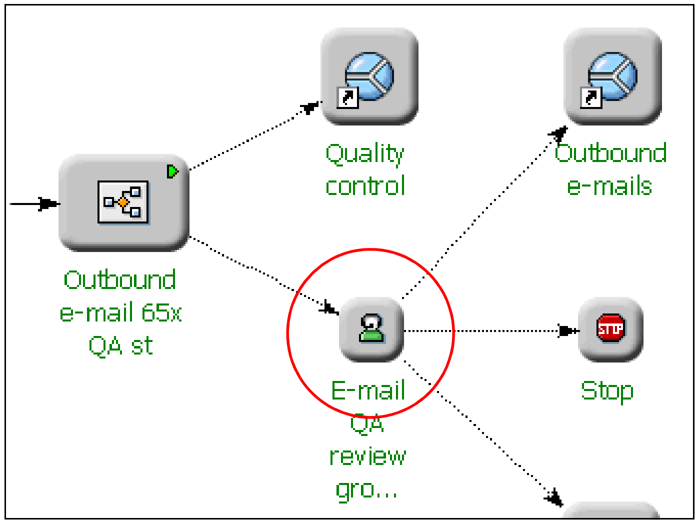


Figure 18: Person Node Linked to Strategy Object

Workbin Strategy-Linked Node

If the Strategy object routes an interaction using the Workbin object (see Table 8 on page 199), a workbin node appears in the business process (see Figure 19).

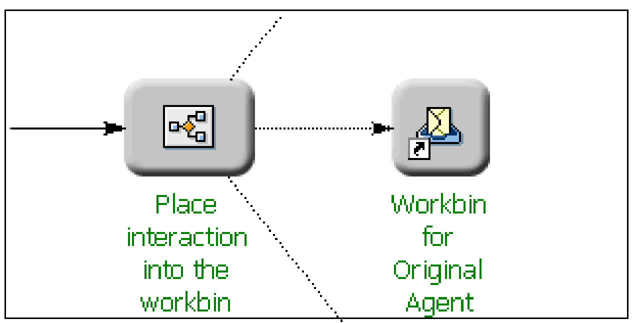


Figure 19: Workbin Strategy-Linked Node

In the case of a workbin strategy-linked node, the Workbin object in the strategy specifies a target type: `Agent`, `Agent Group`, `Place`, or `Place Group`. The selected target type appears under `Owner` in the `Workbin Properties` dialog box (see Figure 14 on page 33).

The same workbin can be used in more than one business process. A workbin strategy-linked node may display an *up arrow* in the lower left area of it icon (see Figure 20).

Figure 20: Workbin Object Owned by a Different Business Process

The up arrow indicates that the workbin is “owned” by a different business process.

You can find the business process that owns (originated) the workbin by right-clicking the workbin and selecting `Locate` from the menu. The workbin is highlighted in the object browser (see Figure 34 on page 61) under the business process that owns the workbin.

- Views extract interactions from workbins.
- For information on creating Workbin objects, see page 281.

Note: The `Workflow Settings` tab in the `Options` dialog box (see Figure 73 on page 88) affects the visibility of strategy-linked nodes.

New and Existing Interactions

To distinguish existing interactions from new ones, the lines connecting an object that creates a new interaction and the destination for the new interaction are red instead of black.

- If a strategy places an existing interaction in a queue, IRD inserts a Queue strategy-linked node and uses a black connection between the strategy and the queue.
- If a strategy stops interaction processing, IRD inserts a Stop strategy-linked node and uses a black connection to the strategy.
- If a strategy calls a 3rd-party server that creates a new interaction and places it into a queue, IRD inserts the server strategy-linked node and connects it to both the strategy (black connection) and the queue (red connection). See Figure 17 on page 36.
- If a strategy routes the interaction to an agent, IRD inserts an agent strategy-linked node and connects it to the strategy using a black connection.
- If the agent is supposed to stop interaction processing, IRD inserts a Stop strategy-linked node and connects it with the agent node using a black connection.
- If the agent is supposed to place an interaction in a queue, IRD connects the agent strategy-linked node to the queue using a black connection.

- If the agent is supposed to create new interaction and place it in a queue, IRD connects the agent strategy-linked node to the queue using a red connection.

Submitters

When you connect a View object (see Figure 9 on page 30) to a Strategy object, this action defines a *Submitter*, which fetches interactions through a corresponding view and submits them to the strategy.

Figure 21 shows a Submitter connecting the `Inbound e-mails` Queue object with the `Inbound e-mail processing st` Strategy object.

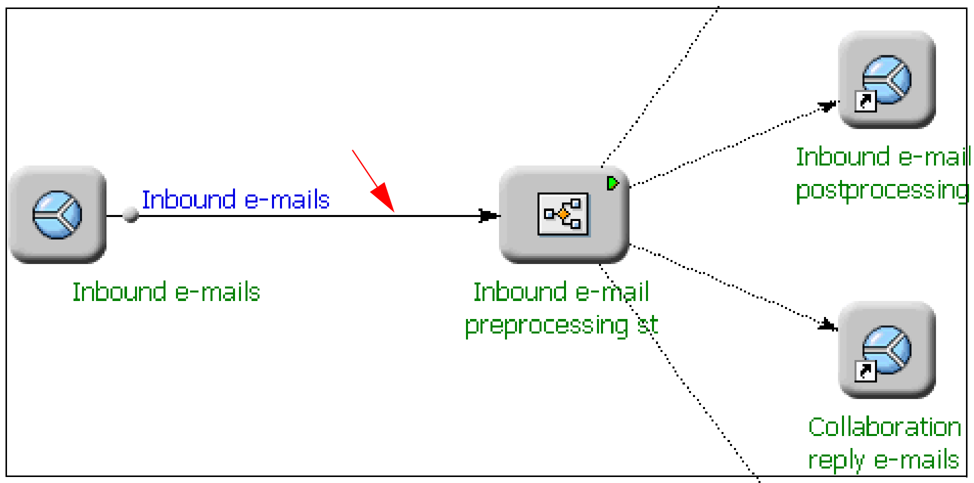


Figure 21: Submitter Object

For information on creating Submitter objects, see page 291.

Media Server Object

At some point, you will need to direct customer interactions into the workflow. The only way to get customer interactions into a workflow (for further processing by other business processes) is to use a Media Server object. The location where the Media Server object is used will frequently be the first business process in the workflow, but the exact location depends on how you design your workflow.

Background

The Genesys Multimedia software components include two *media servers*, E-mail Server Java and Chat Server, which process e-mail and chat interactions respectively. Your enterprise's media servers appear as Media Server objects in a `Media Servers` folder in the `Interaction Design` window (see Figure 47 on page 70 for an example).

- E-mail Server Java interfaces with the enterprise mail server and the Genesys Web API Server, bringing in new e-mail interactions from customers and sending out replies or other outbound messages.
- Chat Server works with Web API Server to open, conduct, and close chat interactions between agents and customers.

For more information on the media servers, start with the *Multimedia 7.6 Deployment Guide*.

Figure 22 shows example chat and e-mail Media Server objects used in a business process.

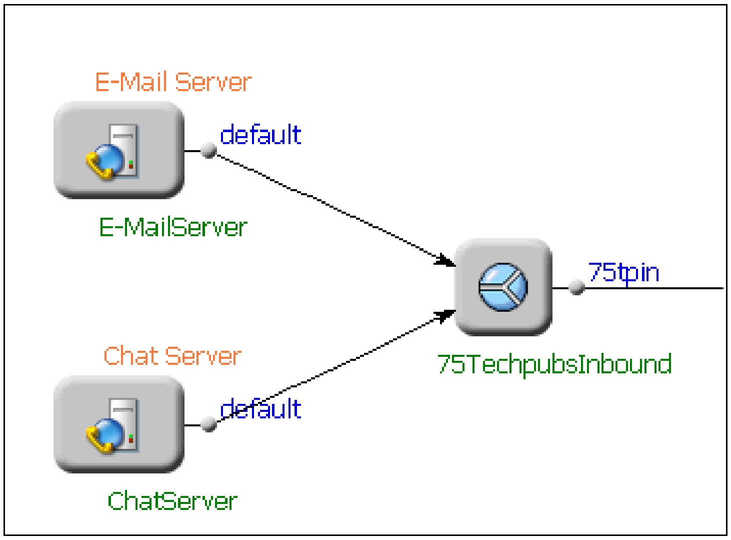


Figure 22: Media Servers and Endpoints

In this particular example, both media servers direct interactions into the same queue (`75TechpubsInbound`) for sorting. You may want to set up different queues for different media types.

To view a Media Server's properties, right-click it in the object browser `Media Servers` folder and select `Properties`. Figure 23 shows an example dialog box.

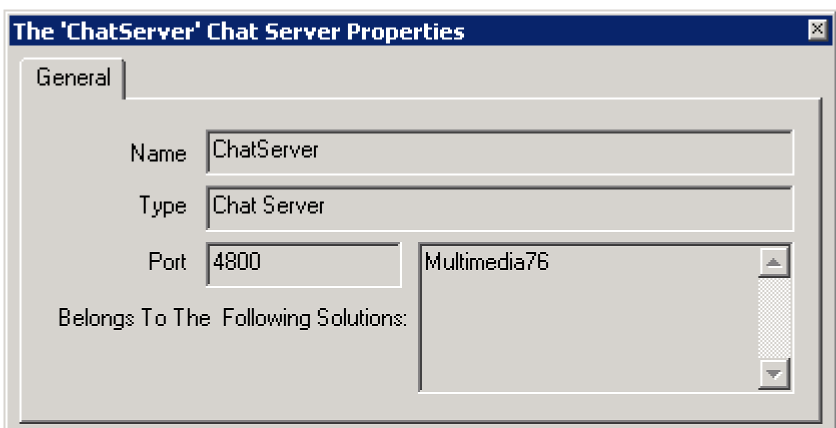


Figure 23: Media Server Properties Dialog Box

For information on using Media Server objects, see page 246.

Endpoint Object

In Figure 22, note the small circles attached to each media server. Each small circle is an *Endpoint object*. An endpoint can be used to connect a media server with a queue in a business process.

To view an endpoint's properties, right-click it in the `Media Servers` folder of the object browser and select `Properties`. Figure 24 shows an example dialog box.

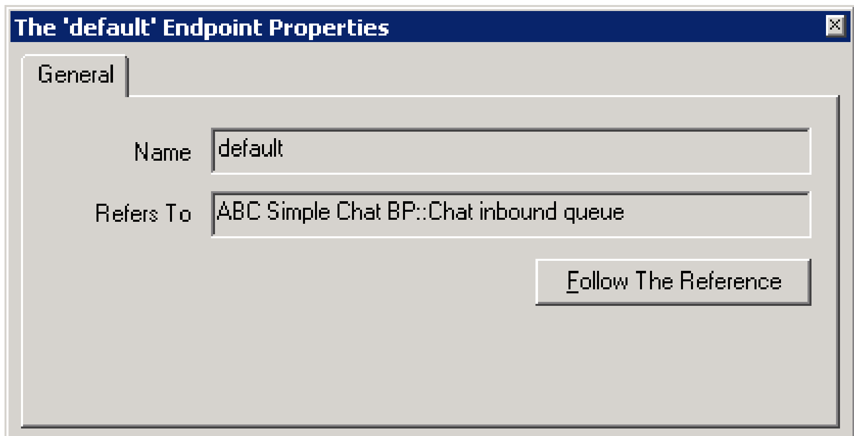


Figure 24: Endpoint Properties Dialog Box

If the endpoint is connected to another object, the `Refers To` field names the business process and object.

To find the object in the business process that the endpoint connects to, click the `Follow the Reference` button. IRD highlights the object in the business process.

For information on creating endpoints in the `Interaction Design` window, see "Adding Endpoints" on page 247.

Processing Flow

Figure 25 shows a flow diagram using objects discussed in "Business Process Objects" on page 29.

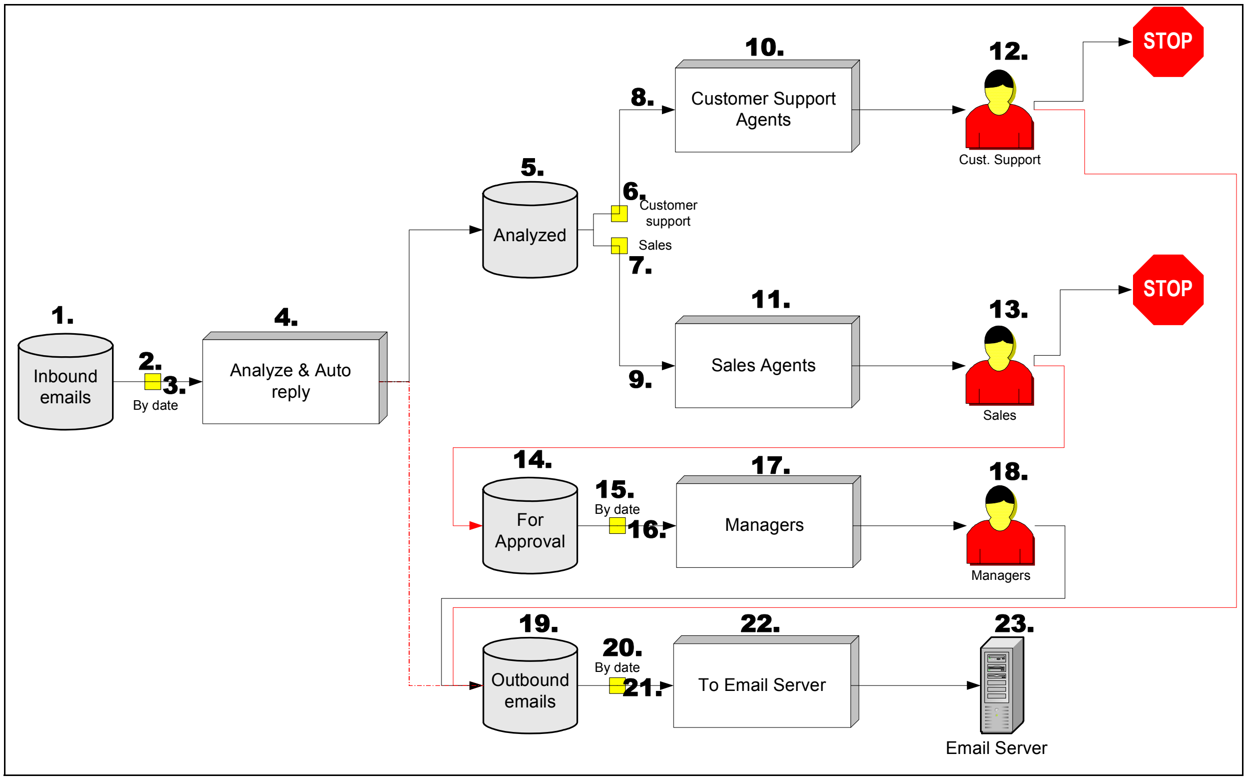


Figure 25: Business Process Conceptual Diagram

The processing flow for the diagram is as follows:

1. The **Inbound E-mails** queue accepts all inbound e-mails.
2. The **By Date** view is attached to the Inbound E-mails queue. The view specifies interaction selection by date received (assumed from the view name).
3. A submitter process pulls interactions from the Inbound E-mails queue (through the By Date view) and submits them to the Analyze & Autoreply strategy.
4. The **Analyze & Autoreply** strategy analyzes the e-mail based on its content and defines each e-mail's special attributes such as `To whom`. The strategy also generates an autoreply e-mail and places it in the Outbound E-mails queue.
5. The **Analyzed Queue.** The above strategy places e-mails in the Analyzed queue.
6. The **Customer Support** view, attached to the Analyzed queue, specifies interaction selection based on the `To whom` attribute. It selects only those interactions that have the attribute value equal to `Customer support`.
7. The **Sales** view, attached to the Analyzed queue, specifies interaction selection based on the `To whom` attribute. It selects only those interactions that have the attribute value equal to `Sales`.

8. The submitter pulls interactions from the Analyzed queue (through the **Customer Support** view) and submits them to the Customer Support Agents strategy.
9. The submitter pulls interactions from the Analyzed queue (through the **Sales** view) and submits them to the Sales Agents strategy.
10. The **Customer Support Agents** strategy distributes interactions to agents skilled in customer support.
11. The **Sales Agents** strategy distributes interactions to agents with the sales skill.
12. **Customer Support Agents** process interactions and create replies. Inbound e-mail processing stops here. The reply interactions are placed into the **Outbound E-mails** queue.
13. **Sales Agents** process interactions and create replies. Inbound e-mail processing stops here.
14. The **For Approval** queue. The reply interactions are placed in the For Approval queue.
15. The **By Date** view, attached to the For Approval queue, specifies interaction selection by date received.
16. The submitter pulls interactions from the For Approval queue (through the By Date view) and submits them to the Managers strategy.
17. The **Managers Strategy** distributes interactions to the manager's supervisors.
18. The **Managers** (Supervisors) processes interactions by reading and approving agent replies.
19. The **Outbound E-mails** queue. Managers place interactions into the Outbound E-mails queue.
20. The **By Date** view, attached to the Outbound E-mails queue, specifies interaction selection by date placed in queue.
21. The submitter pulls interactions from the Outbound E-mails queue (through the By Date view) and submits them to the E-mail Server strategy.
22. The **E-mail Server** strategy submits interactions to the E-mail Server. Instructs E-mail Server to send outbound e-mails.
23. The **E-mail Server.** Receives interactions from the E-mail Server strategy and sends outbound e-mails.

Visual Comparison

So you can visually compare a strategy and a business process, this section shows both.

Figure 26 shows the `Inbound e-mail preprocessing st` strategy in the `Routing Design` window.

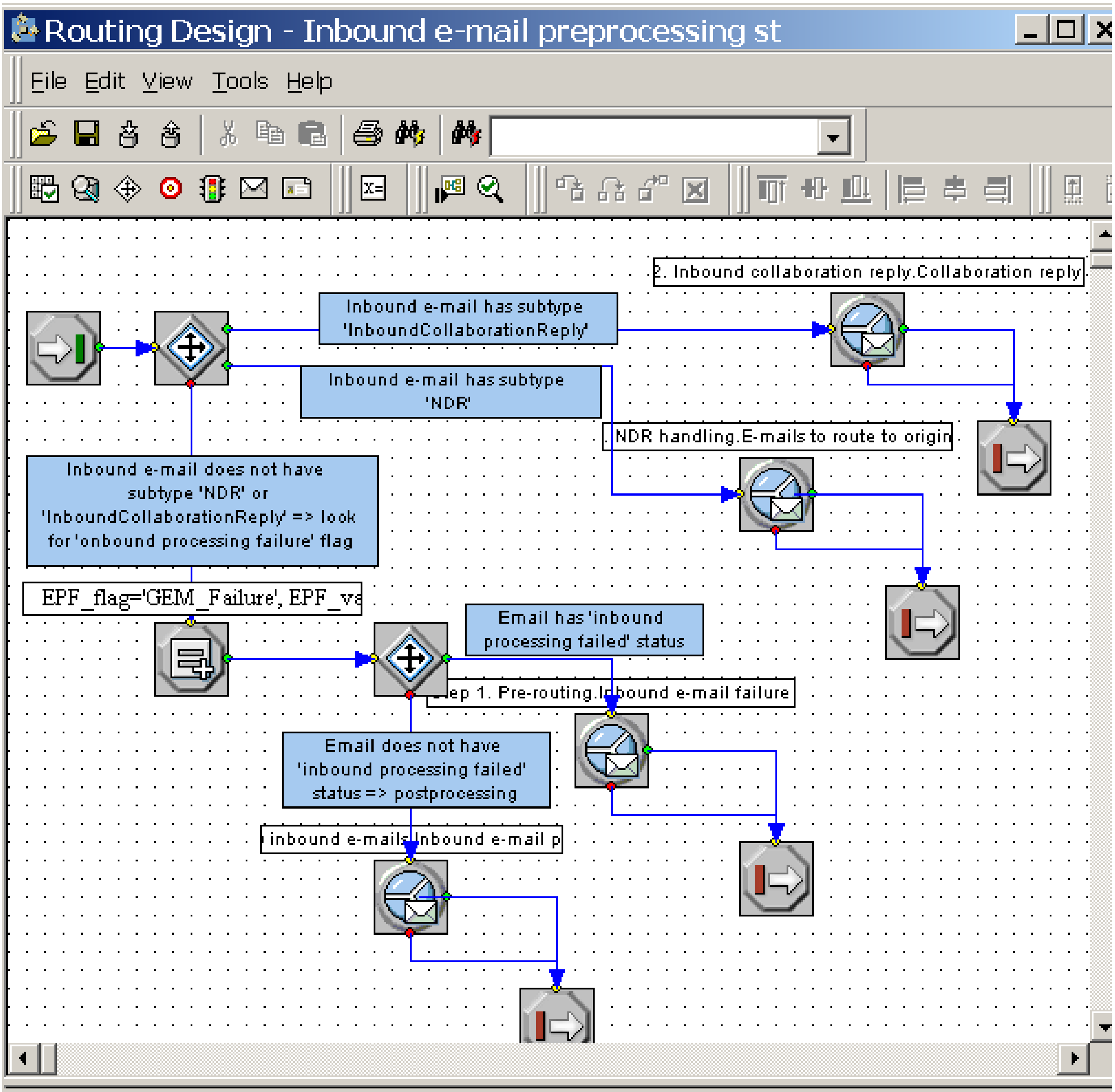


Figure 26: Example Strategy

The strategy in Figure 26 uses the Generic Segmentation, Queue Interaction, and Multi-Assign objects described in Table 8 on page 199, as well as the Route Interaction object described in Table 9 on page 203.

Figure 27 shows the same strategy in the workflow viewer portion of the `Interaction Design` window.

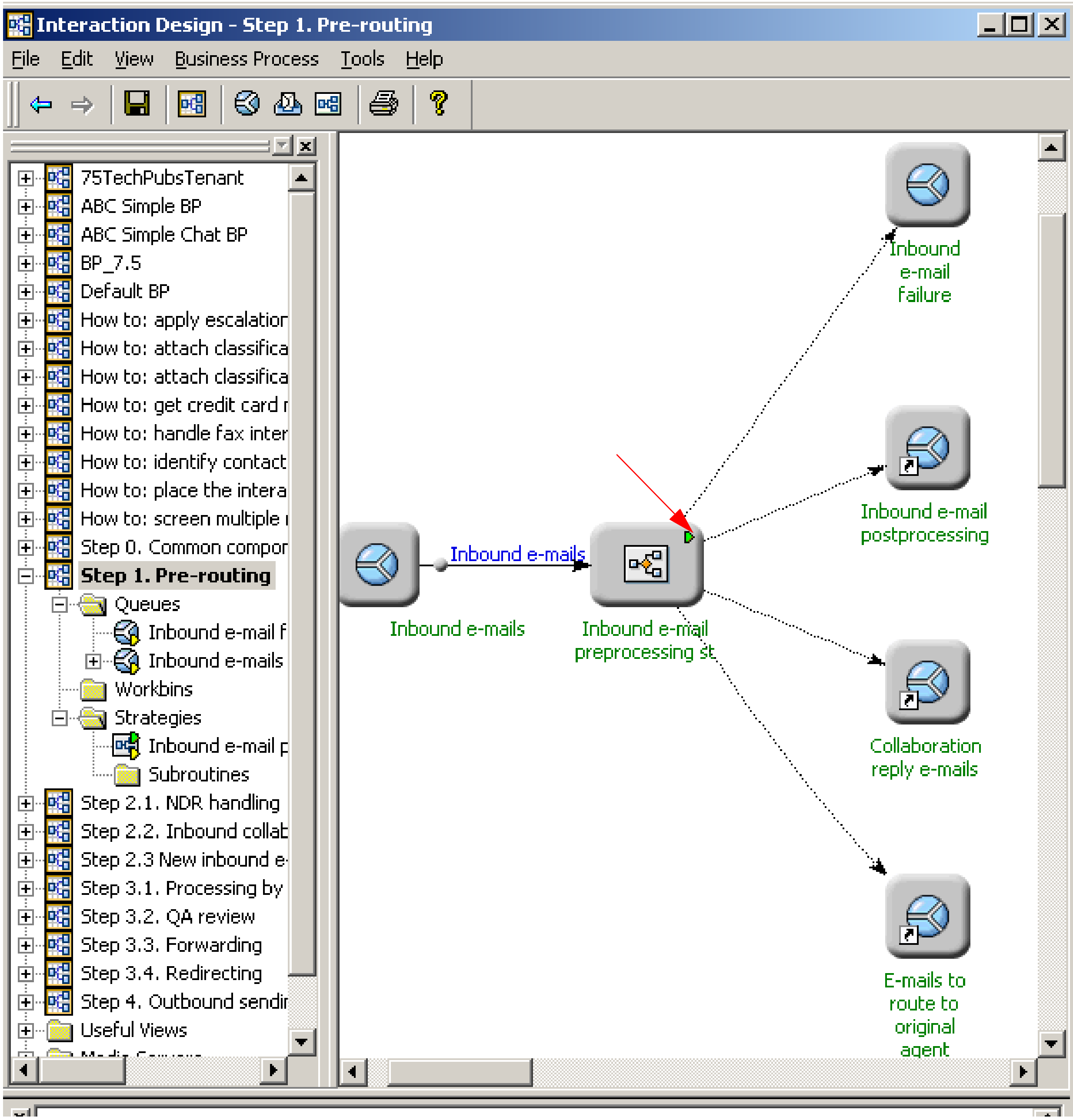


Figure 27: Example Business Process

Chapter

2 Interaction Processing

This chapter familiarizes you with Genesys interaction processing as it relates to business processes. It covers the following topics:

Genesys Queues

The Genesys software maintains both interaction queues and virtual queues:

- A queue in a business process executed by Interaction Server is called an *interaction queue* in this document. You might also call this type of queue a *persistent queue*. Business process developers define interaction queues (Queue objects) and objects that extract interactions from queues (View objects) in the `Interaction Design` window (see Figure 34 on page 61). The definition of an interaction queue is stored as a `Script` object in the Configuration Database (see Figure 152 on page 173).
- All interactions submitted to URS are placed in *virtual queues*. A virtual queue is not a physical queue, but rather a logical queue to which all interactions are queued if the specified target in the routing strategy is not available.

Just as a business process keeps all its interactions in interaction queues, Universal Routing Server (URS) keeps all its interactions in virtual queues (the `Connections` list in the URS `Application` object can have many different T-Servers). URS communicates with Interaction Server about non-voice interactions, and with voice T-Server about voice interactions.

Note: If a target is unavailable, interactions sent to URS by Interaction Server are returned to Interaction Server.

- In addition to interaction and virtual queues, there are also `ACDQueue` routing target objects. However, the term *queue*, as used in this guide, refers to an interaction queue.

Note: Genesys supplies business processes and strategies that use interaction queues, as detailed in "Using the Samples" on page 195.

Interaction Workflow Control

An interaction workflow refers a group of business processes connected via queues (see page 23 if you need a review). An interaction workflow can also be designed as a single large business process similar to the Genesys-supplied `Default BP` sample business process described on page 362.

The Genesys components shown in Figure 28 handle workflow control for non-voice interactions.

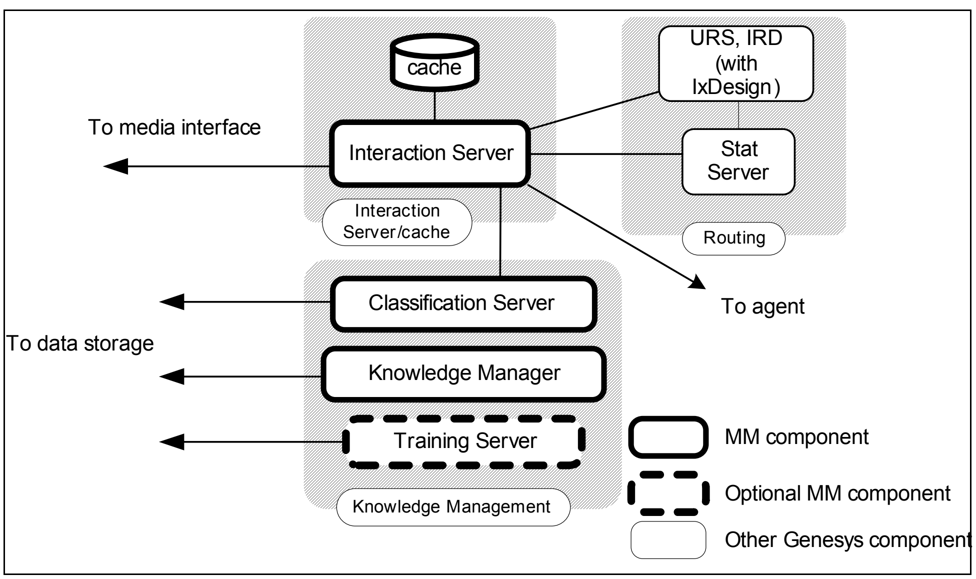


Figure 28: Workflow Control Components

Note: Not shown in Figure 28 are other required Genesys Management Framework components, such as Configuration Server and the Management Layer.

The workflow control software components are as follows:

Interaction Server

Interaction Server is the central interchange for multimedia (non-voice) interaction flow.

- It receives interaction operational data from the media interface.
- It stores the operational data in a *cache* (a database) while receiving and transmitting information about the interaction. This cache also contains queues through which the interaction passes as part of its processing.
- It works in concert with the routing components to route interactions according to business processes and routing strategies.

For more information on Interaction Server, see the *Multimedia 7.6 Deployment Guide*.

Interaction Routing Designer

Through its `Interaction Design` window, IRD creates and traces business processes, which plot an overall path for interactions (see Figure 5 on page 28). Business processes, executed by Interaction Server, map a route for the interaction between contact center objects, principally queues and routing strategies. When exeucting business processes, Interaction Server communicates with Universal Routing Server (URS), the server that executes the routing strategies contained in business processes.

Note: Genesys recommends using only one IRD application per desktop.

For more information on IRD, see *Universal Routing 7.6 Reference Manual*.

For information on creating routing strategies, see page 305.

Universal Routing Server

Universal Routing Server (URS) executes routing strategies, which trigger specialized processing tasks, such as sending automatic responses to customers and screening of incoming interactions for certain words. URS also applies segmentation logic to the flow; and requests delivery of the interaction to an agent or other target. For more information on all the specialized processing tasks handled by strategies, see “IRD Objects Used in Business Processes” on page 199.

For more information on URS, see *Universal Routing 7.6 Reference Manual*. Also see *Universal Routing 7.6 Deployment Guide*.

Stat Server

Stat Server accumulates data about routing targets: Agents, Agent Groups, Places (desks), and other contact center objects; converts the data into statistically useful information; and passes these calculations to other software applications. In particular, it provides agent capacity information to IRD and URS, which refers to the number and types of interactions an agent can accept (see “Agent Capacity Rules” on page 179).

For more information on Stat Server, see *Framework 7.6 Stat Server User’s Guide*. Also see *Genesys 7.6 Resource Capacity Planning Guide*.

Knowledge Manager

Knowledge Manager (see Figure 137 on page 155) is the user interface component of Genesys Knowledge Management, which also includes:

- Classification Server, which applies Screening Rules when triggered to do so by a routing strategy. Screening Rules are basic pattern-matching queries performed on e-mail contents. The results of these queries can then be used in routing strategy logic.
- Training Server, which trains the system to recognize Categories. It is active only in the Content Analyzer option (see below).

You use Knowledge Manager to:

- Manage the library of Standard Responses, which is a collection of ready-made responses to common inquiries and topics.
- Manage Screening Rules.
- Manage Categories, which are used to organize Standard Responses.

For more information on Knowledge Manager, see the *Multimedia 7.6 User’s Guide*.

Content Analyzer

Genesys Content Analyzer is an optional enhancement to Knowledge Management, requiring a separate license. It uses natural language processing technology to analyze incoming interactions for assignment to the Categories of the Standard Response Category system. The algorithms for content analysis are built up and refined by Training Server as it processes collections of pre-classified interactions. Setting up and scheduling these training sessions is another function of Knowledge Manager. The content analysis algorithms like Screening Rules, are applied by Classification Server when triggered by routing strategies, and are stored in the Universal Contact Server database.

For more information on Content Analyzer, see the *Multimedia 7.6 User’s Guide*.

Interaction Flow

To summarize interaction flow:

- At the highest level, the flow is controlled by business processes as executed by Interaction Server.
- Each business process contains queues and routing strategies.
- Routing strategies may bring in other applications/components to apply specialized processing tasks to the interaction; for example:
  - Send an acknowledgement or an automatic reply
  - Apply a Screening Rule
  - Apply content analysis (with Content Analyzer option only)
  - Forward or Redirect

For a complete list of specialized processing tasks, see “IRD Objects Used in Business Processes” on page 199.

Genesys E-mail

This section presents architecture specific to Genesys E-mail. Figure 29 shows the main components.

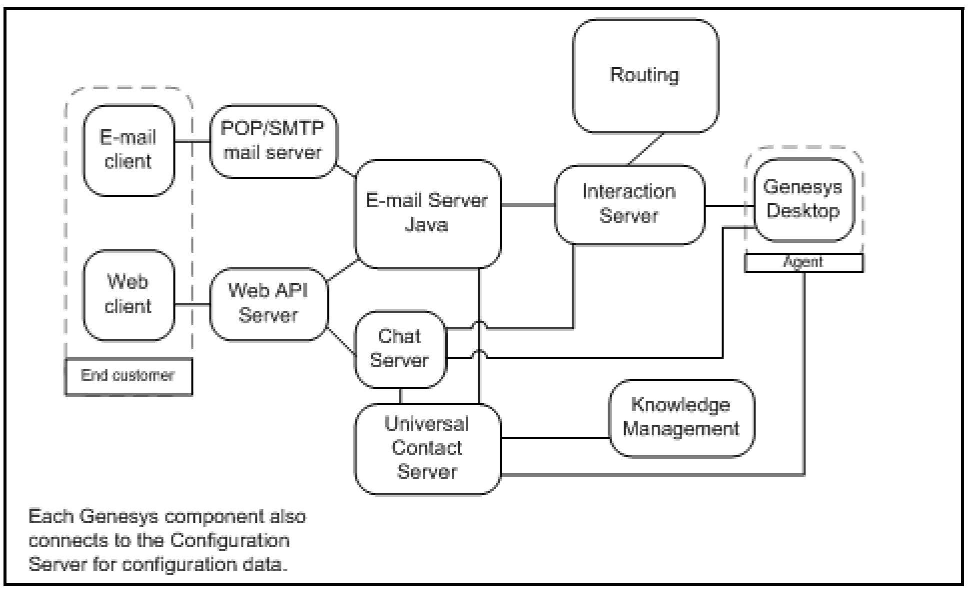


Figure 29: E-mail for Multimedia Components

Figure 29 simplifies the workflow control components by showing Knowledge Management and Routing as single objects. E-mail interaction processing generally proceeds as follows:

1. In addition to replies from external resources (see “External Service” on page 205), e-mail interactions arrive at E-mail Server Java in the following ways:
   a. If the customer sends ordinary e-mail, the interaction arrives via the enterprise mail server.
   b. If the customer fills out a web form, the interaction arrives via the Web API Server.
2. E-mail Server Java sends operational data on the interaction to Interaction Server and simultaneously stores the body of the interaction in the Universal Contact Server database.
3. Interaction Server parks the interaction’s operational data in its cache and starts processing it according to a business process.
4. What happens next depends on the business process and the routing strategies that it contains. The system may
   - Apply a Screening Rule.
   - Assign one or more Categories to the interaction (if Content Analyzer is present).
   - Generate an automatic response.
   - Route the interaction to an agent’s desktop, possibly also sending an automatic acknowledgement to the customer.

   A supervisor may intervene at various points as long as the interaction’s operational data remains in the Interaction Server’s cache.
5. The agent receives the interaction. With the Content Analyzer option, the interaction may arrive with a Category assignment and associated suggested response. Otherwise the agent way search manually for a Category with suggested response.
6. The agent may then:
   - Simply reply to the interaction.
   - Transfer it to another agent.
   - Produce a collaborative response by consulting with other agents.
7. When the reply is finally released by the agent or agents (typically to an Outbound queue in the Interaction Server cache), it may optionally be routed to a senior agent or supervisor for QA review. The reviewer decides whether to let the reply continue through the outbound part of the business process, return it to the agent for revision, or take other action.

URS/Interaction Server Communication

URS and Interaction Server communicate using T-Server message protocol where all messages from URS to Interaction Server starts with `Request` and all messages from Interaction Server to URS start with `Event`. The basic message set is shown in Table 1.

Table 1: Basic URS/Interaction Server Communication Protocol

Name	Direction	Comment
EventRouteRequest	from Interaction Server to URS	Ask URS to find appropriate target (Place, Agent, …) for given interaction
RequestRouteCall	from URS to Interaction Server	Provide Interaction Server with target information for a given interaction
EventRouteUsed	from Interaction Server to URS	Report to URS about successful processing or command to cancel strategy execution for this interaction (ReferenceID = 0)

Interaction Server executes business processes and, in doing so, communicates with URS using a subset of T-Server protocol:

> `RequestUpdateUserData`, `RequestAttachUserData`, `RequestDeletePair`, `RequestDistributeEvent` for `EventQueued`, `EventDiverted`, `EventPartyAdded`, `EventPartyRemoved`, and `EventAbandoned` are supported.

The following message types for third party servers (such as Universal Contact Server and E-mail Server Java) are also supported (see Table 2):

Table 2: URS/Interaction Server Request and Event Messages

Name or Request/Event	Direction	Comment
Request3rdServer	from URS to Interaction Server	Send to Interaction Server request for 3rd-party server operation
Event3rdServerResponse	from Interaction Server to URS	Returns results of 3rd-party server operation
Event3rdServerFault	from Interaction Server to URS	Supply error information about 3rd-party server operation failure

You can use these messages in the log file when diagnosing strategy/routing problems. For more information, see the *Multimedia 7.6 Open Media Interaction Models Reference Manual*. It has examples of basic scenarios involving messaging between Interaction Server and other components, including URS.

Part

2

User Interfaces

Part Two of this *Universal Routing 7.6 Business Process User's Guide* familiarizes you with the various Genesys user interfaces involved with creating business processes.

The information in Part Two is divided into the following chapters:

- Chapter 3, "Business Process Interface" beginning on page 57, describes the features and functions of the interface used for business process design and configuration.
- Chapter 4, "Strategy Interface" beginning on page 101, describes the features and functions of the interface used for routing strategy design and configuration.
- Chapter 5, "Configuration Layer Interface" beginning on page 169, describes the features and functions of the interface used to define Genesys Configuration Layer objects.
- Chapter 6, "Knowledge Manager Interface" beginning on page 153, describes the interface used to define Standard Responses, classification Categories, and other elements required by certain IRD objects.

Chapter

3 Business Process Interface

This chapter introduces the interface used to create business processes. Find step-by-step instructions for creating a business process on page 241.

This chapter covers the following topics:

Note: Prior to 7.1, business processes were created outside of IRD in a standalone application called Interaction Workflow Designer.

Opening IRD

The information in this section assumes you have already installed IRD as described in the *Universal Routing 7.6 Deployment Guide*.

Procedure:
Logging into Interaction Routing Designer

Purpose: To access the interfaces used for creating stategies as well as the interfaced used for creating business processes.

Start of procedure

1. Click the desktop shortcut if a shortcut is present (see Figure 30).

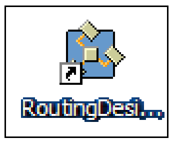


Figure 30: Interaction Routing Designer Desktop Icon

As an alternative, click the `Start` button on your computer desktop and select `Programs > Genesys Solutions > Routing > Interaction Routing Designer > Start Interaction Routing Designer`.

2. Respond to any security-related screens that your company may have configured to appear before the `Interaction Routing Designer` login dialog box.
3. Complete the `Interaction Routing Designer` login dialog box. Figure 31 shows dialog box with example entries after clicking `Details<<`.

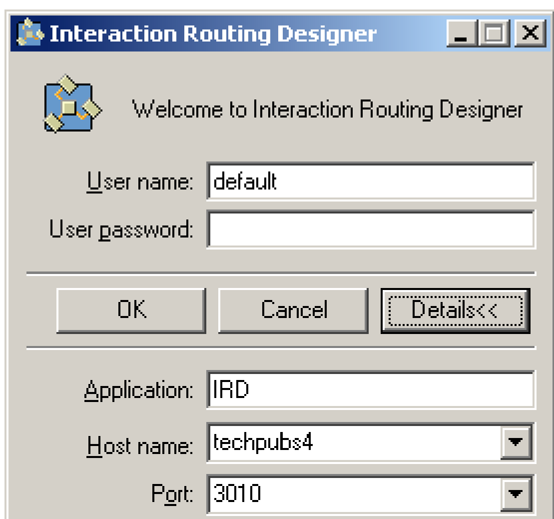


Figure 31: Interaction Routing Designer Login Dialog Box

The first time the login dialog box opens, all fields are empty. The next time you log in, IRD “remembers” previous entries for the following fields: `User name`, `Application`, `Host name`, and `Port`.

4. Use the information in Table 3 to complete the login dialog box shown in Figure 31.

Table 3: IRD Login Dialog Box

Field	Description
User name:	Name of `Person` object defined in Configuration Manager (see Figure 153 on page 174). See “Setting Permissions” on page 187.
User password:	Password of `Person` object in Configuration Manager.
Application:	Enter the name of an IRD `Application` defined in Configuration Manager (see Figure 150 on page 171).
Host name:	Name of machine where Configuration Server is running.
Port:	Port number used by Configuration Server.

5. Click `OK`, the `Strategies` list pane opens. Figure 32 showns an example.

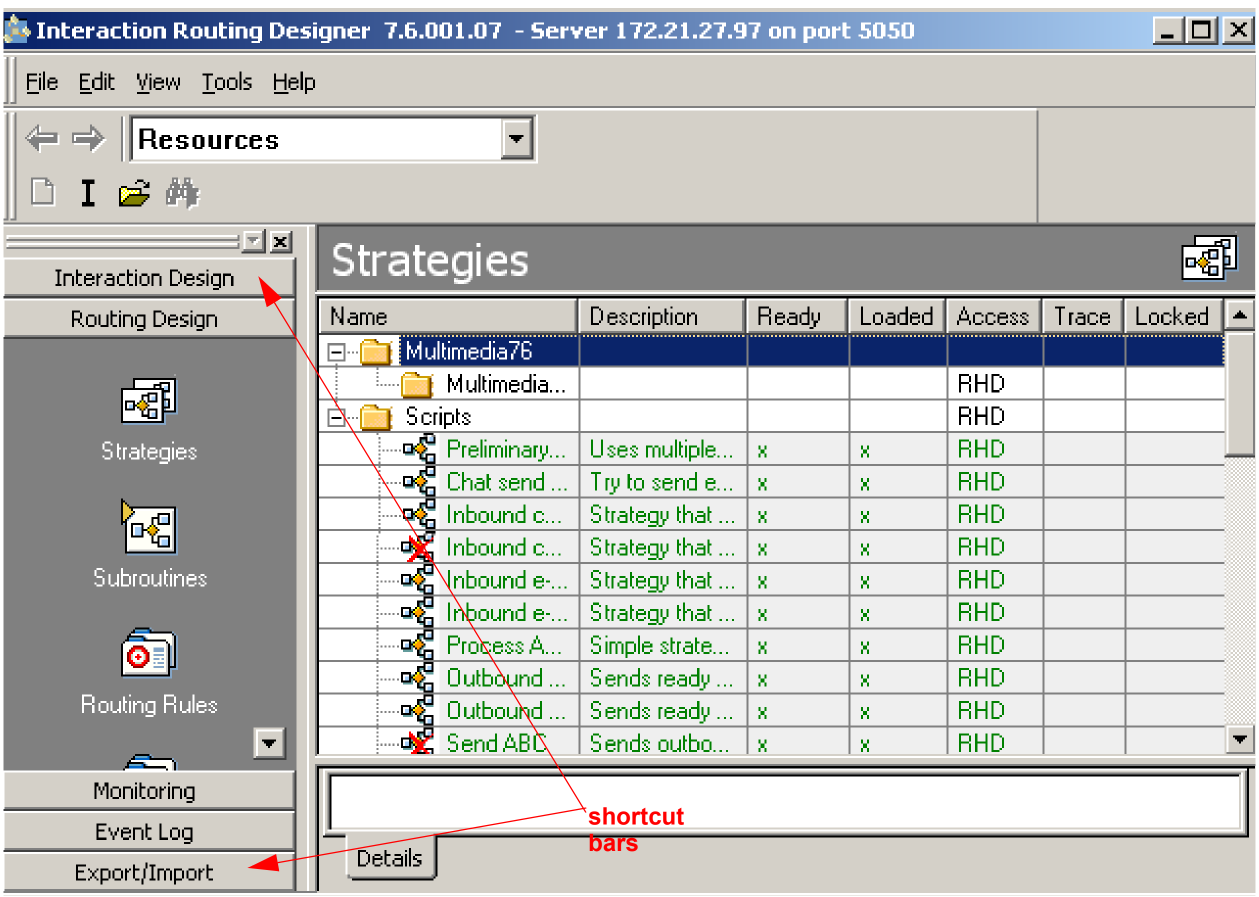


Figure 32: Strategies List Pane

End of procedure

Accessing Interaction Design

You create/edit business processes in the `Interaction Design` window, which opens from the IRD main window.

Procedure:
Opening the Interaction Design window

Start of procedure

1. Log into IRD as described on page 58.
2. Click the `Interaction Design` bar (see Figure 32 on page 59). If bar does not appear, see page 98.
3. Click the `Business processes` icon to bring up `Business Process` list pane (see Figure 33).

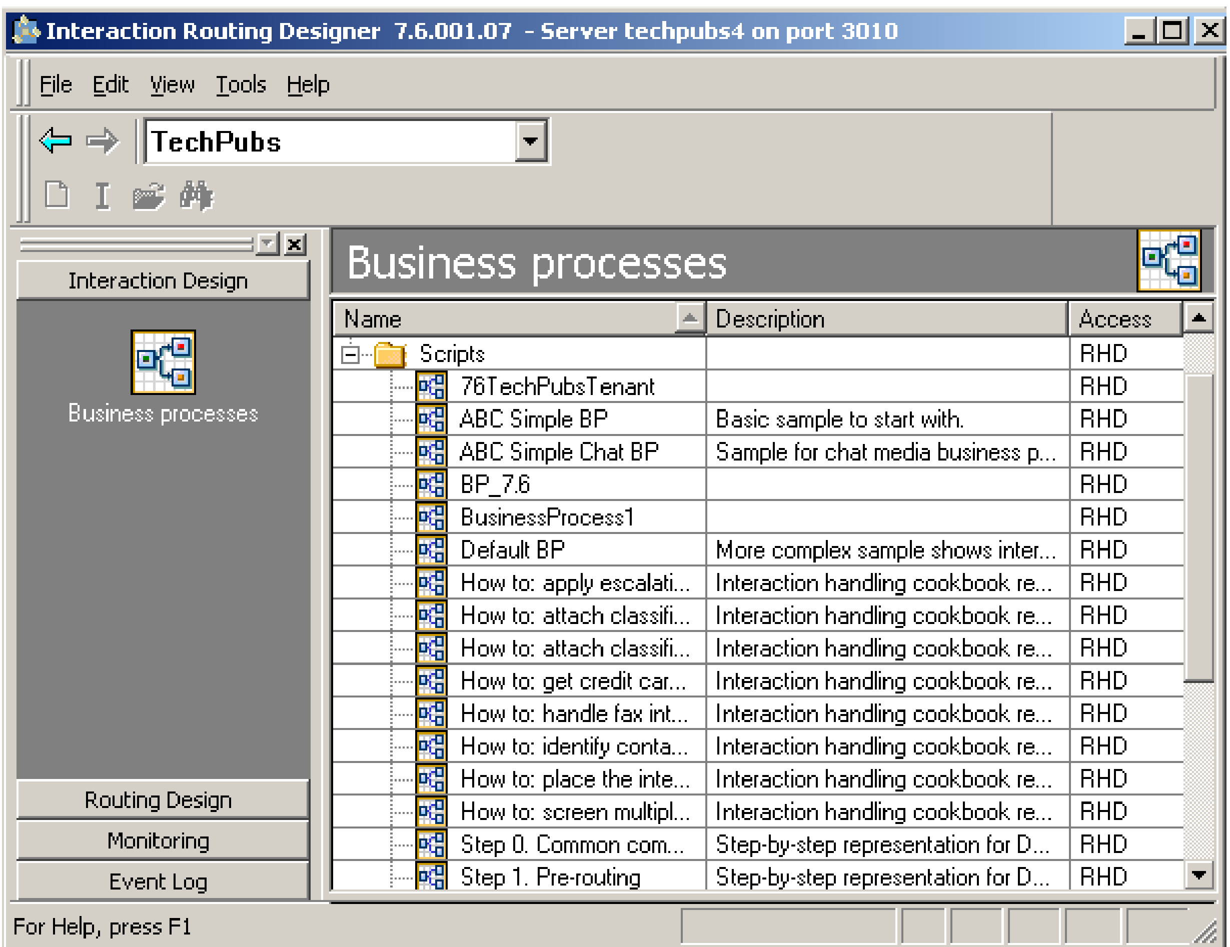


Figure 33: Business Process List Pane

At this point, you can create a new business process (see page 241) or edit an existing one. Edit an existing business processes as follows:

4. Double-click a business process to opens it in the `Interaction Design` window as shown in Figure 34.

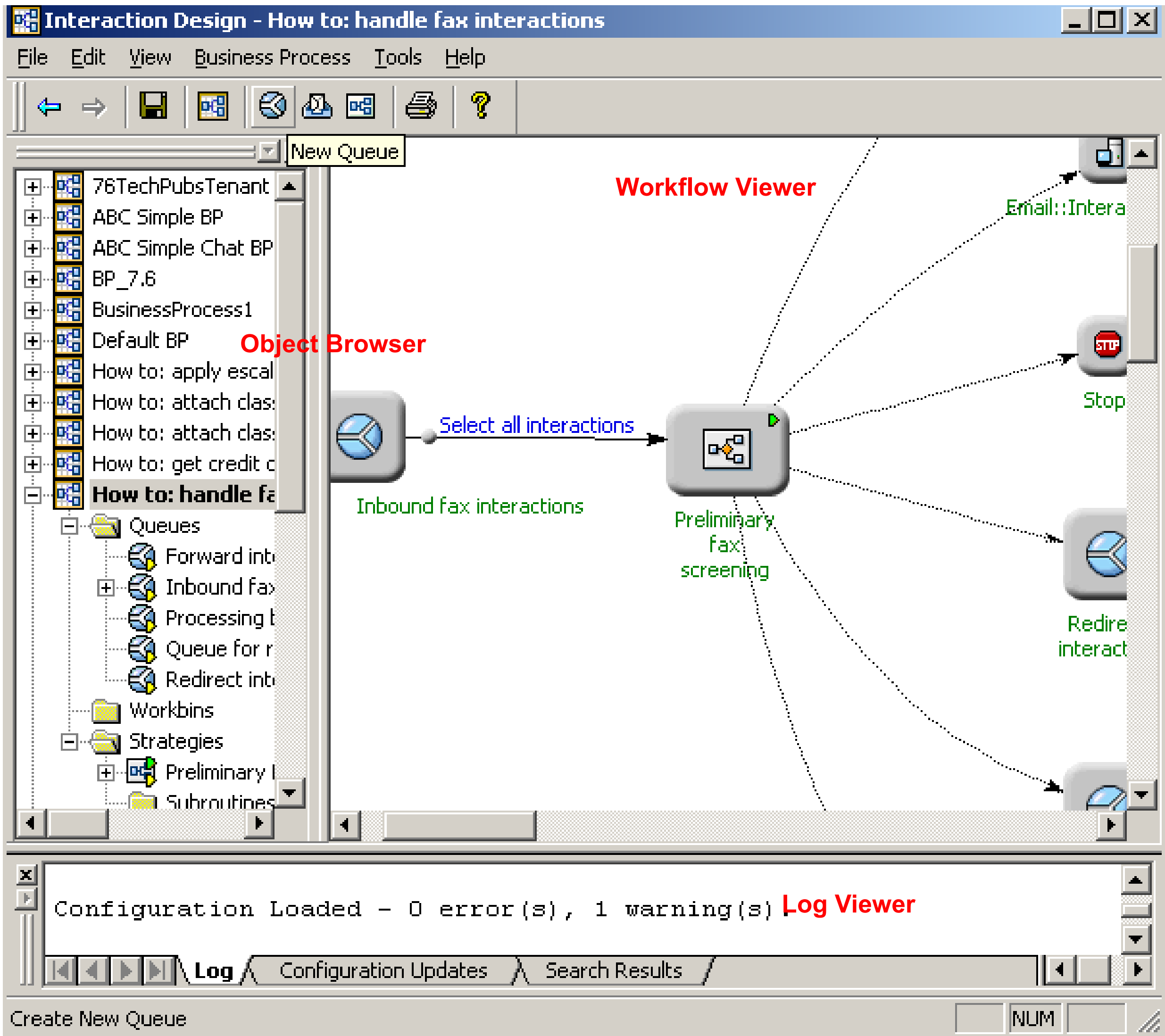


Figure 34: Interaction Design Window

End of procedure

Note: Through the use of queues, you can connect multiple business processes to create an interaction workflow (see page 197).

The `Interaction Design` window has three areas:

- An object browser (dockable) on the left displays queues, views, routing strategies, strategy-linked nodes, media servers, and endpoints in a tree style.

- A workflow viewer (static) on the right displays the selected business process.
- A log viewer (dockable) at the bottom of the window displays a running list of status and event messages.

The next section discusses each area.

Object Browser

By default, each business process has the following folders: `Queues`, `Workbins`, `Strategies`, and `Subroutines`.

When a business process is expanded, the object browser (see Figure 34 on page 61) displays its configuration objects in a tree structure. Assume you expand the folders in an example business process that uses queues, workbins, and strategies, but not subroutines. The object browser appears as shown in Figure 35.

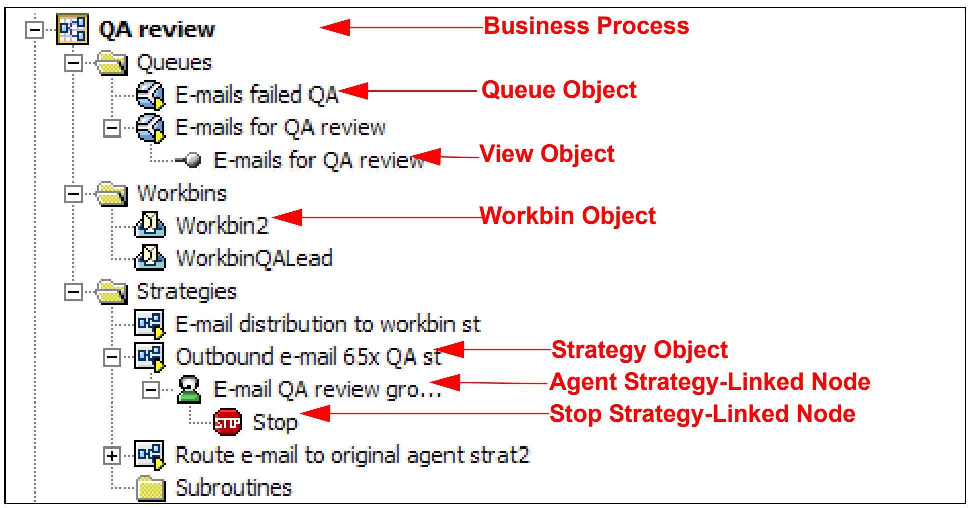


Figure 35: Object Browser

Small Yellow Triangle

Once you use an object in a business process, the browser marks it with a small yellow triangle. For example, in Figure 35 under `Queues`, see `E-mails failed QA`. The yellow triangle is helpful when working with a large business process when you cannot see all objects at once and you are unsure whether a particular object has been dropped in the viewer.

- If you see the yellow triangle, the object has been dropped in the viewer.
- If you delete a previously dropped object from the business process, the triangle disappears.

Independent Objects Folder

The `Independent Objects` folder holds objects that do not belong to any business process. Figure 36 shows an example `Independent Objects` folder expanded.

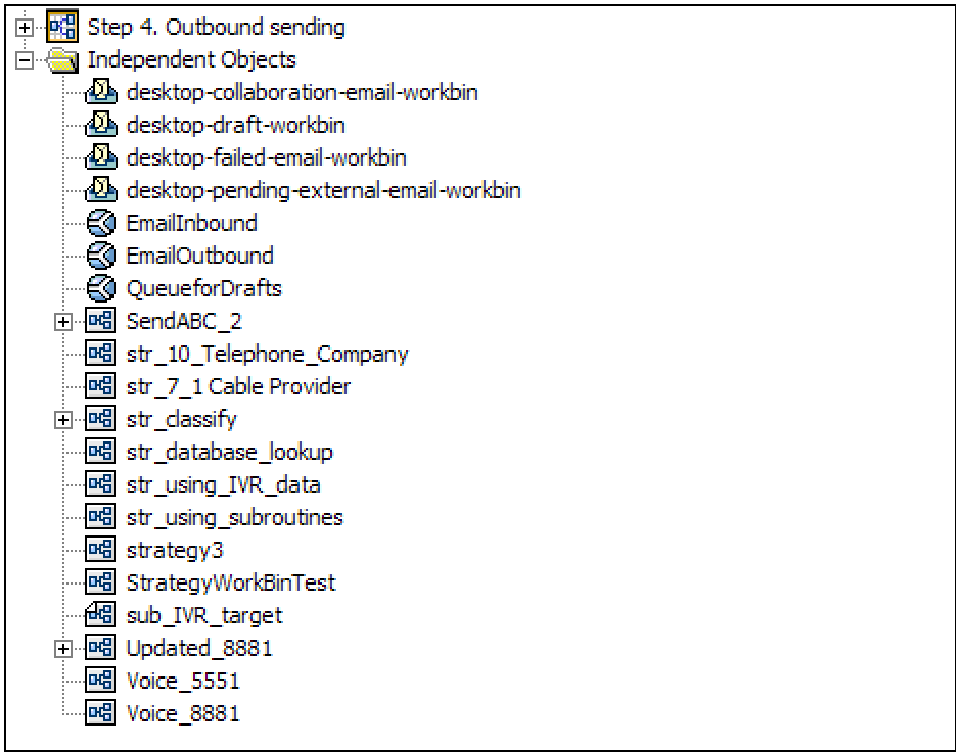


Figure 36: Independent Objects in Object Browser

In order for a strategy of any media (voice and non-voice) to appear in the `Independent Objects` folder, two requirements must be met:

- The strategy must be created without using queues and workbins that belong to a particular business process.
- The strategy must be created outside of the `Interaction Design` window. "Created outside" means that in the IRD main window, under `Routing Design`, you clicked `Strategies`, selected `New` from the `File` menu, and created a strategy in the `Routing Design` window.

Note: In the `Interaction Design` window, you can only create a strategy under a particular business process, even if you are not using queues and workbins that belong to a business process.

Using drag and drop functionality, you can move objects between the corresponding subfolders of different business processes, as well as between the `Independent Objects` folder and appropriate subfolders of business processes.

Once a strategy belongs to a business process, it no longer appears in the Independent Objects folder.

Useful Views Folder

The Interaction Design window object browser includes a folder called Useful Views (see Figure 47 on page 70). It contains the Global View and the Deployment View. To bring up either view, open the desired business process. Then right-click either Global or Deployment View in the object browser and select Show The View from the shortcut menu.

Deployment View

Figure 37 shows the beginning of an example Deployment View.

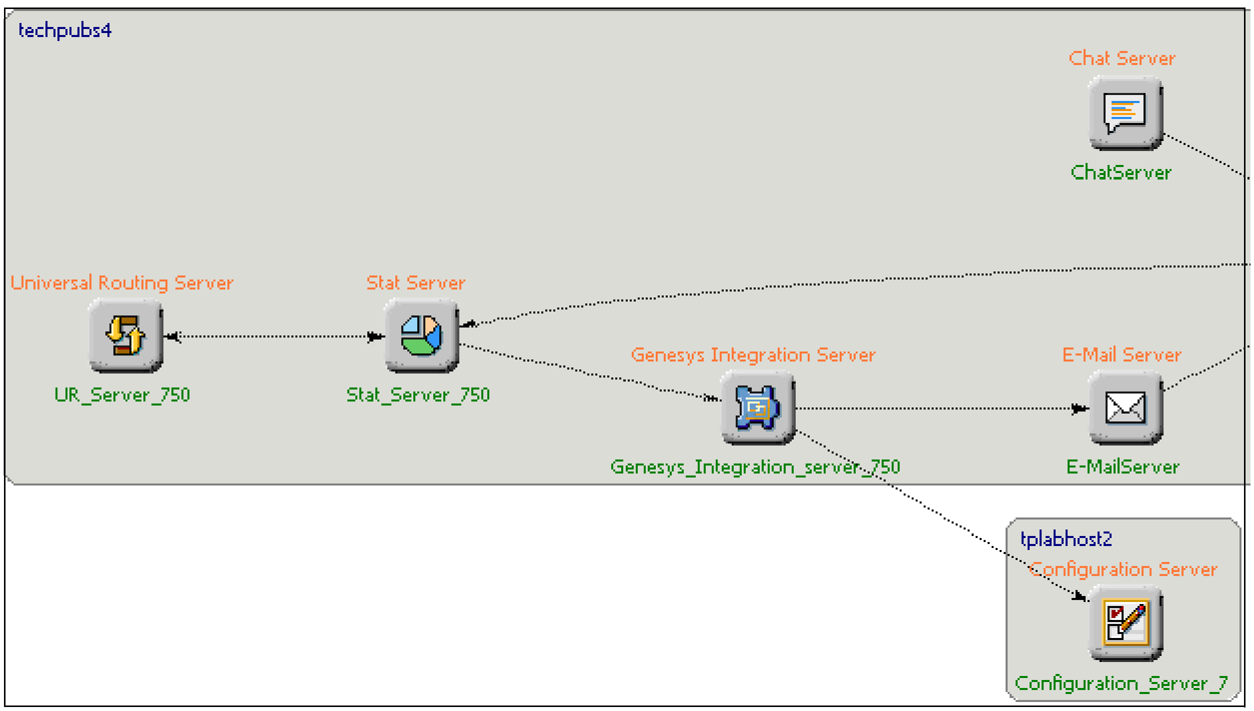


Figure 37: Deployment View Example

In this example, there are two hosts, techpubs4 and tplabhost2. This simplified view, showing only hosts and certain Appications within the business process, was created by filtering Applications in the Show Applications tab of the Deployment View Filter dialog box (see Figure 45 on page 68).

Deployment View shows how various objects in your Configuration Environment are deployed and interact. As shown in Figure 37 on page 64, they are grouped by host. You can print the Deployment View.

Viewing Deployment View Properties

To view the properties for any `Application` in the `Deployment View:`, right-click it and click `Properties` on the shortcut menu. The resulting properties dialog box is read-only. Figure 38 shows an example.

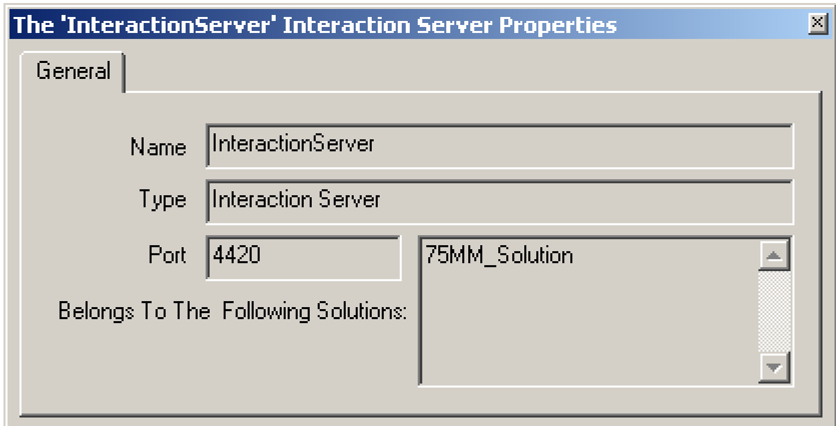


Figure 38: Deployment View, Example Properties for Application

- For an `Application` object (see Figure 37 on page 64), the dialog box gives the name of the `Application`, its type, its port number, and the `Solutions` to which the `Application` belongs. Figure 39 shows some example `Application` nodes that you can right-click to bring up a properties dialog box.

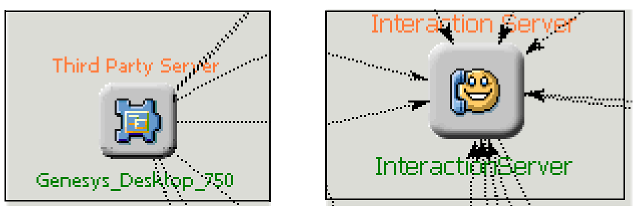


Figure 39: Application Object Examples

- For a `Switch` object, it gives the switch name and type. Figure 40 shows an example `Switch` node that you can right-click to bring up a properties dialog box.

Figure 40: Switch Object Example

For a Database Access Point, it gives the name of the `DAP`, its type, its port number, and the `Solutions` to which it belongs. Figure 39 shows an example `Database Access Point` node that you can right-click to bring up a properties dialog box.

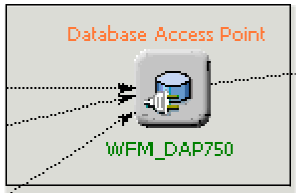


Figure 41: Database Access Point Example

- For a `Host` object, it gives the host name, IP address, and operating system.Figure 42 shows an example Host node (`mkatten`) that you can right-click to bring up a properties dialog box.

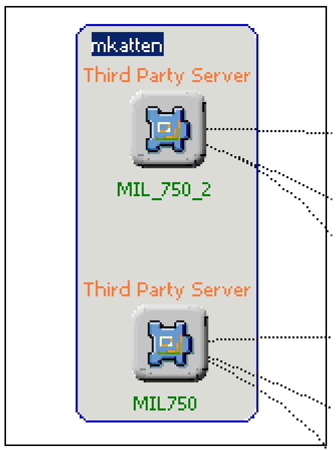


Figure 42: Host Object Example

You can also see the settings for the `Deployment View` as a whole by right-clicking `Deployment View` in the object browser tree and selecting `Properties` from the shortcut menu (see Figure 43).

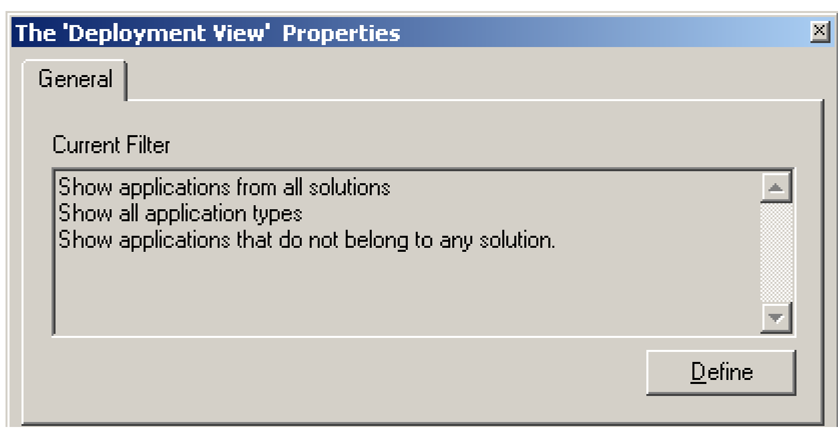


Figure 43: Deployment View Properties Dialog Box

Changing Deployment View Settings

You may wish to change settings. For example, you may wish to view only `Applications` from certain `Solutions`; only certain types of `Applications`, or to reduce complexity by not showing unconnected `Applications`.

To change `Deployment View` settings:

1. Click right-click `Deployment View` in the object borwser and select `Properties` from the shortcut menu. This brings up the `Deployment View Properties` dialog box (see Figure 43 on page 66).
2. Click `Define` to bring up the dialog box for changing setttings (see Figure 44).

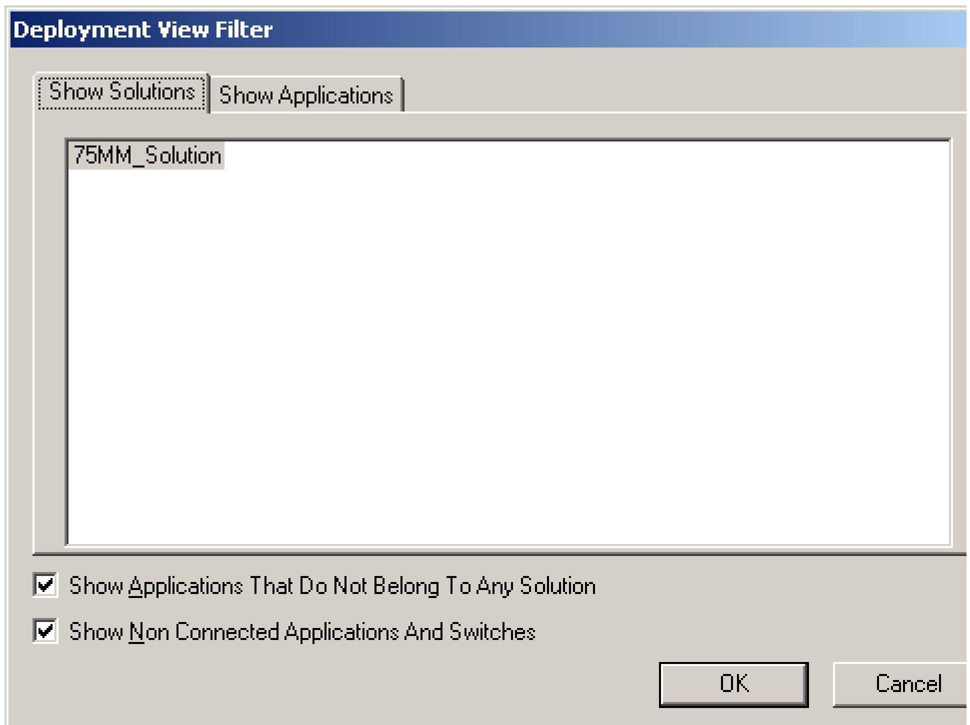


Figure 44: Deployment View Filter Dialog Box

- The `Show Solutions` tab lists all the `Solutions` that are configured in your Configuration Environment.
- The `Show Applications` tab lists all the `Application` types that are configured there. Figure 45 shows an example.

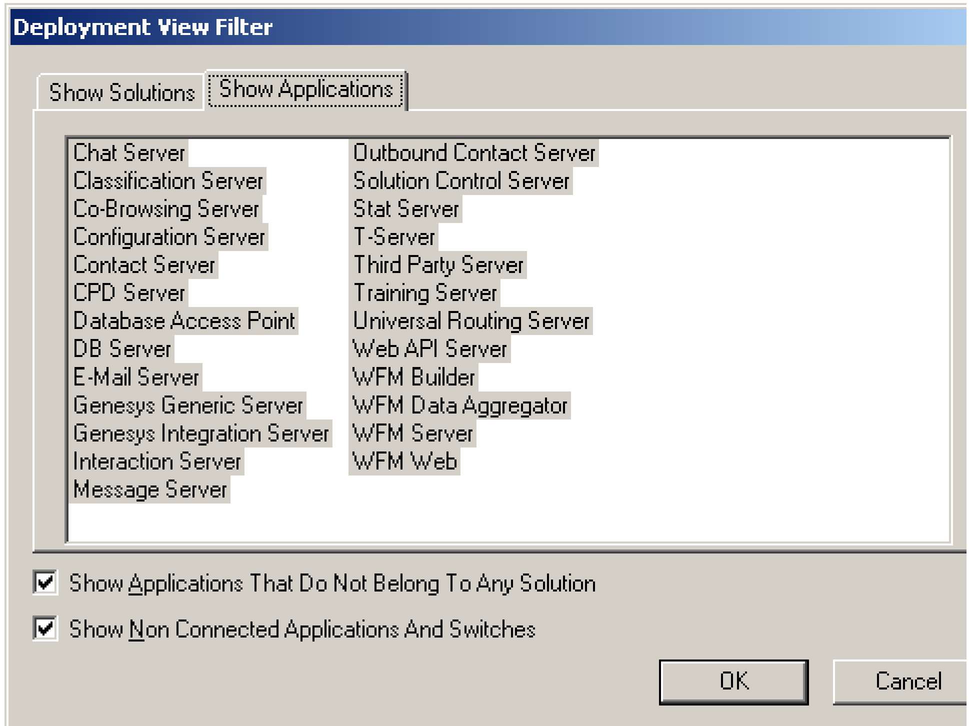


Figure 45: Deployment View Filter Dialog Box

Default Settings

The default settings are to show all `Applications`, including those that do not belong to a `Solution`, and to show `Applications` that are not connected to any other object (see Figure 43 on page 66).

- If you clear the `Show Applications That Do Not Belong to Any Solution` check box, only `Applications` that belong to the `Solutions` you select are shown in `Deployment View`.
- If you clear the `Show Non-Connected Applications` check box, only applications that are connected to another `Application` or a `Switch` appear in `Deployment View`.

Global View

The second view available in the `Useful Views` folder (see Figure 47 on page 70) is `Global View`.

`Global View` enables you to see all of the business processes you have created, the media servers you are using, and the relationships between them. Figure 46 shows an example.

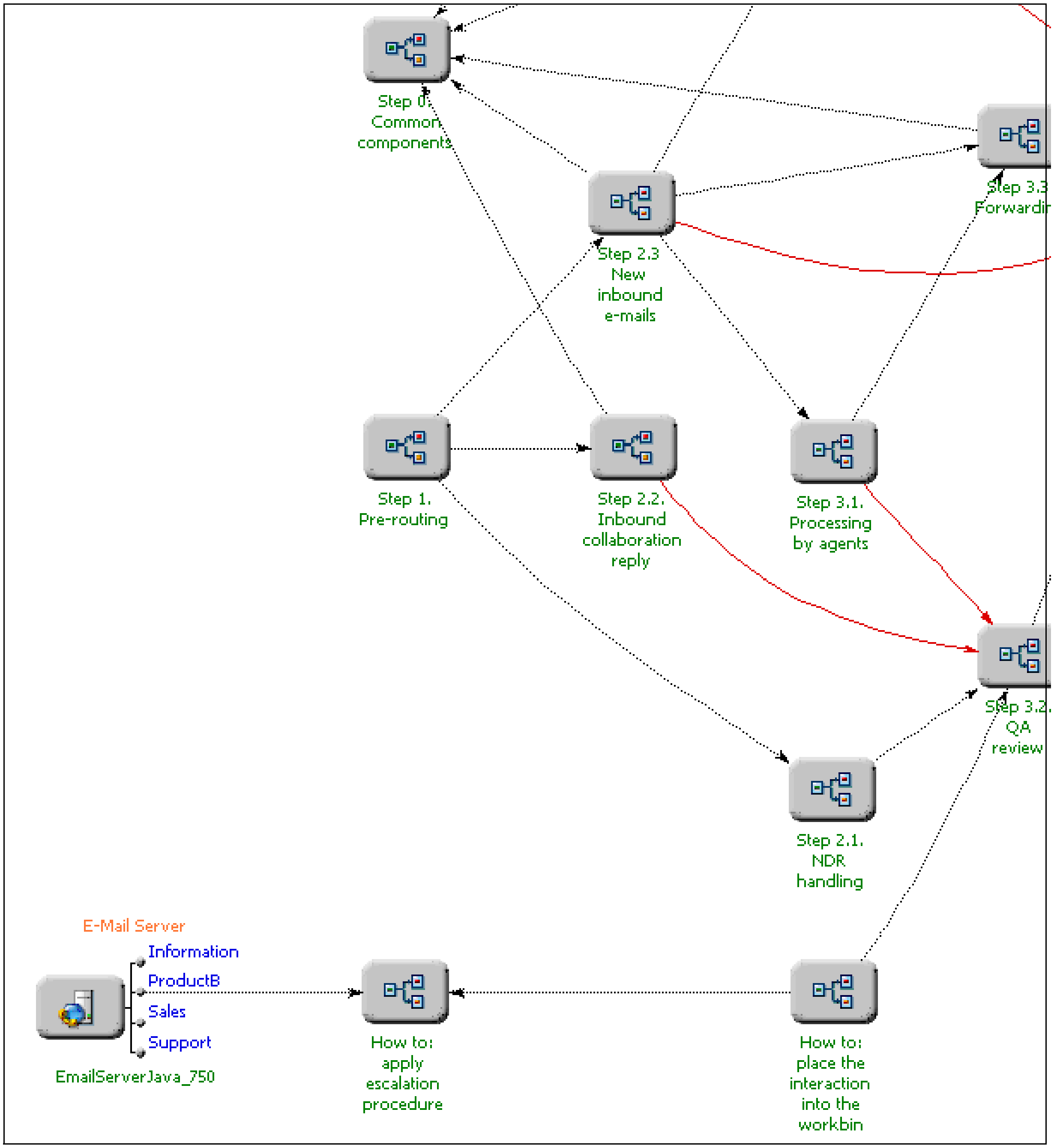


Figure 46: Global View Example

These relationships involve exchanges of interactions. `Global View` shows the big picture of how interactions are created and handled through the entire workflow sequence. You can open any business process in the `Global View` by double-clicking it.

Media Servers Folder

By default, the Genesys Multimedia (see page 39) media servers appear as Media Server objects in a `Media Servers` folder (see Figure 47).

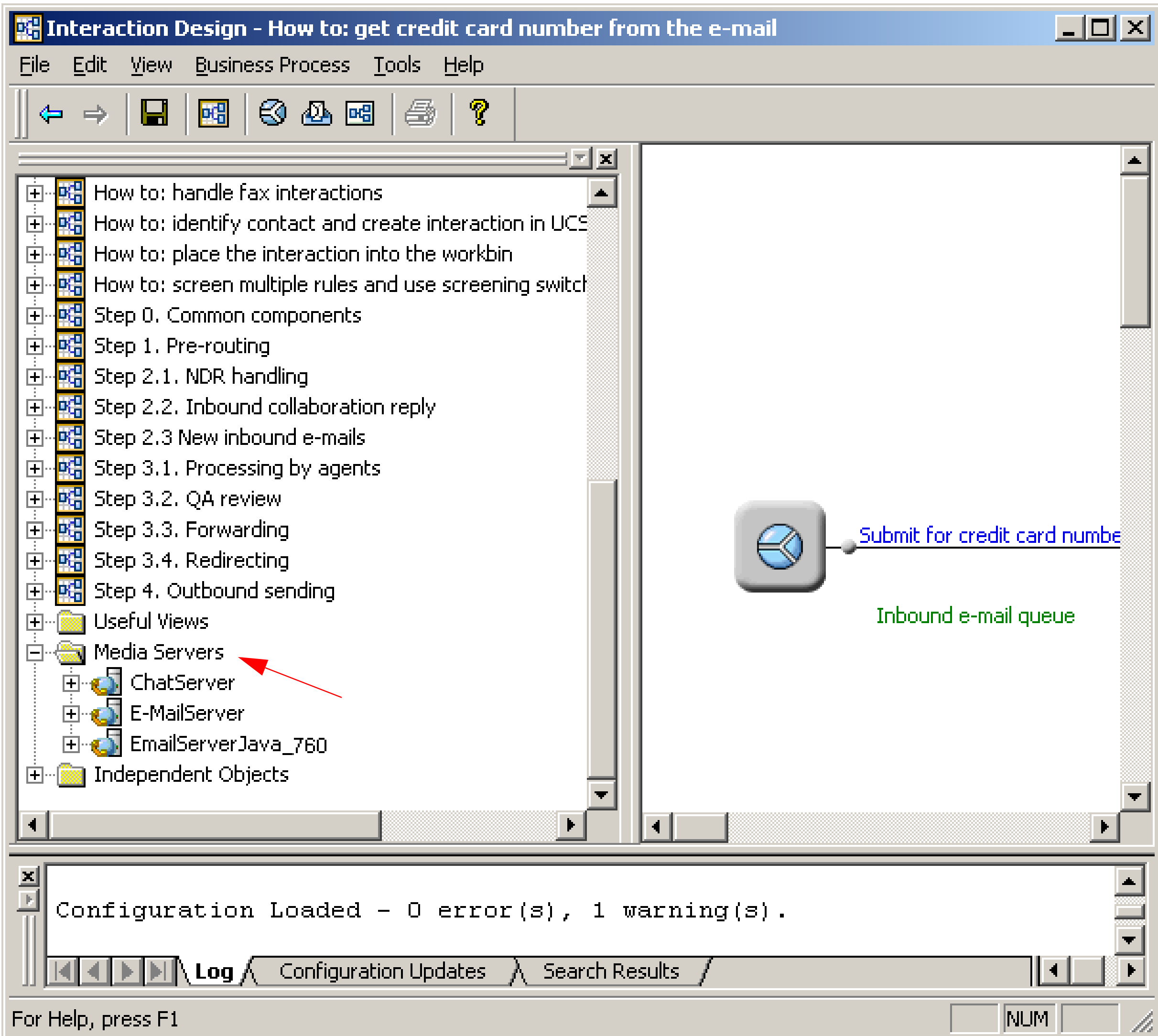


Figure 47: Media Servers Folder

For more information, see "Media Server Object" on page 39. Also see "Using Media Server Objects" on page 246.

Workflow Viewer

The workflow viewer (see Figure 34 on page 61) displays the business process as a directed graph.

- You can drag objects from the object browser and drop them into the viewer.
- You specify the interaction flow by connecting the objects.
- You can reposition the elements as you wish.
- You can have IRD arrange elements in the viewer by choosing `Business Process` > `Arrange Objects`.

Viewers

The bottom of the `Interaction Design` window contains three tabs:

- `Log`
- `Configuration Updates`
- `Search Results`

Log Tab

The `Log` tab displays messages and warnings about business process configuration (see Figure 48).

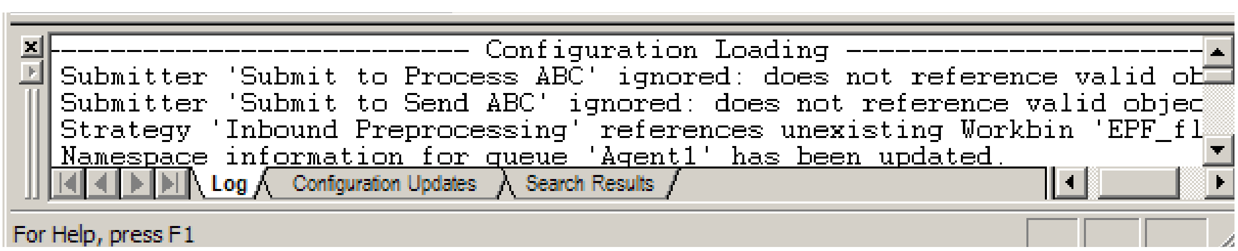


Figure 48: Log Viewer

The `Log` tab contains a running log of events, reflecting actions you have taken. More examples:

```
--------------------- Configuration Saving ----------------------
Error: Queue2 conflicts with existing Data Collection
Configuration Saving Abandoned - 1 error(s), 0 warning(s).
```

Another example:

```
---------------------- Configuration Loading --------------------
Warning: View 'Outbound ABC1' was assigned to business process 'ABC
Simple BP'
Warning: View 'Inbound ABC1' was assigned to business process 'ABC
Simple BP'
```

```
Configuration Loaded - 0 error(s), 2 warning(s).
```

Configuration Updates Tab

The `Configuration Updates` tab displays the status of changes to the configuration. For example:

```
------------------------- Connected -------------------------
5/24/2004 2:34:47 PM: Queue 'Queue1' has been deleted from
configuration server
```

Search Results Tab

This tab displays the result of using `Find` from the `Edit` menu (see page 78). Figure 49 shows the `Search Results` tab after using `Find`.

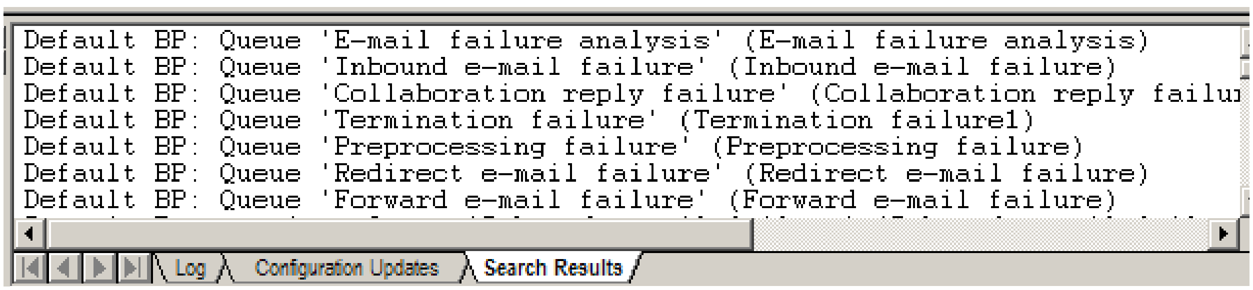


Figure 49: Search Results Tab

Viewer Context Menus

To clear, hide/unhide or dock the viewers (`Log`, `Configuration Updates`, and `Search Results`), right-click to bring up a context menu where you can select `Hide` (see Figure 50).

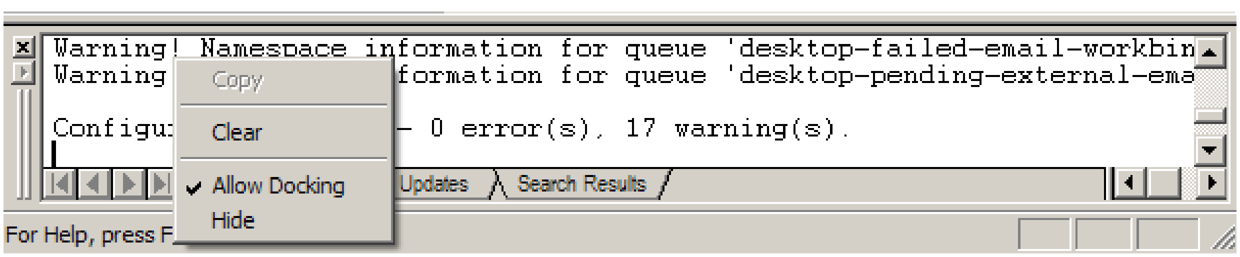


Figure 50: Viewer Context Menu

To redisplay, select `Log` from the `View` menu.

The menu bar (see Figure 34 on page 61) contains `File`, `Edit`, `View`, `Business Process`, `Tools`, and `Help` menus.

File Menu

The `File` menu contains the commands and keyboard shortcuts shown in Figure 51.

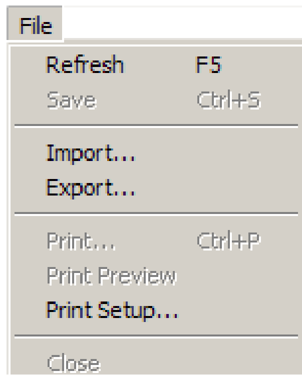


Figure 51: File Menu

`Refresh` Select to reload the `Tenant's` configuration information from the Configuration Database. If you made changes and did not save them, you will see the dialog box shown in Figure 52.

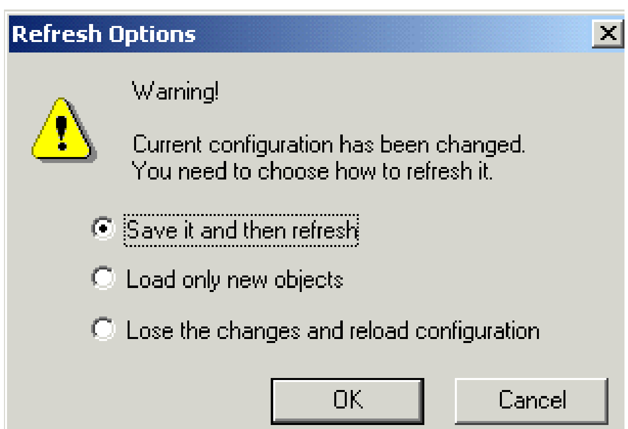


Figure 52: Refresh Dialog Box

Warning! If you select the `Lose the changes and reload configuration` radio button, a refresh occurs, but you lose any unsaved work.

`Save` Select to save everything (not just the current business process) in the Configuration Server database.

Warning! The workflow viewer shows the current configuration as it exists in a temporary buffer. To make the current editing session changes permanent, you must use the `Save` command from the `File` menu. If you exit without saving your edits, you lose them.

`Export` Select to open the `Export` dialog box. Figure 53 shows an example completed dialog box.

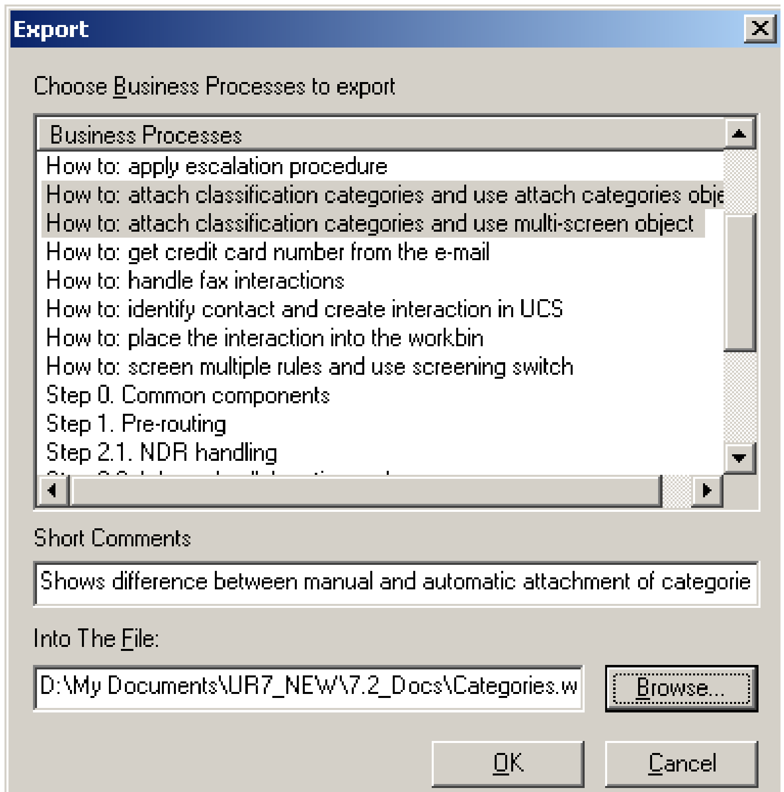


Figure 53: Export Dialog Box

For more information, see “Exporting a Business Process” on page 295.

`Import` Select to open the Configuration Import Wizard. (see Figure 54).

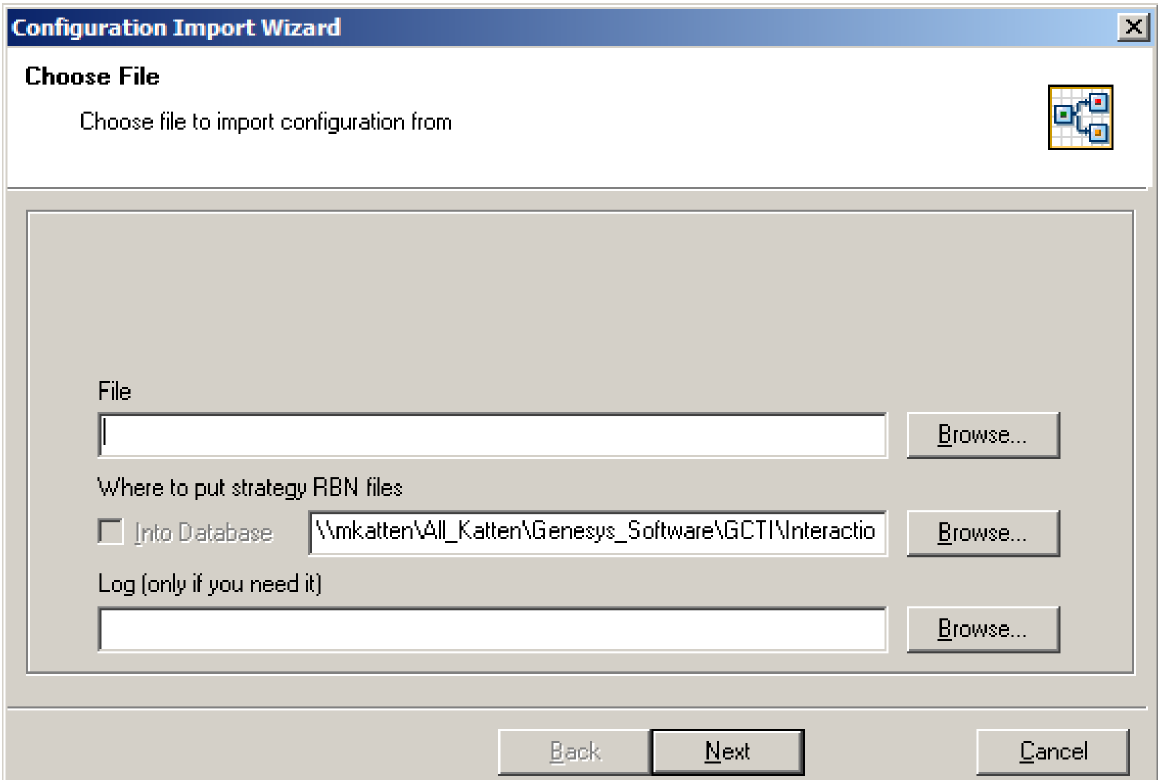


Figure 54: Configuration Import Wizard

Use to import a business process that was saved using the `Export` command For more information, see "Importing a Business Process" on page 298.

Printing a Business Process

`Print`, `Print Preview`, `Print Setup`

Using these Windows-standard menu selections from the `File` menu, you can print and print-preview the business process view seen in the `Interaction Design` window.

Note: To enable `Print` and `Print Preview`, first select any object in the business process.

Procedure:
Printing large business processes

Purpose: To print a business process that is too large to fit on one page.

Start of procedure

1. First try `Zoom Out` from the `View` menu before printing.

   If the business processes still does not fit on a single sheet of paper, you can print each area of the business process on a separate sheet of paper and then place the sheets together. For example, assume you wish to print the `Default BP` business process shown in Figure 319 on page 362.

2. Select any object in the business process.

3. Select `Print Preview` from the `File` menu.

   The resulting dialog box contains a page for each area of the business process. In the example in Figure 55, the first print preview shows pages 1 and 2.

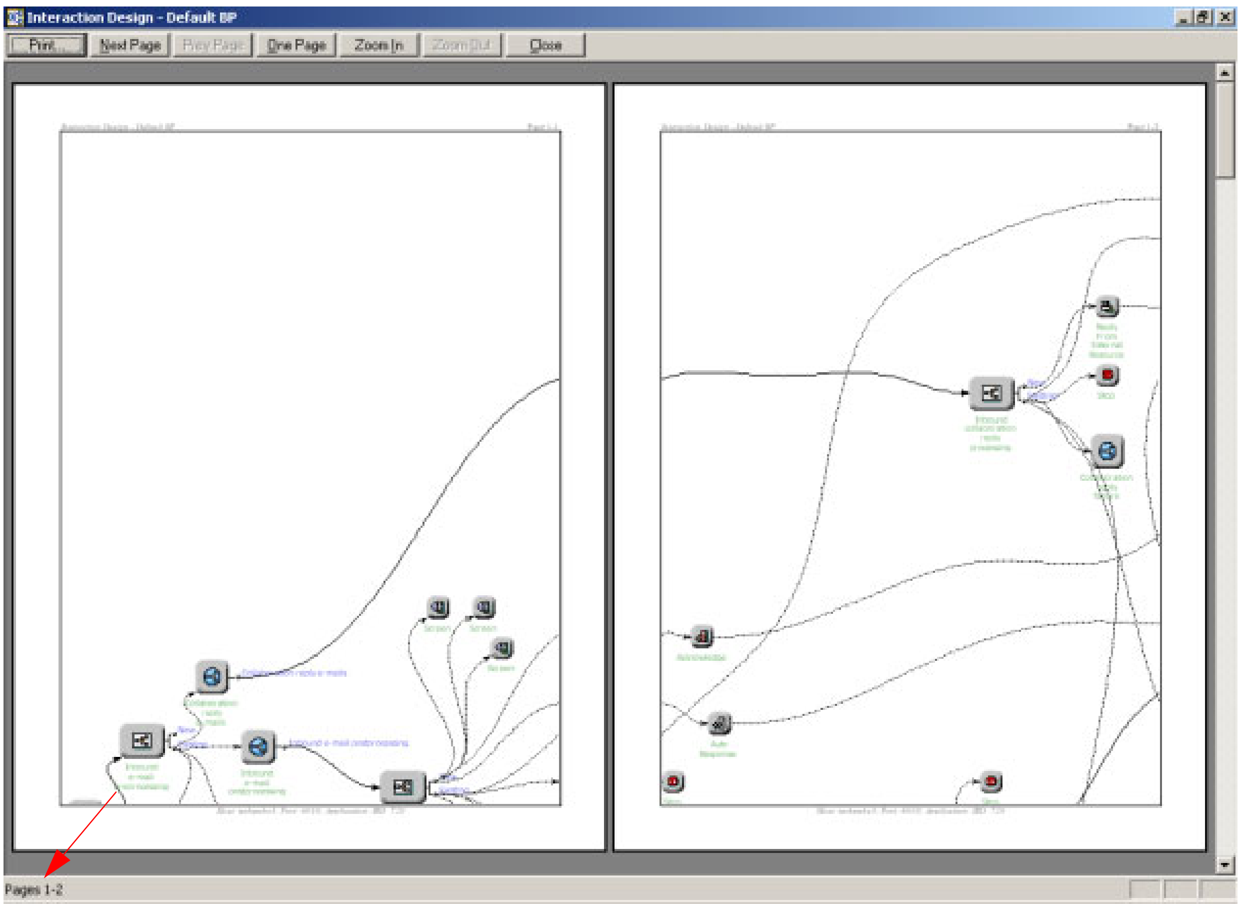


Figure 55: Print Preview of a Business Process (Pages 1 and 2)

3. Move the scroll bar on the right to view pages 2 and 3 (see Figure 56).

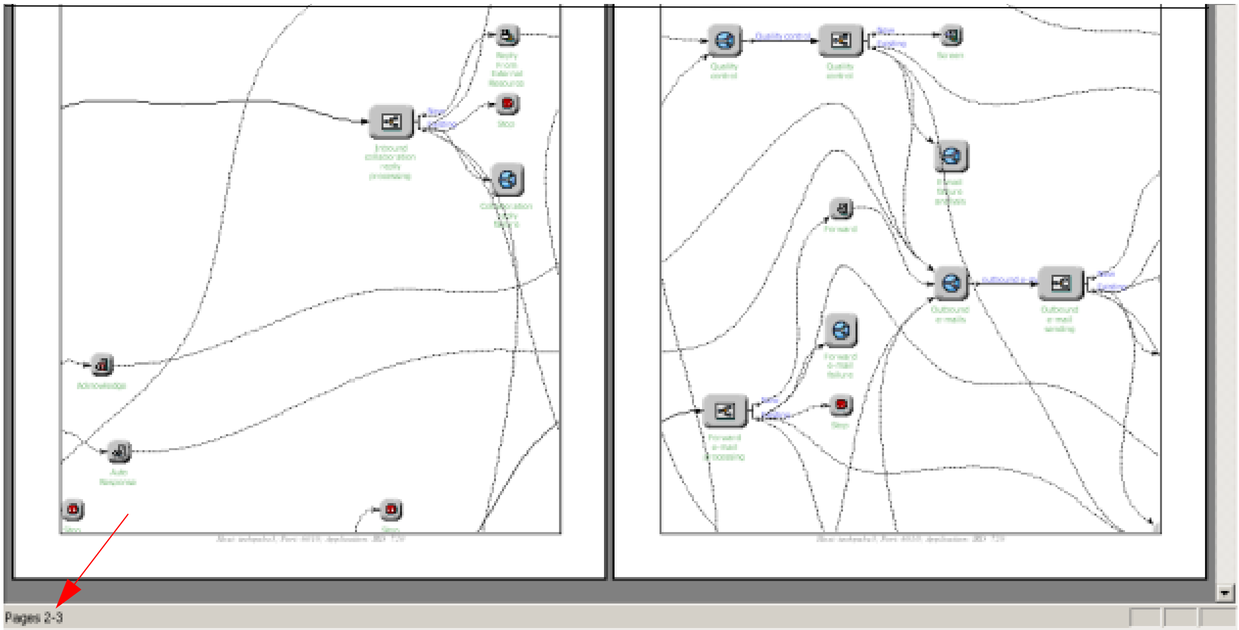


Figure 56: Print Preview of a Business Process (Pages 2 and 3)

4. Continue moving the scroll bar (or click `Next Page` in the `Print Preview` dialog box). You will see that this particular business process encompasses 8 pages.
5. Use `Zoom In` in the `Print Preview` dialog box to get an enlarged view. This option only prints the current page.
6. Click `Print` in the `Print Preview` dialog box shown in Figure 55 on page 76.
7. Place the printed pages together to view the entire business process.
8. If necessary, use `Namespace Relative` (see Figure 71 on page 87) in the `Options` dialog box to show the manually-edited name of an object, instead of the object's `Script` name in the Configuration Database.

End of procedure

The strategy interface has a similar functionality.

Edit Menu

Note: You cannot create a copy of a business process or save a business process under another name.

The `Edit` menu contains the commands and keyboard shortcuts shown in Figure 57.

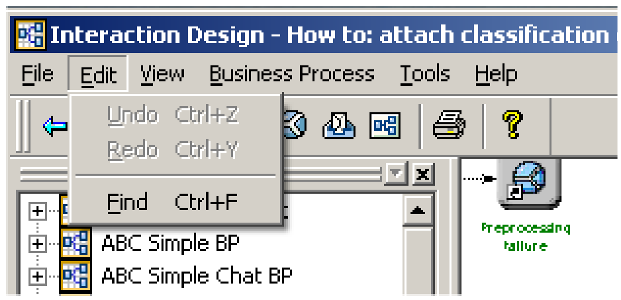


Figure 57: Edit Menu

Note: Menu wording can change depending on the action selected.

`Undo Switch to Business Process` <*action*>

`Redo` <*action*>

This menu item starts out as `Undo`. Depending on the type of edit you made, this wording changes.

It changes to `Undo Creating` after you select `New <object>` from the `Business Process` menu, but before you edit the item name. Select this option to remove the new item from the object browser so you can start over.

After you delete an object in the workflow viewer, the wording changes to `Undo Hide`. Selecting this command puts the deleted item back in the viewer.

After you disconnect an object in the workflow viewer, the wording changes to `Undo Hide`. Selecting this option restores the deleted connection.

Select `Redo Updating` after using `Undo Updating` to return to the current edit.

Warning! After selecting any of the above commands, save the business process. After you select an `Undo` or `Redo` command, the object browser shows the edit, which exists only in a temporary buffer. To make the change permanent, you must save the business process.

`Find` Brings up the `Find` dialog box (see Figure 58).

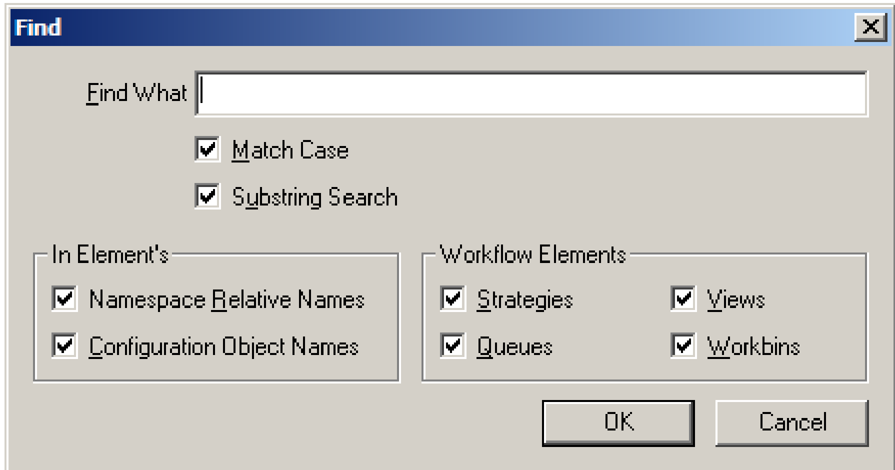


Figure 58: Find Dialog Box

For more information on using `Find`, see "Search Results Tab" on page 72.

View Menu

The `View` menu contains the commands and keyboard shortcuts shown in Figure 59.

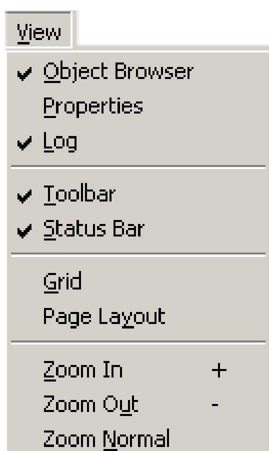


Figure 59: View Menu

`Object Browser`

Select to hide the object browser and enlarge the workflow viewer area. Re-select to re-display the object browser.

`Properties` Select an object in the object browser and select `Properties` to open the properties dialog box for the selected object.

`Log` Select to hide the log viewer from view. Re-select to re-display the log viewer.

`Toolbar` Select to hide the toolbar from view (see Figure 60).

Figure 60: Toolbar

Re-select to redisplay the toolbar.

`Status Bar` Select to hide the bottom status bar from view. Re-select to redisplay this bar.

`Grid` Select to remove the grid lines in the workflow viewer and set a white background. Re-select to redisplay the grid.

`Page Layout` Select to display a page indicator line in the workflow viewer. That line indicates how the workflow viewer display will be divided between pages when you print it.(see Figure 61).

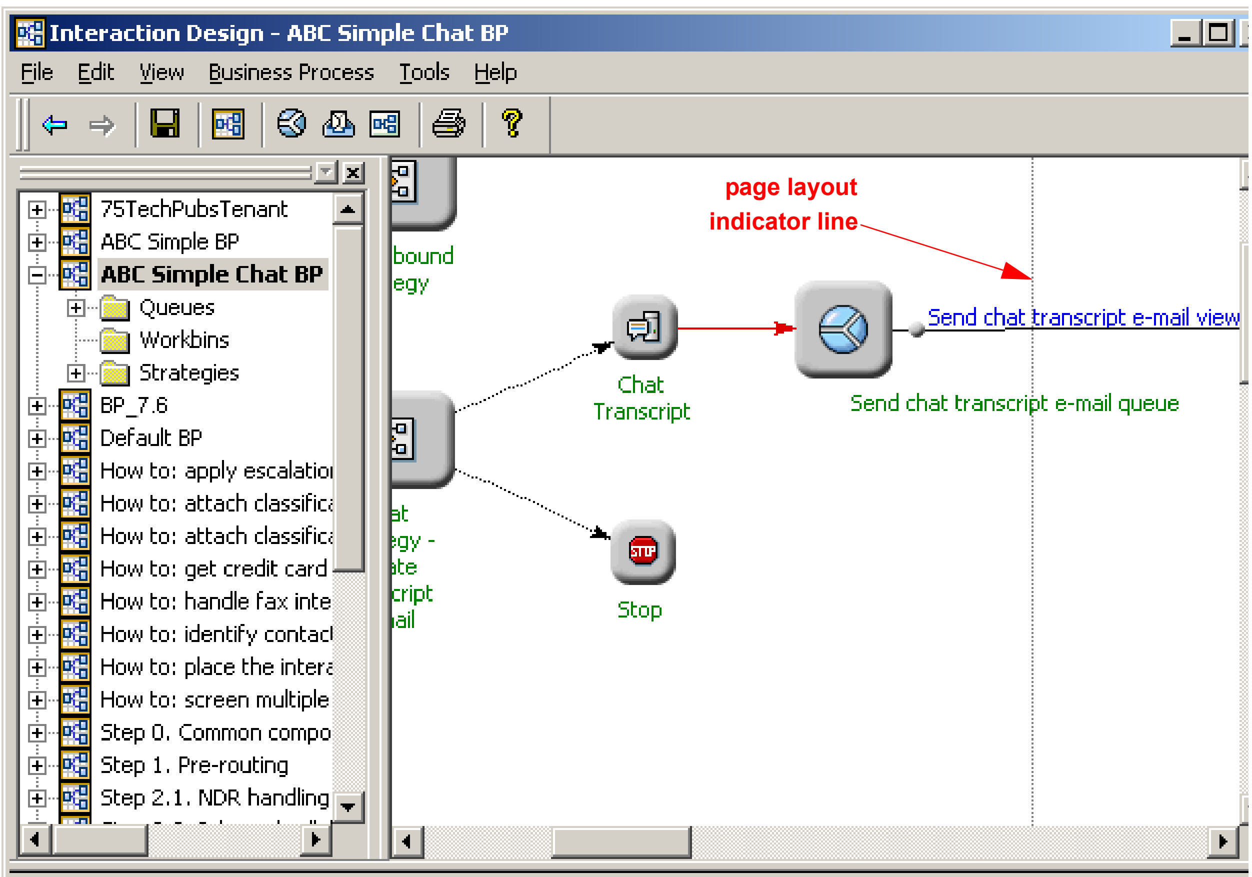


Figure 61: Page Layout Indicator

`Zoom In` Select to magnify the objects in the workflow viewer.

`Zoom Out` Select to return to the previous magnification. Useful when printing.

`Zoom Normal` Select after using `Zoom In` more than once to immediately return objects to normal viewing size.

Business Process Menu

The `Business Process` menu (when you click inside the object browser) contains the selections and keyboard shortcuts shown in Figure 62.

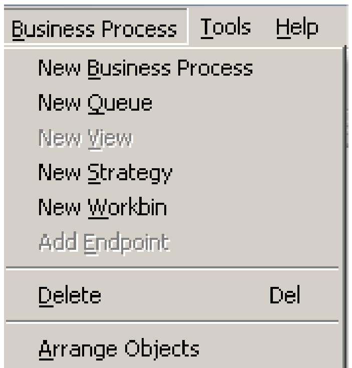


Figure 62: Business Process Menu

Note: If the selections appear inactive, click inside the object viewer.

`New Business Process`

Select to add a new business process. IRD assigns a temporary name, which you can change (see Figure 192 on page 243).

`New Queue` Select to define a new Queue object. IRD assigns a temporary name, which you can change (see Figure 201 on page 251).

`New View` Select to define a new View object (see Figure 209 on page 258). Enabled only when a queue is selected in the workflow viewer or the object browser. IRD assigns the new view a temporary name, which you can change (see Figure 209 on page 258), and attaches the new view to the selected queue.

`New Strategy` Select to define a new routing strategy. See “Strategy Placeholder Option” on page 287.

`New Workbin` Select to define a new Workbin object. IRD assigns a temporary name, which you can change (see Figure 234 on page 282).

`Add Endpoint` Select to define a new Endpoint object (see Figure 22 on page 40). Enabled only when a media server is selected in the object browser.

`Disconnect And/Or Hide Del`

Select to hide/delete the selected object. Confirmation dialog box does not pop up. Select the action from the `Edit` menu if you change your mind.

`Arrange Objects`

Select to organize and align the business processes in the workflow viewer. For more information, see "Arranging Options Tab" on page 89.

Tools Menu

The `Tools` menu contains the commands and keyboard shortcuts shown in Figure 63.

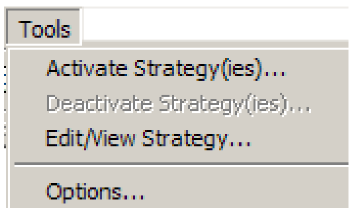


Figure 63: Tools Menu

`Activate Strategy(ies)`

Use to load a strategy on a virtual routing point using the Strategy Activation Wizard (see Figure 64).

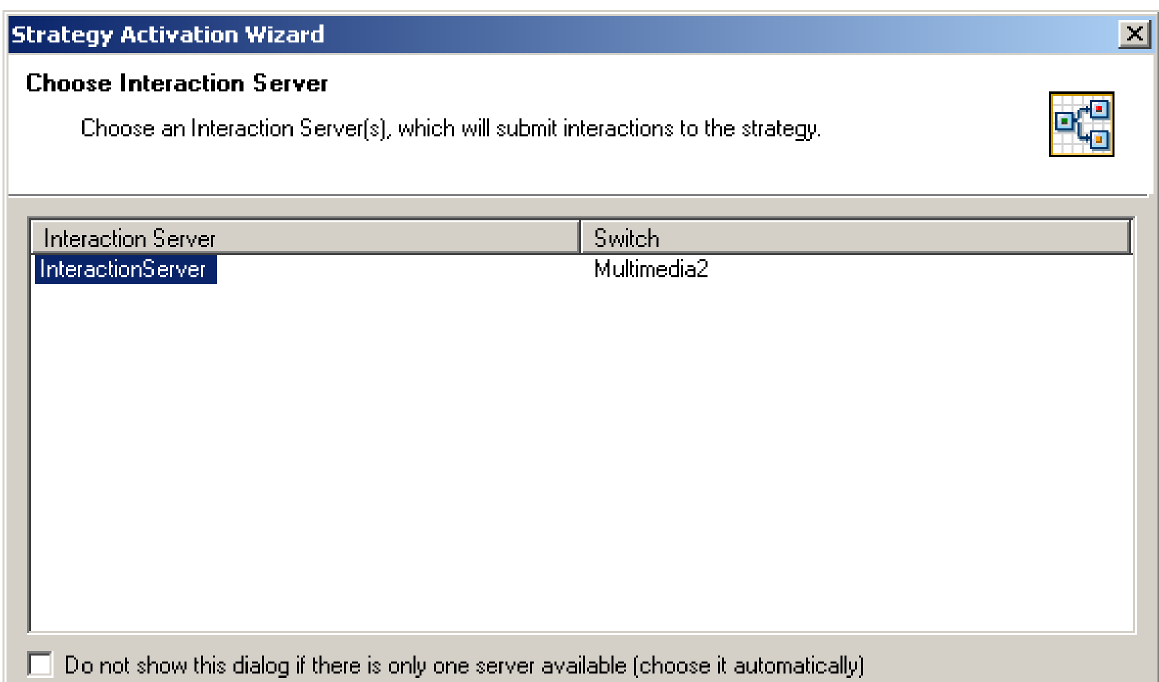


Figure 64: Strategy Activation Wizard

The Wizard provides a convenient way to create a virtual routing point on the Switch object for the purpose of loading/activating a multimedia routing strategy (see Figure 65).

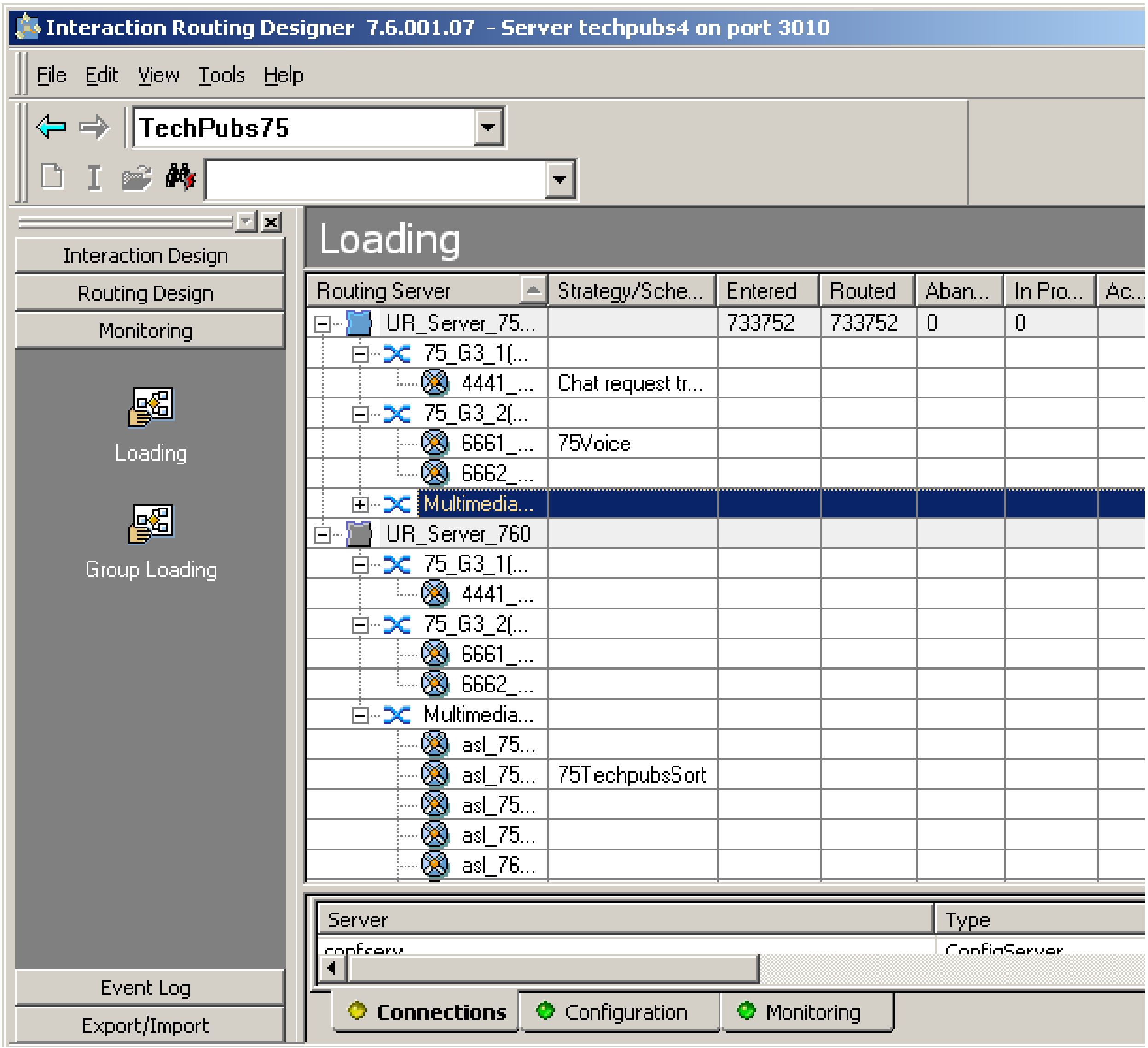


Figure 65: Strategies Loaded on Virtual Routing Points in Loading View

The Wizard requires that the Interaction Server specify a `Switch` connection (see Figure 303 on page 344). If such a connection does not exist, the Wizard displays a message to this effect.

- For more information, see "Activating Strategies" on page 343.

This section continues with the next item on the `Tools` menu (see Figure 63 on page 82).

`Deactivate Strategy (ies)`

Select an activated routing strategy in the object browser to enable this option. Opens the `Deactivate Strategies` dialog box, where you can follow through with strategy deactivation, unloading it from the routing point, or cancel the procedure (see Figure 66).

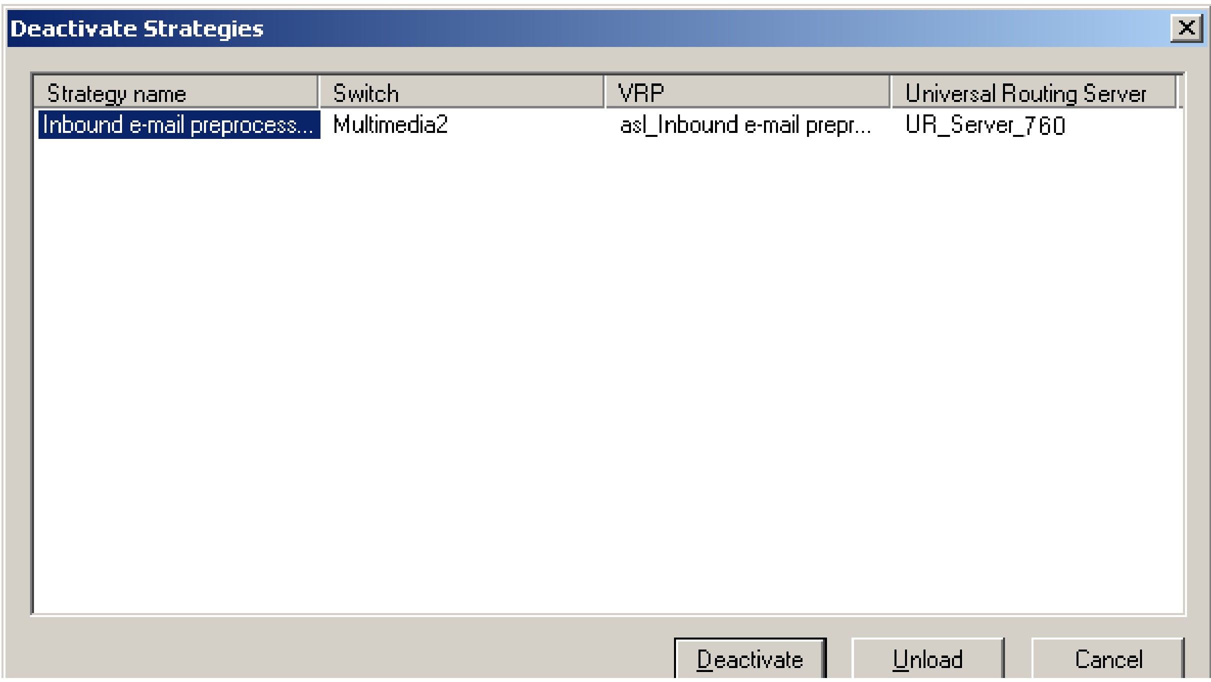


Figure 66: Deactivate Strategy Dialog Box

Note: You must deactivate a routing strategy before you can access it for editing or viewing. The icon in front of the strategy in the browser contains a green triangle indicating a loaded strategy (see Figure 67).

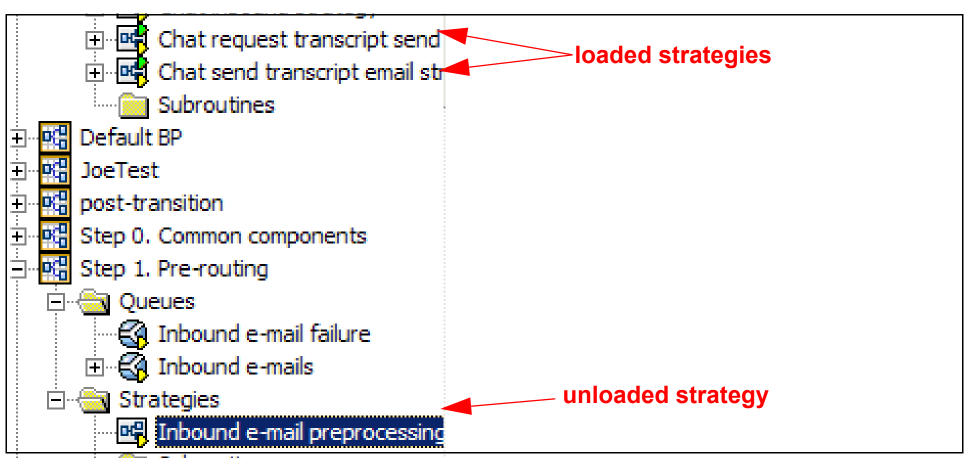


Figure 67: Loaded and Unloaded Strategies in Object Browser

`Edit/View Strategy...`

Select a routing strategy in the object browser to enable this `Tools` menu option. Opens the selected strategy for editing.

If the strategy is already loaded, the menu item is `Deactivate Strategy(ies)`, which automatically removes the corresponding virtual routing point along and unloads the strategy.

`Options` Select to open the `Options` dialog box. (see Figure 68).

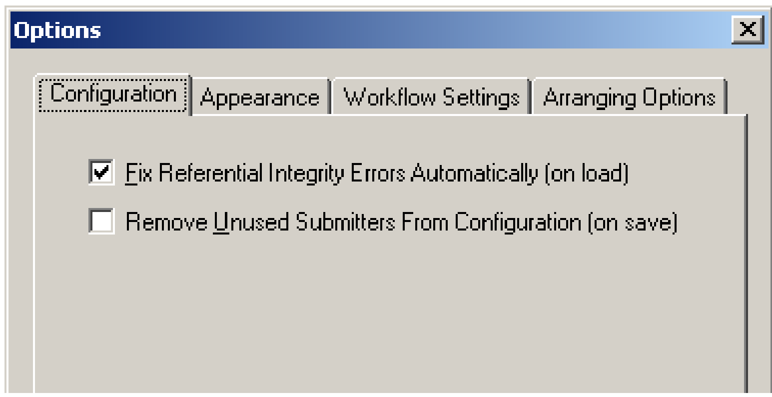


Figure 68: Options Dialog Box, Configuration Tab

The following options are available from the `Configuration` tab of the `Options` dialog box.

Configuration Tab

`Fix Referential Integrity Errors Automatically (on load)`

Enable this option to allow IRD to assign configuration objects (such as Queue, View, Submitter, and Strategy objects) to the same business process, when it judges, during its initial loading, that referential integrity has been changed.

Disable (clear) this option to forbid the automatic corrections described above. During loading, IRD notifies you of possible problems and you must respond manually. Choose if you wish to preserve intentional changes.

`Remove Unused Submitters from Configuration (on save)`

If you make changes outside IRD (for example, in Configuration Manager) a Submitter (see Figure 21 on page 39) in IRD may become disconnected—and invisible to the user. When you bring up the business process, you will see a `"Submitter" is ignored...` message in the log viewer if this has happened.

Enable this option to allow IRD to automatically remove Submitter objects that are invisible and disconnected. Notification of an automatic removal appears in the log viewer.

Disable this option to prevent this automatic removal of Submitters.

Appearance Tab

This section discusses the `Appearance` tab in the `Options` dialog box (see Figure 69).

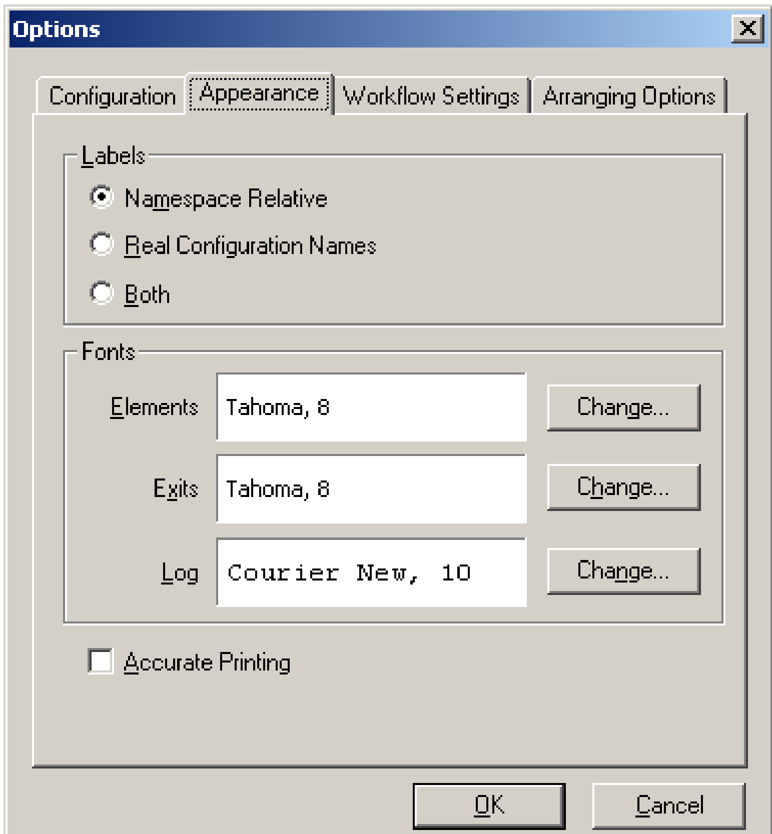


Figure 69: Options Dialog Box, Appearance Tab

`Labels` The on/off buttons in front of `Namespace Relative`, `Real Configuration Names`, and `Both` allow objects to have one name in the `Interaction Design` window, but a different name in the Configuration Database, a feature which can be very useful when designing complicated business processes.

For technical background information on this feature, see “Workflow Object Names” on page 185.

`Real Configuration Names`

Select to have the browser or viewer show the object's `Script` name. Assume you define a queue named `Inbound e-mails1`, a view named `Inbound e-mails2`, save the definitions as `Script` objects in the Configuration Database, and then select the `Real Configuration Names` button as shown in Figure 69 on page 86. The objects appear with their Configuration Database `Script` names as shown in Figure 70.

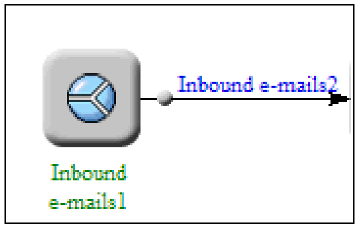


Figure 70: Real Configuration Names

`Namespace Relative`

Select to have the `Interaction Design` window show the result of manually editing a queue, view, or workbin name in the browser or viewer after the initial save as a `Script` object in the Configuration Database.

Assume you edit the names shown in Figure 70 and use the same name (`Inbound e-mails`) for both the queue and its view (which Configuration Server does not allow for `Script` objects). If you select the `Namespace Relative` button as shown in Figure 69 on page 86, the objects appear as shown in Figure 71.

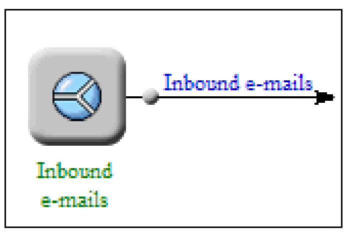


Figure 71: Namespace Relative

`Both` Select to show both the decorative and internal `Script` name (with the internal name in parentheses).

If you select `Both` in Figure 69 on page 86, the objects appear as shown in Figure 72.

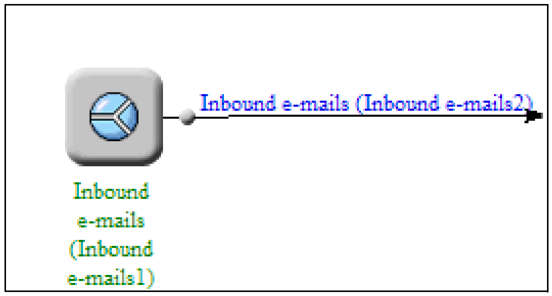


Figure 72: Both (Namespace Relative and Real Configuration Names)

`Accurate Printing`

When printing a business process that contains overlapping objects, use this option (see Figure 69 on page 86) to ensure that all object detail prints and tiny white spaces do not occur.

Workflow Settings Tab

This section discusses the third tab in the `Options` dialog box, `Workflow Settings` (see Figure 73).

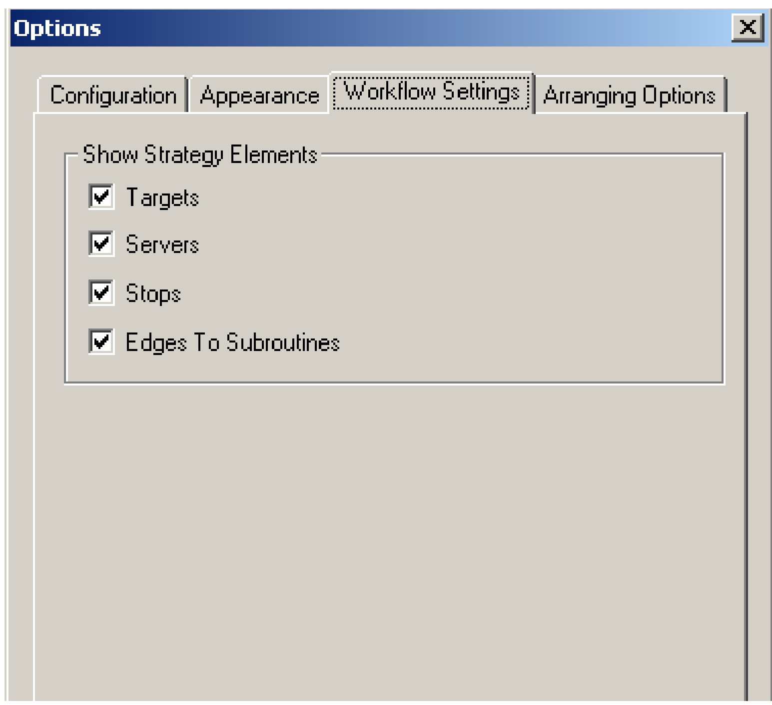


Figure 73: Options Dialog Box, Workflow Settings Tab

`Targets`

Enable to have the business process show routing strategy targets as strategy-linked nodes (see “Strategy-Linked Nodes” on page 34 and Figure 18 on page 37).

`Servers`

Enable to have the business process show routing strategy actions (such as those performed by servers) as strategy-linked nodes (see “Strategy-Linked Nodes” on page 34 and Figure 17 on page 36).

`Stops`

Enable to have the business process show routing strategy Stop Interaction objects as strategy-linked nodes (see “Strategy-Linked Nodes” on page 34).

`Edges To Subroutines`

Enable to remove lines showing connections from strategies to subroutines. Doing so reduces the complexity of the layout, making it easier to interpret.

Arranging Options Tab

When you select `Arrange` from the `Business Process` menu, IRD uses an algorithm that arranges nodes in the workflow viewer based on what you enter in the `Arranging Options` tab (see Figure 74).

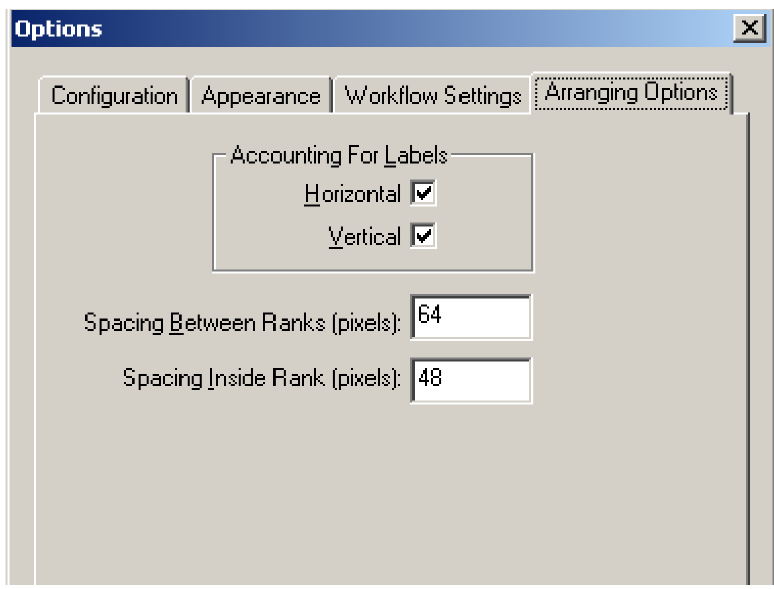


Figure 74: Options Dialog Box, Arranging Options Tab

The fields in the `Arranging Options` tab (see Figure 74 on page 89) are summarized below.

`Accounting for Labels`

IRD places labels above nodes (type) and below nodes (name) nodes as well as on the right of nodes (for names of views) . The end result of the arranging algorithm produces compact picture, but some labels may overlap. You can fix this by checking the `Horizontal` and `Vertical` fields in the `Arranging Options` tab.

`Horizontal` By checking the `Horizontal` checkbox, you are instructing IRD to account for horizontal dimension of labels in its arranging algorithm. In this case, IRD includes the horizontal positions of labels into the node size calculation, which spreads the nodes out more horizontally.

`Vertical` By checking `Vertical` checkbox, you are instructing IRD to account for the vertical dimension of labels in its arranging algorithm. In this case, IRD includes the vertical positions of labels into the node size calculation, which spreads the nodes out more vertically.

Notes: Each rectangular node has a height and width. The default node sizes are 48x48 (for queue nodes), 64x48 (for strategy and media server nodes), and 32x32 (for stop, server and agent nodes). If you don't check either of the `Accounting for Labels` checkboxes, IRD defaults to these sizes.

If the `Horizontal` and `Vertical` boxes are both checked, the size of almost every node will be different (because labels usually have bigger dimensions than nodes). This spreads out the nodes and produces a nice looking picture, but of much bigger size.

`Spacing Between Ranks (pixels)`

Use this field to specify the separation of nodes in adjacent ranks. Allows you to adjust the spacing of nodes by setting the number of pixels between one column of nodes and the column of nodes beside it. Enter any number between 16 and 160.

For a definition of *rank*, see "Arranging Algorithm" below.

`Spacing Inside Rank (pixels)`

Use to specify the separation of nodes inside a rank. Allows you to adjust the spacing of nodes by setting the number of pixels between nodes in a single column. Enter any number between 16 and 96.

Arranging Algorithm

When arranging nodes, the arranging algorithm:

- First assigns ranking numbers. Rank number assignment depends on the relationship between nodes or, more specifically, it depends on edges between the nodes.

  If two nodes are connected at an edge, the source of the edge will have a lesser rank than the destination edge. For example, assume:

  > You have nodes A, B, C and D.
  >
  > The edge of A is connected to the edge of B.
  >
  > The edge of A is also connected to the edge of C.
  >
  > The edge of B is connected to the edge of D.

  In this case, the algorithm assigns a ranking of 0 for A, 1 for B and C, and 2 for D.
- After assigning rank numbers, the algorithm arrange nodes in ranks (levels) in order to minimize edge crossing. Sometimes changing nodes in a rank will lower edge crossing between nodes in adjacent ranks.
- Finally, after the relative positions between nodes is calculated (when it is known which node is left, which node is right, which node is above and below, and so on), the algorithm gives exact positions to nodes. In this step it uses the size of nodes and the specified amount of space between nodes of adjacent ranks and between adjacent nodes in same rank.

Help Menu

The `Help` menu contains the commands and keyboard shortcuts shown in Figure 75.

Figure 75: Help Menu

`Help Topics`

> Displays the *Universal Routing 7.6 Interaction Routing Designer Help*.

`About IRD`

> Displays a dialog box containing the Genesys logo, the software title, version number, copyright notice, and warning.

Shortcut Menus

Figure 76 shows an example shortcut menu when you right-click a business process in the object browser (not the currently open business process).

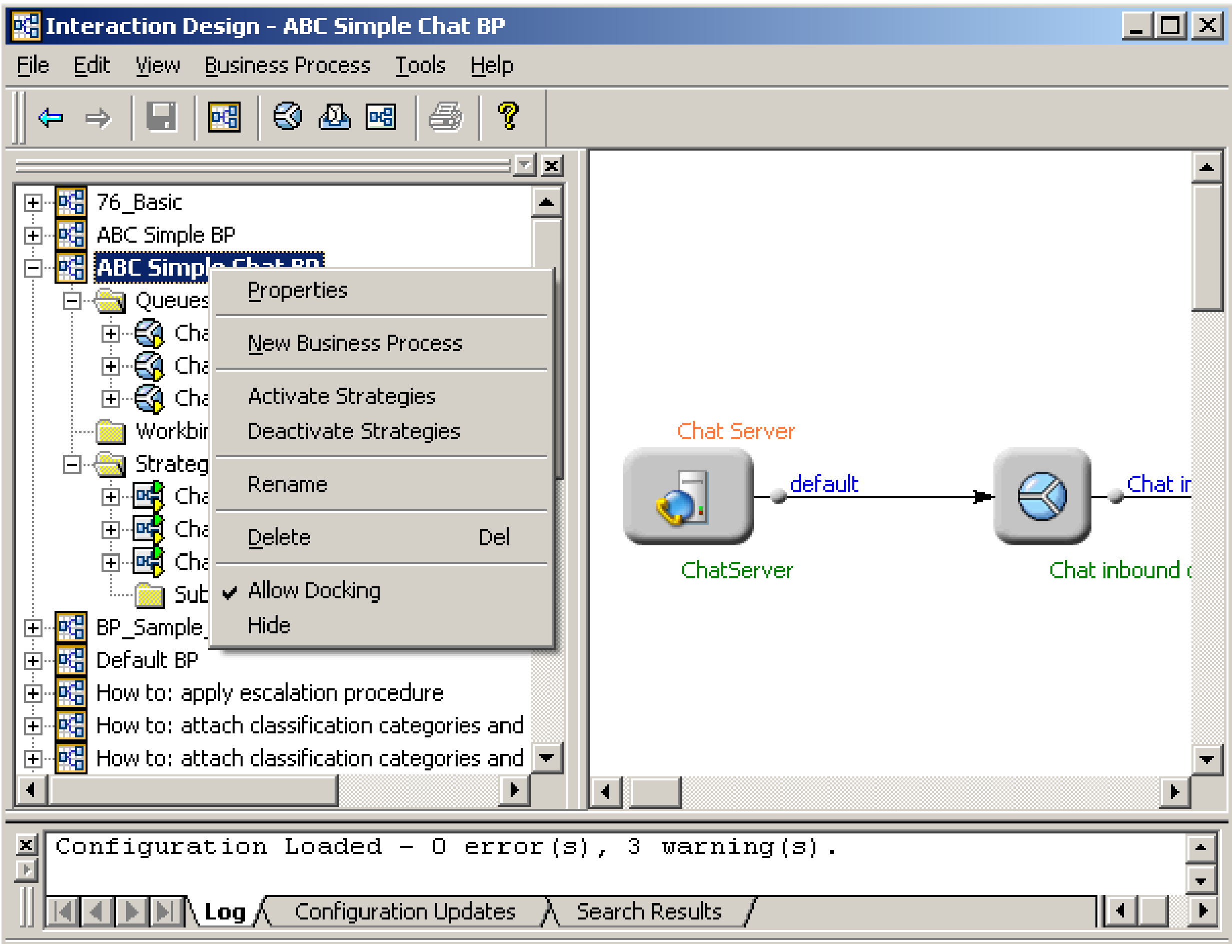


Figure 76: Browser Shortcut Menu

The content of the shortcut menus vary, depending on which object you select in the tree.

Business Process Shortcut Menu

If you select a business process (see Figure 76 on page 92), the shortcut menu lists:

- `Properties` (opens the properties dialog box).
- `New Business Process` (see page 241).

- `Open the Process` appears if you right click another business process other than the one currently selected. Use to switch to another business process. This menu item is not listed when you right-click the active business process.
- `Activate Strategies` (see page 82).
- `Deactivate Strategies` (see page 84).
- `Rename` highlights the selected object. Click inside the highlighted text and type the new name.
- `Delete` removes the selected object after a confirmation message.
- `Allow Docking` allows you to reposition the object browser or the log viewer elements—select the element's double line in its header and drag. You can dock an element at different places inside the window, or you can allow it to float as a separate window.
  - Right-click inside the object browser to display a drop-down menu and select `Allow Docking` to enable (check) or disable (uncheck) this feature.
  - When `Allow Docking` is disabled, the element is always a separate "floating" window.
  - When `Allow Docking` is enabled (the default setting), you can dock the element at various locations or create a separate window.
- `Hide` removes the object browser from view. Select `Object Browser` from the `View` menu to re-display the object browser.

Media Servers Shortcut Menu

If you select an item under the `Media Servers` folder, the shortcut menu lists:

- `Properties` (see the various properties dialog boxes discussed in "Business Process Objects" on page 29). Reads `Properties of` if you select it in the workflow viewer and there are several branches.
- `Locate` (highlights the object in the workflow viewer).
- `Add Endpoint` (see "Adding Endpoints" on page 247).
- `Allow Docking` (see above description).
- `Hide` (see above description).

Queue Object Shortcut Menu

If you select an item under the `Queues` folder, the shortcut menu lists:

- `Properties` (see the various properties dialog boxes discussed in "Business Process Objects" on page 29. Reads `Properties of` if you select it in the workflow viewer and there are several branches.
- `Locate` (highlights the object in the workflow viewer).
- `New View lets you create a new view` (see page 255).

- Rename highlights the selected object. Click inside the highlighted text and type the new name.
- Delete removes the selected object.
- Allow Docking (see above description).
- Hide (see above description).

Strategy Object Shortcut Menu

If you select an item under the Strategies folder, the shortcut menu lists:

- Properties (see the various properties dialog boxes discussed in "Business Process Objects" on page 29).
- Locate (highlights the object in the workflow viewer).
- Edit/View Strategy (see page 85).
- Activate Strategy (see page 82).
- Deactivate Strategy (see page 84).
- Rename highlights the selected object. Click inside the highlighted text and type the new name.
- Delete removes the selected object.
- Allow Docking. See description under "Business Process Shortcut Menu" on page 92.
- Hide removes the object browser from view. Select Object Browser from the View menu to re-display the object browser.

View Object Shortcut Menu

If you select a view under Queue object, the shortcut menu lists:

- Properties (see the various properties dialog boxes discussed in "Business Process Objects" on page 29).
- Locate (highlights the object in the workflow viewer).
- Rename highlights the selected object. Click inside the highlighted text and type the new name.
- Delete removes the selected object.
- Allow Docking. See description under "Business Process Shortcut Menu" on page 92.
- Hide removes the object browser from view. Select Object Browser from the View menu to re-display the object browser.

Workbin Object Shortcut Menu

If you select an item under the Workbins folder, the shortcut menu lists:

- `Properties` (see the various properties dialog boxes discussed in "Business Process Objects" on page 29).
- `Locate` (highlights the object in the workflow viewer).
- `New View`. Select to create rules for extracting interactions from workbins as described in "Adding Workbins" on page 281.
- `Rename` highlights the selected object. Click inside the highlighted text and type the new name.
- `Delete` removes the selected object.
- `Allow Docking`. See description under "Business Process Shortcut Menu" on page 92.
- `Hide` removes the object browser from view. Select `Object Browser` from the `View` menu to re-display the object browser.

Workflow Viewer Shortcut Menus

The menu items listed depend on whether an object is selected.

Object Not Selected

If you right-click inside the workflow viewer without selecting an object, the shortcut menu lists:

- `New` has branches for adding a new queue, workbin, or strategy.
- `Grid` (hides/shows workflow viewer grid lines).
- `Page Layout` (hides/shows workflow viewer page break indicator).
- `Zoom In` (magnifies icons in workflow viewer).
- `Zoom Out` (moves workflow viewer display away from icons).
- `Zoom Normal` (sets workflow viewer to normal zoom).

Object Selected

If you right-click an object inside the workflow viewer, the shortcut menu lists:

- `Properties of` if a Queue or Media Server object is selected. There are `Queue` and `View` branches.
- Reads `Properties` if a Strategy object is selected.
- Reads `Add Endpoint` if a Media Server object is selected.
- `Locate` (highlights the object in the Workflow Viewer).
- `Edit/View Strategy` if a Strategy object is selected.
- `Activate or Deactive Strategy` if a Strategy object is selected.
- `New View` if a Queue or View object is selected.
- `Disconnect and/or Hide` if a Queue object is selected.
- `Grid` (hides/shows workflow viewer grid lines).

- `Page Layout` (hides/shows workflow viewer page break indicator).
- `Zoom In` (magnifies icons in workflow viewer).
- `Zoom Out` (moves workflow viewer display away from icons).
- `Zoom Normal` (sets workflow viewer to normal zoom).
- `Bring Forward` changes the position (brings forward) of the selected object relative to the others in the stack. Use for overlapping objects.
- `Send Back` changes the position (sends back) of the selected object relative to the others in the stack. Use for overlapping objects.
- `Label/Group` for any group of objects or object selected. See "Grouping and Labels" section below.

Grouping and Labels

You can create a group of objects within a business process and then label it. This enables you to mark out a set of objects that have something in common. Figure 77 shows an example.

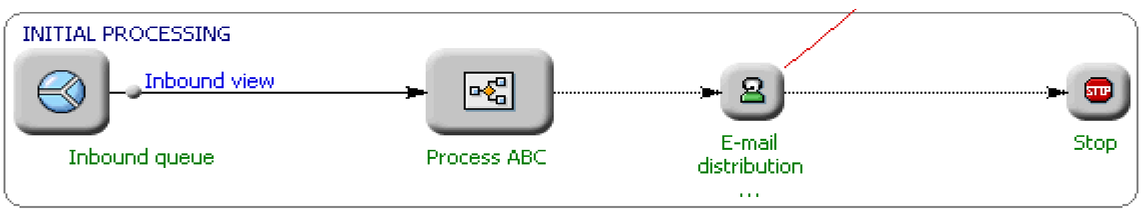


Figure 77: Labeled Group of Objects

Procedure:
Grouping objects within a business process

Purpose: To group together a set of objects within a business process either for visual purposes or to apply the same set of properties to the group.

Start of procedure

1. Select the objects to group by clicking each one as you hold down the [Ctrl] key. Or hold down the mouse button and select the entire group with the mouse cursor so they all appear highlighted.
2. Right-click any of the selected objects and select `Label/Group` from the shortcut menu. The `Group Properties` dialog box opens (see Figure 78).

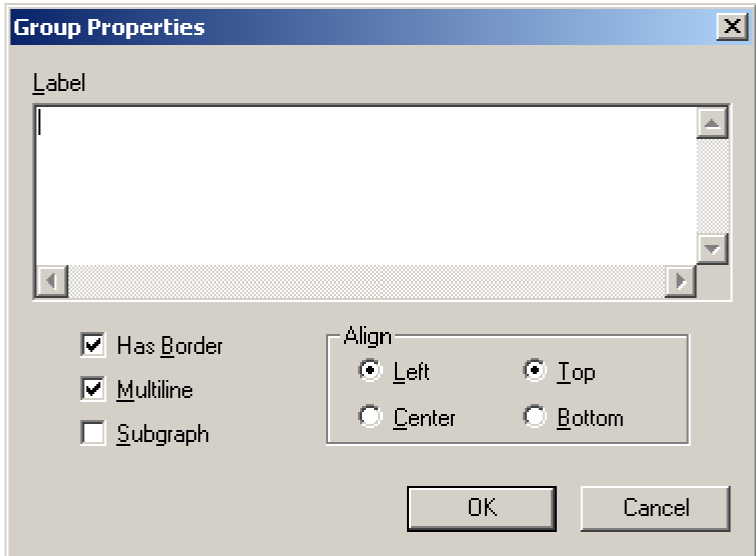


Figure 78: Group Properties dialog box

3. Type the label text into the `Label` text box.
4. Optionally, you can also perform other operations:
   - You can have the group set off by a border by selecting `Has Border`. This check box is selected by default.
   - If you want the text to wrap, select `Multiline`. This check box is selected by default.
   - To have the group actually handled and arranged as a unit, select the `Subgraph` check box. When you select `Subgraph`, `Has Border` is also selected automatically.
   - Toi `Align`, select the radio buttons that set the label where you want it. You can select either `Left` or `Center` and either `Top` or `Bottom`. `Top` and `Left` are selected by default.
5. When through in the dialog box, click `OK`. The new group, with its label, appears in the workflow viewer.

- To remove an object from a group, right-click the object and select `Remove from Group` from the shortcut menu. To remove a group, you must remove all the objects from the group.
- To change the properties of a group, right-click the group label and select `Properties` from the shortcut menu.
- To add an object to a group, create a new group that includes all the objects you want grouped.

End of procedure

Note: You cannot put an object into more than one group. You cannot create nested groups (where one group contains another group).

Viewer Context Menus

The Log, Configuration Update, and Search Result tabs in the lower portion of the Interaction Design window also bring up context menus. See Figure 50 on page 72.

Interaction Design Shortbut Bar

When IRD starts up, it checks for a Multimedia solution installed by the Multimedia Configuration Wizard. If not found, the main IRD window or the window shown in Figure 33 on page 60 does not display an Interaction Design shortcut bar and you cannot open the Interaction Design window (shown in Figure 34).

Use the following workaround if Multimedia components were manually configured in the Configuration Database without using the wizard or if the Interaction Design shortcut bar does not display.

Procedure:
Displaying the Interaction Design shortcut bar

Start of procedure

1. Log into IRD as described on page 57.
2. Click to Tools menu and select Routing Design Options.
3. Click the Views tab in the IRD Options dialog box.
4. Uncheck the Default check box.
5. Verify that the following are checked:
   - Interaction Design
   - Business Processes
6. Click OK to save your changes.

End of procedure

Summary

The intent of this chapter is to introduce the business process interface. For step-by-step instructions on using the interface, see “Creating Business Process Objects” on page 241.

Chapter

4 Strategy Interface

This chapter describes the interface for creating routing strategies contained within business processes. Find step-by-step instructions for creating routing strategies on page 305.

This chapter includes these sections:

Note: The information in this section assumes you have already installed IRD as described in the *Universal Routing 7.6 Deployment Guide*.

Start IRD as described on page 58. After you complete the login fields, click `OK`, the `Strategies` list pane opens (see Figure 32 on page 59).

The remainder of this chapter discusses strategy interface elements, both in the IRD main window and in the `Routing Design` window.

Shortcut Bars in IRD Main Window

Note the shortcut bars in Figure 32 on page 59. The shortcut bars access the various views and objects of IRD.

- Clicking the `Interaction Design` shortcut bar in Figure 32 on page 59 displays a `Business Processes` icon on the left. Clicking this icon brings up the `Business Process` list pane (see Figure 33 on page 60).
- Clicking the `Routing Design` shortcut bar and then a reusable object icon on the left displays that object's list pane. For examples, see Figure 89 on page 114 and Figure 90 on page 114.
- Clicking `Event Log` followed by `Event Viewer` brings up `Event Log` view where you can see the history of your actions in IRD (see Figure 79).

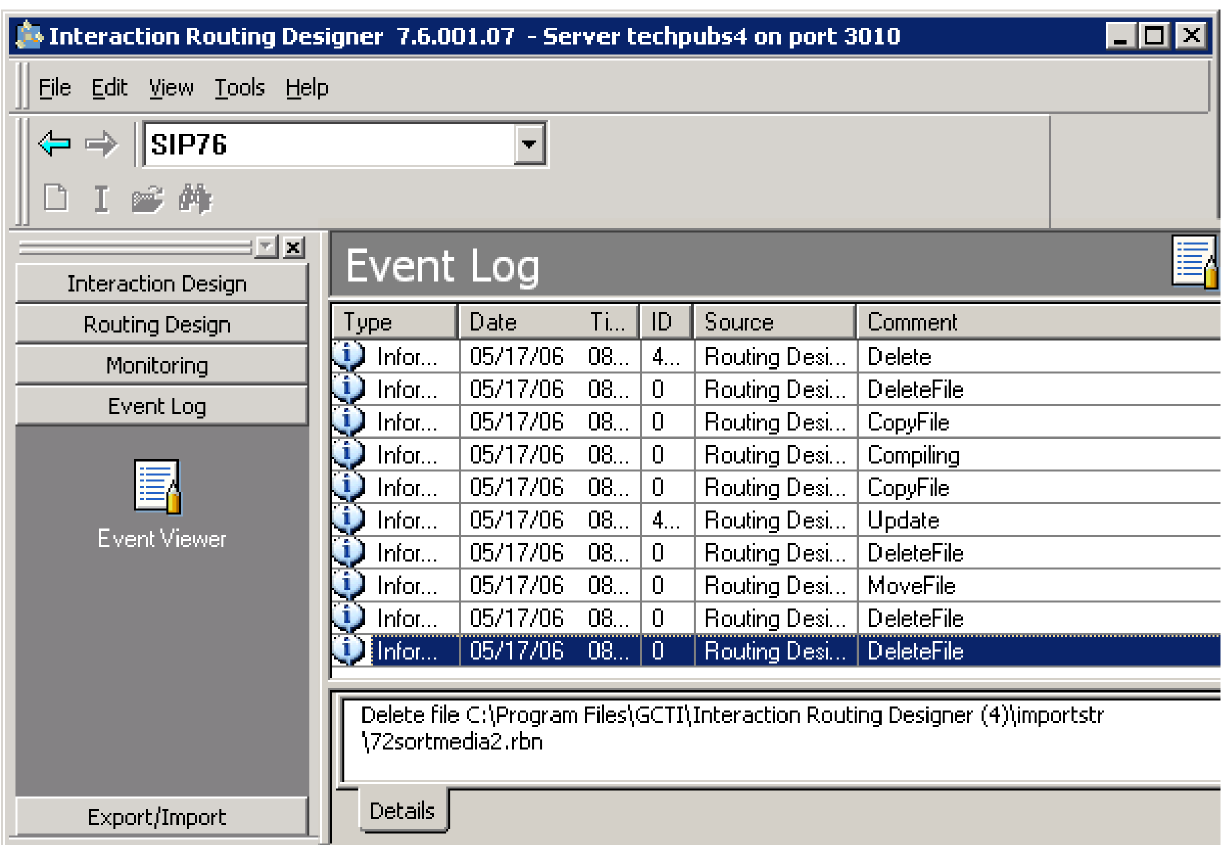


Figure 79: Event Log

For log location, see `Working Directory` (Figure 129 on page 142).

- Clicking `Monitoring` displays the `Loading` and `Group Loading` icons.

  Clicking `Loading` brings up `Loading` view. Here you can view routing points (including virtual routing points) and the names of strategies loaded on those routing points (see Figure 65 on page 83).

  Clicking `Group Loading` brings up a view for loading the same strategy on multiple DNs.

- Clicking `Export/Import` brings up `Solution export` and `Solution import` icons.

  Clicking `Solution export` brings up a view that allows you to export a group of strategies or subroutines. Figure 80 shows the shortcut menu for puting an object on a export list.

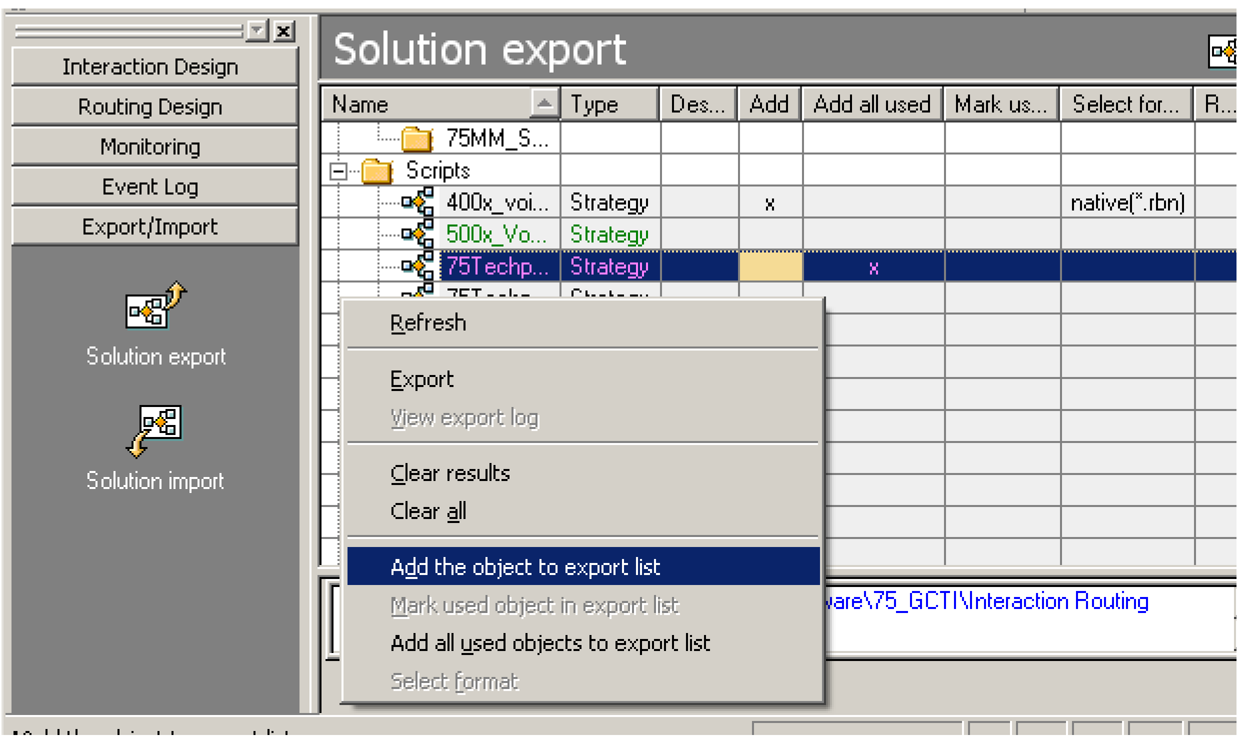


Figure 80: Solution Export View

Note: Strategies and subroutines can be exported using any one of four formats: archive (`*.zcf`), native (`*.rbn`), open (`*.xml`), and text (`*.kvl`) format. All other objects are exported in text (`*.kvlt`) format.

You can also use this view to export only objects (routing rules, business rules, interaction data, statistics, macros, and so on) without the strategies that use them.

Clicking `Solution import` brings up a view for importing the results of an export operation. For detailed information on using these views, refer to the *Universal Routing 7.6 Interaction Routing Designer Help*.

IRD Menus

Note: The menus below are available in IRD when not working in the `Interaction Design` window (see Figure 34 on page 61).

The following menus are available in the IRD main window: `File`, `Edit`, `View`, `Tools`, and `Help`. The current view controls what menu items and enabled and disabled. The enabled menu items shown in Figure 81 are those available when you click the `Strategy Design` shortcut followed by the `Strategies` icon, which displays the `Strategies` list pane (see Figure 32 on page 59).

File Menu

The `File` menu contains the commands and keyboard shortcuts shown in Figure 81.

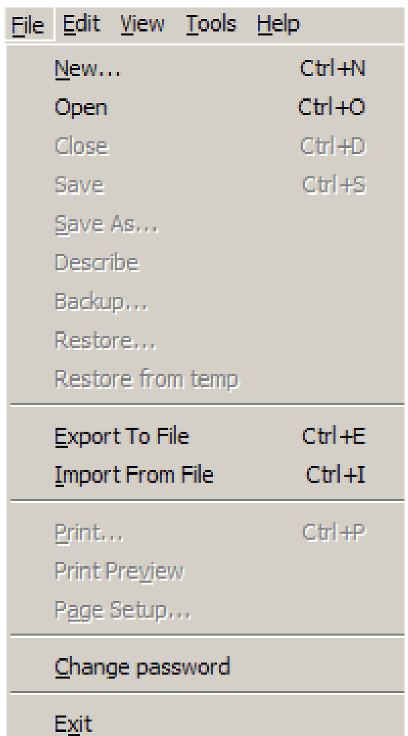


Figure 81: File Menu

The `File` menu includes the following commands:

`New` Creates a new object based on the current view.

Note: In order to enable `New`, you must first select a folder for the reusable object on the list pane.

`Open`	Opens the selected object. If you select `Open` when a strategy is selected, the `Routing Design` window opens. When other types of objects are selected (subroutine, routing rule, business rule, attribute, interaction data), the corresponding dialog box opens.
`Close`	Enabled when in the `Routing Design` window. Closes only the `Routing Design` window.
`Save`	If you are creating a new strategy in the `Routing Design` window, selecting `Save` from the `File` menu opens the `Save` dialog box (see Figure 82).

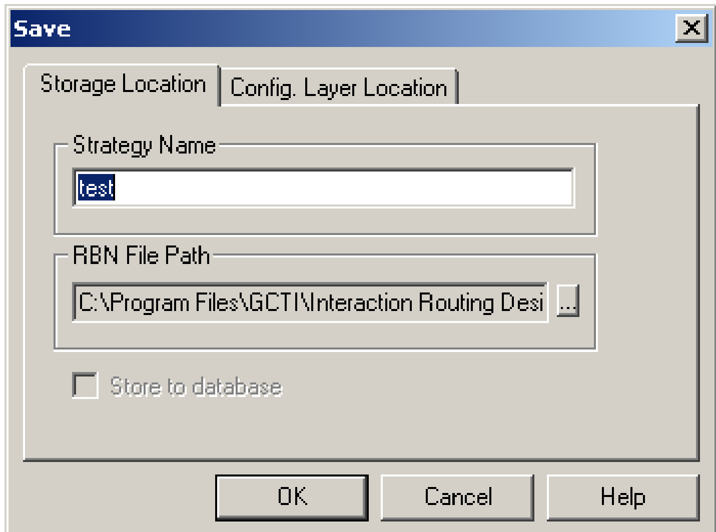


Figure 82: Save Dialog Box

Here you can specify the `.rbn` file save location (see "Graphical Portion of a Strategy" on page 186). The `Script` object save location is the `Scripts` folder you specify in the list pane in order to enable `New` from the `File` menu.

Note: If you are editing an existing strategy and select `Save` from the `File` menu, the save action occurs, but the Save dialog does not appear.

`Save As`	Enabled in `Routing Design` window. Opens the `Save As` dialog box where you have the option of changing the name and/or storage location for the `.rbn` file and `Script` object in the `Scripts` folder of Configuration Manager.
`Describe`	Enabled in `Routing Design` window. Opens the `Describe` dialog box where you can add or change the description of a strategy or subroutine or the input/output parameters of a subroutine (see Figure 83).

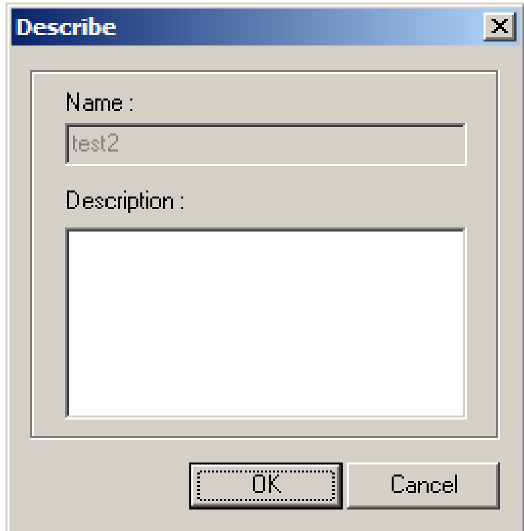


Figure 83: Describe Dialog Box

`Backup` Enabled in the `Routing Design` window. Backs up the current strategy by creating a version.

`Restore` Enabled in the `Routing Design` window. Restores one of the backup versions of a strategy. You can select which version to restore.

`Restore from temp`

Enabled in the `Routing Design` window. Restores a strategy saved by IRD when the `Autosave` timer feature is activated (see Figure 129 on page 142).

`Export to File`

Exports a strategy that you have selected in the `Strategies` list pane. For another person to view a strategy you have created, they must have access to both the `Script` file and the `.rbn` file (see "Graphical Portion of a Strategy" on page 186). For more information, see the section on automatically packaging a strategy in *Universal Routing 7.6 Reference Manual*.

`Import From File`

Imports a strategy file and creates a `Script` object for a strategy and its subroutines (if any), business rules, routing rules, attributes, interaction data, statistics, list objects, and macros in the Configuration Layer for the strategy. For more information, see the section on importing a strategy file in *Universal Routing 7.6 Reference Manual*.

`Print, Print Preview, Page Setup`

Using these Windows-standard menu selections, you can print and print-preview the strategy view seen in the `Routing Design` window. You can print to a PDF file if you have the appropriate print driver installed.

When printed, some strategies may not fit on a single sheet of paper. In this case, you can print each area of the strategy on a separate sheet of paper, and then place the sheets together. For example, assume you wish to print the `Classify customer inquiry att-ct` strategy shown in Figure 336 on page 388.

Procedure:
Printing Large Strategies

Start of procedure

1. Open the strategy.
2. Select `Print Preview` from the `File` menu. The resulting dialog box contains a page for each area of the strategy. The print preview example in Figure 84 shows the strategy on two pages.

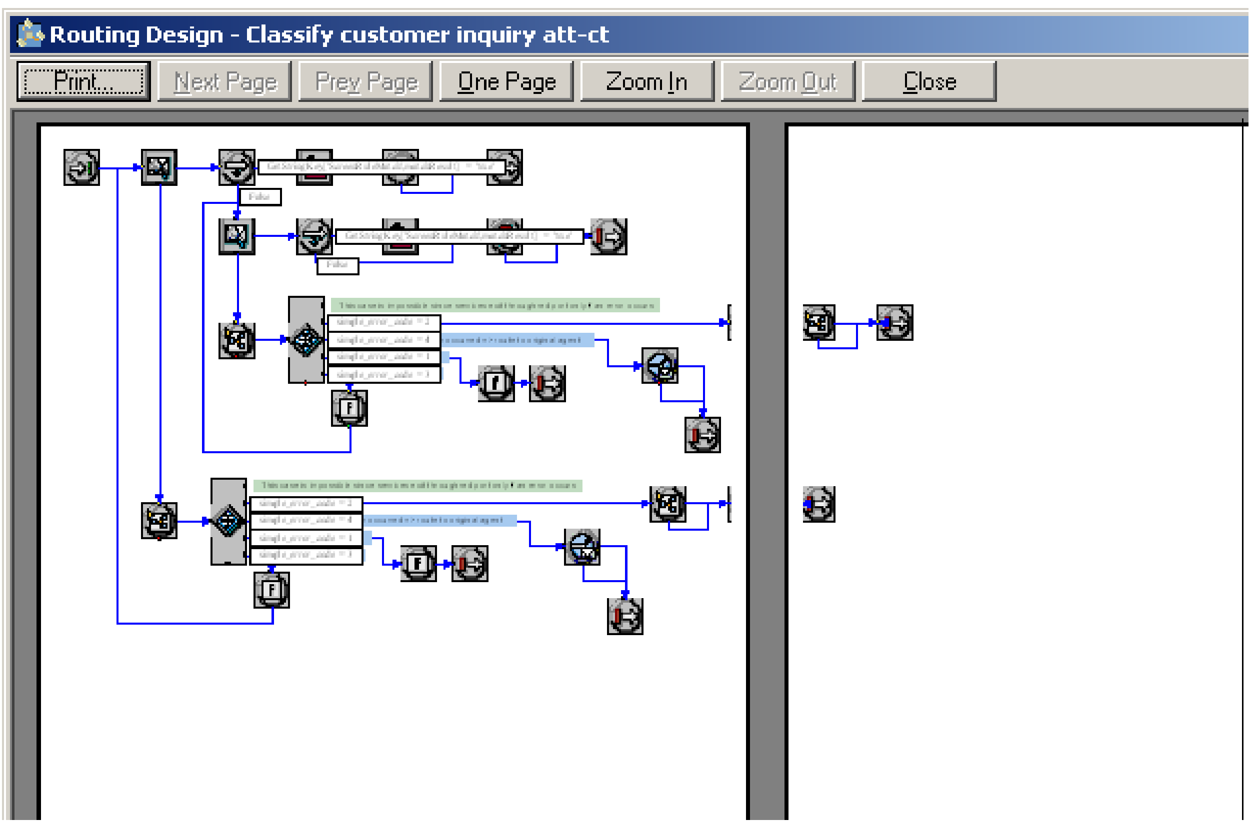


Figure 84: Print Preview of a Strategy (Pages 1 and 2)

3. If the strategy exceeds two pages, move the scroll bar (or click `Next Page` in the `Print Preview` dialog box) to view the remaining pages.

> **Note:** Use `Zoom In` in the `Print Preview` dialog box to get an enlarged view. This option only prints the current page. Use `Zoom Out` to fit more on a page.

4. Click `Print` in the `Print Preview` dialog box shown in Figure 84 on page 107.

> **Note:** To avoid printing blank pages, in the `Print` dialog box, specify the To and From pages .

5. Place the printed pages together to view the entire strategy. In the `Print` dialog box, specify the to and from pages.
6. To get a better idea of interaction flow before printing, use Comment objects (see page 136) or manipulate `Graph Settings` in the `Routing Design Options` dialog box (see Figure 123 on page 139).

End of procedure

This section now continues with the next item on the `File` menu, `Change Password`.

`Change Password`

Brings up a dialog box that allows you to change your password used to gain access to GUI applications.

`Exit` Exits IRD if used in the IRD main window. Closes the opened strategy if used in the `Routing Design` window. If there are any unsaved changes in the current strategy, a confirmation dialog box prompts you to save those changes.

Edit Menu

The `Edit` menu contains the commands and keyboard shortcuts shown in Figure 85.

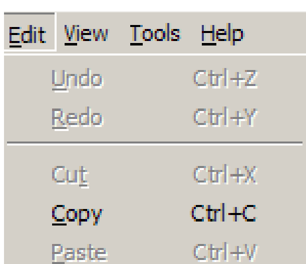


Figure 85: Edit Menu

This menu includes the following commands:

`Undo` Reverses the last action. This command is not available for all actions.

`Redo`	Repeats the last action. This command is not available for all actions.
`Cut`	Removes selected objects from the `Routing Design` window and moves the objects to the clipboard.
`Copy`	In the `Routing Design` window, copies selected objects to the clipboard. This action cannot be undone. You can also copy an object using a context menu. Note: Copying in the `Strategies` list pane cannot be done from the `Edit` menu.
`Paste`	Creates copies of objects currently in the clipboard.

View Menu

The `View` menu contains the commands and keyboard shortcuts shown in Figure 86.

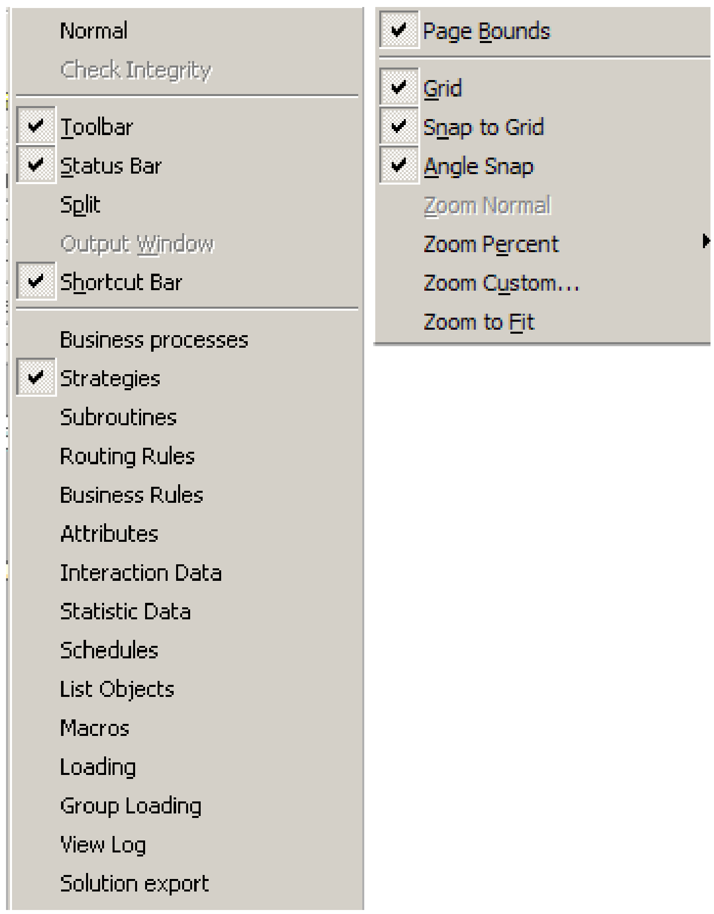


Figure 86: View Menu

Note: The `View` menu appears as one long vertical column, not two columns as shown in Figure 86. The second group of menu items appears when the view menu is open from IRD's `Interaction Design` window.

`Normal`	When this command is selected, the Check Integrity tool (see page 336) is de-activated. This is the default setting. The `Normal` command functions with the `Check Integrity` command to de-activate/activate the Check Integrity tool.
`Check Integrity`	
	When this command is selected, the Check Integrity tool is activated (see page 336. When activated, all strategies and objects in IRD are checked with the exception of objects used in the object browser of the `Interaction Design` window (see page 62). As IRD performs the check, no other operation can be performed. The progress bar indicates the progress of the integrity checking.
`Toolbar`	Displays/hides the toolbar.
`Status Bar`	Displays/hides the status bar.
`Split`	Splits the active window with a horizontal divider.
`Output Window`	
	When a strategy is open, displays the an output area that contains the `Find in Strategy` and `Errors in Strategy` tabs. These tabs appear automatically when compiling or checking integrity.
`Shortcut Bar`	Displays/hides the shortcut bars (see page 102).
`Strategies`	Displays the `Strategies` list pane (see Figure 32 on page 59). The `Strategies` list may also be displayed by selecting the `Strategies` icon on the shortcut bar.
`Subroutines`	Displays the `Subroutines` (see page 115) list. The `Subroutines` list may also be displayed by selecting the `Subroutines` icon on the shortcut bar.
`Routing Rules`	Displays the Routing Rules (see page 115) list. The Routing Rules list may also be displayed by selecting the `Routing Rules` icon on the shortcut bar.
`Business Rules`	
	Displays the `Business Rules` (see page 117) list. The Business Rules list may also be displayed by selecting the `Business Rules` icon on the shortcut bar.
`Attributes`	Displays the `Attributes` (see page 116) list. The Attributes view may also be displayed by selecting the `Attributes` icon on the shortcut bar.
`Interaction Data`	
	Displays the `Interaction Data` (see page 117) list. The `Interaction Data` list may also be displayed by selecting the `Interaction Data` icon on the shortcut bar.

`Statistic Data`

Displays the `Statistics` (see page 118) list. The `Statistics` list may also be displayed by selecting the `Statistics` icon on the shortcut bar.

`Schedules` Displays the `Schedules` (see page 118) list. The `Schedules` list may also be displayed by selecting the `Schedules` icon on the shortcut bar.

`List Objects` Displays the `List Objects` (see page 119) list. The list may also be displayed by selecting the `List Objects` icon on the shortcut bar.

`Macros` Displays the `Macros` (see page 119) list. The `Macros` list may also be displayed by selecting the `Macros` icon on the shortcut bar.

`Loading` Displays the `Loading` view (see Figure 65 on page 83). The `Loading` view may also be displayed by selecting the `Loading` icon on the shortcut bar.

`Group Loading` Displays the `Group Loading` (see page 103) view. The Group `Loading` view may also be displayed by selecting the `Group Loading` icon on the shortcut bar.

`View Log` Displays the `Event Log` view shown in Figure 79 on page 102.

`Solution export`

Displays the `Solution export` view shown in Figure 80 on page 103.

`Solution import`

Displays the `Solution import` view as described on page 103.

Routing Design Window Menu Items

The following `View` menu items are only active in the `Routing Design` window (see Figure 96 on page 120):

`Page Bounds` Shows the page boundaries.

`Grid` Displays a grid in the `Routing Design` window.

`Snap to Grid` Snaps objects to the grid.

`Angle Snap` Snaps objects on an angle.

`Zoom Normal` Displays the window at 100% zoom.

`Zoom Percent` Zooms the window to a predefined percentage.

`Zoom Custom` Zooms the window to a custom percentage. The allowable range of integers for entry into the `Magnification%` field is 5 to 1500. However, if you need to bring magnification down to 5%, Genesys recommends you turn off the `Grid` menu item. This prevents a negative impact on IRD performance.

`Zoom to Fit` Zooms `Routing Design` to fit in the window.

Tools Menu

The `Tools` menu contains the commands and keyboard shortcuts shown in Figure 87.

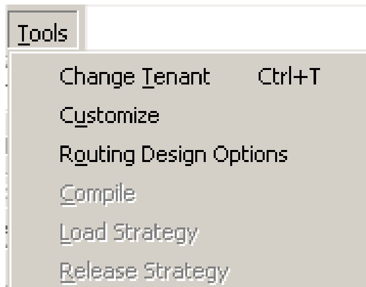


Figure 87: Tools Menu

This menu includes the following commands:

`Change Tenant`

Opens the `Tenant` menu. The tenant can be changed anywhere except in the `Routing Design` window.

`Customize` Opens the `Toolbars` dialog box. Toolbars can be enabled or disabled except for the menu toolbar.

`Rouitng Design Options`

Opens the `Options` dialog box (see“Routing Design Options” on page 139). The Options command is accessible in the IRD main window.

`Compile` Compiles the strategy, displaying progress in the Status Bar and error messages as message boxes. This command is only active in the `Routing Design` window. See page 335 for more information.

`Load Strategy`

Opens the `Select Strategy` dialog box. Allows you to load a voice strategy to the selected routing points (see Figure 65 on page 83). Use the Strategy Activation Wizard (see Figure 64 on page 82) for loading multimedia routing strategies on virtual routing points. This command is only active in the `Loading` view (see page 103).

`Release Strategy`

Releases a strategy from the selected route points. This command is only active in the Loading view.

Help Menu

See "Help Menu" on page 91.

Reusable Objects

With IRD, you can define the following *reusable objects* and data, which any strategy can then use:

- Strategies
- Subroutines
- Routing Rules
- Business Rules
- Attributes
- Interaction Data
- Statistics
- Schedules
- List Objects
- Macros

Note: The GUI elements that you can work with are affected by settings in the `View` tab of the `Options` dialog box (see Figure 131 on page 144).

For more detailed information than presented here on reusable objects, see *Universal Routing 7.6 Reference Manual* or *Universal Routing 7.6 Interaction Routing Designer Help*. Figure 88 shows the buttons for reusable objects in the left pane of the IRD main window (not all buttons shown).

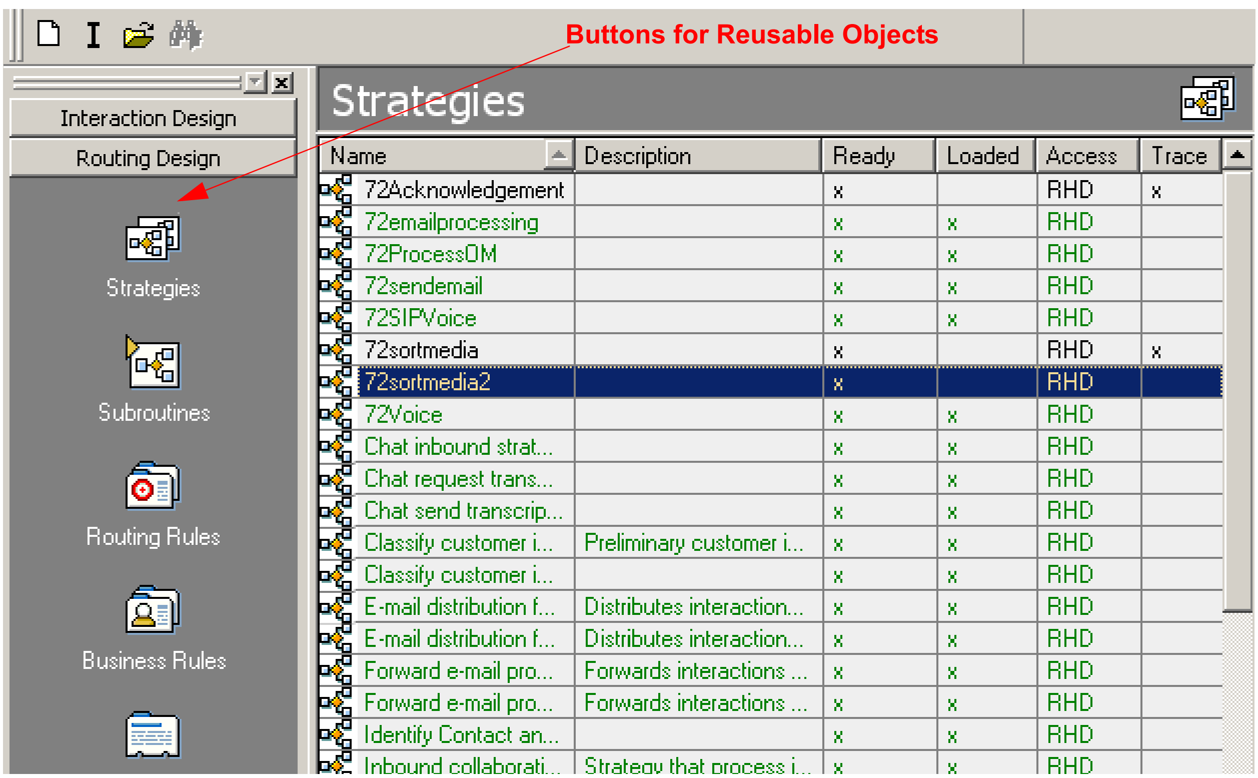


Figure 88: Reusable Object Buttons (Not All Shown)

Clicking a button for a reusable object brings up a list of those objects. For example, clicking `Subroutines` brings up the `Subroutines` list (see Figure 89).

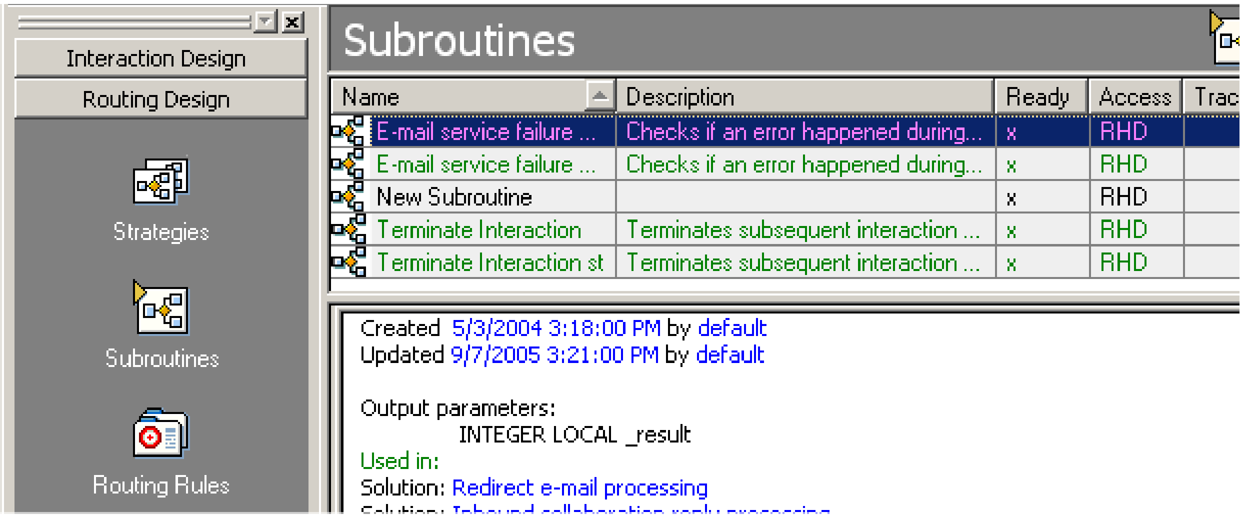


Figure 89: Subroutines List

Similarly, clicking `Statistics` shows the `Statistics` list (see Figure 90).

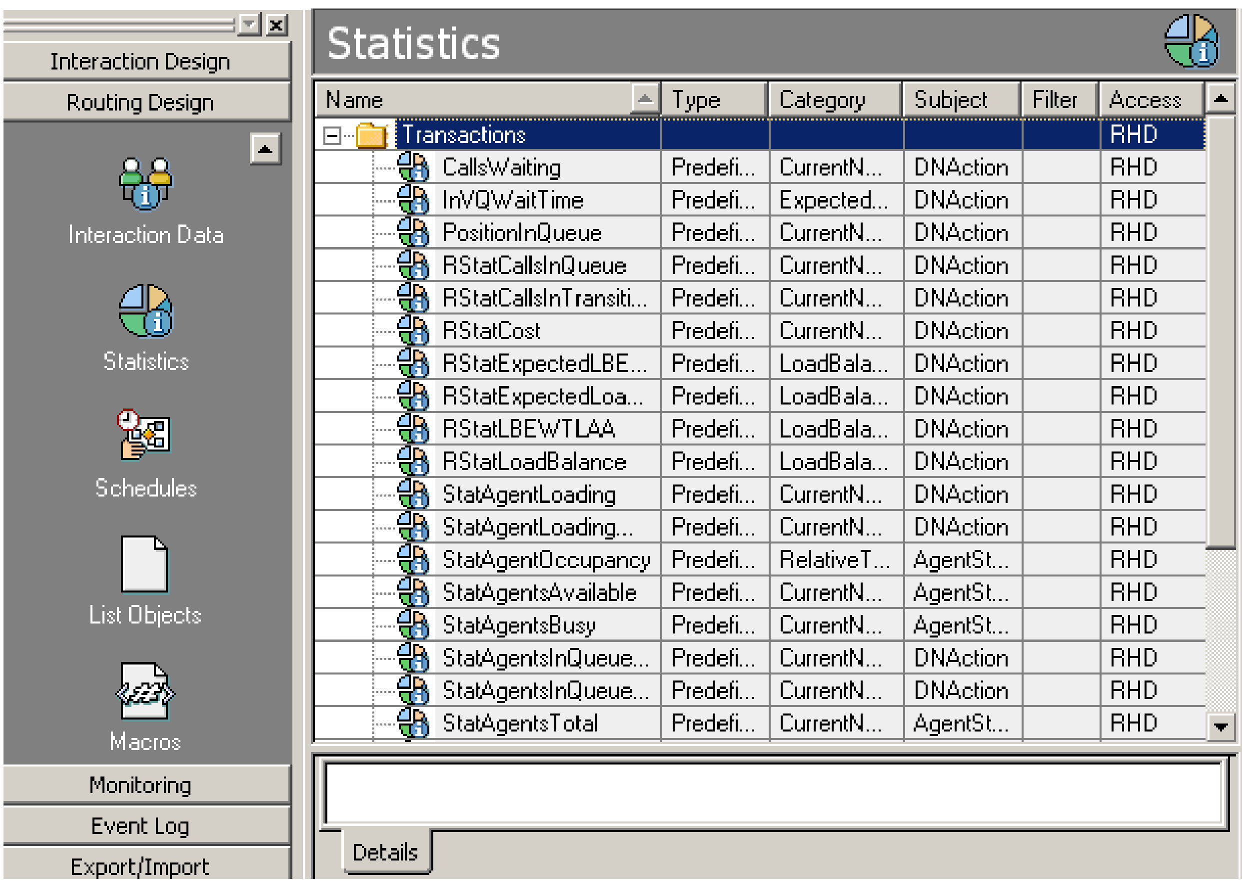


Figure 90: Statistics List

Summary information about each reusable object is presented in the following section. The information includes whether the reusable object applies to non-voice interactions. Detailed information can be found in *Universal Routing 7.6 Reference Manual* and *Interaction Routing Designer 7.6 Help*.

Strategies

A *strategy* is a set of decisions and instructions that tell Universal Routing Server how to handle and where to direct interactions under different circumstances (see Figure 26 on page 44).

- You load a voice routing strategy in IRD `Monitoring` view by clicking the `Monitoring` shortcut (see Figure 88 on page 113) followed by the `Loading` or `Group Loading` shortcut (not shown). In the case of `Loading` view, you select the switch and routing point, right-click, select `Load Strategy` from the menu, and select a strategy from a dialog box.
- You load non-voice (multimedia) strategies on virtual routing points (see Figure 65 on page 83) using the `Strategy Activation Wizard` (see Figure 305 on page 345).

Subroutines

A *subroutine* (previously called a *substrategy*) is a strategy called from within a strategy using the Call Strategy object (see Table 11 on page 204) or another subroutine. Like a strategy, a subroutine provides instructions to URS on how to route an interaction. A subroutine can contain any of the IRD objects, routing rules, or functions, including another subroutine.

- Subroutine names appear in the `Subroutines` list rather than in the `Strategies` list. You get to this list by clicking the `Subroutines` icon shown in Figure 88 on page 113.
- When in IRD's `Interaction Design` window, the object browser (see Figure 34 on page 61) lists any subroutines associated with strategies in a `Subroutines` folder.

For more information on subroutines, including the dialog boxes used for subroutine input and output parameters, see *Universal Routing 7.6 Reference Manual*. The "Business Process Samples" on page 351 include sample subroutines.

Routing Rules

Used only by voice routing strategies in 7.6, *routing rules* specify the method of target selection. Figure 91 shows an example routing rule.

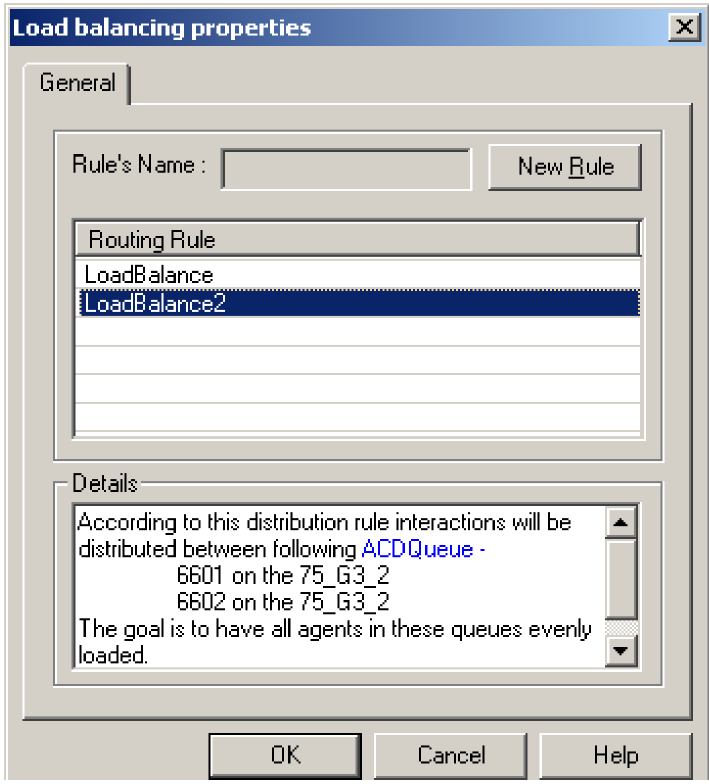


Figure 91: Example Routing Rule

Many voice Routing objects (see "Buttons for Routing Objects" on page 123) use routing rules in their properties. These include: Force, Load Balancing, Percentage. Service Level, Statistics, Switch to Strategy, and Workforce.

The Route Interaction object discussed ahead on page 124 does not use routing rules. Other objects that do not use routing rules are the Default object and the Routing Selection object (see page 123).

Attributes

Used mostly by voice routing strategies, *attributes* are pieces of call or customer data and all possible values. In order to use each piece of data for strategy decisions, you must first define each piece of data in IRD as an attribute. You can then use the attributes to create business rules. Figure 92 shows some example attributes.

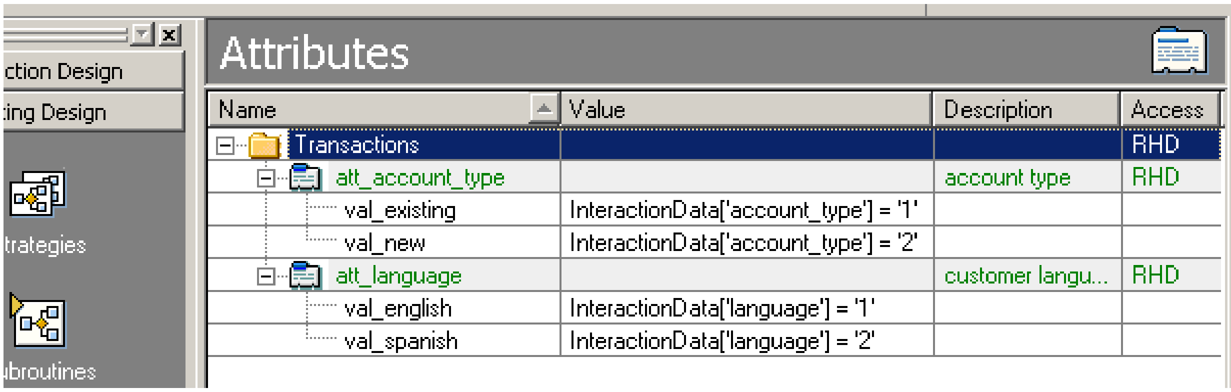


Figure 92: Example Atributes

Do not confuse attribute reusable objects that you define in IRD with Configuration Manager `Business Attributes` used by non-voice routing strategies (see page 175).

Business Rules

Used mostly by voice routing strategies, *business rules* are created from the attributes just discussed. Business rules and their attributes enable you to create logical expressions for segmentation. Figure 93 shows some example business rules.

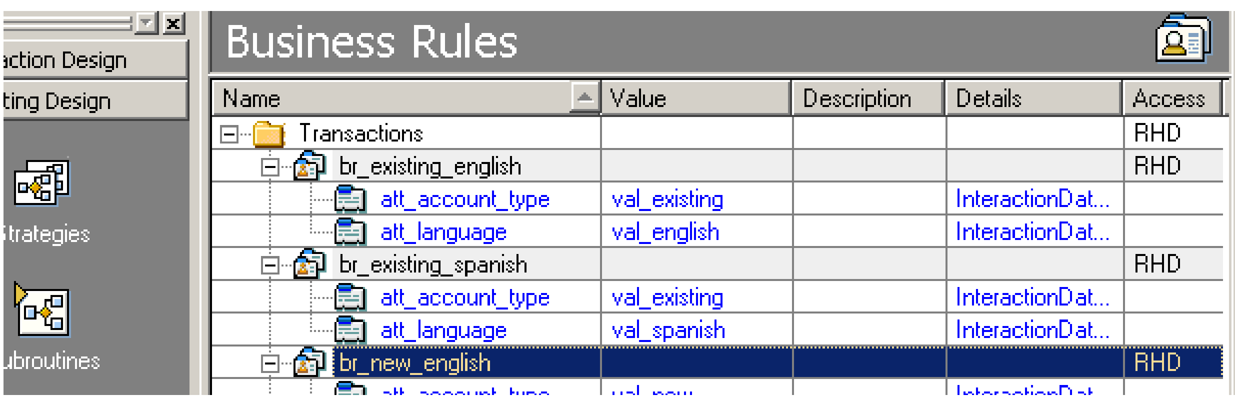


Figure 93: Example Business Rules

The advantage of using them is that they allow you to reuse the same business decision multiple times in the same strategy and in many different strategies. See *Universal Routing 7.6 Strategy Samples* for more information.

Interaction Data

Used by both voice and non-voice routing strategies, *interaction data* defines attached data keys used in a strategy (see Figure 94).

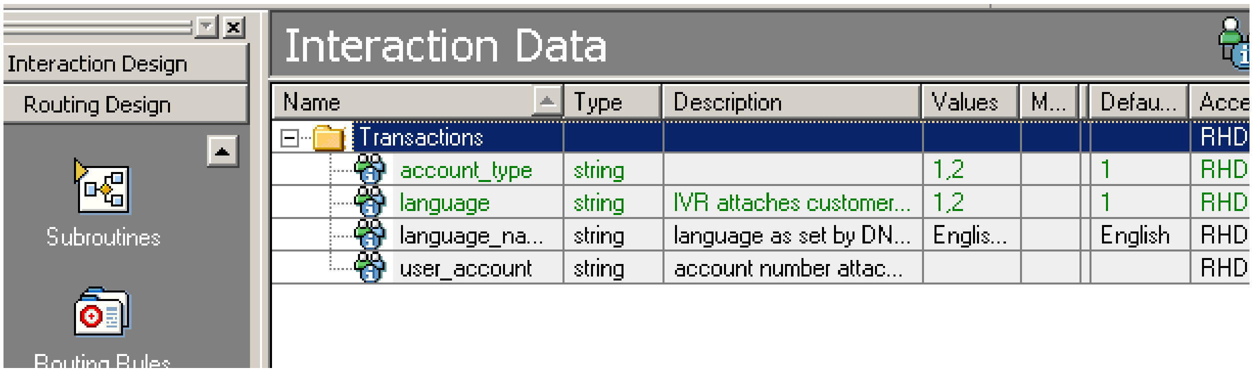


Figure 94: Example Interaction Attributes

You define interaction data in order to allow strategies to gather attached data. You can use interaction data in the following Miscellaneous objects discussed ahead (see page 124): Assign, If, and Function.

Statistics

You can define a custom *statistic* for use in within a strategy or subroutine. Or you can use or edit one of IRD's predefined statistics (see Figure 90 on page 114). For more information, see the chapter on routing statistics in the *Universal Routing 7.6 Reference Manual*.

When creating routing strategies that will be called by business processes, there is one particular predefined statistic that business process designers may find useful: `StatAgentLoadingMedia`.

The `StatAgentLoadingMedia` statistic works like `StatAgentLoading` with one difference: `StatAgentLoadingMedia` returns data about the current media (not the whole agent). For example, assume Stat Server reports for some agent vector state:

- voice - one busy agent, one available agent
- e-mail - three busy agents, two available agents

In this case, `StatAgentLoading` will return four available agents.

`StatAgentLoadingMedia`, if executed for call with media type of voice, will return 1; if executed for call with media type of e-mail, will return 3.

For information on calculating the minimum or maximum value of this statistic, see the E-mail object description in *Universal Routing 7.6 Routing Reference Manual*.

Schedules

Used mostly for voice routing strategies, a *schedule* instructs Universal Routing Server when to automatically load/release a specific voice routing strategy, including the switch and DNs to use. You can specify times for loading and releasing schedules using seconds, minutes, hours, dates, months, years, and days. After saving, the schedule definition is stored in Configuration Manager as a `Script` object of type `Schedule`. See the *Universal Routing 7.6 Interaction Routing Designer Help* for more information.

List Objects

Used mostly for voice routing strategies, a list object contains strings of any nature (for example, DNIS or ANI strings), which can be used in strategies and are included in integrity checking. Figure 95 shows an example.

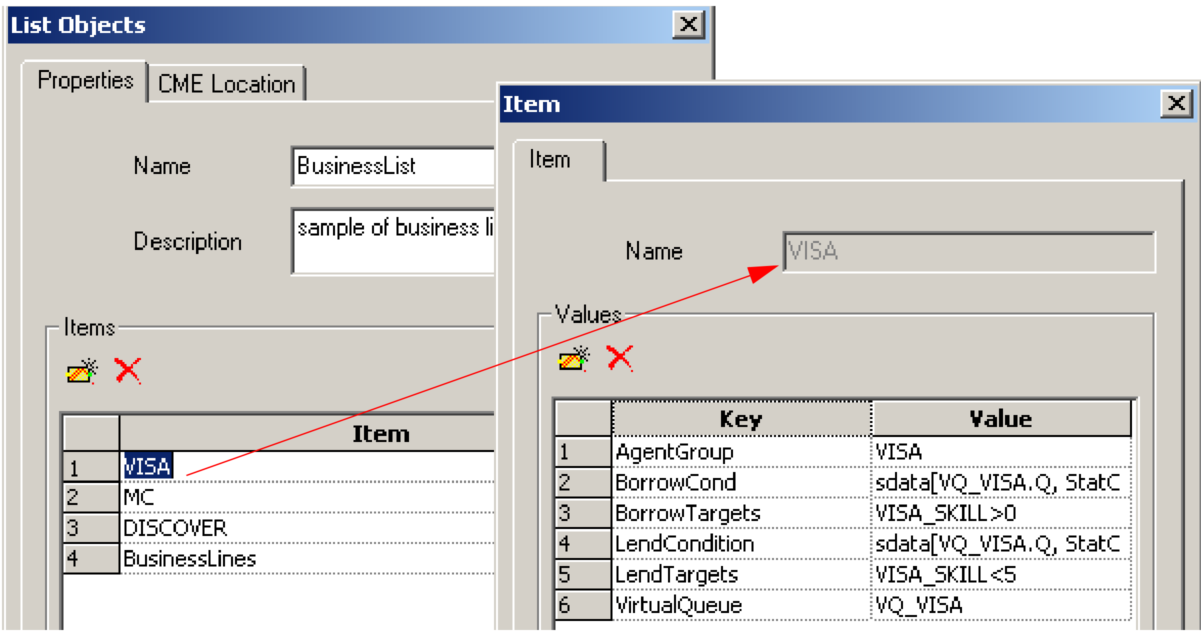


Figure 95: Example List Object

May be used to create lists of toll-free numbers. Rather than reference each individual 800 number in a strategy, you can logically group numbers together and name the group. Then, when you need to add/edit numbers, the strategy does not need changing; you just add to/edit the list object. See the Universal Routing 7.6 Interaction Routing Designer Help for step-by-step instructions. For examples of list object use, see the chapter on Share Agent by Service Level Agreement Routing in the *Universal Routing 7.6 Routing Application Configuration Guide*.

Macros

A macro is a Miscellaneous object (see page 124) that allows you to combine several objects and expressions in one re-usable block. This block works as a user-defined function. IRD supplies the following predefined macros: `DelimitTargetList`, `ComplexSample`, `MakeAgentNotReady`, `RedirectCall`, `RedirectCallMakeNotReady`, and `SimpleSample`. For more information, see *Universal Routing 7.6 Reference Manual*.

Strategy-Building Objects

Besides the reusable objects just discussed, IRD also provides strategy-building objects. Icons for each object category appear on the objects toolbar in the `Routing Design` window when you create or edit a strategy or subroutine. Figure 96 shows the `Routing Design` window with only the starting Entry object, which appears when you start a new strategy.

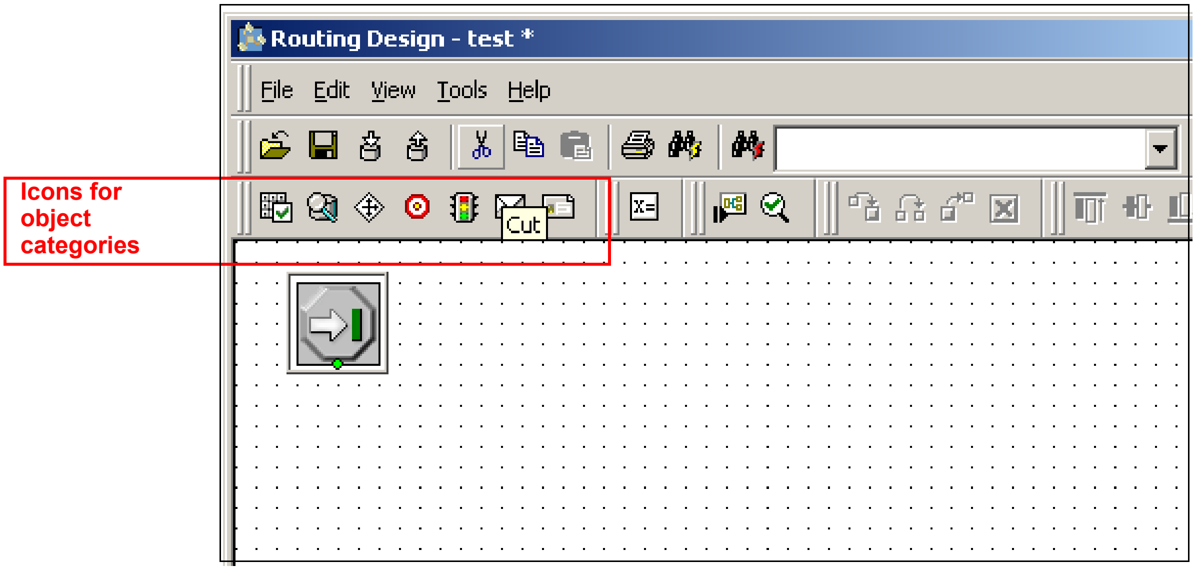


Figure 96: Routing Design Window With Entry Object

When you click an icon in the toolbar representing an object category, buttons for all objects belonging to that category drop into view. For example, if you click the third icon (Segmentation) in Figure 96, buttons for all Segmentation objects drop into view (see Figure 97).

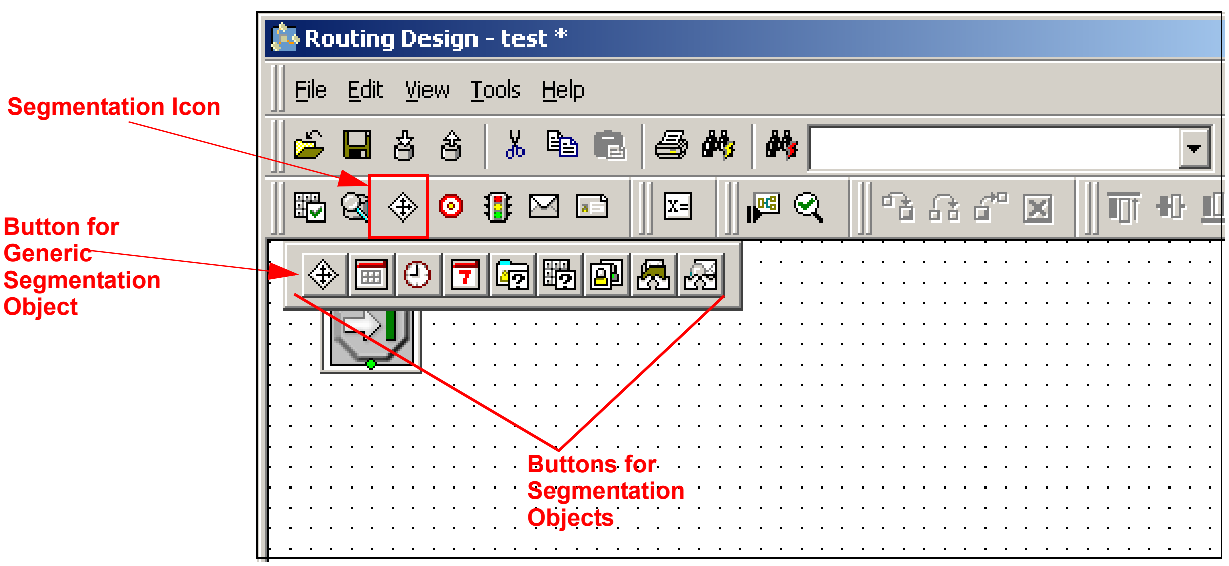


Figure 97: Dropdown Buttons for Segmentation Objects

Routing Design Toolbar

Figure 98 shows the Routing Design window toolbar for each strategy-building object category.

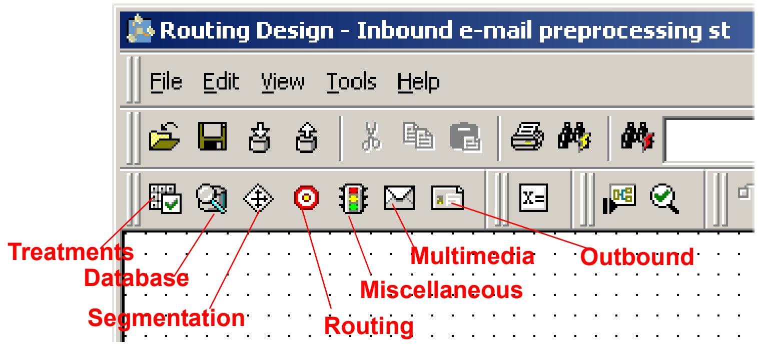


Figure 98: Strategy Building Object Categories

Note: When working in the Routing Design window (see Figure 110 on page 129), the strategy-building objects toolbar is dockable. It can be removed from its current position and be placed anywhere within the Routing Design window.

Object Buttons Associated with Toolbar Icons

Clicking an icon on the toolbar drops down a button bar for placing objects in your strategy. The next section describes the object buttons associated with each object category. The object buttons are listed in toolbar order.

Buttons for Treatment Objects

Treatment objects apply to voice interactions. Figure 99 shows the buttons that come into view when you click the Treatments icon in Figure 98.

Figure 99: Buttons for Treatment Objects

Treatment objects specify an action to be performed with the current interaction, such as playing music for the caller.

The Treatment objects from left to right are: Collect digits, Play announcement, Play announcement and collect digits, Play application, Record user announcement, Verify digits, Busy, Fast busy, Cancel call, Delete user announcement, IVR, Music, Ringback, Set default destination, Silence, Text to speech, Text to speech and collect digits, Pause, RAN (Play recorded announcement). See the section on treatment objects in the *Universal Routing 7.6 Reference Manual* for more information.

Button for Data & Services

Figure 100 shows the buttons that come into view when you click the Data and Services icon in Figure 98 on page 121.

Figure 100: Buttons Under Data & Services

- Clicking the first button in Figure 100 and placing the object in your strategy opens the Database Wizard used for database lookups.
- The second button, External Service, enables you to exchange data with third party (non-Genesys) process servers that use the Genesys Interaction SDK or any other server/application that complies with Interaction Server communication protocol.
- The third button, Web Service, enables you to interact with Web-based applications outside of Genesys applications.

Note: For more information on the above strategy-building objects, as well as the strategy-building objects summarized in the pages ahead, see “IRD Objects Used in Business Processes” on page 199.

Buttons for Segmentation Objects

Clicking the third button on the objects toolbar in Figure 98 on page 121 reveals additional buttons for various types of Segmentation objects (see Figure 101).

Figure 101: Buttons for Segmentation Objects

Segmentation objects separate incoming interactions and put them on different paths based on criteria that you select. The buttons from left to right are:

Generic (dialog box brings up `Expression Builder` shown in Figure 115 on page 133)

- Generic
- Date

- Time
- Day of the Week
- ANI (originating phone)
- DNIS (number dialed)
- Business
- Classify (Classification Switch)
- Screen

Note: The ANI and DNIS objects are intended for voice interactions. The Classify and Screen Segmentation objects are intended for multimedia interactions.

Buttons for Routing Objects

Clicking the fourth button on the objects toolbar (see Figure 98 on page 121) reveals additional buttons for various types of Routing objects (see Figure 102).

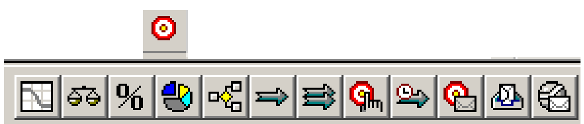


Figure 102: Buttons for Routing Objects

Routing objects specify a routing action to be performed with the current interaction, such as connecting a customer to a specific agent group. The buttons from left to right are:

- Service Level
- Load Balancing
- Percentage
- Statistics
- Switch to Strategy
- Default
- Force
- Selection
- Workforce
- Route Interaction
- Workbin
- Queue Interaction

Note: The Route Interaction, Queue Interaction, and Workbin objects are intended for routing strategies called by business processes. The remaining objects apply to voice routing strategies.

Buttons for Miscellaneous Objects

Clicking the fifth button on the objects toolbar (see Figure 98 on page 121) reveals additional buttons for various types of Miscellaneous operations (see Figure 103).

Figure 103: Buttons for Miscellaneous Objects

Miscellaneous objects are used for flow control or performing operations, such as executing a function or directing interactions based on an `If` statement. The buttons from left to right are:

- Entry (IRD automatically places as first object in a strategy)
- Exit
- If
- Assign
- Function
- Macro
- Error Segmentation
- Call subroutine
- Multi-Assign
- Multi-Attach
- Multi-Function

Buttons for Multimedia Objects

Clicking the sixth button on the objects toolbar (see Figure 98 on page 121) reveals additional buttons for Multimedia objects (see Figure 104).

Figure 104: Buttons for Multimedia Objects

The buttons from left to right are:

- Stop Interaction
- Acknowledgement
- Autoresponse
- Chat Transcript
- Send E-mail
- Redirect E-mail
- Forward E-mail
- Reply From External Resource
- Screen
- Multi-Screen
- Classify
- Attach Categories
- Create Interaction
- Create E-mail Out
- Create Notification
- Create SMS
- Identify Contact
- Update Contact

See Table 8 on page 199 for summary information on these objects.

Buttons for Outbound Objects

Clicking the seventh button (Outbound) the objects toolbar reveals additional buttons to support the Genesys Outbound product including proactive interaction routing (see Figure 105).

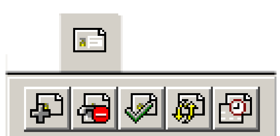


Figure 105: Buttons for Outbound Objects

The buttons from left to right are:

- Add Record
- Do Not Call
- Processed
- Update Record
- Reschedule Record

Note: The Outbound objects are designed to be used in strategies configured for proactive routing functionality, which are Open Media interactions processed with the `outbound_preview` media type. For more information, see the *Genesys 7.6 Proactive Routing Solution Guide*.

Using the Strategy-Building Objects

This section explains how you define interaction processing in a strategy by using strategy-building objects. I

Procedure:
How to place an object in a strategy, configure its properties, and connect it to another object

Purpose: To define an interaction processing step within a strategy.

Start of procedure

Using the Generic Segmentation strategy-building object as an example:

1. Click the icon for Segmentation objects to drop down the button toolbar (see Figure 101 on page 122).
2. Click the button for the Generic Segmentation object on the toolbar (first button in Figure 97 on page 120).
3. Click inside the `Routing Design` window (see Figure 96 on page 120) to place the object inside the strategy.
4. Connect the Entry object to the Generic Segmentation object by connecting (drawing a line from) the bottom port of Entry object to the left input port of the Generic Segmentation object.
5. Double-click the Segmentation object in the `Routing Design` window to open its dialog box (see Figure 106).

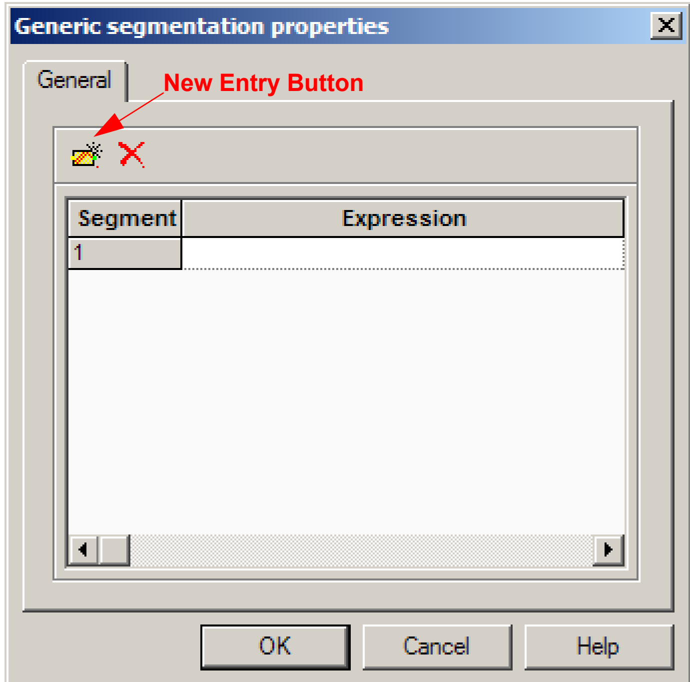


Figure 106: Generic Segmentation Properties Dialog Box: Starting

6. Assign properties in the dialog box. For this object, properties are expressions created in `Expression Builder`. To keep things simple, details on `Expression Builder` are not included here (but are included in "Segmenting Interactions" on page 310). Assume after creating expressions, the dialog box appears as shown in Figure 107.

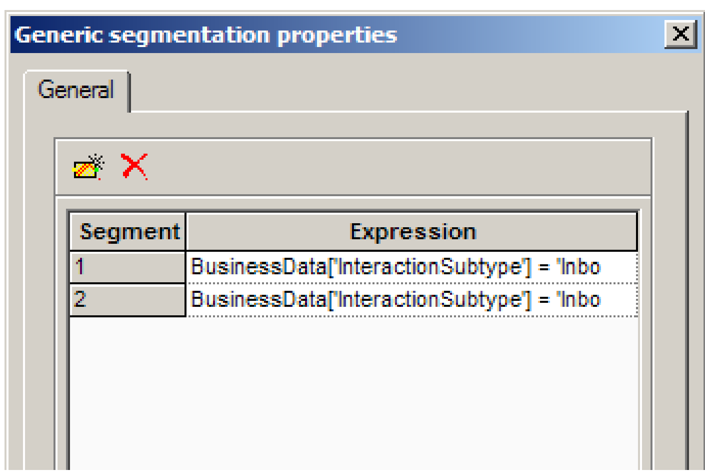


Figure 107: Generic Segmentation Properties Dialog Box: Completed

7. Click `OK` to close the `Generic Segmentation Properties` dialog box.

End of procedure

Next Steps

- The next step is to define the strategy-building object to be used when each expression in Figure 107 is true. For example, you might want the Generic Segmentation object to send interactions to two different queues. In this case, you would place two Queue Interaction objects in the strategy as described on page 319.
- After this is done, connect the green output ports of the Generic Segmentation object to the input ports of the Queue objects. At this point, the strategy would appear as shown in Figure 108.

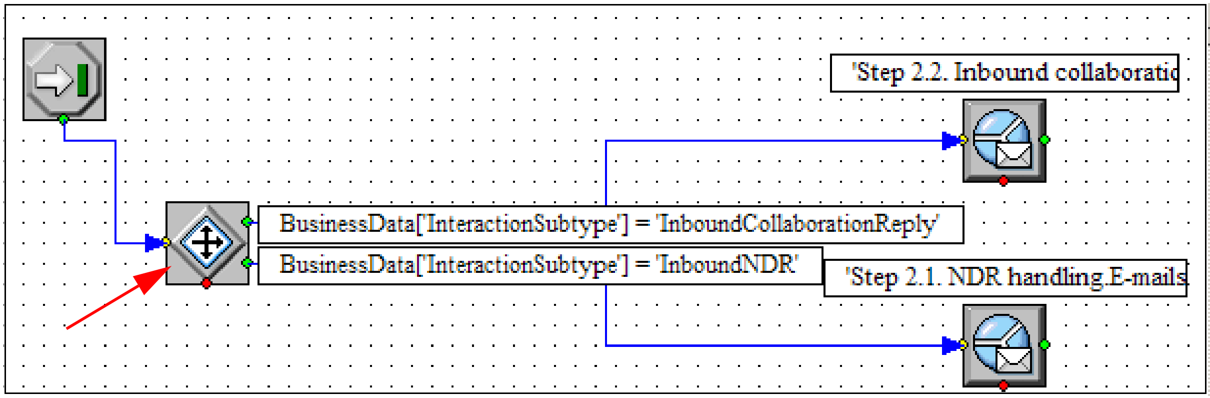


Figure 108: Example Strategy with Four Objects

Directing Strategy Flow

Typically, a choice-point is represented graphically in a strategy by an object with one yellow entry port (left side), one red error port (bottom), and one or more green exit ports (right side).

Note: You can customize port locations and connector shapes in the `Routing Design` window by right-clicking an object and selecting `Port Location` from the context menu. This brings up a dialog box for changing the location of the input, output, and error (default) ports. For more information see the Setting Options book in *Universal Routing 7.6 Interaction Routing Design Help*.

Look again at the Generic Segmentation object Figure 108. This particular instance has a yellow input port, a red error port, and two green exit ports (see Figure 109).

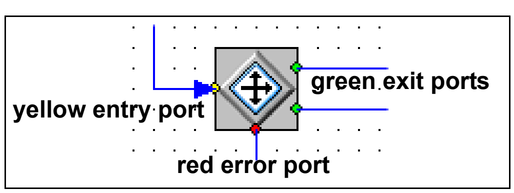


Figure 109: Generic Segmentation Object Ports

The Generic Segmentation object routes based on the true/false value of expressions in its properties dialog box (see Figure 107 on page 127). It uses the ports as follows:

- If the expression is true, the interaction goes out the applicable green side port to the next object.
- If the expression is false (or none of the expressions are true), the interaction goes out the red bottom port to the next object as described below.

Figure 110 shows the example strategy after creating objects for the red error port and connecting them.

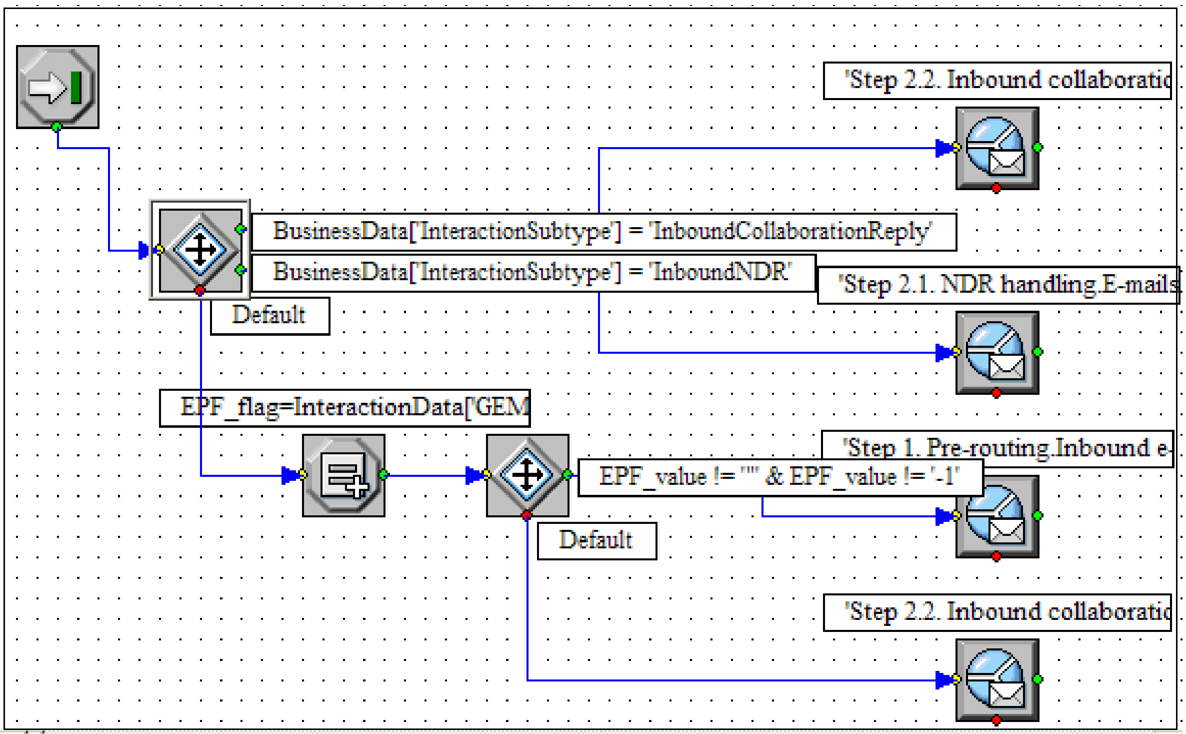


Figure 110: Inbound E-mail Preprocessing Strategy

As you can see from Figure 110, a strategy is made up of objects and the connections between objects. All strategies have an Entry object. The other objects you choose define the actions that IRD performs, and the connections that you make between objects define the sequence in which each object is executed. IRD selects only one connection to follow after handling an object. For detailed instructions on creating strategies, see “Creating Strategies” on page 305.

Properties Dialog Boxes

When a strategy-building object is in the `Routing Design` window, double-clicking the object opens its properties dialog box. Here you can assign values to the object's parameters. The content of the properties dialog box varies based on the object. Different examples are presented below. Figure 111 shows an example completed properties dialog box for the Route Interaction object.

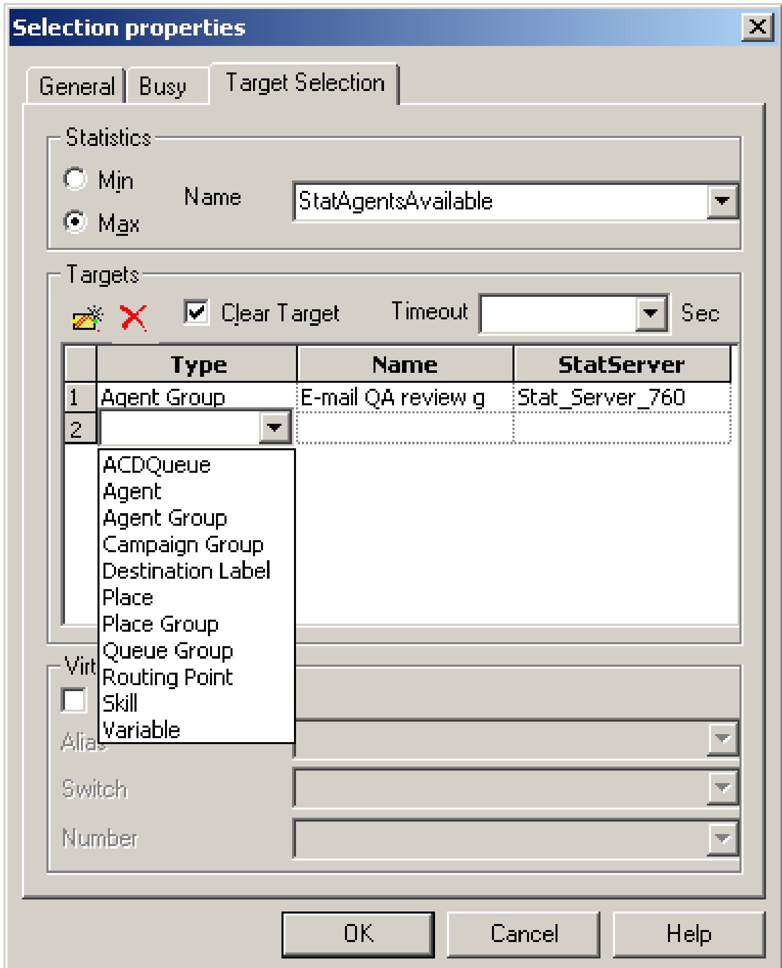


Figure 111: Example Route Interaction Properties Dialog Box

The selectable parameters in properties dialog boxes are object-specific. For example:

- When using the Route Interaction object shown in Figure 111, the parameters in the `Target Selection` tab are the routing targets shown in the dropdown menu.

  In contrast, when using the Workbin routing object (see page 281), targets are limited to `Agent`, `Agent Group`, `Variable`, or `Skill`.
- The parameters of some Segmentation objects are logical expressions (see "Building Logical Expressions" on page 133). Figure 112 shows the `Assign Properties` dialog box where the expression is assigned to a variable.

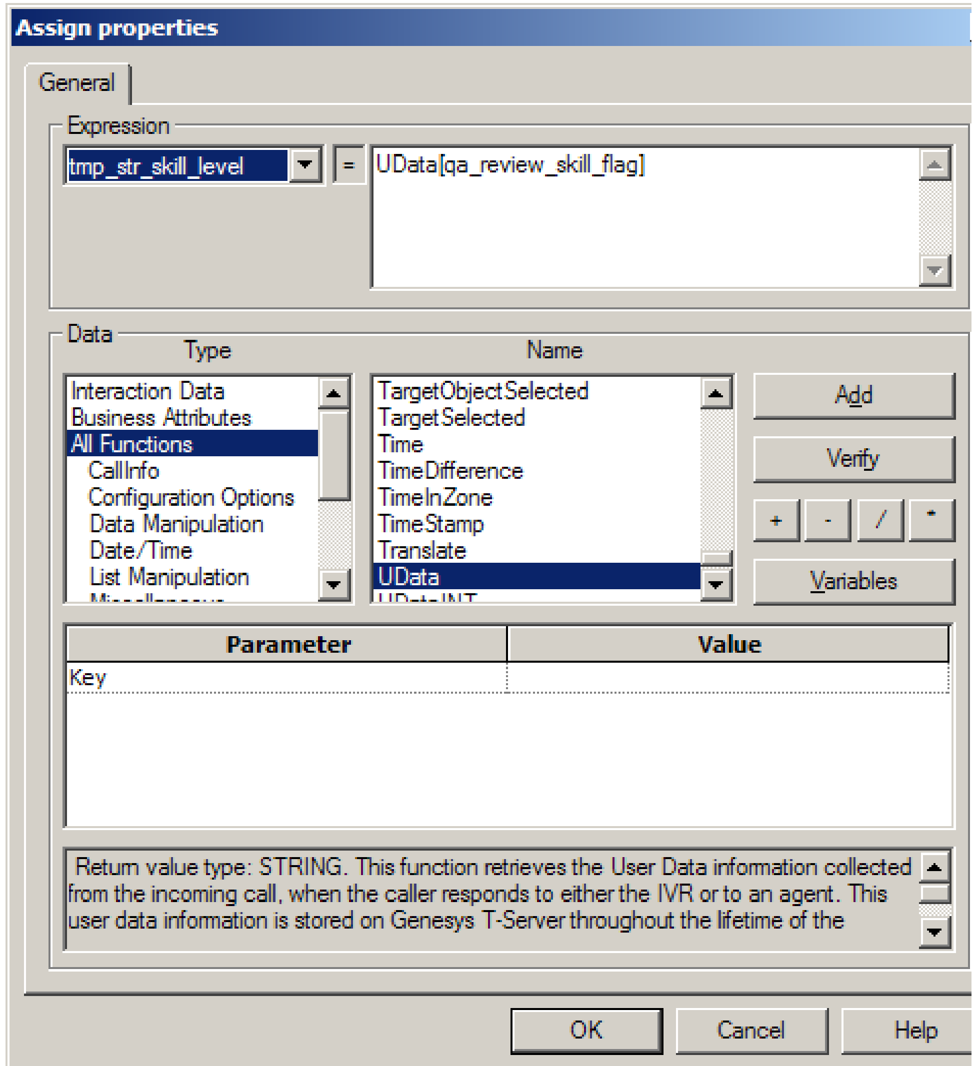


Figure 112: Example Assign Properties Dialog Box

> **Note:** See page 148 for information on defining and assigning variables.

- The properties dialog box for the Function object includes the function name, parameters and values. Figure 113 shows an example.

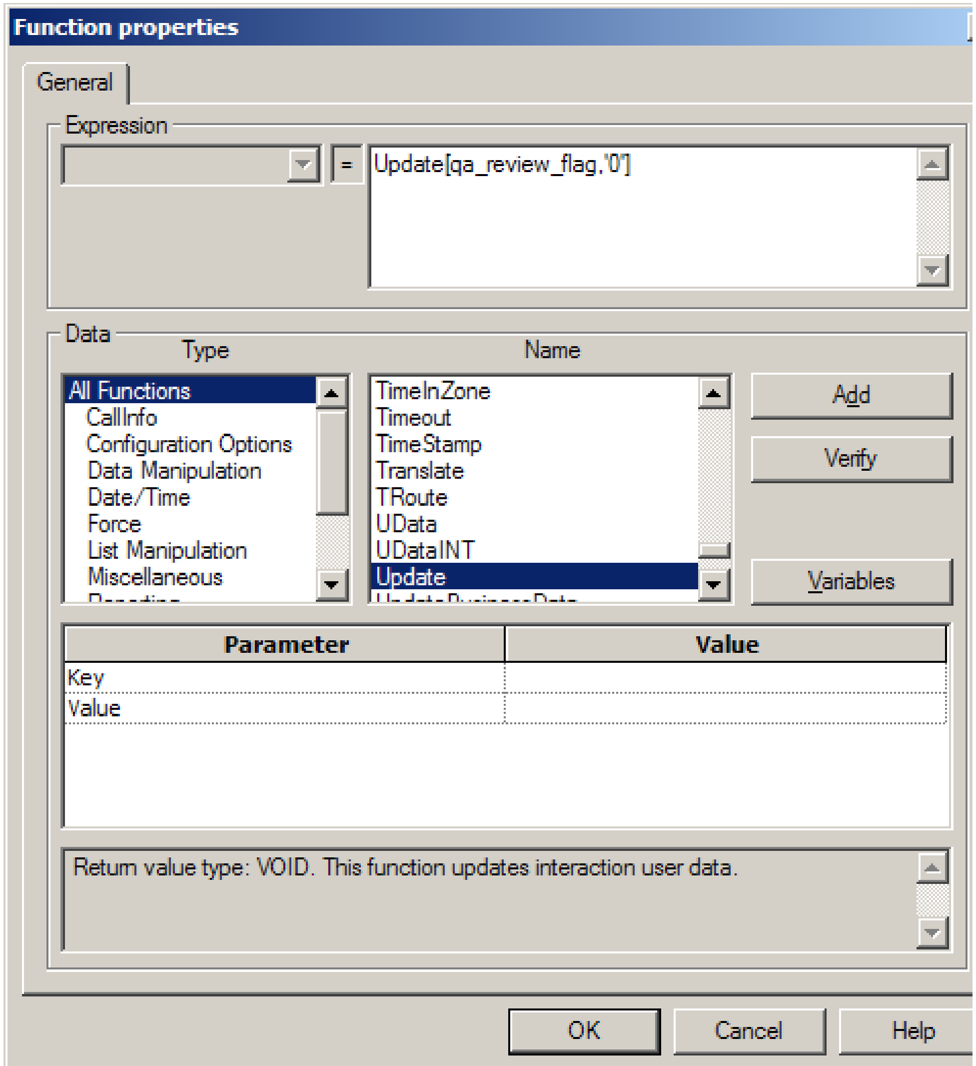


Figure 113: Example Function Properties Dialog Box

In summary, parameters entered in properties dialog boxes are object-specific and vary with each object.

Note: Almost every IRD object opens its own properties dialog box. The exceptions are: Entry, Exit, Default Route, and Treatment Cancel Call, and a few Function objects.

Building Logical Expressions

The properties of several IRD objects are defined as logical expressions. When creating a logical expression, you use `Expression Builder`.

For example, if using the Generic Segmentation object, click the down arrow that appears when you click under `Expression` in the object's properties dialog box (see Figure 114).

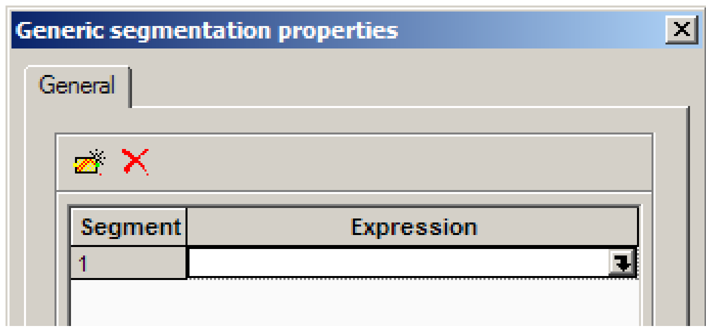


Figure 114: Generic Segmentation Object Down Arrow

Clicking the arrow shown in Figure 114 brings up the `Expression Builder`. Figure 115 shows the `Expression Builder` after constructing an expression.

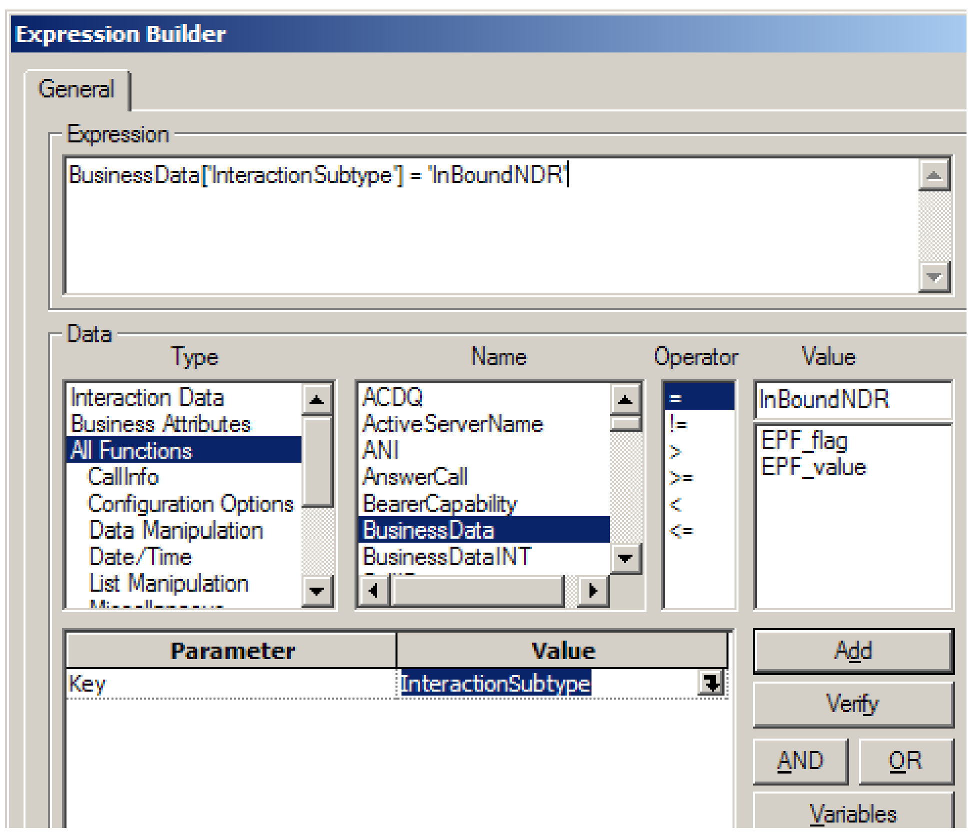


Figure 115: Expression Builder Dialog Box

Miscellaneous Objects and Logical Expressions

Under the Miscellaneous icon (see Figure 103 on page 124), the If, Assign, and certain Function objects (see Figure 136 on page 149) all use logical expressions. The area for constructing the expression in these objects is the same as Figure 115 on page 133. Figure 116 shows an example completed `If Expression Properties` dialog box.

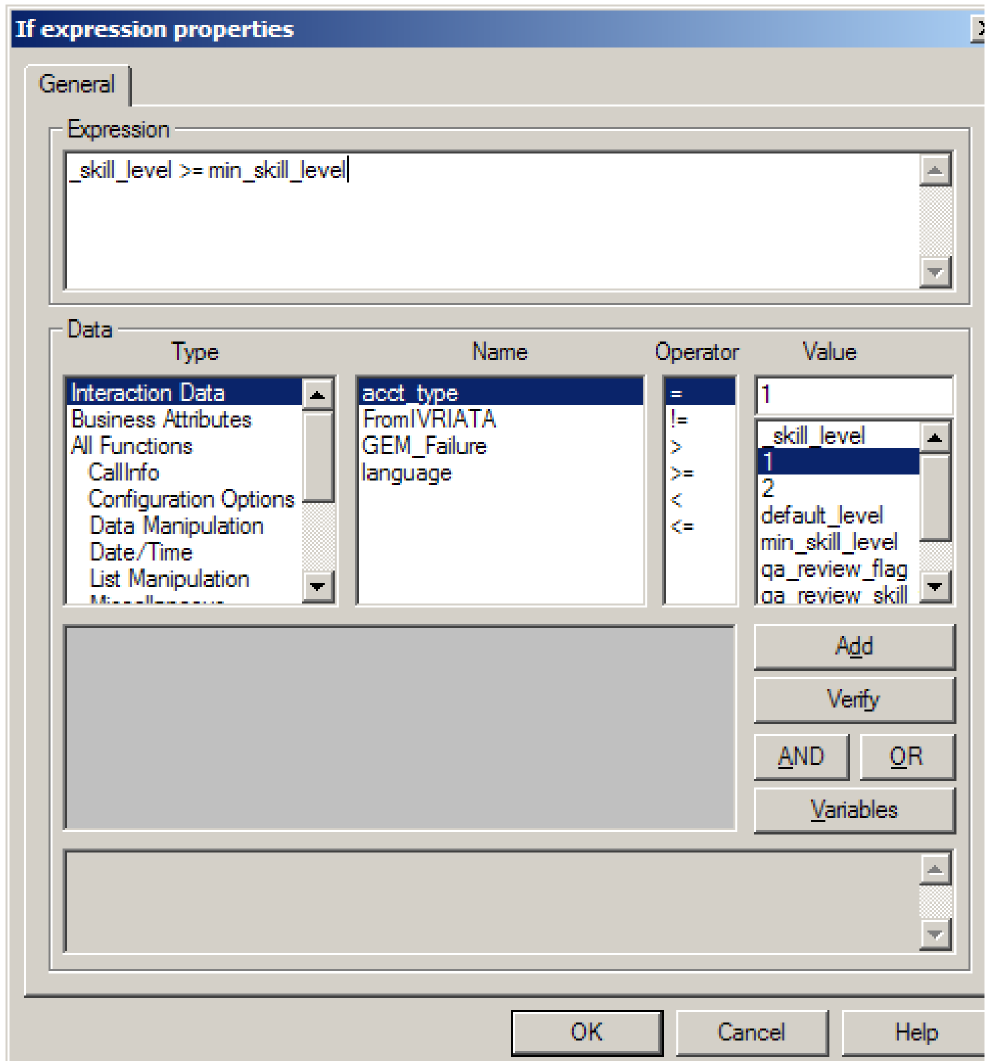


Figure 116: If Expression Properties Dialog Box

When placed in a strategy, the true/false value of the expression causes interactions to take different paths.

- If the expression is true, the interaction goes out the applicable green port to one object.
- If the expression is false, the interaction goes out the applicable red port to another object.

Routing Objects and Logical Expressions.

Under the Routing icon (see Figure 102 on page 123), the target Selection and Route Interaction objects use logical expressions in the form of a *skill expression*. These two objects use the `Skill Expressions` dialog box, which opens when you select `Skill` as a target type and click the arrow under `Name`. Figure 117 shows an example `Route Interaction Properties` dialog box with a skill expression.

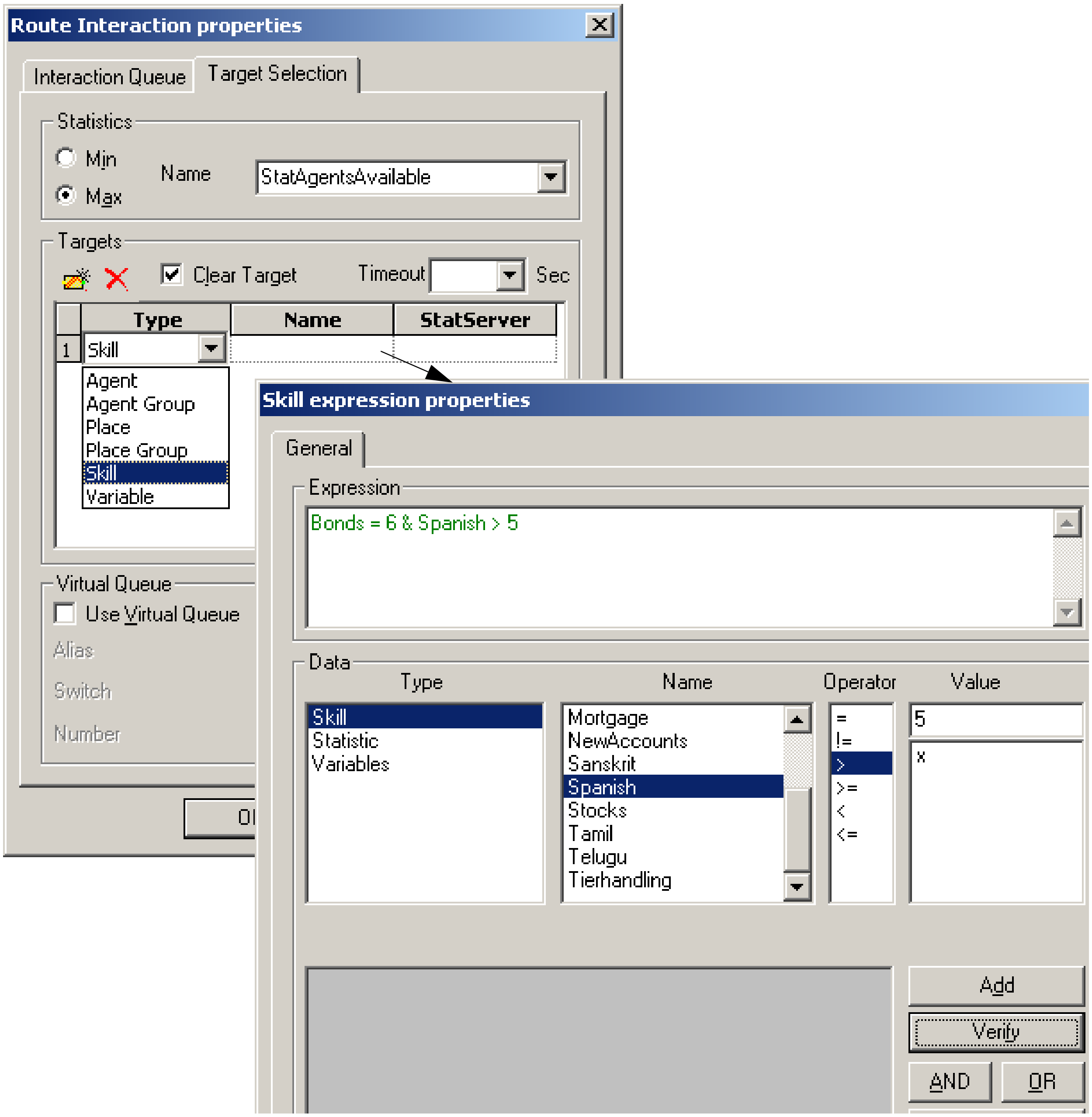


Figure 117: Skill Expression Properties Dialog Box

Functions for use in the Function object (see Figure 103 on page 124) that support skill expressions include `CreateSkillGroup` and `Multiskill`.

For more information on functions and creating valid expressions, see the *Universal Routing 7.6 Reference Manual*.

Comment Object

Use a Comment object to annotate a strategy. You can insert a comment by right-clicking anywhere in the strategy and selecting `Insert Comments` (see Figure 118).

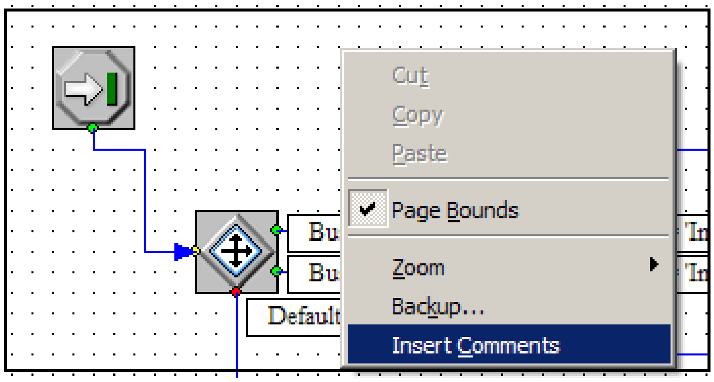


Figure 118: Insert Comments from Context Menu

A text box appears in the `Routing Design` window, which you can edit (see Figure 119).

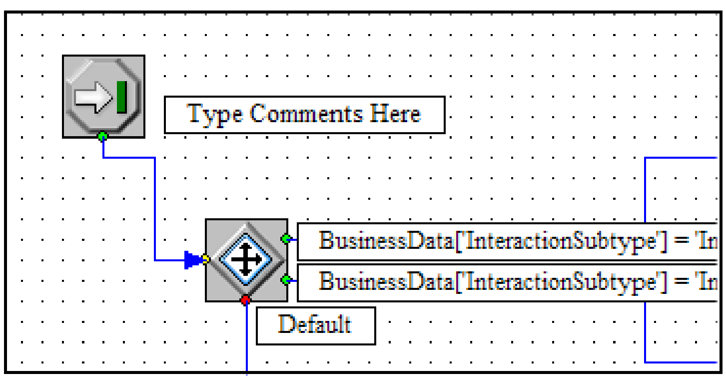


Figure 119: Comments Text Box

Other Design View Operations

You can perform other operations in the `Routing Design` window: close strategy, save strategy, backup, restore from previous version, cut, copy, paste, print, find, replace, and search. Use the toolbar shown in Figure 120 on page 137.

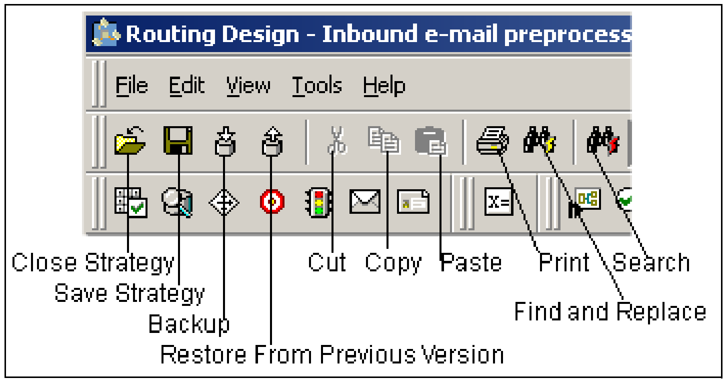


Figure 120: Toolbar: Other Strategy Operations

Procedure: Searching for Text Strings

The Search button allows you to search for text strings used in a strategy including objects, rules, functions, and so on. You can only search one strategy at a time. Within a strategy, you can limit the search to multiple selected objects.

Start of procedure

1. Open the strategy from the `Strategies` list pane.
2. Click the `Search` button in the toolbar (see Figure 120). The `Find` dialog box opens.
3. Type the name of the object into the `Find what` field. This feature is case sensitive so type the name exactly as it appears in the strategy. If you only want to search for an exact match, select the `Match whole word only` option.

   Assume you type `empl_id`. The `Find` dialog box appears as shown in Figure 121.

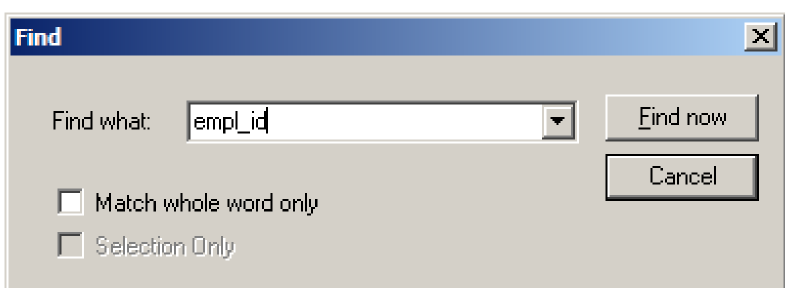


Figure 121: Find Dialog Box

4. Click `Find now`. The `Find in Strategy` output window appears below the `Routing Design` window and highlights the occurrences of the text string (see Figure 122).

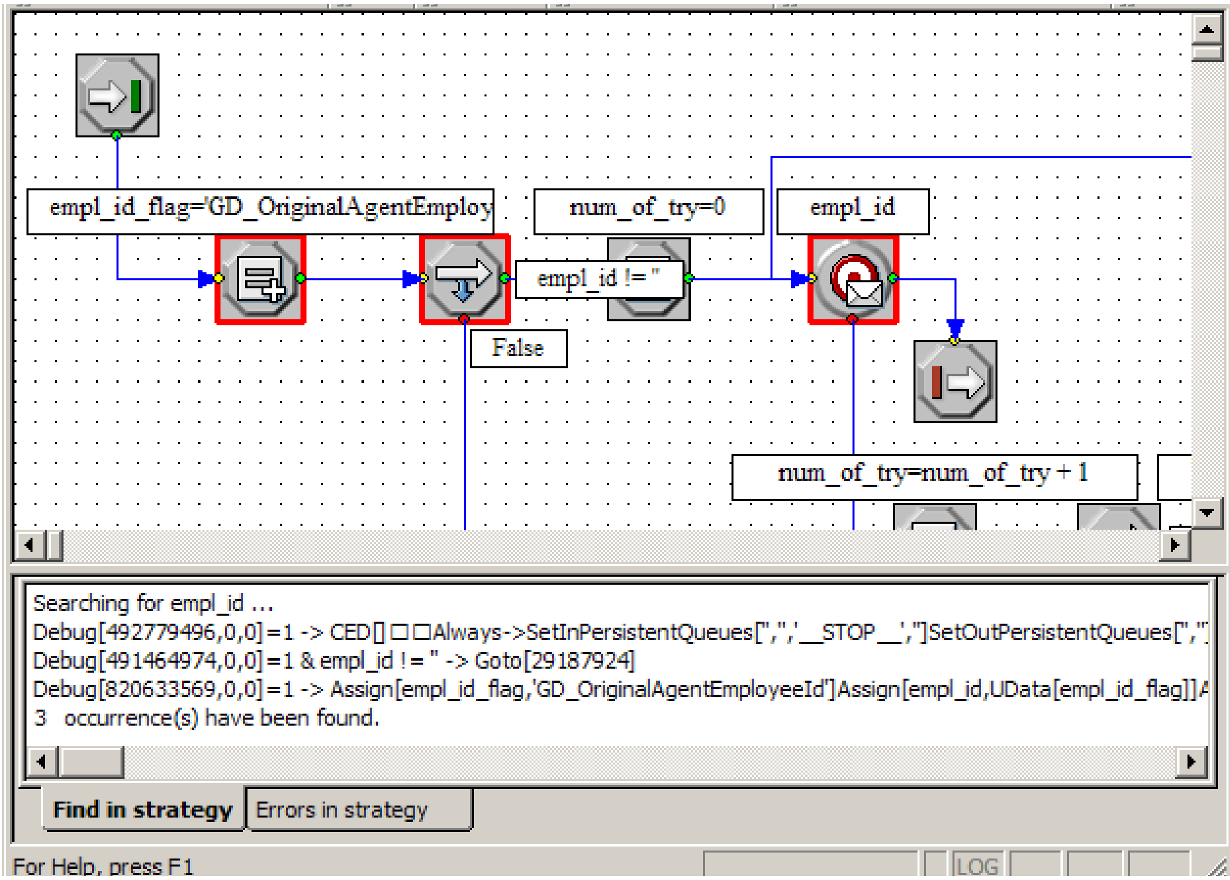


Figure 122: Objects Highlighted That Contain Text String

5. Double-click the line in the `Find in strategy` tab that begins with `Debug`. The object containing the search item is highlighted in the strategy.
6. Double-click the object to open its properties dialog box and view the text string.
7. Move through the list of string occurrences that appear in the list by using the Enter or Arrow keys on your keypad or the F3 function key. The object containing the text string highlights as you move through the list.

End of procedure

Routing Design Options

The annotations shown in Figure 122 on page 138 are not user-entered comments. The annotations appear in the Routing Design window when you select Routing Design Options from the Tools menu and set the Graph Settings tab as shown in Figure 123:

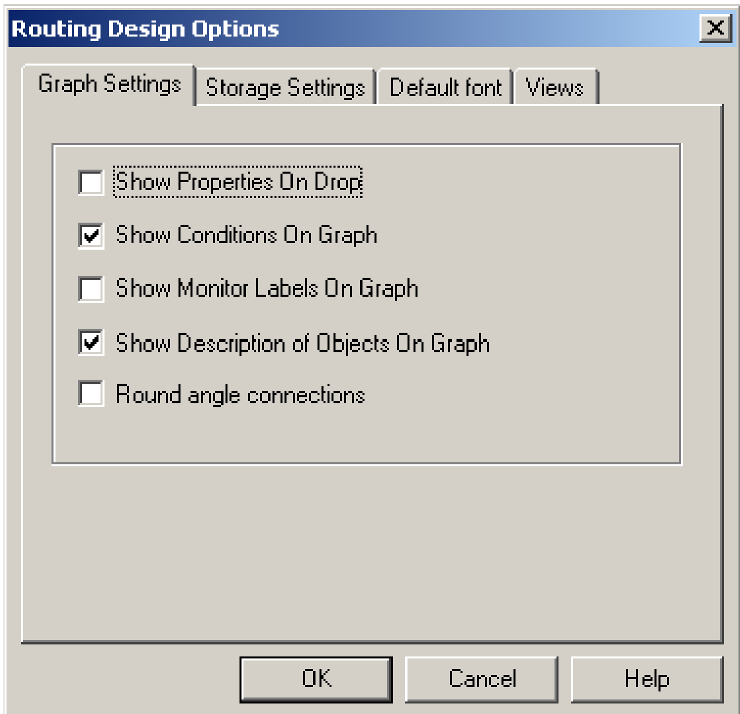


Figure 123: Graph Settings Tab

Note: The Routing Design Options dialog box applies to the Routing Design window (see Figure 96 on page 120). IRD does not use it for the Interaction Design window (see Figure 34 on page 61), which has its own options dialog box (see Figure 68 on page 85).

Use the Graph Settings tab to more clearly document interaction flow. For example, assume you wish to review the flow of Chat inbound strategy discussed in "ABC Simple Chat BP" on page 361.

When you do not check any options in the Graph Settings tab shown in the Routing Design Options dialog box (see Figure 123 above), only the manually-inserted comment objects (see page 136) appear. Figure 129 shows Chat inbound strategy with only the comment objects.

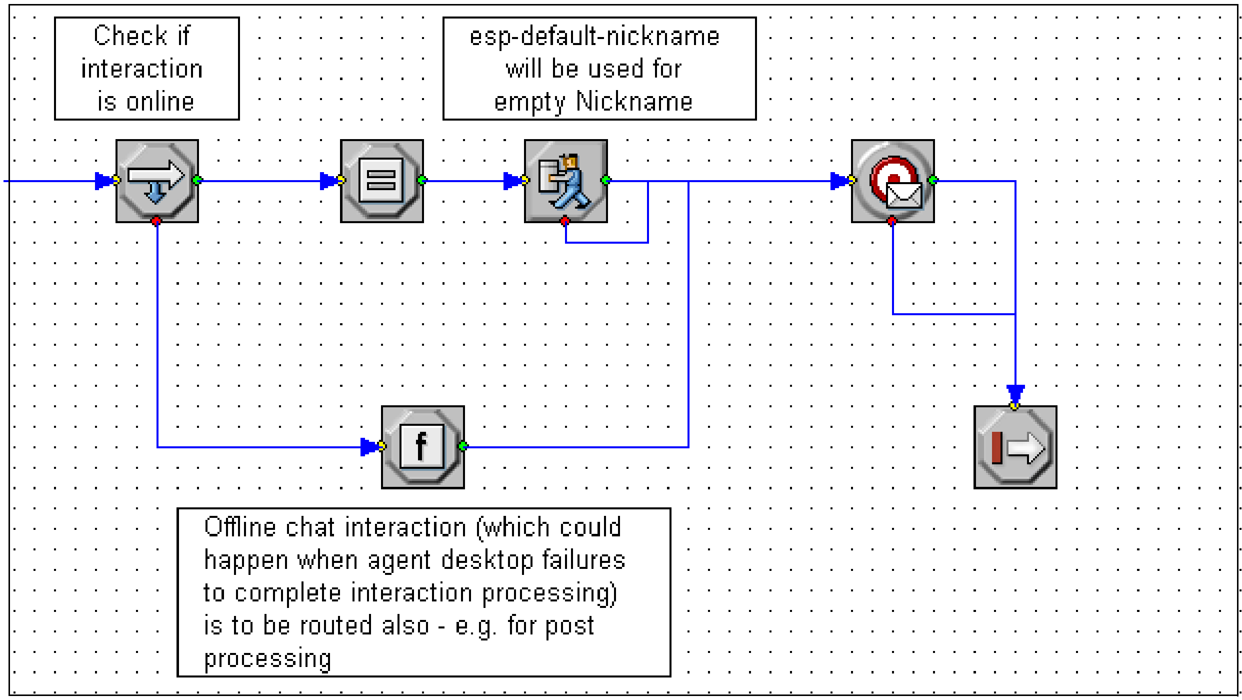


Figure 124: Chat Inbound Strategy with Only Comment Objects

Figure 125 shows the strategy after checking `Show Conditions on Graph`.

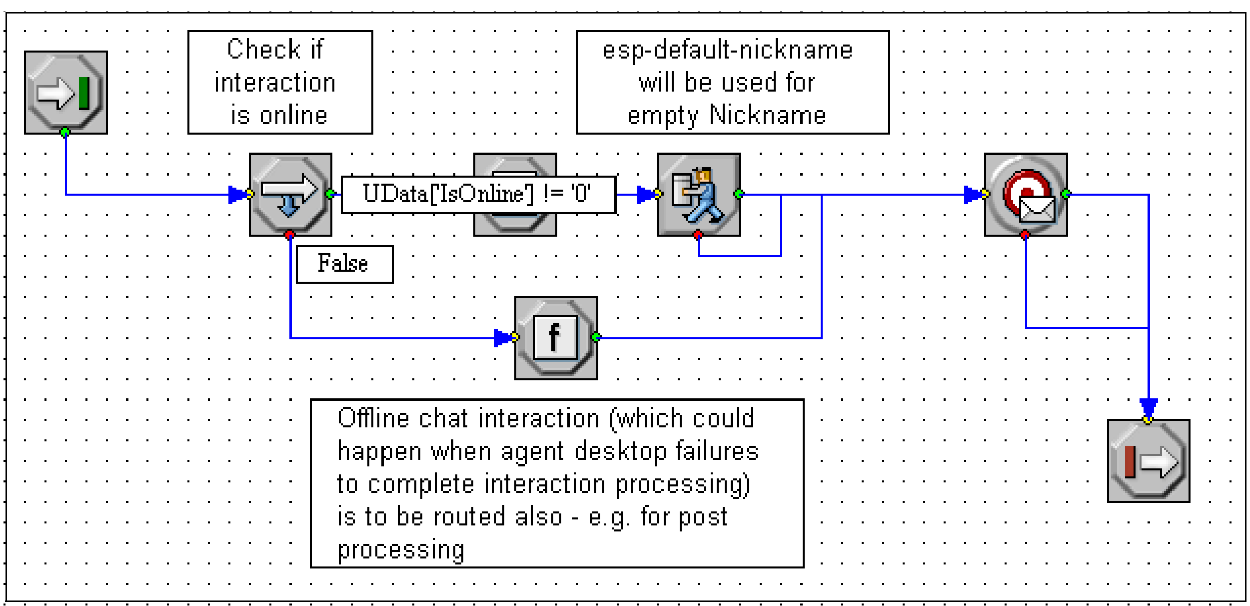


Figure 125: Show Conditions on Graph Checked

Figure 126 shows the strategy after checking only `Show Monitor Labels on Graph` in the `Routing Design Options` dialog box.

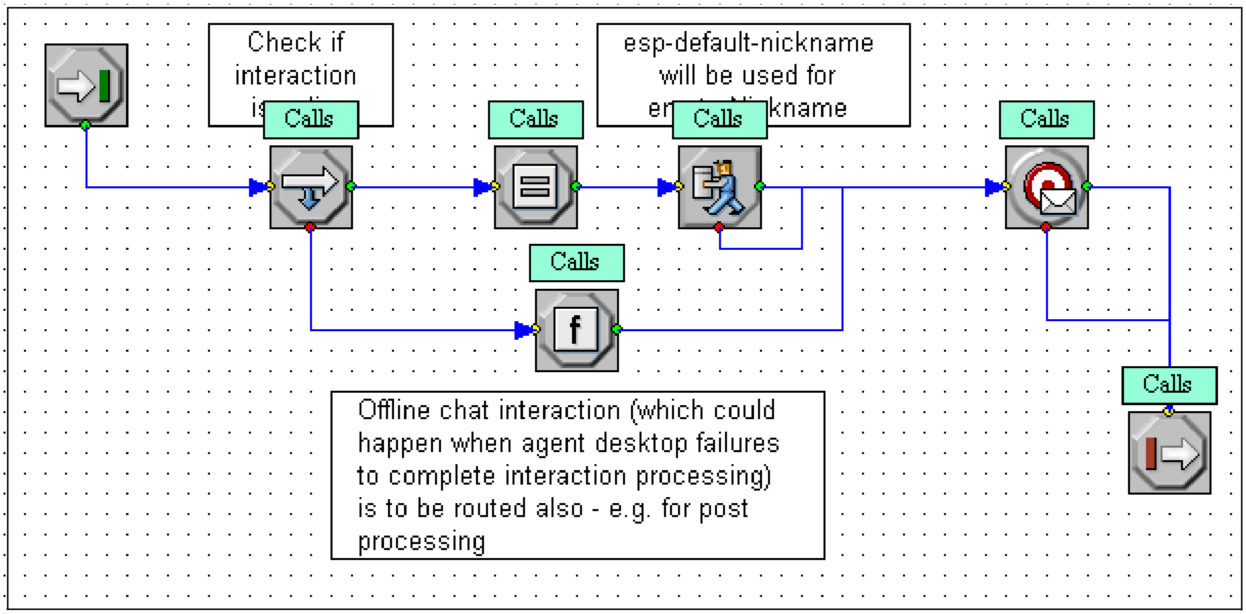


Figure 126: Show Monitor Labels on Graph Checked

Figure 127 shows the strategy after checking `Show Description of objects on Graph`.

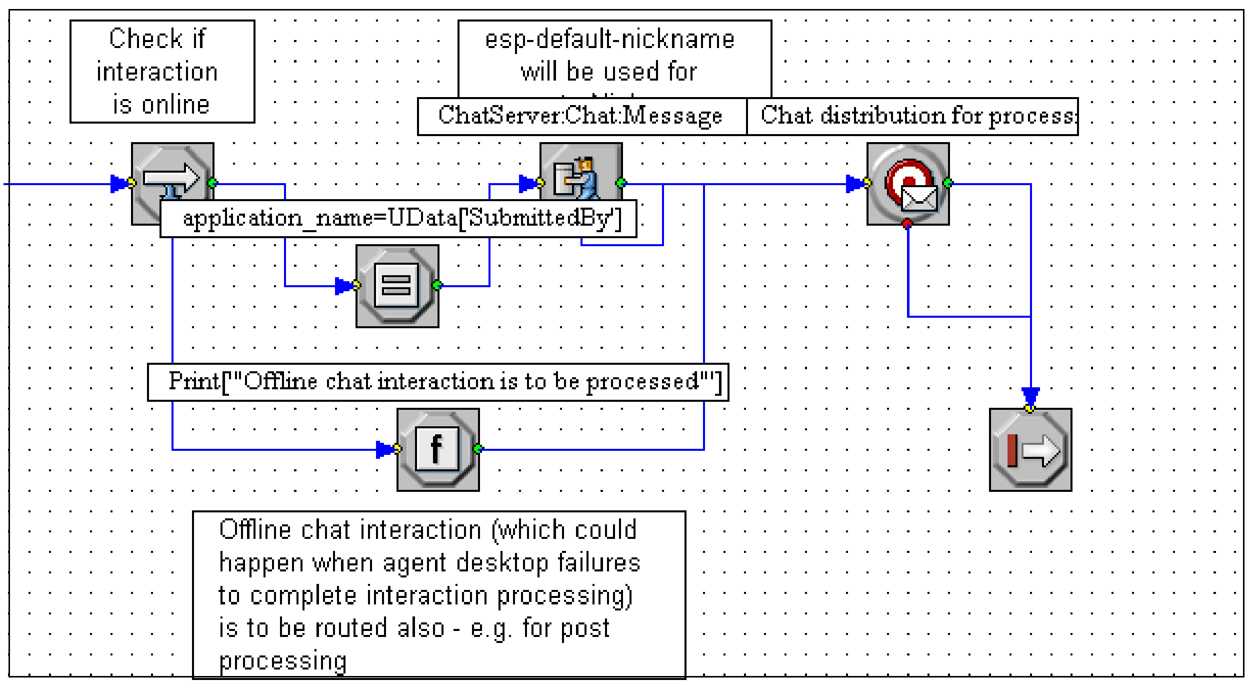


Figure 127: Show Description of Objects Checked

Figure 128 shows the strategy with only `Round Angle Connections` checked in the in the `Routing Design Options` dialog box.

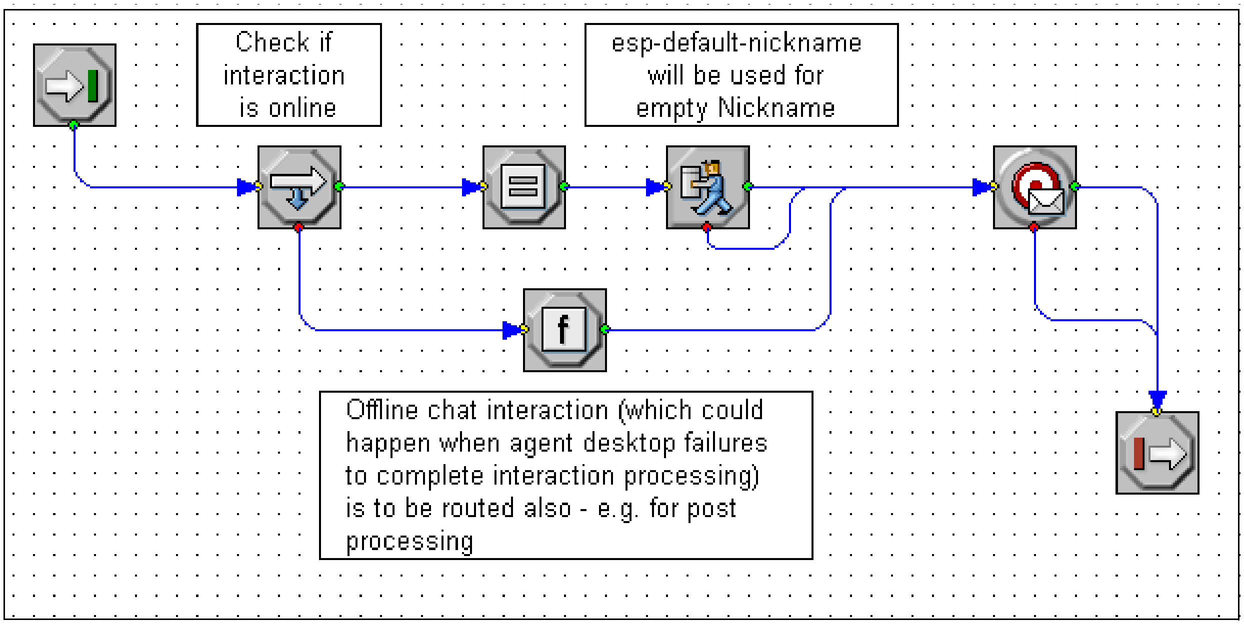


Figure 128: Round Angle Connections Checked

This section now returns to the second tab in the `Routing Design Options` dialog box. Figure 129 shows the `Storage Settings` tab.

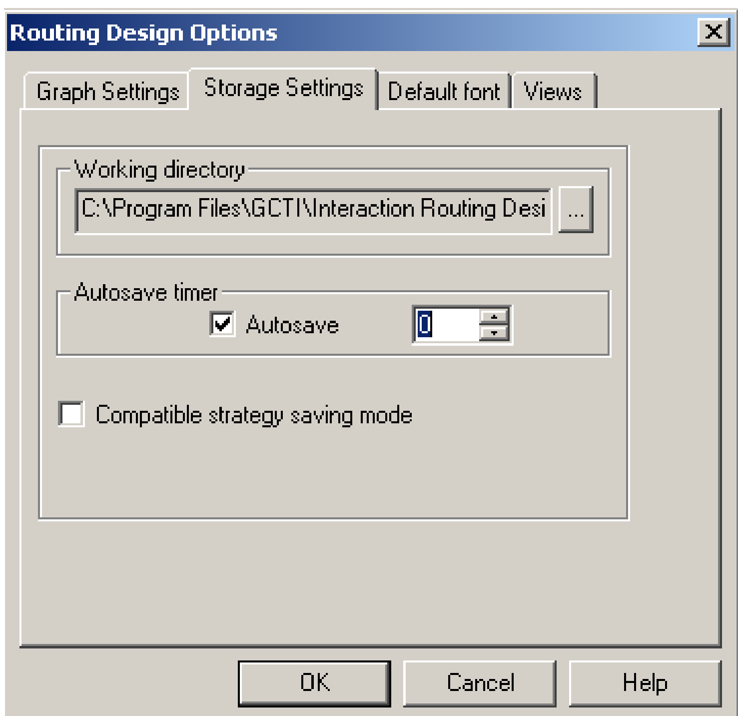


Figure 129: Storage Settings Tab

`Working directory`

Keep the default or browse for a new one. This directory contains `log` and `importstr` folders. It can also contain the following files: `import.log` (after importing), `export.log` (after exporting), `copyas.log` (after save as), and `save.log` (after saving). Temporary strategy/subroutine files reside in the `importstr` subdirectory. See the *Universal Routing 7.6 Interaction Routing Designer Help* if you want more information on the temporary files in the `importstr` directory.

`Autosave timer`

Use to automatically save a currently active and open strategy or subroutine at the indicated interval while the strategy is being edited. If IRD shuts down or freezes, you can restore the last edited version of the strategy that was autosaved.

`Compatible strategy saving mode`

Normally you will leave unchecked (the default). Select only if you will you want to save a strategy created with IRD 7.6 in compatible mode so that it can be opened with an older version of IRD (previous to 7.5). When unchecked, IRD saves the strategy in a memory-efficient format.

Note: You can also specify a default storage location by `Tenant`. For details, see the *Universal Routing 7.6 Interaction Routing Designer Help*.

Use the `Default Font` tab to specify the strategy comments font (see Figure 130).

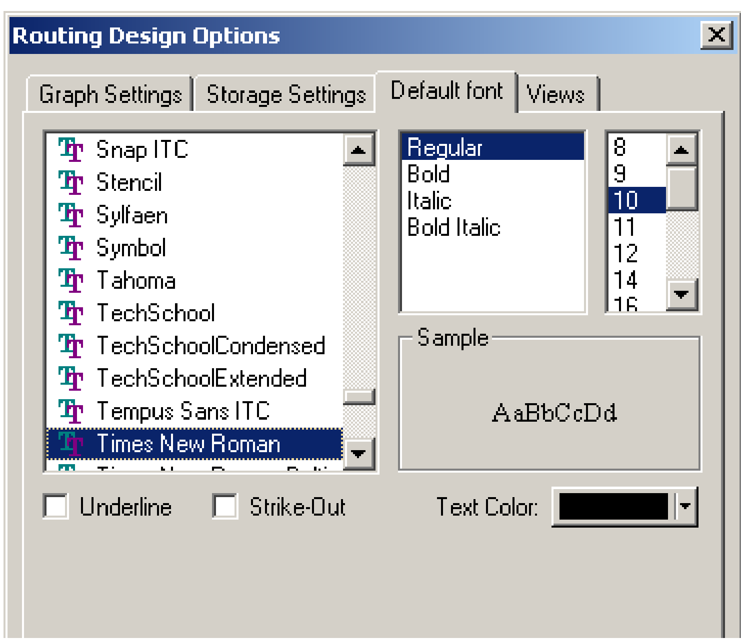


Figure 130: Default Font Tab

Note: If you have a strategy currently open, you must close and re-open the strategy in order for the change to take effect.

Use the `Views` tab to specify the IRD GUI elements to display (see Figure 131).

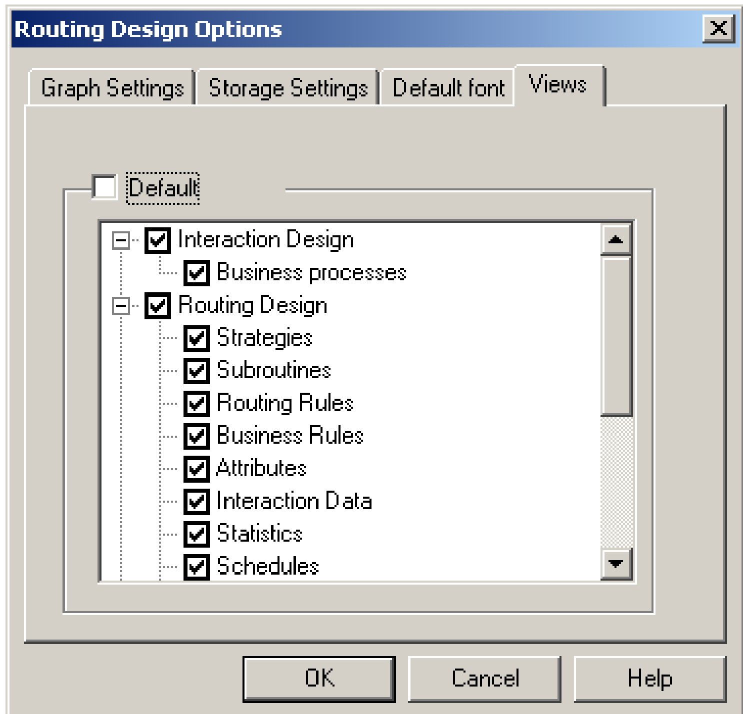


Figure 131: Views Tab

Note: New settings take effect upon IRD application restart.

Database Wizard

Database-driven routing means that an interaction is routed based on information retrieved from a database. You can build a strategy that instructs URS to:

- Query a database for any information, including customer name and language, but also for account level, ID of the last agent who handled the customer, and so on.
- Attach this information to the interaction.
- Route the interaction to the appropriate agent.

You use the Database Wizard object (see Figure 100 on page 122) for this purpose. Figure 132 shows an example voice strategy that uses the Database Wizard object.

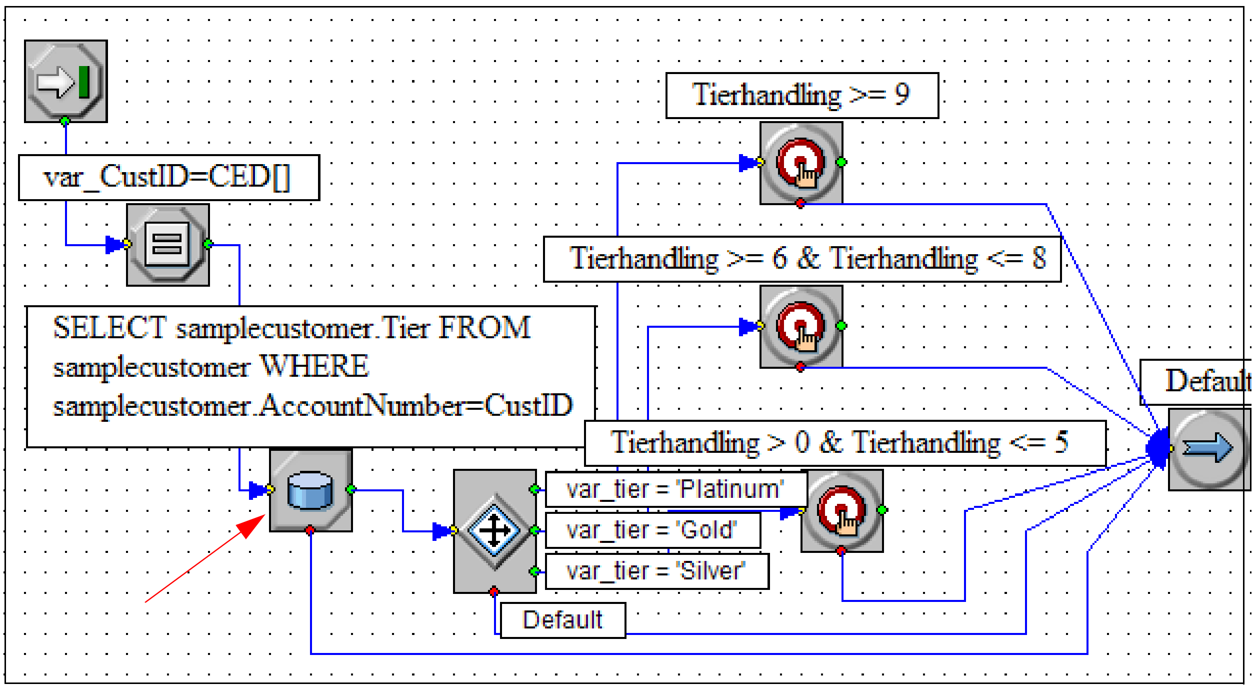


Figure 132: Example Database Lookup Strategy

This strategy routes based on the customer's revenue potential (Customer Tier). Customers are ranked by importance based on their account number. Based on its three possible values (`Platinum`, `Gold`, and `Silver`), the interaction is routed to an agent with a corresponding skill range.

Figure 133 shows the `Database Wizard` dialog box that opens when you place the Database Wizard object in a strategy.

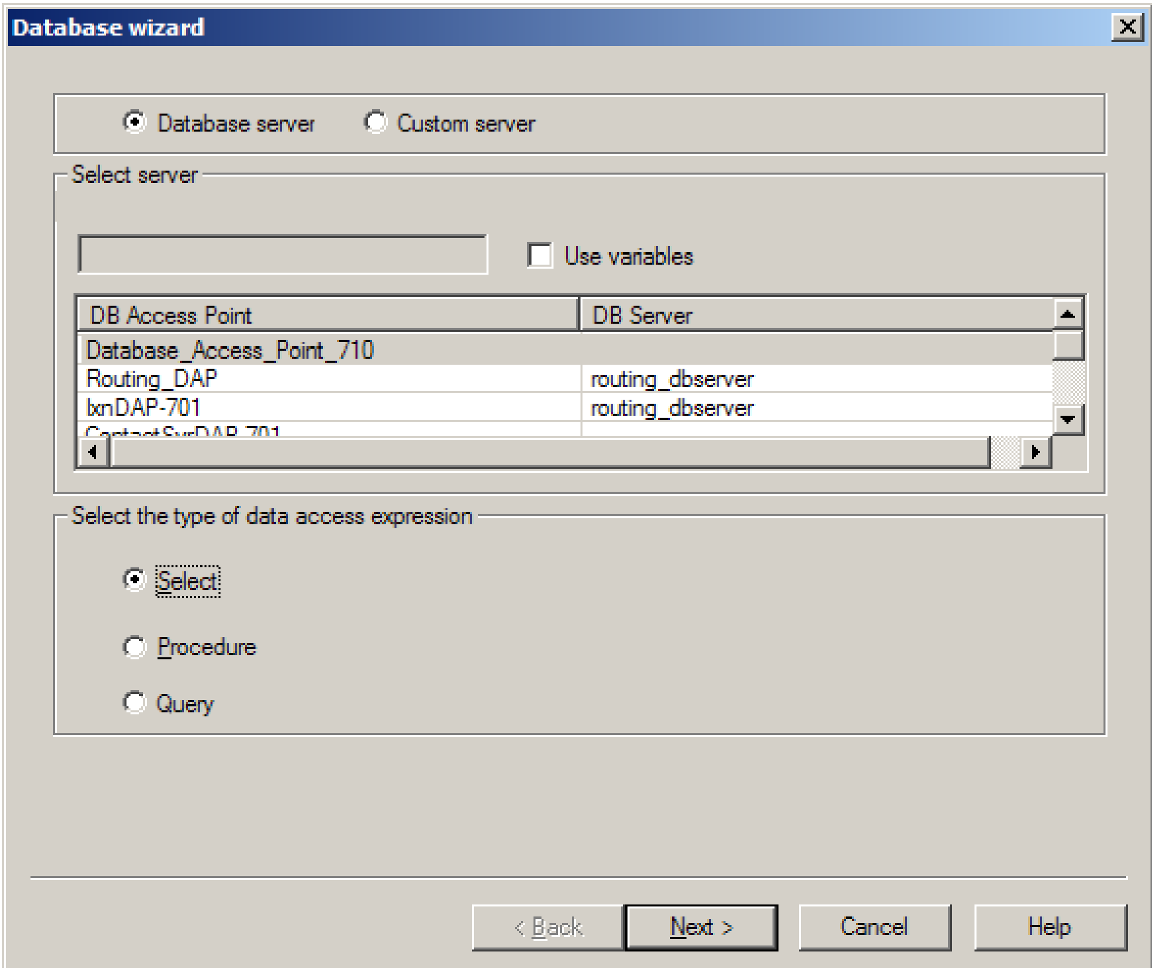


Figure 133: Database Wizard Starting Dialog Box

Note: To see all the Database Wizard dialog boxes, refer to *Universal Routing 7.6 Strategy Samples*. Also see *Universal Routing 7.6 Reference Manual.*

Summaries of each Database Wizard dialog box are presented below.

- After click `Next` as shown in Figure 133, the next `Database Wizard` object dialog box retrieves from the table `samplecustomer` the value of the field `Tier` for the record where the field `AccountNumber` equals the number contained in the interaction.
- The next `Database Wizard` dialog box constructs the `WHERE` clause (see Figure 134).

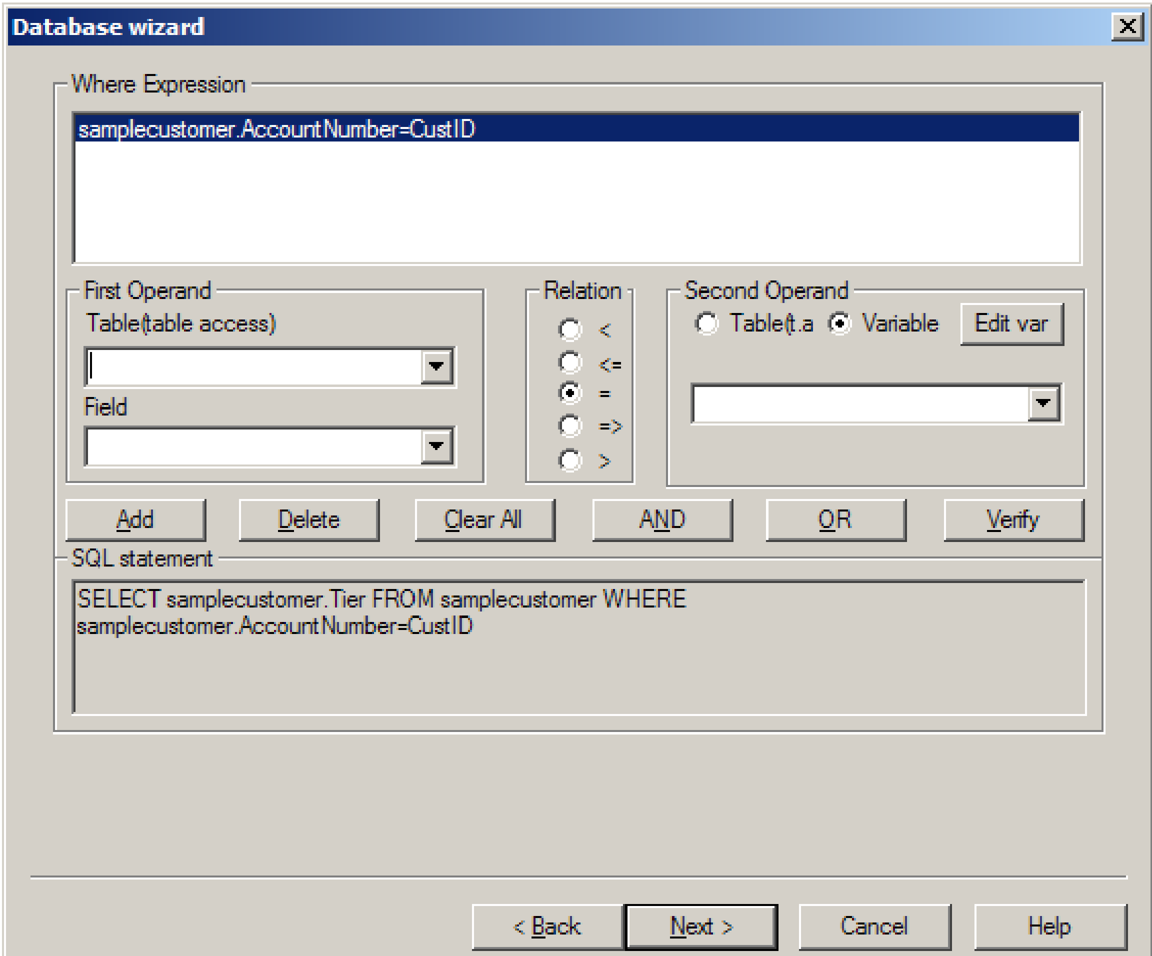


Figure 134: Database Wizard, Where Expression

- The next `Database Wizard` dialog box allows you to specify a sort order.
- The next `Database Wizard` dialog box gives the option of assigning the output to a variable or attaching it to the interaction.
- If you elect to assign the output to a variable, the final `Database Wizard` dialog box lets you assign the output value to a variable.

Defining Variables

Certain objects allow you to assign values to variables:

- Under the Miscellaneous icon (see Figure 103 on page 124), the Assign, Function, and Multi-Assign objects assign values to variables.
- Under the Database icon (see Figure 100 on page 122), the Database object.

Variable List Dialog Box

Use the `Variable List` dialog box to define variables and to move definitions of variables used in one strategy to another strategy. Figure 135 shows the `Variable List` dialog box with several variables defined.

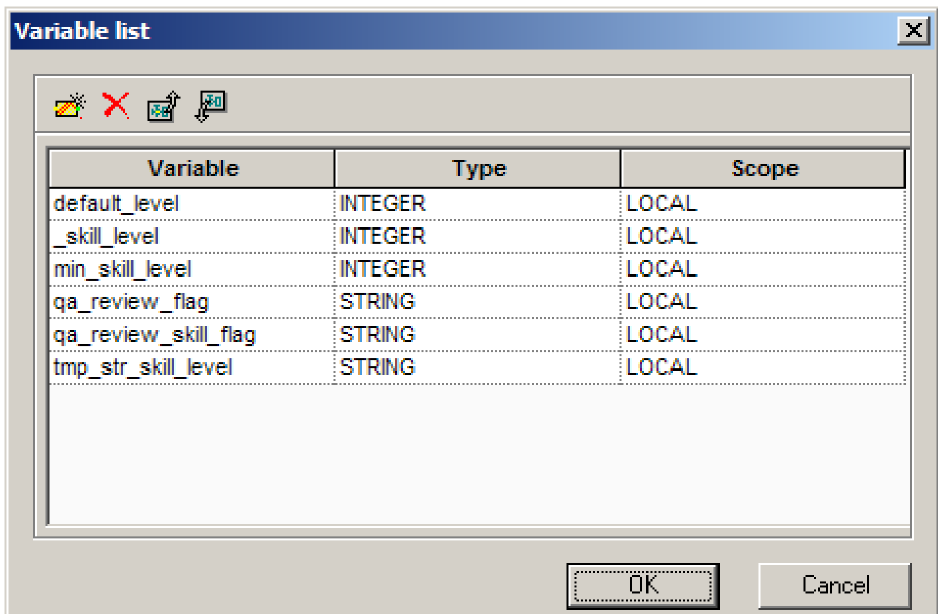
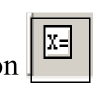


Figure 135: Variable List Dialog Box

Bring up the `Variable List` dialog box as follows:

- When working with a strategy, click the Variables button  on the toolbar to bring up this dialog box.
- In the Database Wizard object (see Figure 133 on page 146), when you assign the output or key-value pairs to one or more variables, a dialog box opens. Here you click the `Edit Variables` button to bring up the `Variable List` dialog box.
- In the Generic Segmentation object, click the down arrow in the `Expression` column to bring up the `Expression Builder` (see Figure 115 on page 133). In the `Expression Builder`, click the `Variables` button.

- Under the Miscellaneous icon (see Figure 103 on page 124), in the properties dialog box for the If, Assign, or Function objects, click the `Variables` button to bring up the `Variable List` dialog box. The Multi-Assign object lets you assign multiple variables at once using its own dialog box.

Using the Function object as an example, Figure 136 on page 149, shows the output of the Rand function (described in *Universal Routing 7.6 Reference Manual*) assigned to the variable `min_skill_level`.

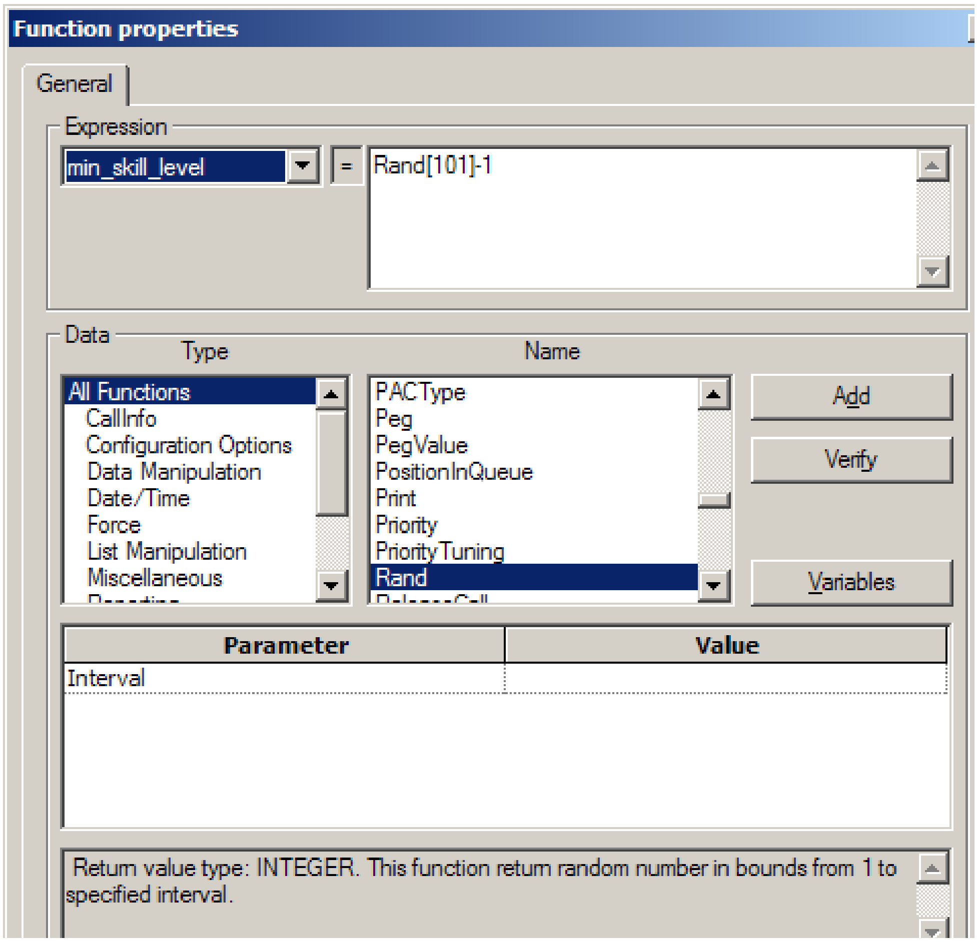


Figure 136: Function Object Properties Dialog Box,

For more information, see "Defining Variables" on page 323. Also see the section on variables in the *Universal Routing 7.6 Reference Manual*.

IRD Security

Starting with 7.6, IRD implements an inactivity timeout, which is fully described in the *Genesys 7.6 Security Deployment Guide.* This feature requires re-authentication (logging in again) after a period of user inactivity. The default period of inactivity is 0 (zero) minutes. To change the default in the IRD `Application` object, configure a value for the `inactivity-timeout` option as described in the *Universal Routing 7.6 Reference Manual*.

Note: IRD interprets the absence of the `inactivity-timeout` option or the setting of its value to `0` (zero) as disabling the feature of application locking as a result of user inactivity.

Important Information

- Upon expiration of the value set for the `inactivity-timeout` option, all opened IRD windows are hidden (minimized). You are presented with a re-login dialog box that, for authentication purposes, asks only for a user password in order to resume the Application session. All other fields are grayed out since the connection of the IRD Application to Configuration Server remains active the entire time until re-login.

  If you want to end the Application session by pressing `Cancel` button, on the re-login dialog box you will be warned that you are about to exit the Application. To exit the Application, press the `Yes` button on the `Do you want to close the application?` warning message. To return to the re-login dialog box, press the `No` button.
- If the administrator changes a user's password in Configuration Manager at any time during an IRD session before that user is presented with the re-login dialog box, the previous password will be required in order to resume the suspended session.
- In a case where the user changes a password in IRD before the expiration of the value set for the `inactivity-timeout` option, then only a new password will be accepted in the re-login dialog box in order to continue working with the Application.
- The `Interaction Design` window (see Figure 34 on page 61) behaves differently than the `Routing Design` window in the case where you want to end the Application session while you have unsaved changes. Unlike `Routing Design`, when you press the `Yes` button in order to close the Application, `Interaction Design` provides a message giving the possibility to save modifications made to a business process prior exiting.

IRD Access Permissions

Make sure that the Person object (see Figure 153 on page 174) for each user that will access IRD is assigned the required Access Group for IRD. Starting with 7.6, the Environment and Tenant objects have an option that defines the access permissions for a new Person object. The default is for a new Person object to have no access permissions unless you specify assign them in the Security tab of the Person properties dialog box. .

Configuration Manager displays a warning message if you attempt to save a new Person object without assigning an Access Group. Any user without an assigned Access Group can open IRD, but can only view the IRD GUI. For more information on configuring Application level security, see the *Genesys 7.6 Security Deployment Guide*.

Summary

The intent of this chapter is simply to introduce the strategy creation interface. You will use it to create the routing strategies discussed in "Creating Strategies" on page 305.

Chapter

5 Knowledge Manager Interface

This chapter describes the interface used to create interaction classification Categories, Screening Rules, Standard Responses, as well as the Field Codes and Custom Variables that may be used in Standard Responses. For information on creating these objects, see "Creating Knowledge Manager Objects" on page 217.

This chapter includes these sections:

About Knowledge Manager

At some point in a business process, you may want to screen an interaction for certain words or word patterns, analyze an interactions content and assign Categories, or send a Standard Response. Before you can perform these functions in a strategy, you must define certain objects in Knowledge Manager (see Table 4 on page 154).

Table 4: Knowledge Manager Objects Used for Routing

Knowledge Manager Object	Routing Strategy Object That Uses:
Classification Categories	Classify object to automatically classify an interaction with a Category code based on its content (see Figure 139 on page 158). Once a Category code is assigned, other types of processing can occur based on the Category code, such as automatically generating a Standard Response. Attach Categories object to manually attach classification Categories to an interaction (see Figure 140 on page 159). Classification Segmentation object (see Figure 141 on page 159) to cause interactions to take different paths in the strategy based on an assigned classification Category. Multi-Screen object to return Categories associated with Screening rules.
Standard Responses (which may include Field Codes and Custom Variables)	Acknowledgement, Autoresponse, Chat Transcript, Forward E-mail, Redirect E-mail, Create E-mail Out, Create Notification, and Create SMS objects.
Screening Rules	Screen and Multi-Screen objects for screening interactions for certain words or word patterns. Once a Screening Rule match occur, you can configure other types of processing to occur. **Note:** The primary difference between screening and classification is that the result of screening is a Screening Rule name and the value of true or false; the result of classification (you must have the Content Analyzer option installed) is a Category Code, which can be associated with a Standard Response or used for other purposes such as segementation. For more information, see the chapter on IRD objects in the *Universal Routing 7.6 Reference Manual.*

After creating these objects in Knowledge Manager and saving the definitions in the Universal Contact Server Database, the object names carry over to the Configuration Database.

- The Knowledge Managaer objects are then viewable in Configuration Manager (see Figure 157 on page 178 for an example).
- The Knowledge Manager objects are also selectable in the Strategy objects that use them (see Figure 344 on page 395 for an example).

Note: For information on logging into Knowledge Manager, see page 217.

Figure 137 shows an example Knowledge Manager with a Category expanded.

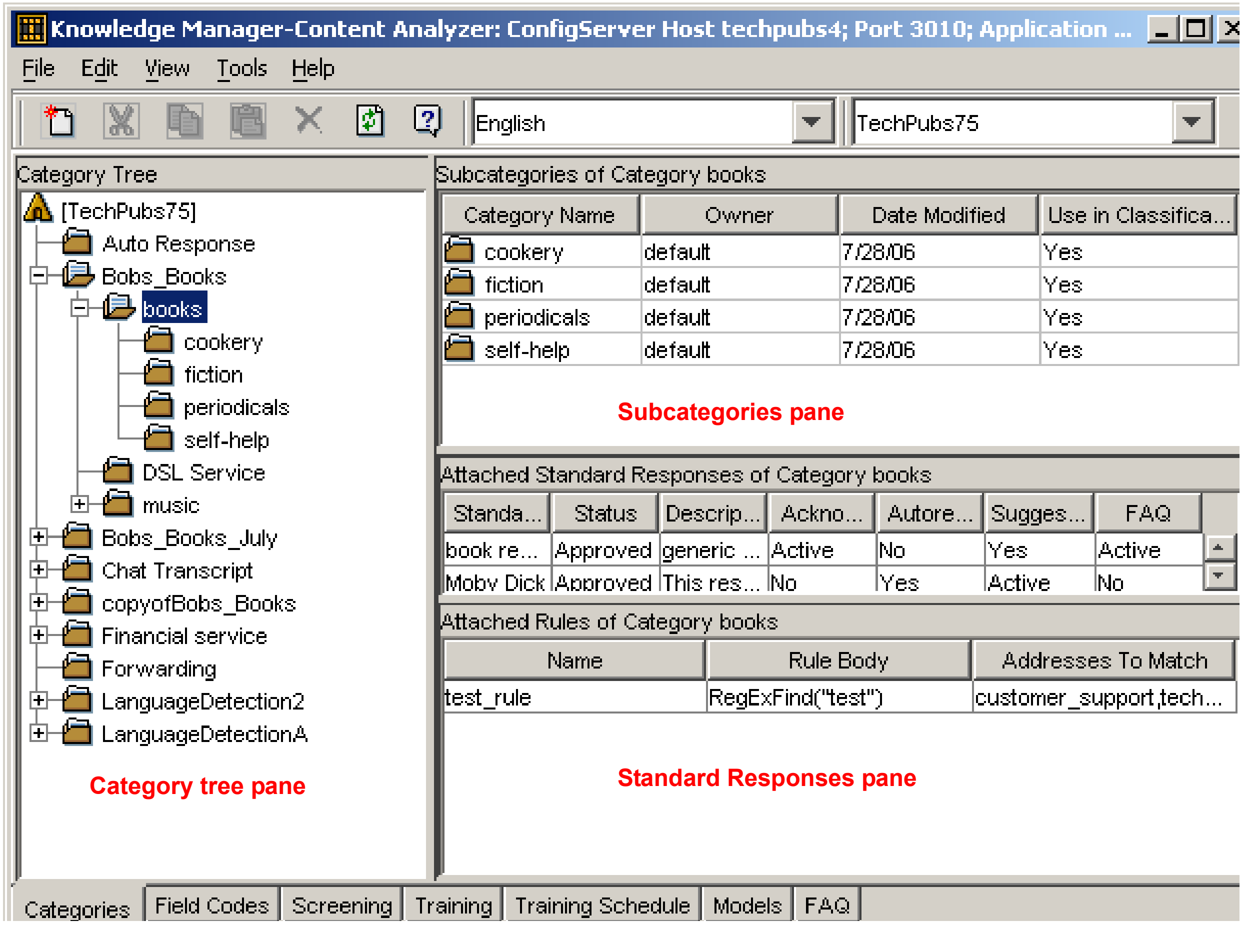


Figure 137: Knowledge Manager Panes

The Knowledge Manager interface contains the following tabs.

- `Categories`
- `Field Codes`
- `Screening`
- `Training`
- `Training Schedule`
- `Models`
- `FAQ`

Note: The first three tabs are relevant to all users of Knowledge Manager while the remaining tabs are relevant only to users of Genesys Content Analyzer if that option is installed (see page 50).

Table 5 summarizes each tab.

Table 5: Knowledge Manager Tabs

Relevance	Tab	Description
General	Categories tab	Displays and gives access to Category trees and their associated Standard Responses. Provides access to the Standard Response Editor.
	Field Codes tab	Displays the set of Field Codes and provides access to the Field Code Editor
	Screening tab	Displays the set of Screening rules and provides access to the Screening Rules Editor
Genesys Content Analyzer only	Training tab	Displays the set of training objects and provides access to the Mail Editor
	Training Schedule tab	Displays start time, status, and other information about training objects
	Models tab	Displays information about models
	FAQ tab	A FAQ object takes Standard Responses and recasts them as answers to frequently asked questions.

Categories Tab

Note: For more information on Categories than presented here, see the *Multimedia 7.6 User's Guide*.

Refer back to Figure 137 on page 155 to view the `Categories` tab with folders expanded.

Category Codes and Standard Responses

Category trees are integral to the classification functionality of Genesys Content Analyzer.

- Category trees are a means of organizing and gaining access to the library of Standard Responses. Each Standard Response must be associated with one category. One Category can have zero or many Standard Responses associated with it.
- Content Analyzer can classify an incoming e-mail in terms of the Category tree.

You use Knowledge Manager to create Category trees and to create and edit the associated Standard Responses, as well as the Field Codes that Standard Responses can contain.

Once Categories are defined in Knowledge Manager and saved in the Universal Contact Server Database, the object names carry over to the Configuration Database and are viewable in Configuration Manager (see Figure 138 and compare it to Figure 137 on page 155).

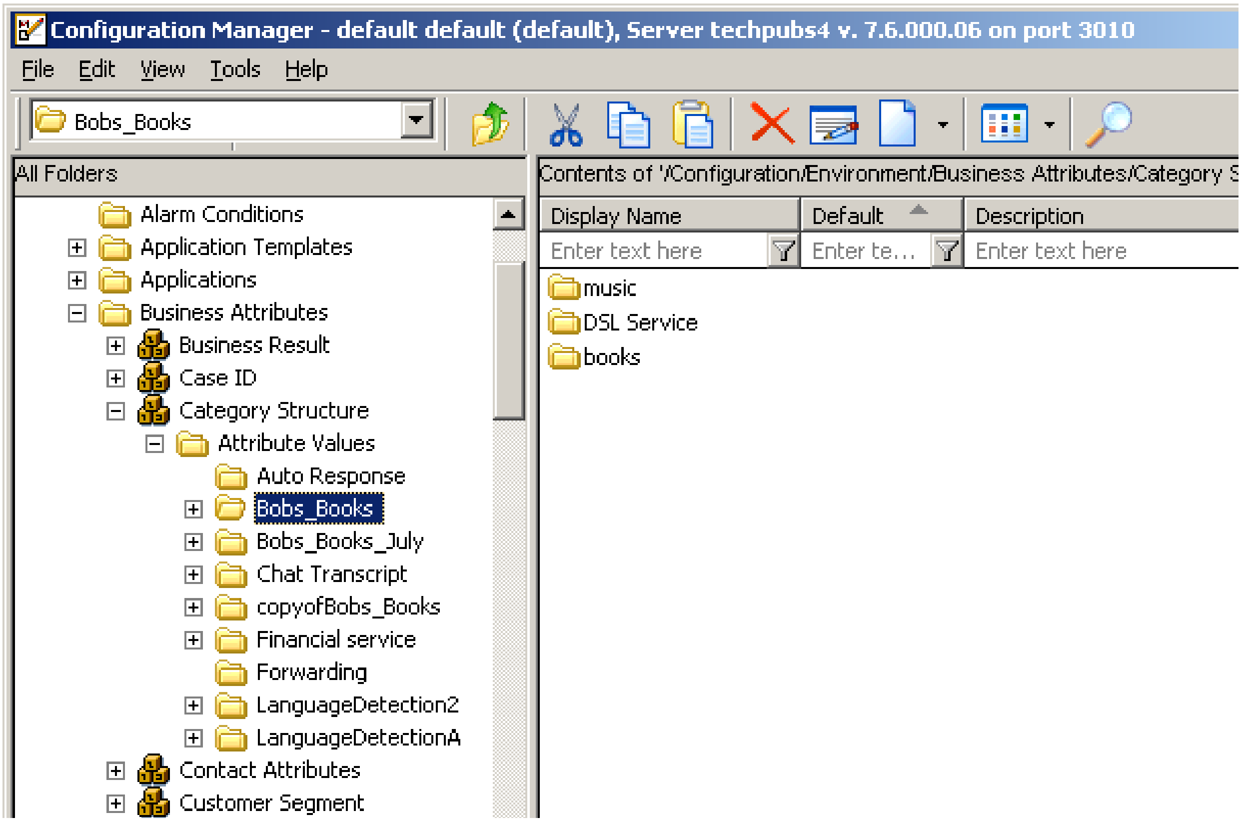


Figure 138: Classification Category Codes

Once the Categories are contained in the Configuration Database, the codes are viewable in various IRD object properties dialog boxes.

Category Codes in Classify Object and Attach Categories Objects

The IRD `Classify` object properties box displays classification Categories that were originally defined in Knowledge Manager (see Figure 139).

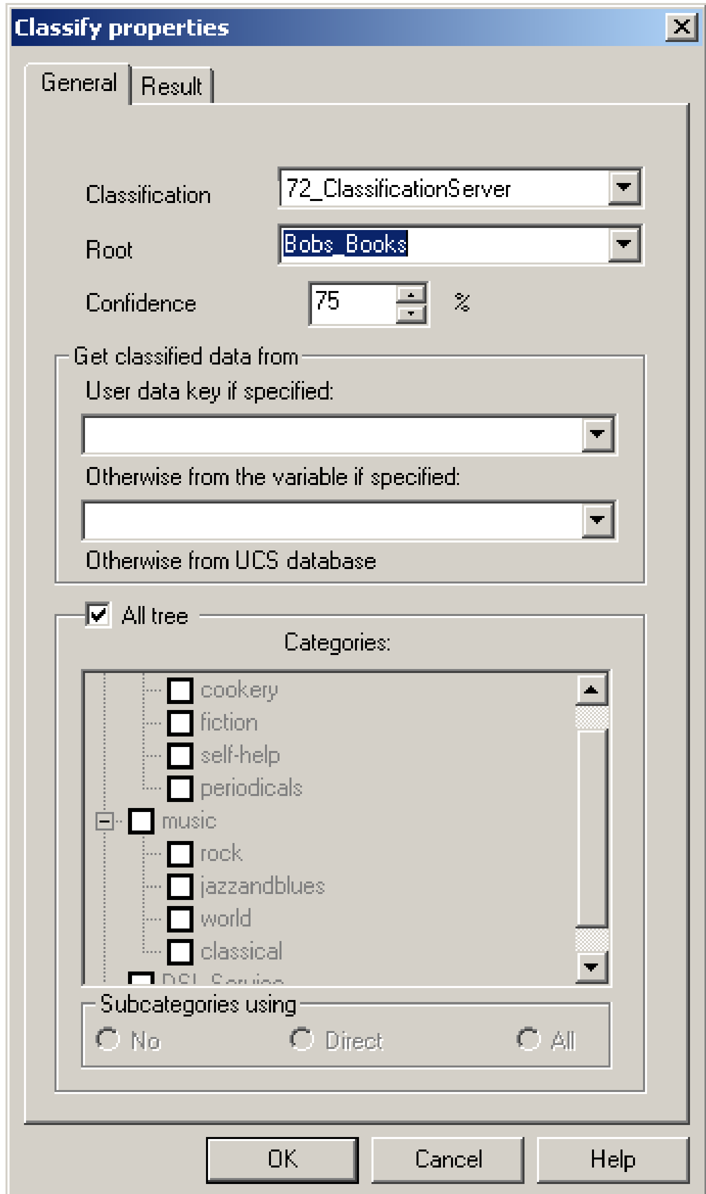


Figure 139: Classification Categories in Classify Object

IRD's Attach Categories object is similar to the Classify object, but you use it to manually (instead of automatically) attach classification Categories to an interaction. Once this is done, one possible use would be to create a strategy where an If object creates an expression based on the attached Categories. You could then have interactions take different paths in the strategy based on those Categories.

Figure 140 shows an example completed `Attach Categories Properties` dialog box with Categories selected that were originally defined in Knowledge Manager.

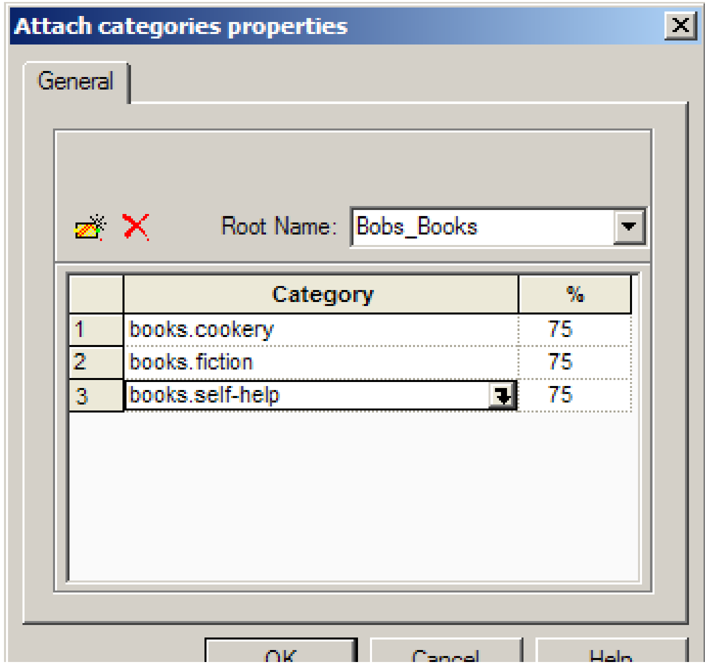


Figure 140: Classification Categories in Attach Categories Object

Category Codes in Classification Segmentation Object

You can segment interactions to take different paths in a strategy based on Categories returned from the Multi-Screen or Classify object. Figure 141 shows an example completed `Classify Segmentation Properties` dialog box.

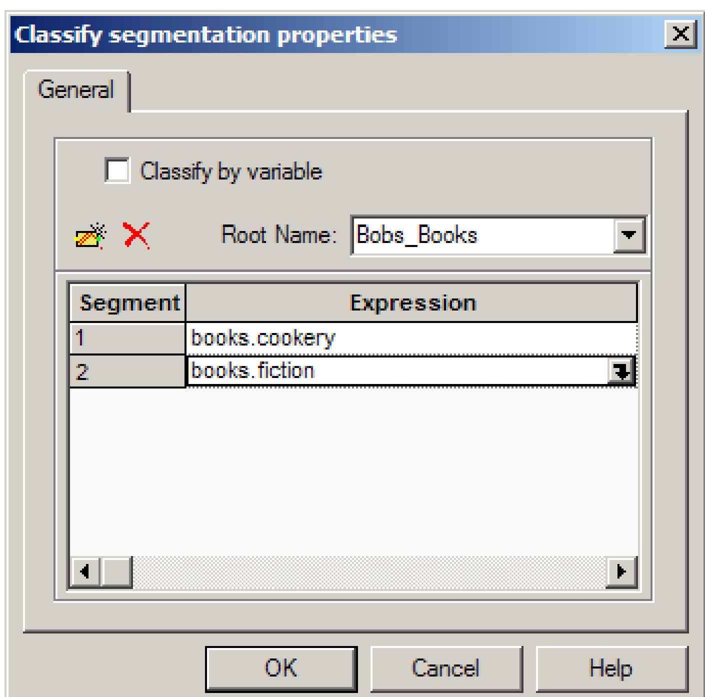


Figure 141: Classification Categories in Classify Segmentation Object

Category Codes in Acknowledgement and Autoresponse Objects

The Acknowledgement and Autoresponse objects allow you to select Standard Responses, which are previously defined in Knowledge Manager. Figure 142 shows an example `Acknowledgement receipt properties` dialog box where Standard Responses are selected.

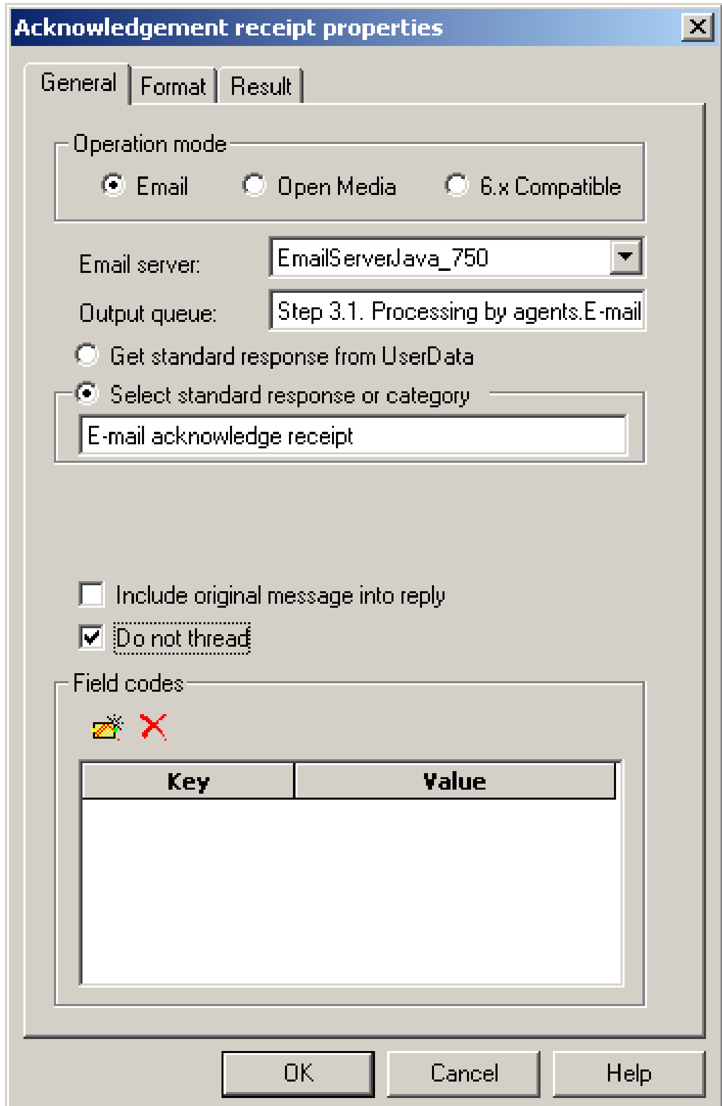


Figure 142: Acknowledgement Object With Standard Response

Field Codes Tab

Note: For more information than presented here, see the section on Field Codes in the *Multimedia 7.6 User's Guide*.

Figure 143 shows the Knowledge Manager `Field Codes` tab.

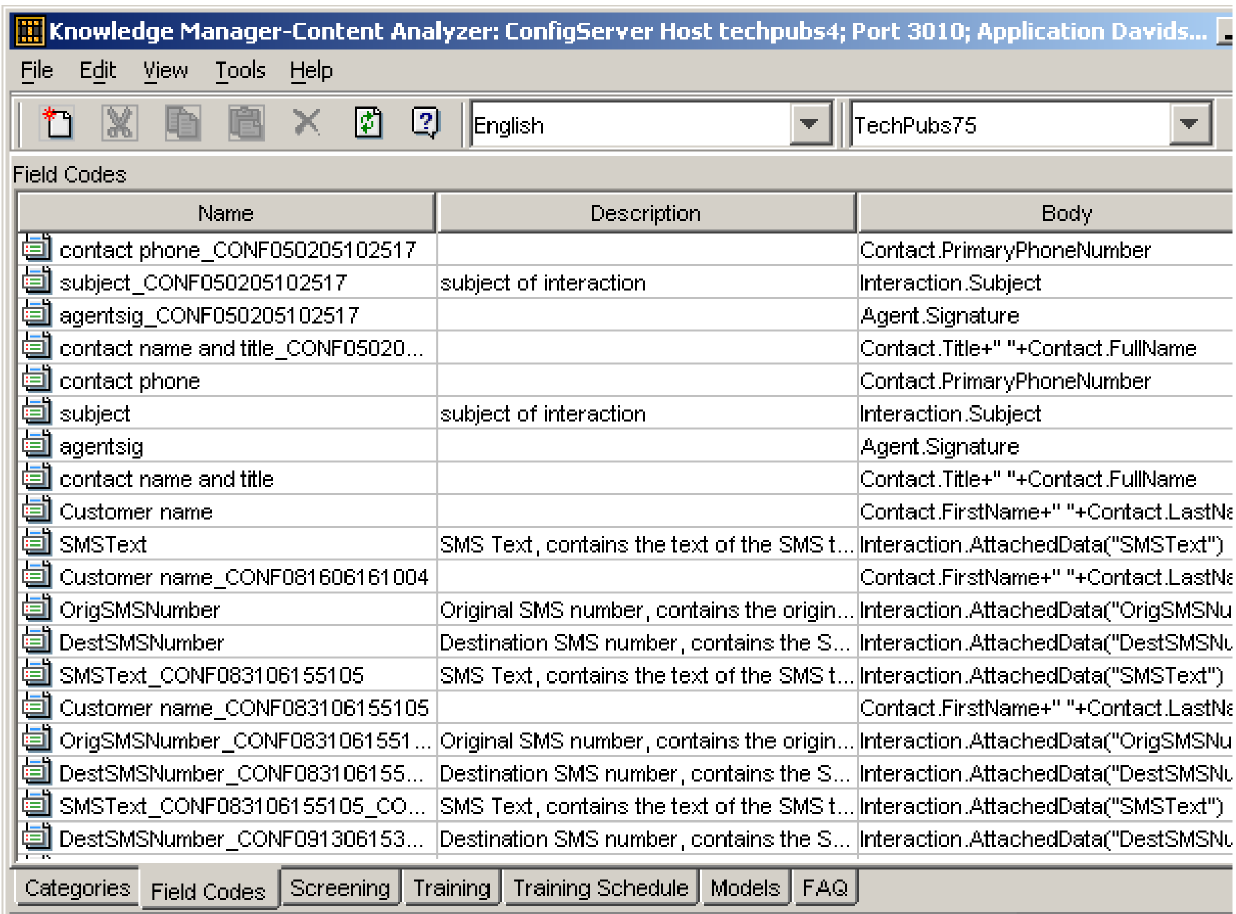


Figure 143: Knowledge Manager Field Codes Tab

The main use of Field Codes is to particularize Standard Responses. Figure 144 shows a Standard Response that uses the Field Codes `Contact.Title` and `Contact.FullName`.

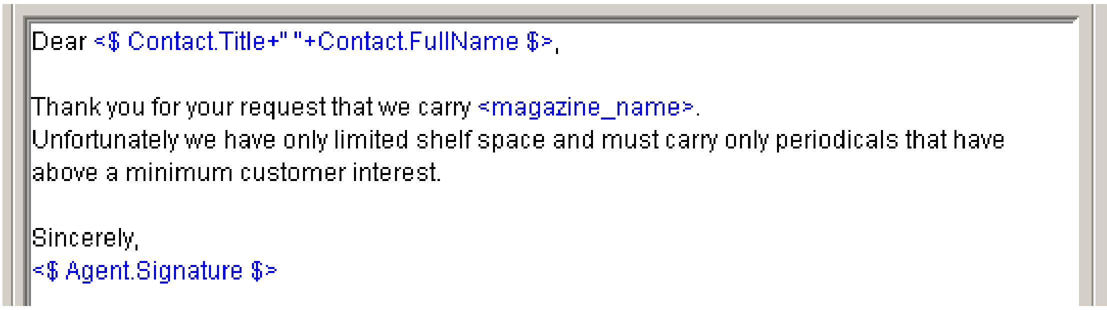


Figure 144: Field Codes in Standard Response

For example, you can use the Field Code `<$Contact.FullName $>` in a response beginning `Dear <$Contact.FullName $>,` which you send to dozens of recipients. In each message, `<$Contact.FullName $>` is replaced by the full name of the addressee of the message (the contact) as listed in the Universal Contact Server database. Figure 145 shows an example completed `Edit Field Code` dialog box for a Field Code.

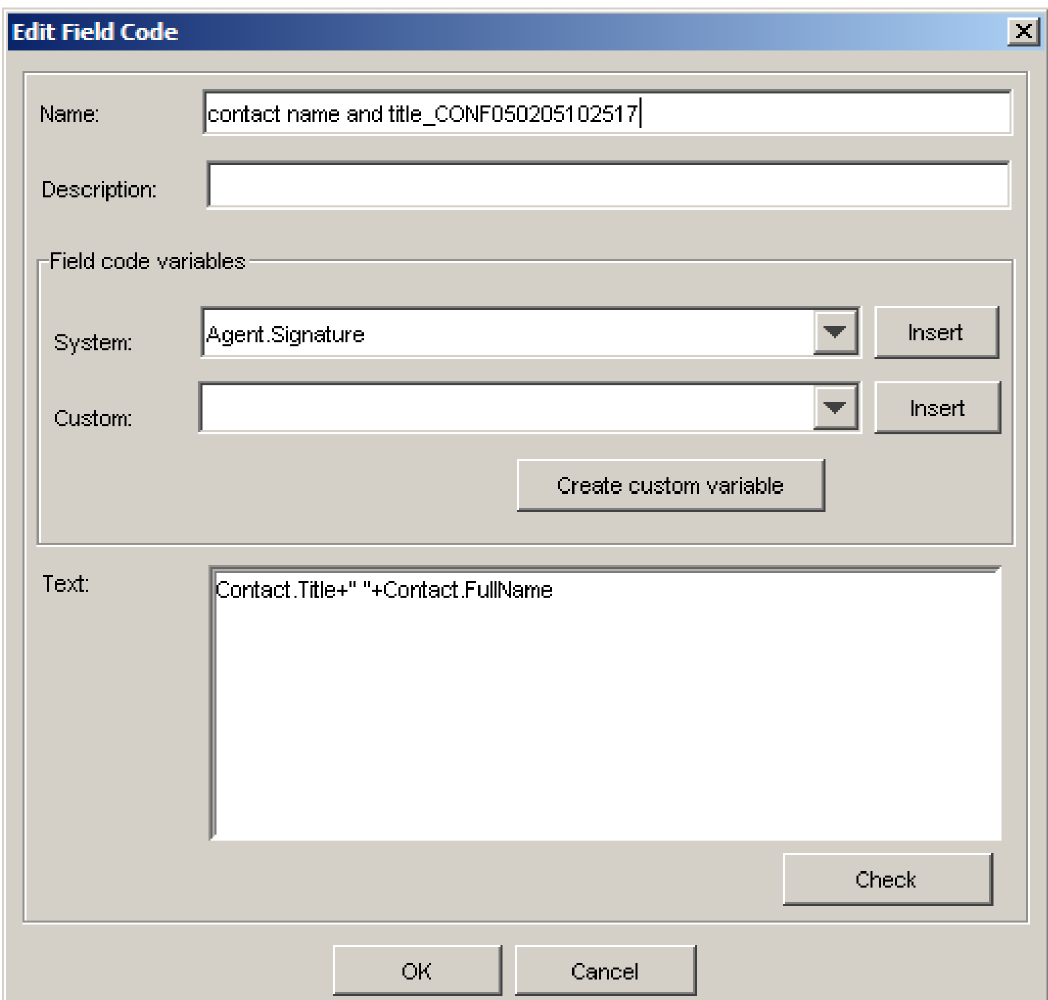


Figure 145: Knowledge Manager Edit Field Codes Dialog Box

Field Codes in Autoresponse Object

Once you define Field Codes in Knowledge Manager, the names carry over to Configuration Manager and are selectable in the IRD `Acknowledgement` and `Autoresponse Properties` dialog boxes by clicking the down arrow (see Figure 146).

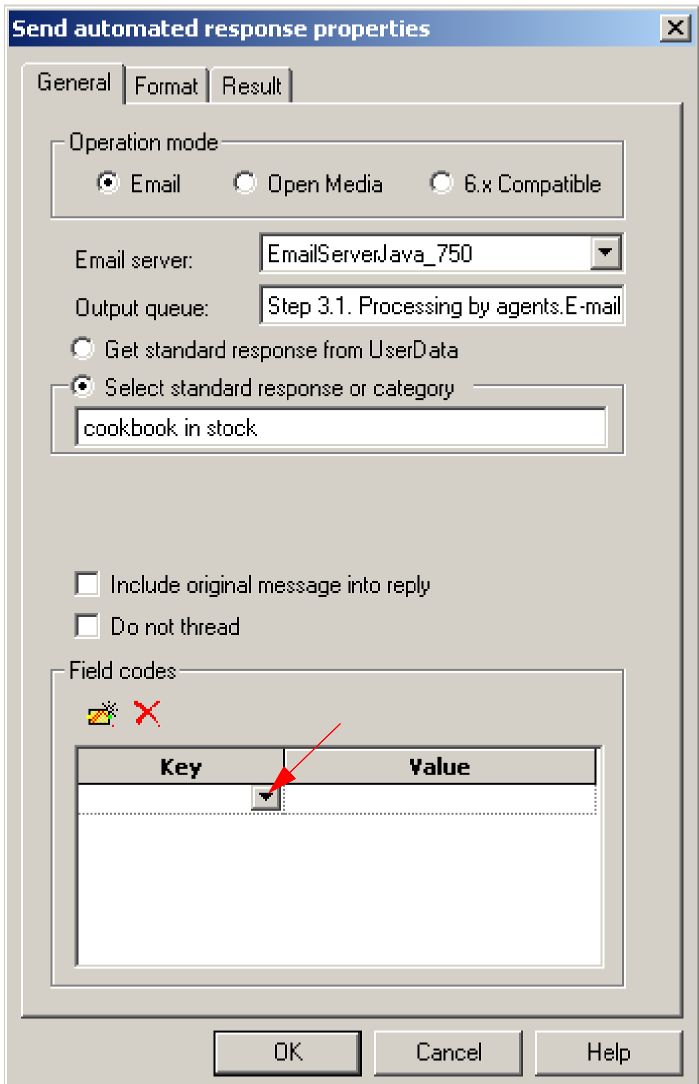


Figure 146: Autoresponse Object, Displaying Field Codes

Screening Tab

Note: For more information than presented here, see the section on Screening rules in the *Multimedia 7.6 User's Guide*.

Figure 147 shows the Knowledge Manager `Screening tab` with example entries.

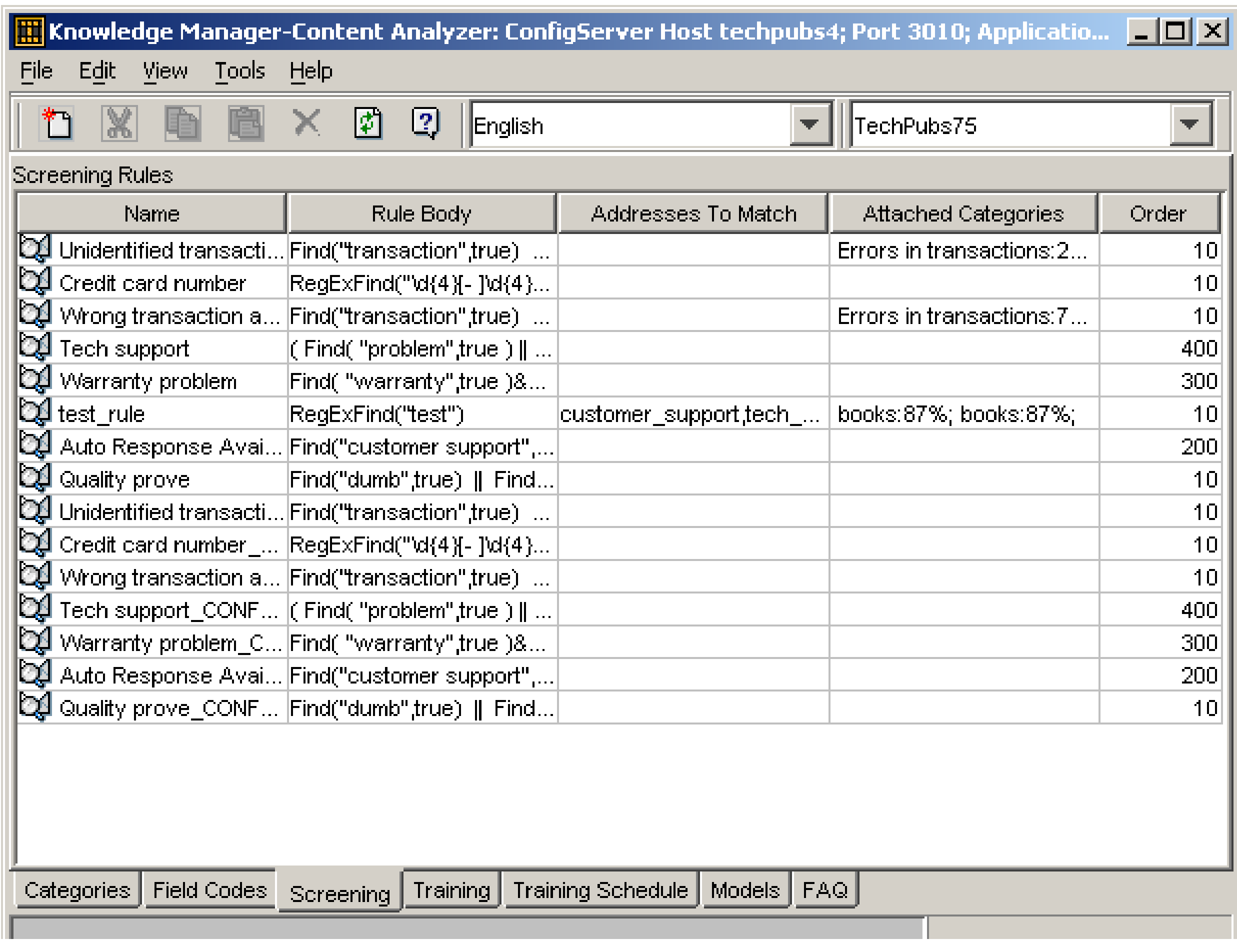


Figure 147: Knowledge Manager Screening Tab

When triggered by a Screen object in a routing strategy, Classification Server uses Screening Rules to scan an interaction and try to match either an originating address, a regular expression, or both. Figure 148 shows an example completed `Edit Screening Rule` dialog box.

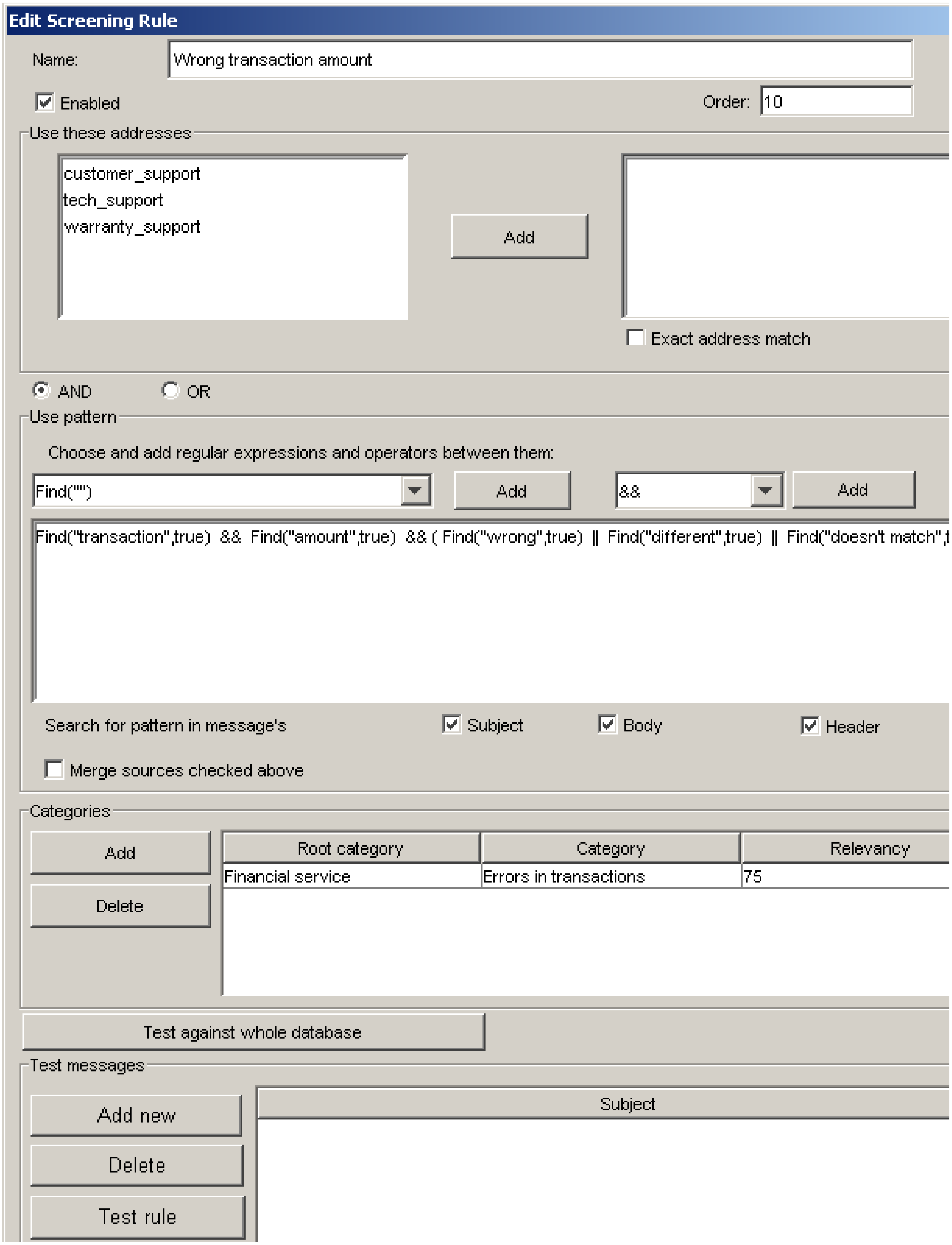


Figure 148: Knowledge Manager Screening Tab

Note that a Screening Rule is associated with a Category and a Category is associated with a Standard Response (see Figure 137 on page 155). Once you define Screening Rules in Knowledge Manager, they carry over to the Genesys Configuration Database and become selectable in the IRD Screen object (see Figure 149).

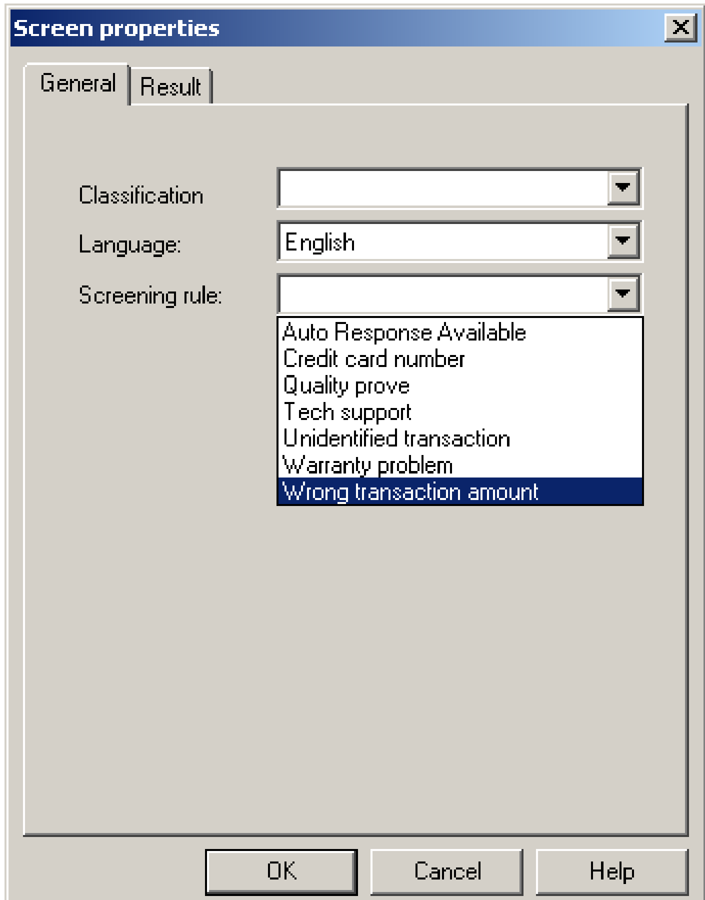


Figure 149: Screen Object Showing Available Screening Rules

After an interaction is screened, you can use the Screen Segmentation object to have interactions take different paths in a strategy based on screening results (see Figure 349 on page 400).

Training, Training Schedules, Models, and FAQ Tabs

The last four tabs are relevant only to users of Genesys Content Analyzer and are not shown. For details, see *Multimedia 7.6 Knowledge Manager Help*.

Summary

The intent of this chapter is simply to introduce the Knowledge Manager interface. You will use Knowledge Manager later as described in "Creating Knowledge Manager Objects" on page 217.

Chapter

6 Configuration Layer Interface

This chapter describes the interface used to create Configuration Manager objects used in strategies. For step-by-step instructions on creating these objects, see “Creating Configuration Manager Objects” on page 231.

This chapter includes these sections:

About Configuration Manager

Configuration Manager is the Genesys software application that enables you to manipulate your contact center's configuration data and set user permissions for solution functions and data. Configuration Manager is one of the three mandatory components of the Configuration Layer:

- Configuration Database, which stores all configuration data. DB Server—a Services Layer component—serves as an access point to the Configuration Database.
- Configuration Server, which:

  Provides centralized access to the Configuration Database, based on permissions that you can set for any user to any configuration object.

Maintains the common logical integrity of configuration data and notifies applications of changes made to the data.

As an optional feature, provides support for a geographically distributed environment.

- Configuration Manager.

Note: For information on logging into Configuration Manager, see page 231

Required Objects

Assuming that you have objects required by Framework and Universal Routing already configured, additional objects you may need to define in Configuration Manager include:

- `Persons.` In addition to an agent, at various points in a business process, you will want to route an interaction to a supervisor, manager, or QA member. Before you can select that target in a Strategy object, the target must first be defined as a `Person` object in Configuration Manager.
- `Skills` (for assignment to `Person` objects)
- `Agent Groups` (collections of `Person` objects)
- `Places` and `Place Groups` (desks)
- `Business Attributes` (see Figure 155 on page 176).
- `Table Access` (instructions that tie together formats, database access points, and tables when accessing information in a non-SQL database)
- `Email Accounts` (external e-mail addresses)
- `Capacity Rules` (see "Agent Capacity Rules" on page 179)

Environment Folder and Tenants

Figure 150 shows an example Configuration Manager interface. The right pane shows the `Environment` folder; the left pane shows *Tenants*.

- Tenants are businesses whose customer interactions are enabled or enhanced through services offered by a third party, typically a telecommunications service provider.
- From a functional standpoint, each Tenant in a Multi-Tenant environment is a contact center (single or multi-site) completely equipped to process customer interactions.

The example in Figure 150 includes three `Tenant` objects (including `Environment`).

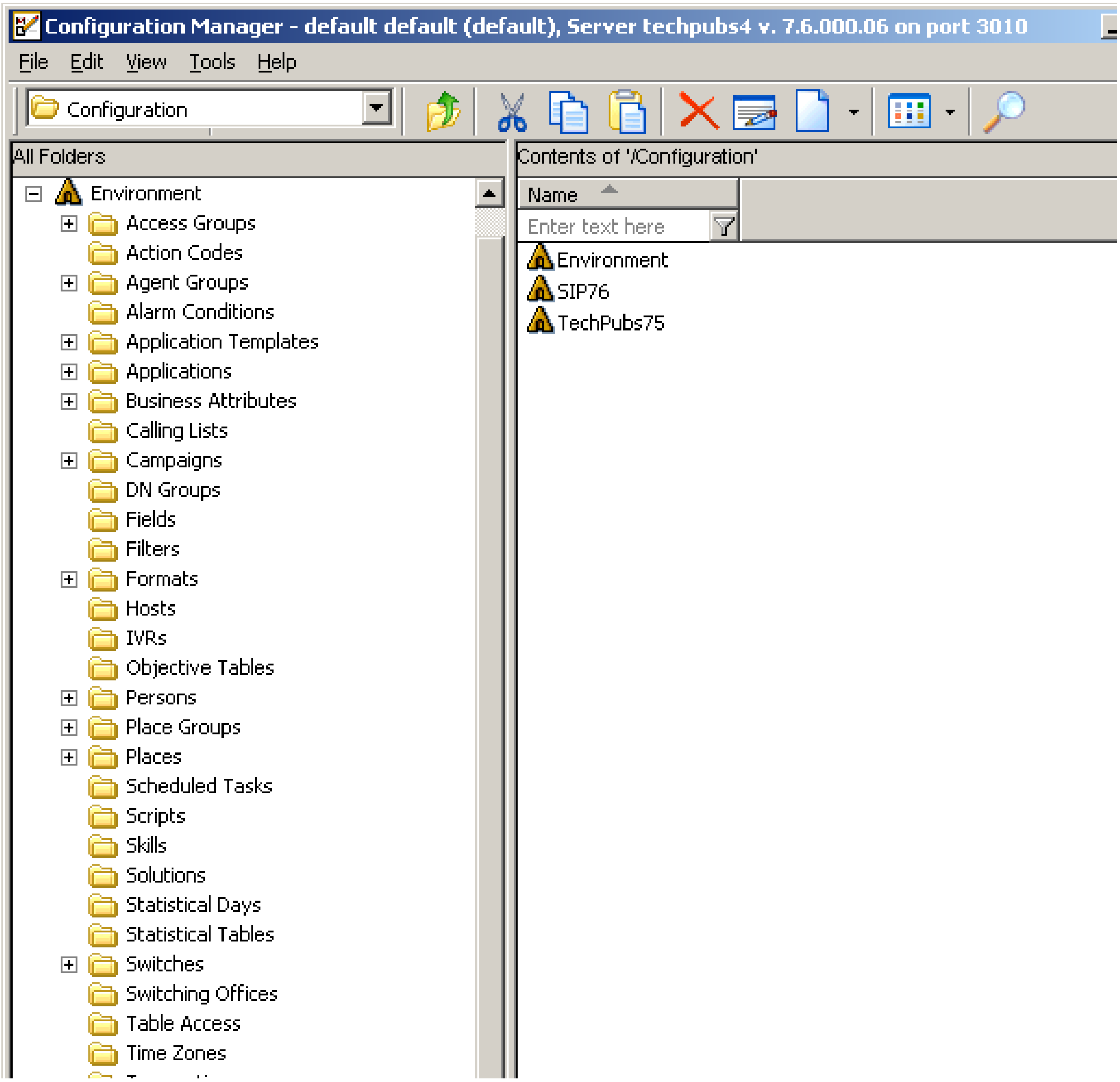


Figure 150: Environment Folder Expanded

The object presentation in Configuration Manager depends on the type of Genesys configuration environment, which can be:

1. Enterprise (also referred to as *Single-Tenant*) or
2. Multi-Tenant.

Note: The type of Genesys configuration environment depends on the operation mode of Configuration Server. You set this mode by applying either Enterprise or Multi-Tenant installation scripts when you create the Configuration Database as described in the *Framework 7.6 Deployment Guide*.

This guide assumes objects in the `Environment` folder have already been configured, including Universal Routing Server (see page 49), E-mail Server Java (see page 51), and Interaction Server (see page 49) `Applications`.

Resources Folder

Figure 151 shows folders for resources for a `Tenant` in a Multi-Tenant environment.

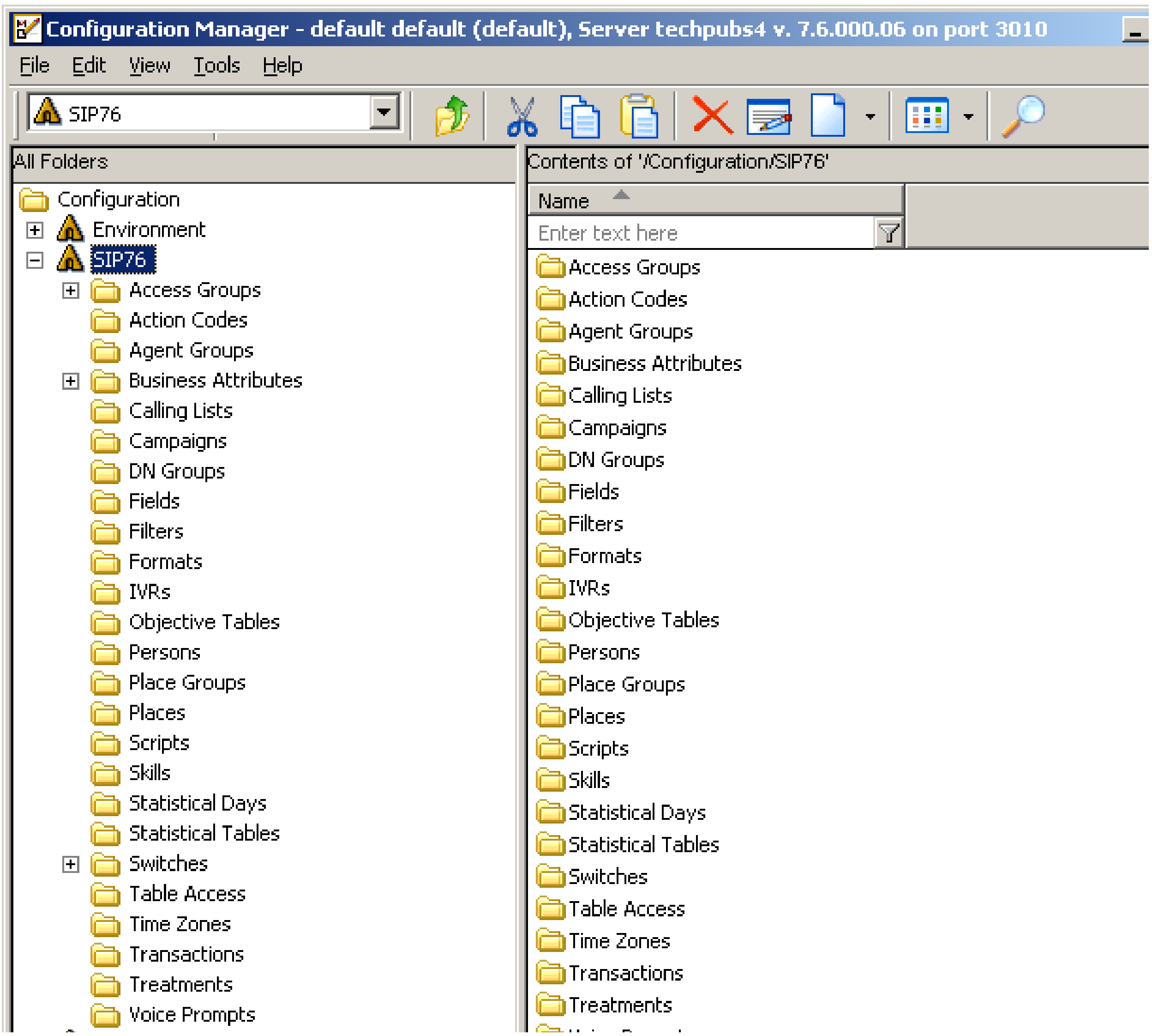


Figure 151: Resources Folder, Tenant Selected

Note: A Single-Tenant environment places resources in a folder called `Resources`.

Scripts Folder

When you create a new business process, Queue, View, or Strategy object, the associated `Script` file is stored in the `Scripts` folder in the Configuration Database (see Figure 152).

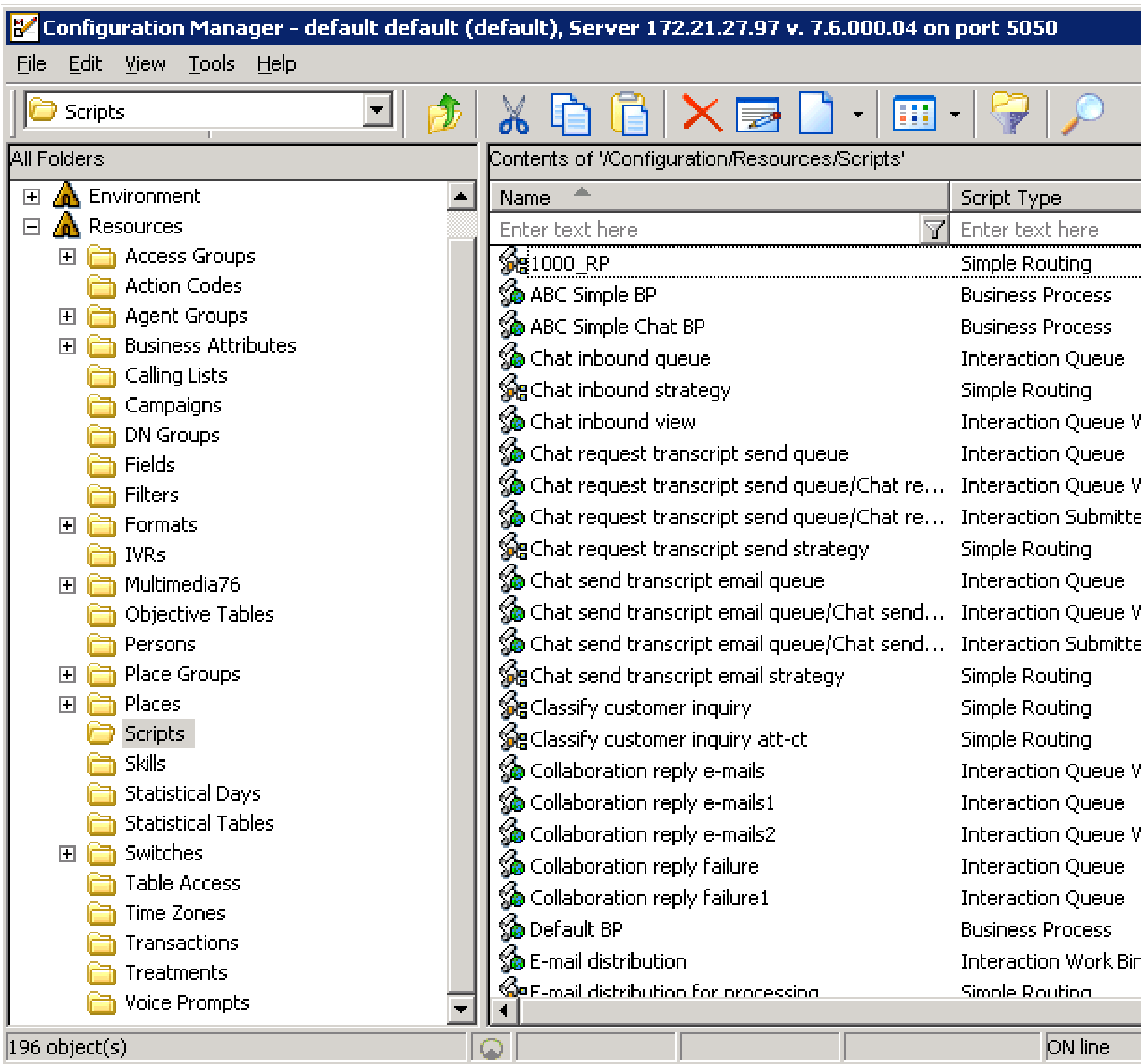


Figure 152: Scripts Folder

Warning! Do not use Configuration Manager to manually create these `Script` objects. To ensure internal integrity, use only IRD to create these objects.

Viewing Object Properties

To view an object's properties, double-click its icon in the right pane. For example:

1. Expand the `Persons` folder to find a `Person` object.
2. Double-click a `Person` object in the right pane to open a properties dialog box (see Figure 153).

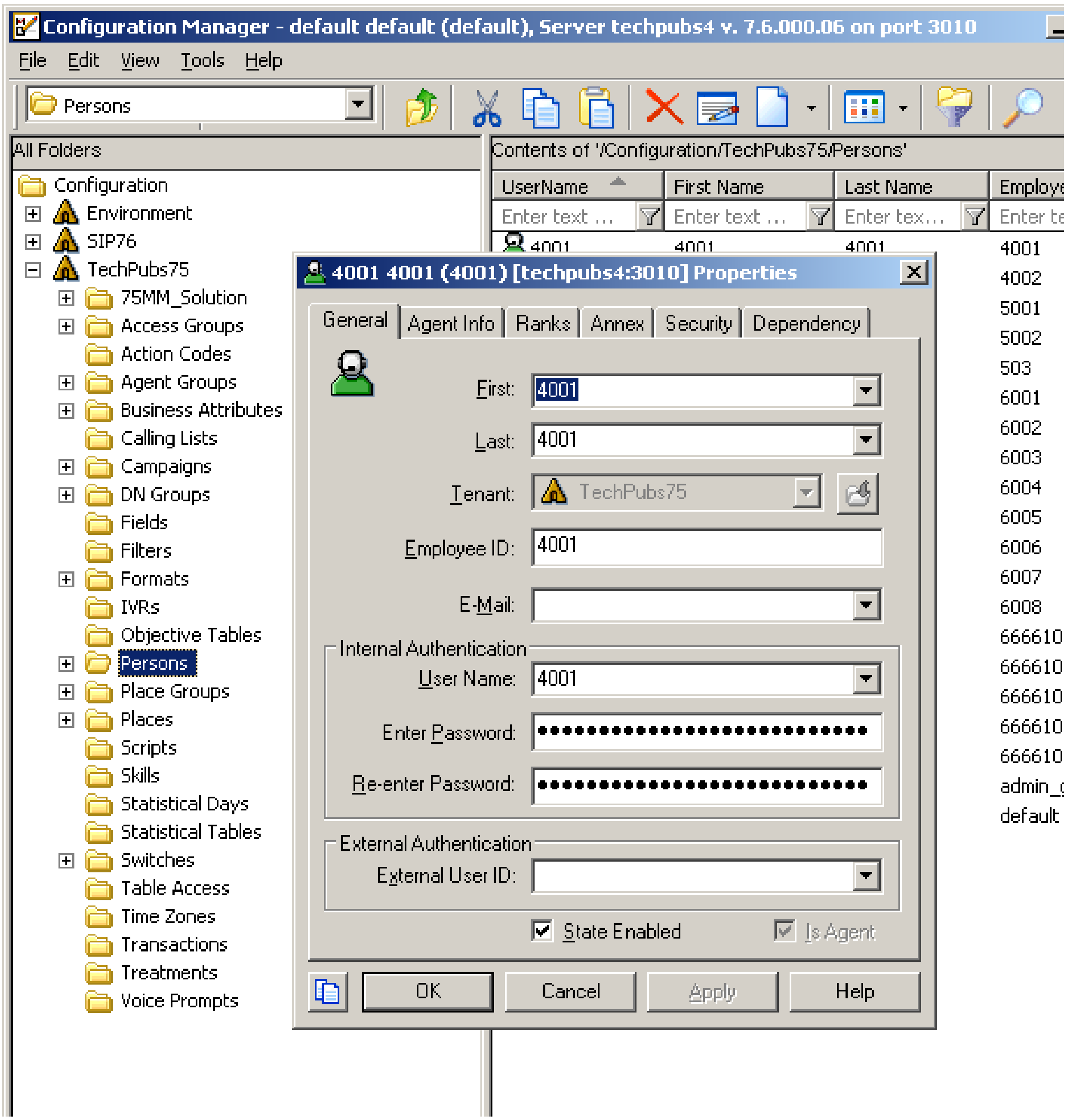


Figure 153: Agent Properties Dialog Box, General Tab

3. Click the `Agent Info` tab to see any `Skills` or `Capacity Rules` assigned to the agent (see Figure 154).

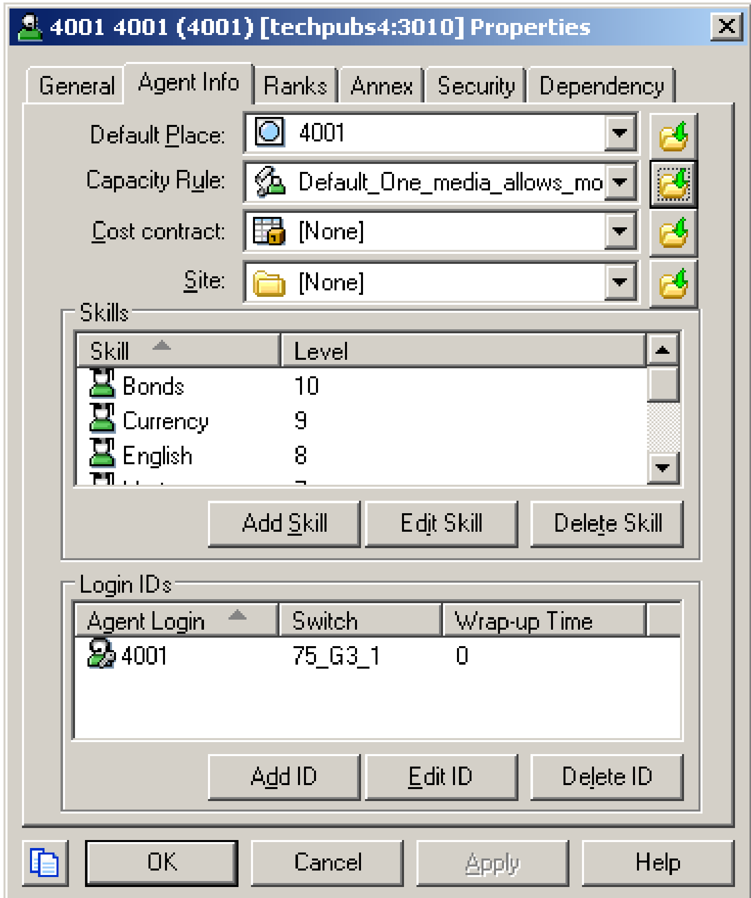


Figure 154: Agent Properties Dialog Box, Agent Info Tab

Business Attributes

`Business Attributes` are interaction attributes that are used in different ways within Genesys. Figure 155 shows the content of the `Business Attributes` folder.

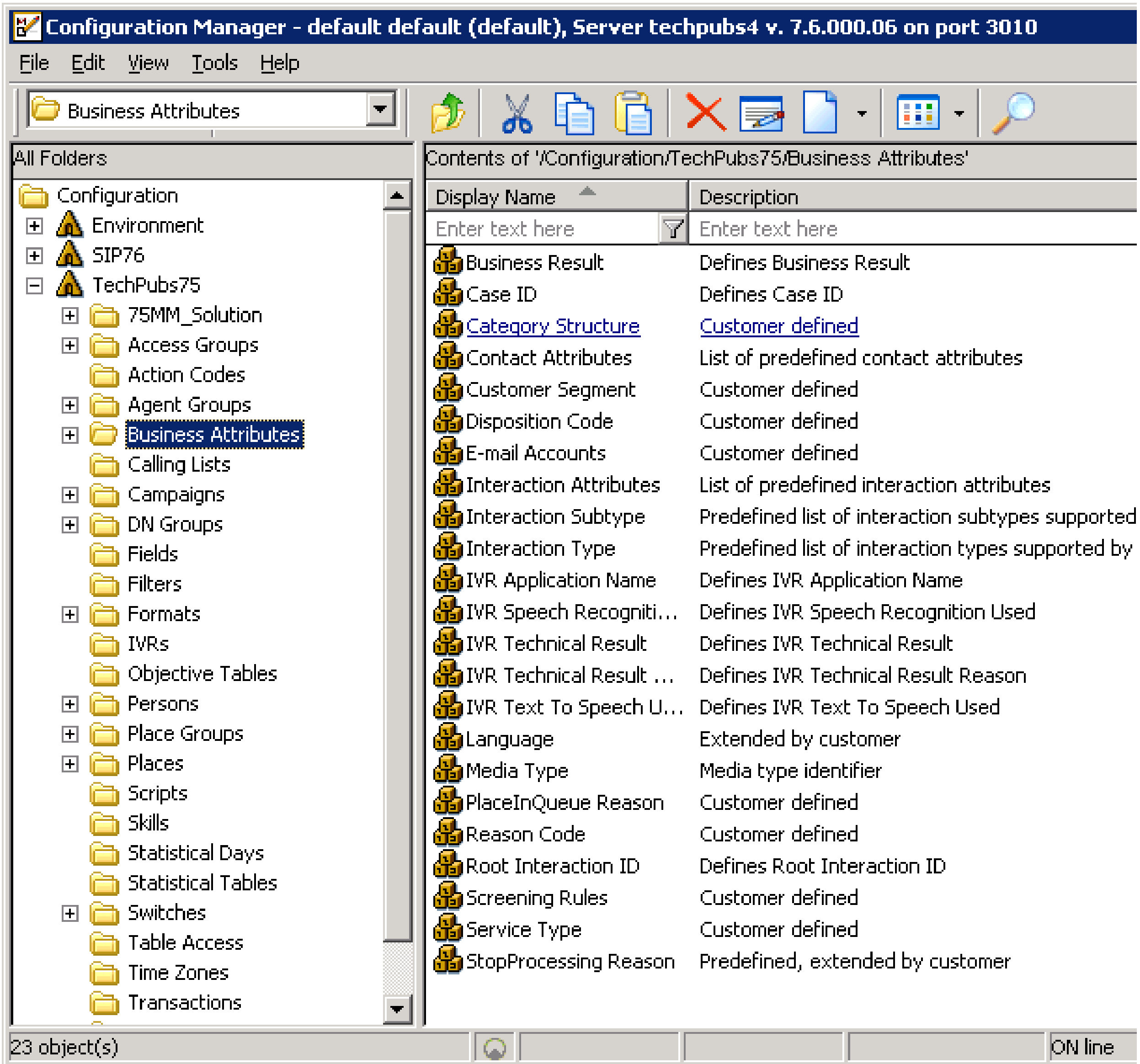


Figure 155: Businesse Attributes Folder

When designing strategies for business processes, you can use the attributes in the `Business Attributes` folder (see as follows:

- The If object (see Figure 116 on page 134) and Assign object (see Figure 112 on page 131) give the option of selecting `Business Attributes` when constructing an expression.
- When using the Function or Multi-Function objects, certain functions use `Business Attributes` including Attach, Business Data, Update, and UpdateBusinessData.
- The Generic Segmentation object (see page 126) lets you select `Business Attributes` when constructing an expression.

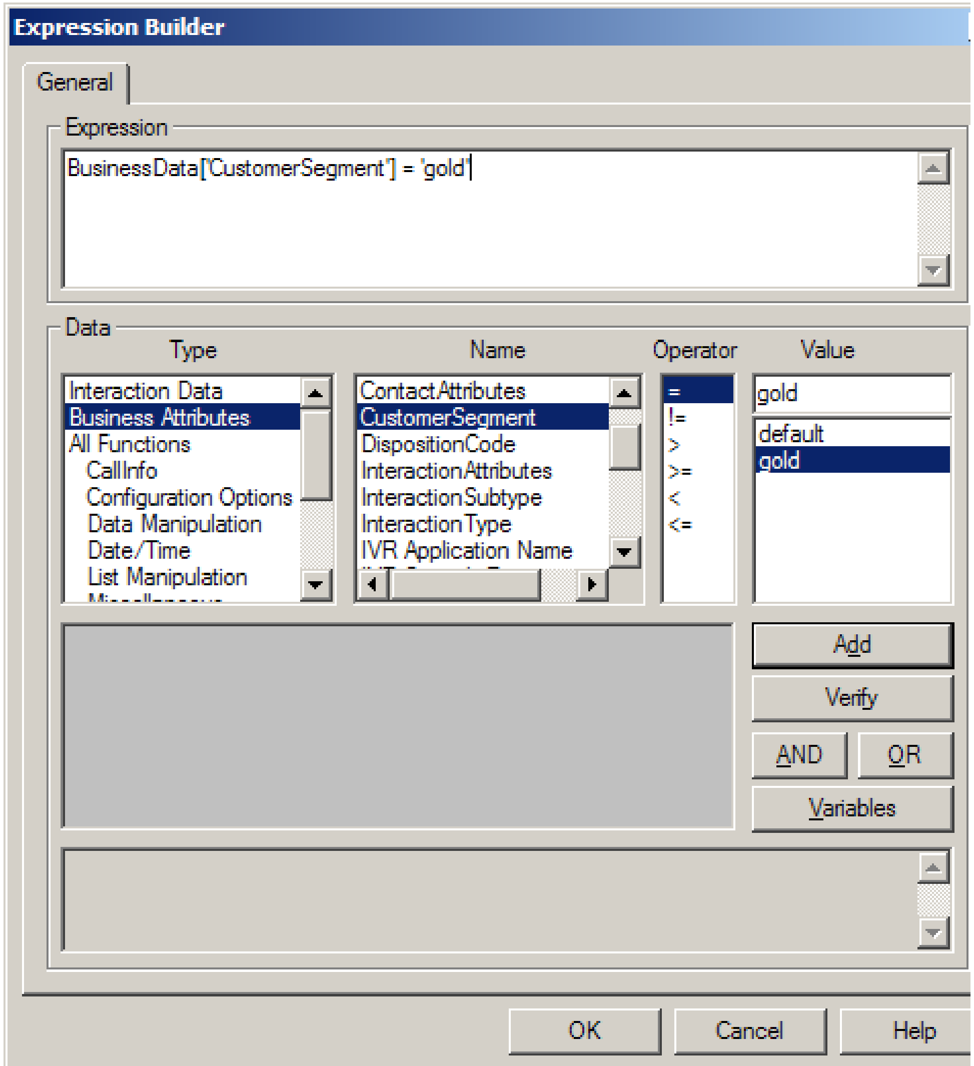


Figure 156: Generic Segmentation Object Using Business Attributes

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Note: In the above example, the function uses a `Business Attribute` called `Customer Segment`, which can be used to categorize a customer based on their revenue potential. For example, in the credit card business, customers are categorized according to their maximum spending limit. This is indicated by whether the customer has a Platinum (high), Gold (medium) or Bronze (low) credit card.

- The Multi-Attach Miscellaneous object (Table 8 on page 199) gives the option of attaching `Business Attributes` to interactions.
- The Forward and Redirect objects require you to select an `E-mail Account`.
- The Classify object requires you to select e-mail `Categories`.
- The Screen and Multi-Screen objects require you to select Screening Rules (see page 228).

Media Type Business Attribute

A frequently-used `Business Attribute` is `Media Type`. Figure 157 shows the `Business Attributes` and `Media Type` folders expanded.

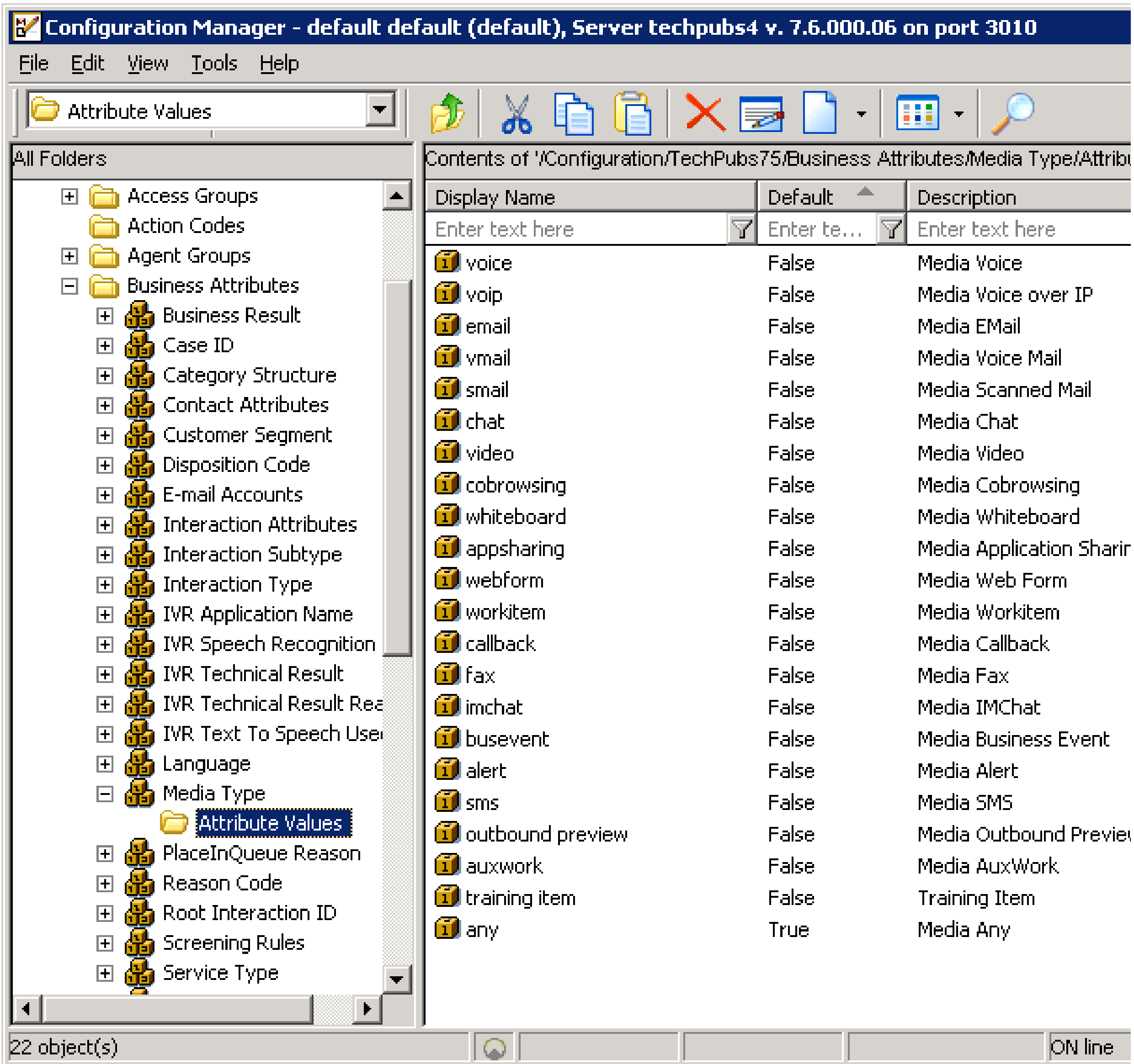

Figure 157: Media Types in Business Attributes Folder

Agent Capacity Rules

Note the agent capacity rule assigned to the agent in Figure 154 on page 175. A capacity rule (which can be assigned at the `Tenant` (default), `Person` (agent), or `Place` level) defines an agent's ability to handle simultaneous interactions of differing media types.

URS is required to use agent capacity information when routing non-voice interactions such as those handled by business processes. After defining a complete set of available agents (taking agent capacity rules into consideration if configured), URS applies the routing selection criteria specified in the strategy objects.

Capacity rules reside in the Genesys Configuration Database as `Script` objects. By default, the Multimedia Wizard puts capacity rules in a `Scripts` folder under the `Solutions` folder for the `Tenant`.

Creating a New Capacity Rule

To create a new capacity rule in Configuration Manager, you must have the Resource Capacity Planning Wizard installed (available on the Real-Time Metric Engine CD). You can then right-click the `Scripts` folder and select `Wizard` > `New` > `Capacity Rule` from the context menu (see Figure 158).

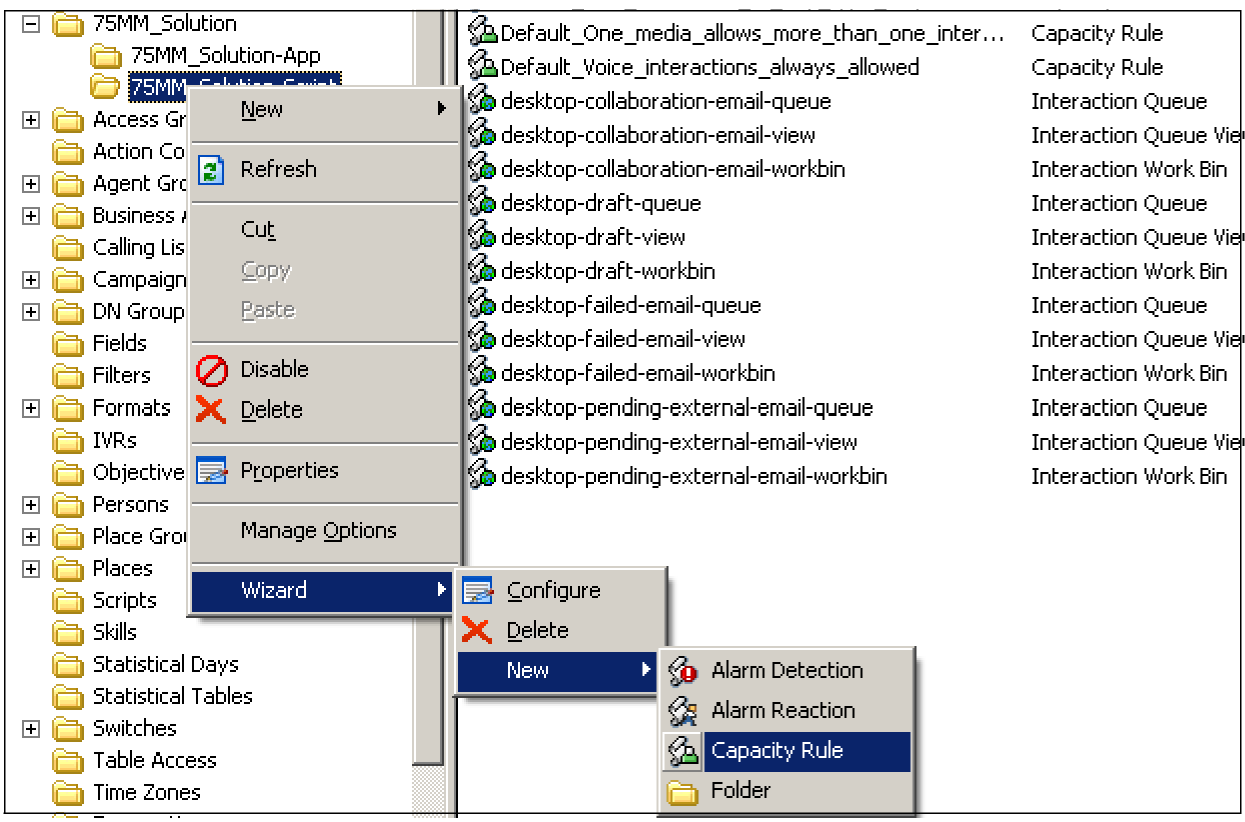

Figure 158: Capacity Rule in Scripts Folder Under Solutions

This action brings up the Resource Capacity Planning Wizard (see Figure 159).

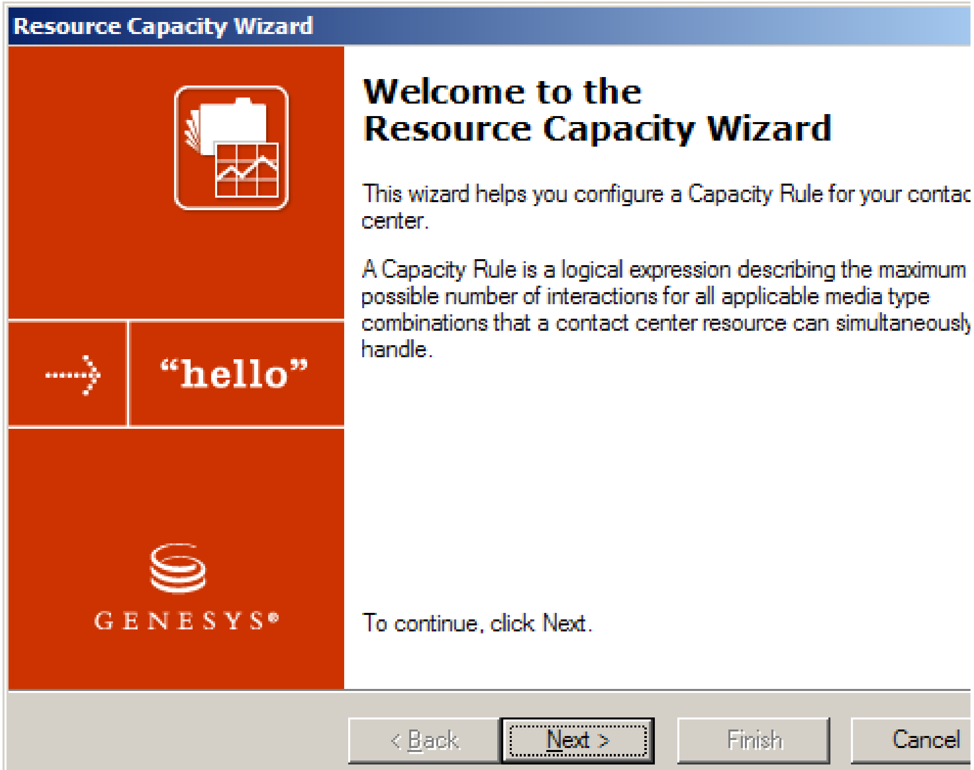

Figure 159: Creating a New Capacity Rule

At this point, you can create a new capacity rule from scratch or edit an existing rule.

Note: For more information on creating agent capacity rules, see the *Genesys 7.6 Resource Capacity Planning Guide*.

Media Types Available During Agent Login

The Agent Desktop login (`Connection`) dialog box uses agent capacity rules to define the media types that the agent can receive. Figure 160 shows an example agent capacity rule that includes numerous media types.

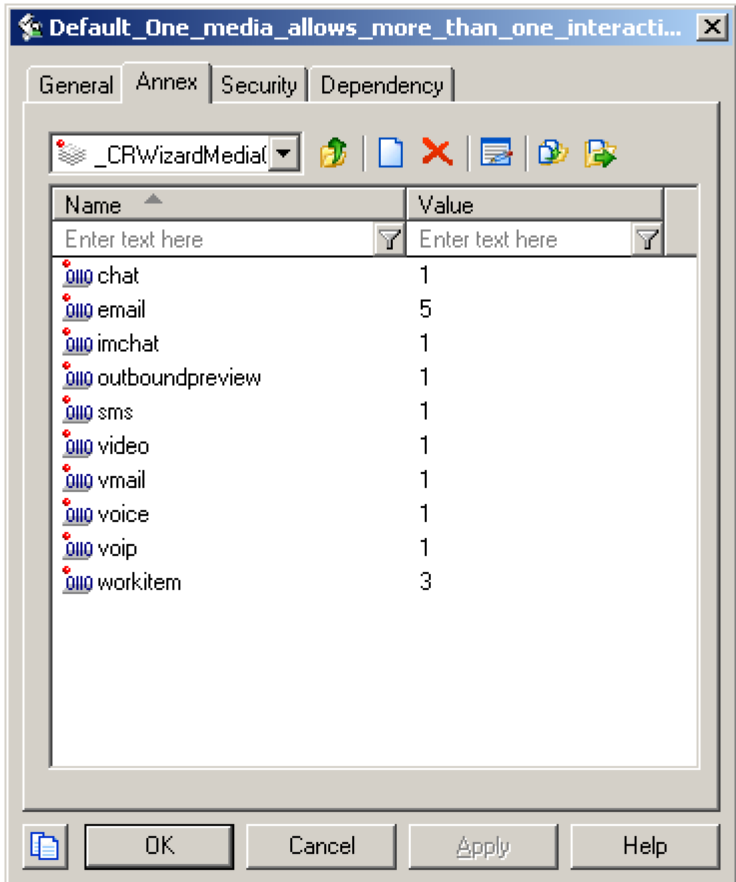

Figure 160: Example Agent Capacity Rule

Assume the capacity rule shown in Figure 160 is associated with an agent who is logging in (see Figure 154 on page 175). You can configure the Agent Deskop `Connection` dialog box to:

- List all of the media types shown in Figure 160.
- List only certain media types if you edit the `multimedia` option associated with the Agent Desktop `Application` object as described ahead.

Figure 161 shows the `Connection` dialog box with only a subset of media types shown.

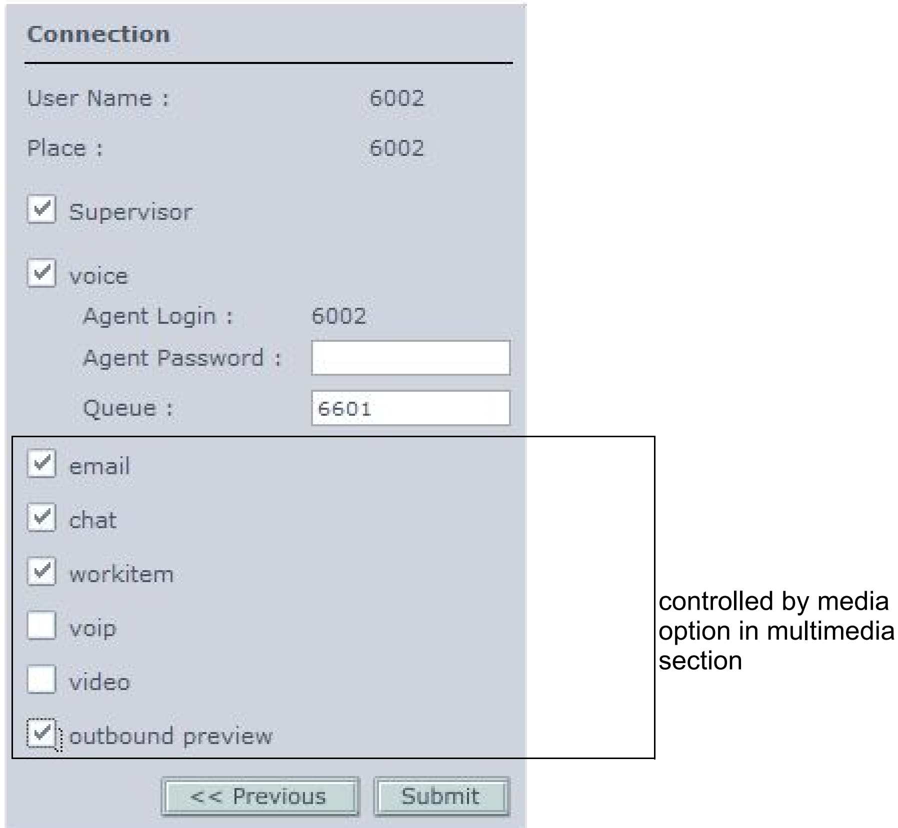

Figure 161: Dialog Box for Logging In

In order to receive interactions of a specific media type, the agent must check that media type in the `Connection` dialog box.

Figure 161 does not list all the media types shown in the capacity rule in Figure 160 on page 181. This is because you can limit the media types shown in the `Connection` dialog box via the `media` option in the ion Agent Desktop `Application` object.

Procedure:
Limiting media types during login

Purpose: To limit the media types that an agent can check in the `Connection` dialog box to a subset of the media types associated with the capacity rule.

Start of procedure

1. Open Configuration Manager.
2. Select the `Tenant` if applicable.
3. Open the `Applications` folder.

4. Open the Agent Desktop `Application` object (see Figure 162).

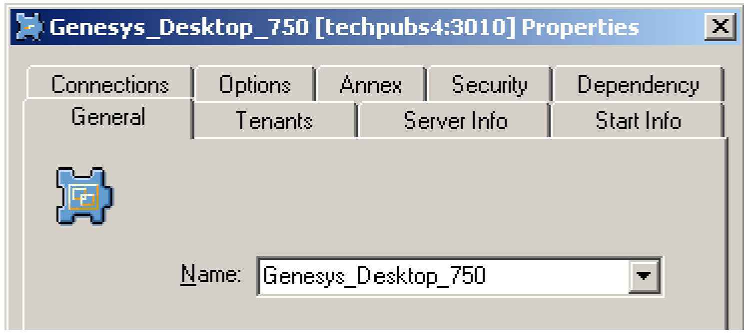

Figure 162: Agent Desktop Application Object

5. Click the `Options` tab (see Figure 163).

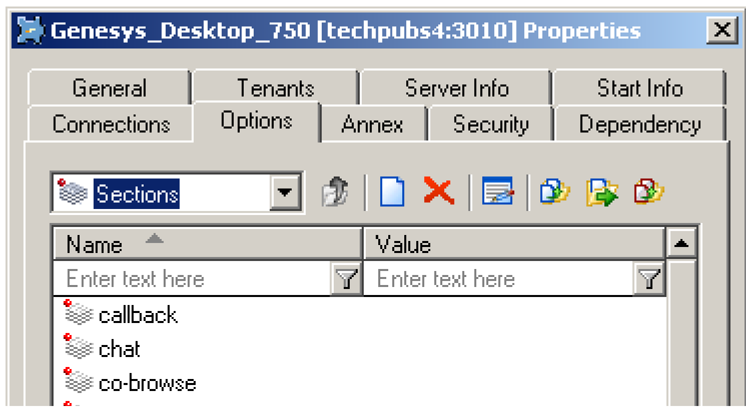

Figure 163: Agent Desktop Application Object, Options Tab

6. Select the `multimedia` section and click the icon to edit the section/option (see Figure 164).

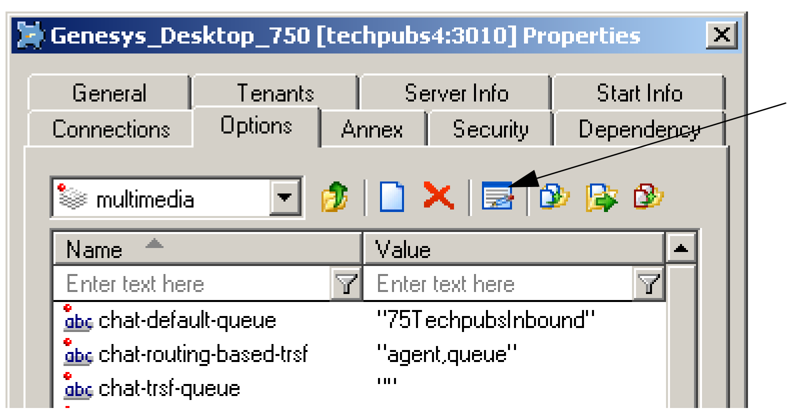

Figure 164: Icon to Edit Section/Option

7. In the resulting dialog box specify the media types to be shown in the login dialog box. Figure 165 shows an example completed dialog box that includes only some of the media types shown in Figure 161 on page 182.

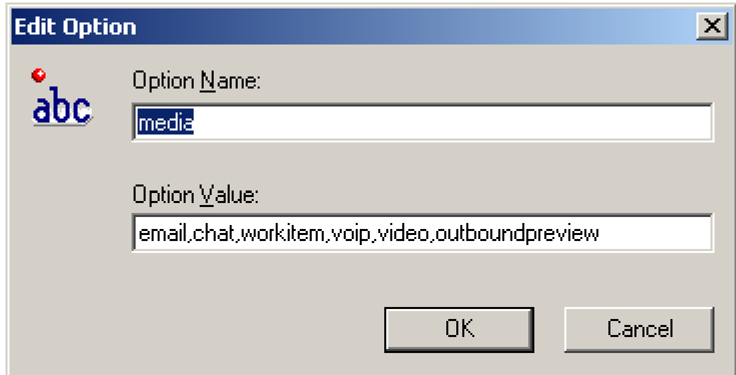

Figure 165: Edit Option Dialog Box

8. Cick `OK`. The media types appear as option values (see Figure 166).

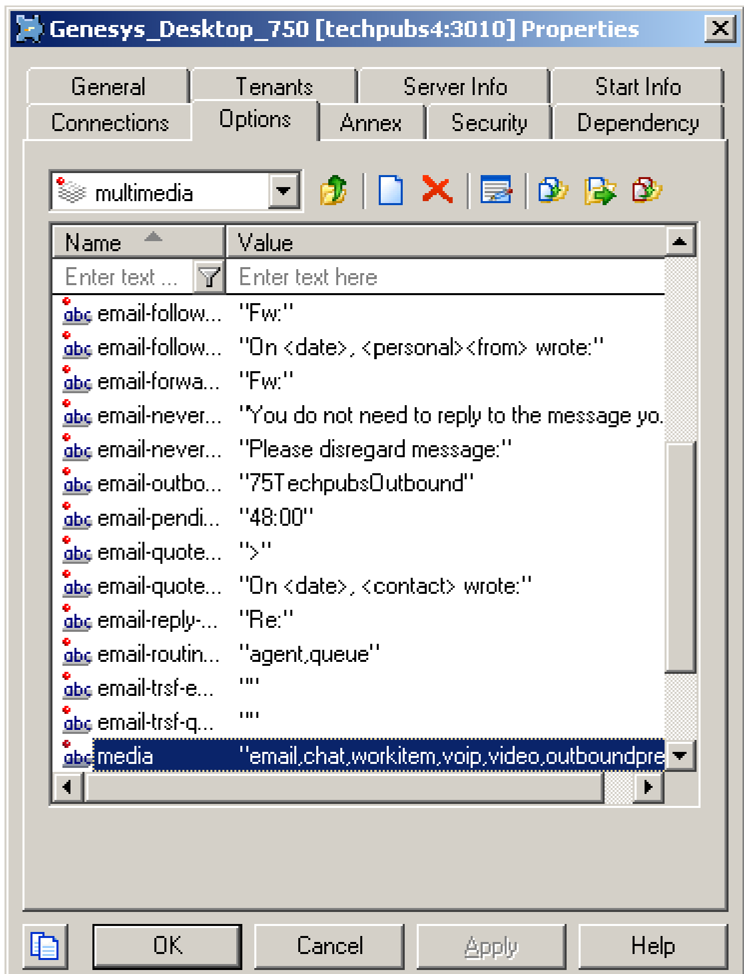

Figure 166: Media Option After Adding Outboundpreview

End of procedure

Notes: To ensure proper handling of workflow post-processing features, you may also wish to set the following option in the Agent Desktop `Application` object, `outbound` section:

`preview-park-queue`

Values: `__STOP__` (default), or any valid Interaction Queue name

For more information, see the section on handling Outbound and Callback interactions in the *Agent Desktop 7.6 Deployment Guide*.

Workflow Object Names

IRD stores business process information as a set of objects in the Configuration Database where each object corresponds to a business process, queue, workbin, view, submitter or strategy. Each object is stored as type `Script`.

All `Scripts` in the Configuration Database share the same *namespace*. All `Scripts` must have unique names, which means a particular name can be used only once.

The `Interaction Design` window avoids this limitation by allowing business processes to be presented in a way where two different queues may have equally named views or two different business processes may have equally named queues or workbins.

This is accomplished by IRD using an auxiliary name (`Namespace Relative`, Figure 71 on page 87) for each `Script` object (which is also a `Script` object property). This allows you to reuse names across configurations with IRD controlling the uniqueness of the auxiliary names in their namespaces.

Note: IRD does not allow you to have equally named views that belong to the same queue, nor it does not allow having equally named queues that belongs to the same business process. The only object that must have a unique name in the whole configuration is a strategy/subroutine.

By default, IRD presents a business process in a way where only `Namespace Relative` names are displayed for queues, views and workbins. However, IRD can present a business process where each element shows its real name in the Configuration Database or even both. See page 86 for information on the `Real Configuration Names`, `Namespace Relative`, and `Both` options.

- The `Namespace Relative` option presents only auxiliary names.
- The `Real Configuration Names` option presents names of corresponding `Script` objects.
- The `Both` option shows both names. In this case, if an object has an auxiliary name different from its real name in the Configuration Database, the real name will be shown in brackets.

Graphical Portion of a Strategy

The script portion of a strategy and the graphical portion (`.rbn` file) may be stored in different locations. For example, while the script file is always stored in the Configuration Database, the graphical portion (which takes up more space) may be stored:

- In the Configuration Database in the `ird_strategies` table if an initialization script supplied by Genesys created the table.
- On a user's local drive.
- On a network drive.

Note: If you do not have access to the `.rbn` file, you will not able to view a strategy in the `Routing Design` window.

To view the path pointing to the graphical portion of a strategy:

1. Double-click the strategy in the `Scripts` folder,
2. In the resulting properties dialog box, select the Annex tab. (If the tab does not appear, select `View` > `Options` from the Configuration Manager menu and select `Show annex tab in object properties`.)
3. Select the `strategy` section.
4. Double-click the `path` option (see Figure 167).

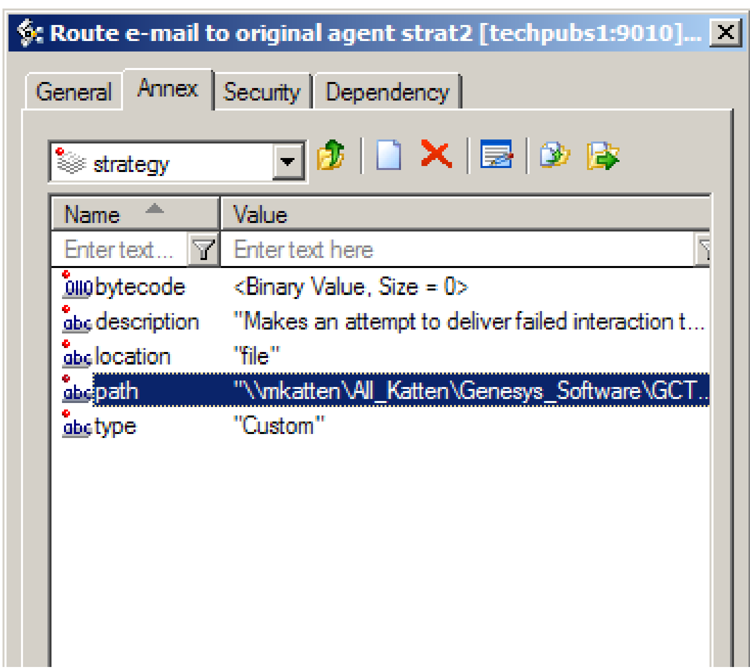

Figure 167: Strategy RBN File Path

Business Attributes That Cannot Be Changed

Warning! Some Business Attributes should never be changed. See the chapter on interaction properties in the *Multimedia 7.6 User's Guide* for more information.

- For more examples of Business Attribute usage, see the section on e-mail routing strategies in *Universal Routing 7.6 Strategy Samples*.
- For information on creating Business Attributes, see page 238.

Setting Permissions

Set permissions by right-clicking an object in Configuration Manager, selecting Properties, clicking the Security tab and then the Permissions button to bring up a dialog box. You can then assign types of access to types of users. Figure 168 shows an example.

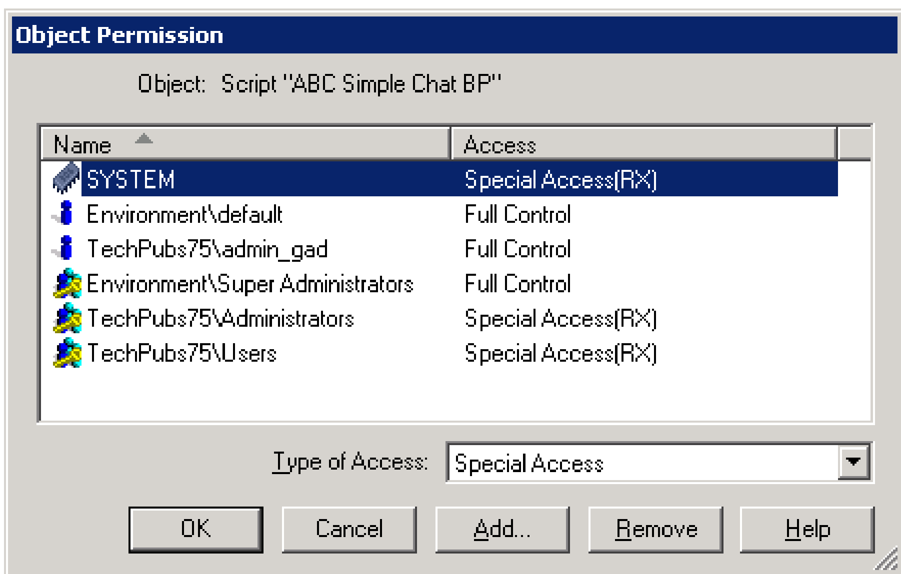

Figure 168: Example Object Permission Dialog Box for Agent Group

When you log into IRD, you are granted permissions for objects based on your group membership and object permissions. An Access tab appears in the list pane for each IRD object (see Figure 32 on page 59).

Table 6 describes the types of access.

Table 6: Access Control Types

Access Control Type	Appears in IRD List Pane As (R=Read, H=Change, D=Delete)
No Access	Object does not display
Read	R
Change	RHD
Full Access	RHD
Special Access	Depends on the option(s) selected: Full Access: RHD; Read: R; Create: R; Change: RH; Execute: R; Delete: RD Read Permissions: R; Change Permissions: R; Read and Execute: R

Note: If you do not have access to the folder where the graphical portion of a strategy is stored, you will not able to view a strategy in the `Routing Design` window. For more information, see "Graphical Portion of a Strategy" on page 186.

Default of No Access for New Users

Starting with 7.6, the `Environment` and `Tenant` objects have an option that defines the access permissions for a new `Person` object created in Configuration Manager. The default is for a new `Person` object to have no access permissions unless you specify assign them in the `Members of` tab of the `Person Properties` dialog box. As a result, in order to use IRD 7.6, each `Person` object must have one or more `Access Groups` assigned. Any user without an assigned `Access Group` can open IRD, but can only view the IRD GUI. For more information, see the *Genesys 7.6 Security Deployment Guide*.

Summary

The intent of this chapter is simply to introduce the Configuration Manager interface. You will create Configuration Manager objects later in "Creating Configuration Manager Objects" on page 231.

Part

3 Creating a Business Process

Part Three of this *Universal Routing 7.6 Business Process User's Guide* provides information you will need to create a business process, including information for the planning and preparation stage.

The information in Part Three is divided into the following chapters:

Summary of Entire Process

This section summarizes the entire process of creating a business process. It includes the planning stage and creating the objects that must exist prior to creating the business process in IRD's `Interaction Design` window.

Table 7 summarizes the steps that are required.

Table 7: High Level Steps to Create/Load a Business Process

Objective	Related Sections and Procedures
1. Determine the interaction life cycle at your contact center.	Review a simple interaction life cycle: See "Basic Interaction Life Cycle" on page 193. Review a more complex interaction life cycle: See "Using the Samples" on page 195.
2. Determine the IRD objects to be used in strategies to perform the various processing required at each stage of interaction processing.	Review the functionality associated with IRD objects commonly used in business processes. See "IRD Objects Used in Business Processes" on page 199.
3. For each interaction processing stage, assign a name to the required business processes.	Use the supplied worksheet in the section "Naming the Required Business Processes" on page 208.
4. Name the queues that will connect the strategies contained within each business proceess and/or connect one business process to another business process.	Use the supplied worksheet in the section "Naming the Required Queues" on page 209 to name the required queues.
5. Determine the selection criteria for extracting interactions from queues.	See "Determining View Criteria" on page 211.
6. Name the views that will extract interactions from queues.	Use the supplied worksheet in the section "View Information Worksheet" on page 212.
7. Review limitations.	See "Configuration Manager Limitations" on page 214 and "IRD Limitations" on page 215.
8. Create Knowledge Manager objects, such as Categories, Standard Responses, Field Codes, and Screening Rules.	To create some of the objects that will be used in IRD objects contained in strategies, see "Creating Knowledge Manager Objects" on page 217. Procedures: • "Creating a New Category" on page 221. • "Creating a Standard Response" on page 223. • "Creating a Field Code" on page 225. • "Creating a Screening Rule" on page 229.

Table 7: High Level Steps to Create/Load a Business Process (Continued)

Objective	Related Sections and Procedures
9. Create Configuration Manager objects, such as Skills, Persons, Agent Groups, Places, Place Groups, and Business Attributes.	To create some of the objects that will be used in IRD objects contained in strategies, see "Creating Configuration Manager Objects" on page 231. Procedures: • "Defining Skill objects that can be assigned to agents" on page 233. • "Defining Person objects" on page 234. • "Defining Agent Groups, Places, and Place Groups" on page 237. • "Defining Business Attributes" on page 238.
10. Create the business process "container" that will contain the queues, strategies, views and other objects that perform interaction processing.	Use the following procedures: • "Defining a Business Process Script object" on page 242 • "Adding Endpoints" on page 247 • "Adding a Queue object" on page 251 • "Adding a View to a Queue Object" on page 257 • "Completing the View object Condition tab" on page 261 • "Completing the View object Order tab" on page 262 • "Completing the Parameterized Conditions tab" on page 270 • "Adding a Workbin Object to a Business Process" on page 281 • "Creating Strategy Placeholders" on page 288 • "Creating a Submitter object" on page 292
11. Create routing strategies for use inside business processes.	See "Creating Strategies" on page 305 for a list of procedures.
12. Activate the strategies inside business processes.	See "Activating Strategies" on page 343.

Chapter

7 Planning a Business Process

This chapter provides instructions for planning a business process. It covers the following topics:

Basic Interaction Life Cycle

When planning a business process, start by considering the basic stages in interaction life-cycle processing. You can then design a business process that encompasses all stages, just one stage, or multiple stages. This section presents four basic stages in interaction life-cycle processing, which are especially applicable to e-mail processing. The stages are:

1. Pre-Route
2. Route-to-Agent
3. Review
4. Pre-Send

Each stage is summarized below.

Pre-Routing Stage

The main activities in the pre-routing stage can include, but are not limited to:

- Determining whether an interaction has already been processed by Genesys. This can be accomplished via the absence or presence of an `Interaction Subtype` (see "Step 1. Pre-Routing" on page 366).
- If Content Analyzer is installed, sending interactions to Classification Server for assignment of one or more Category codes previously defined in Knowledge Manager (see Figure 139 on page 158). Once a Category code is assigned to an interaction, you can configure other types of processing to occur based on the Category code.
- Screening interactions for certain words or patterns of words (see "Step 2.3. New Inbound E-mails" on page 371). Once a Screening Rule match occurs, you can configure other types of processing based on the true/false value.
- Sending an acknowledgement and/or automatic Standard Response to the customer originating the interaction (see "Step 2.3. New Inbound E-mails" on page 371).
- Determining the agent that previously handled the interaction (see "Step 2.1. NDR Handling" on page 368).

Route-to-Target Stage

This may or may not be an agent target. For example, the interaction may be:

- Sent to a queue for submittal to other routing strategies and further processing (see "Step 2.3. New Inbound E-mails" on page 371).
- Sent to a queue for failed interactions (see "Step 2.2. Inbound Collaboration Reply" on page 369).
- Forwarded outside the contact center to an expert with the expectation of getting a response back (see "Step 3.3. Forwarding" on page 378).
- Redirected to another agent without the expectation of getting a response back (see "Step 3.4. Redirecting" on page 380).
- Routed to an agent target for construction of a response (see "Step 3.1. Processing By Agents" on page 373).

Review Stage

The reviewer could be a manager, supervisor, or QA `Person` (see "Defining Persons" on page 234). You may want to have two different types of quality-assurance review:

1. A supervisor review that checks the skills of the agent who constructed the response (see "Step 3.2. QA Review" on page 376).

2. An analysis that performs a "sanity check;" for example, to prevent sending out a bank account password in an interaction or to screen interactions for inappropriate language.

Pre-Send Stage

The cycle of going from queue to routing strategy to queue can continue until the interaction reaches some final outbound queue (see "Step 4. Outbound Sending" on page 382). The pre-send stage performs last-minute quality checking and allows for attaching additional information to interactions when needed.Another approach to defining the interaction life cycle is to study the Genesys-supplied business process samples.

Using the Samples

When you install the Genesys Multimedia software, you have the option of installing a component called *Interaction Workflow Samples* (see Figure 169).

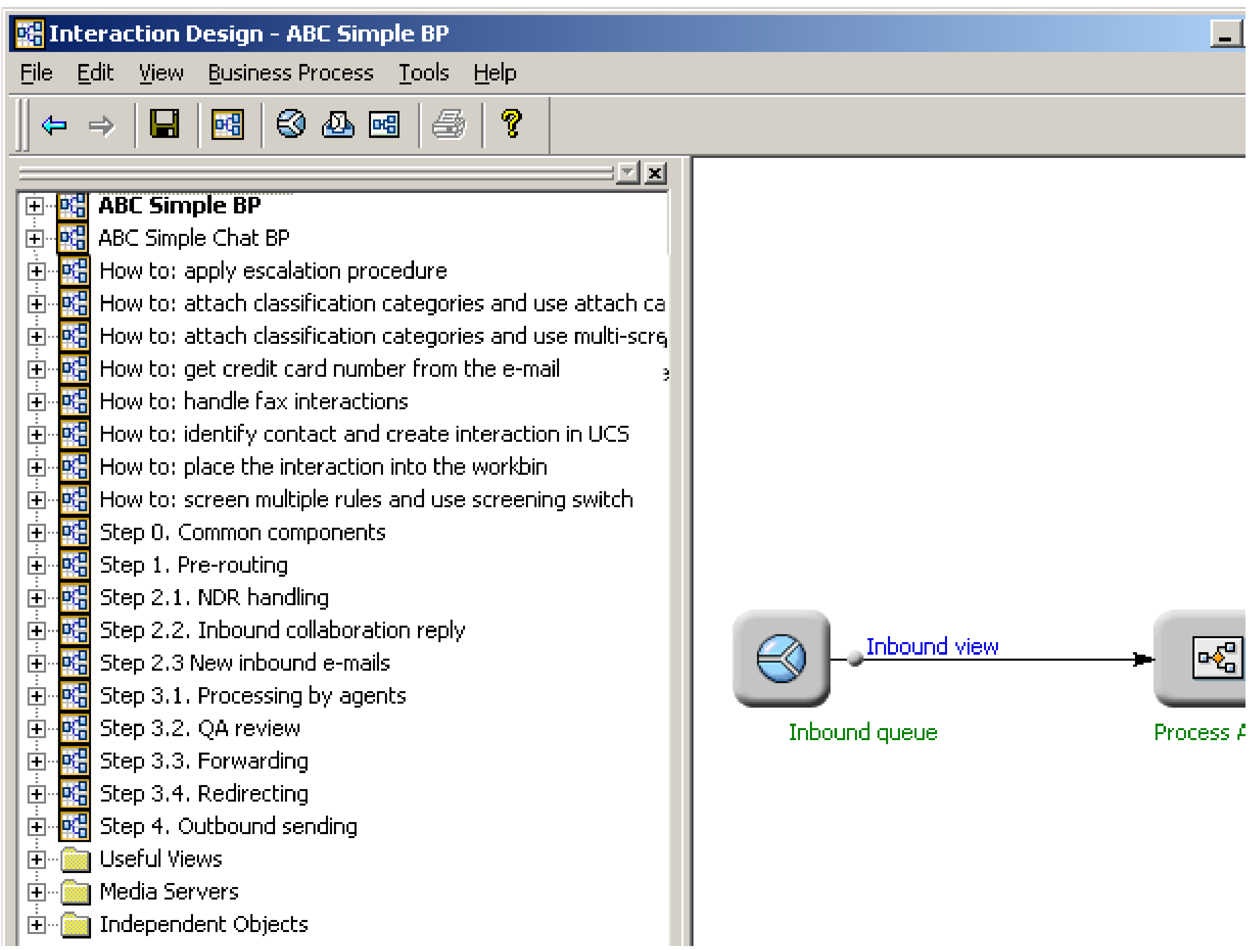

Figure 169: Interaction Workflow Samples

The Workflow Samples component (*samples*) includes various business processes and associated queues, views, submitters, workbins, and routing strategies. The samples show how interaction processing can be contained in one large business process or broken down into smaller business processes connected with queues.

Samples Functionality

Note: For a description of each sample, see "Business Process Samples" on page 351.

The `Default BP` business process shown in Figure 169 demonstrates "real world" workflow complexity. In order to help you understand `Default BP`, a group of samples isolate its functional areas. For each functional area of `Default BP`, such as pre-routing, the samples supply a corresponding step-numbered business process (see Figure 169 on page 195). For example, Figure 170 shows the pre-routing area in `Default BP`.

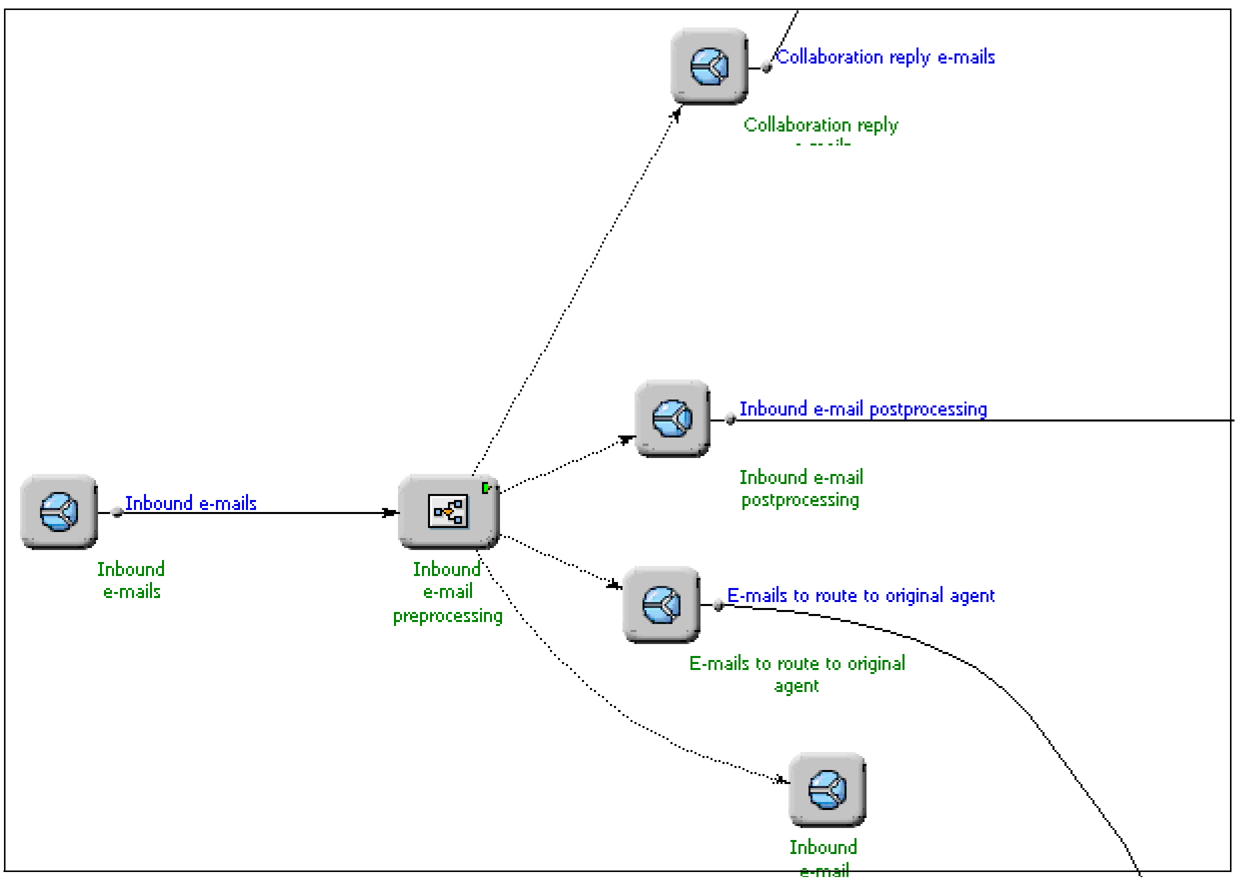

Figure 170: Pre-routing Area in Default BP

The pre-routing area in `Default BP` in Figure 170 corresponds to the `Step 1. Pre-routing` business process shown in Figure 171 on page 197.

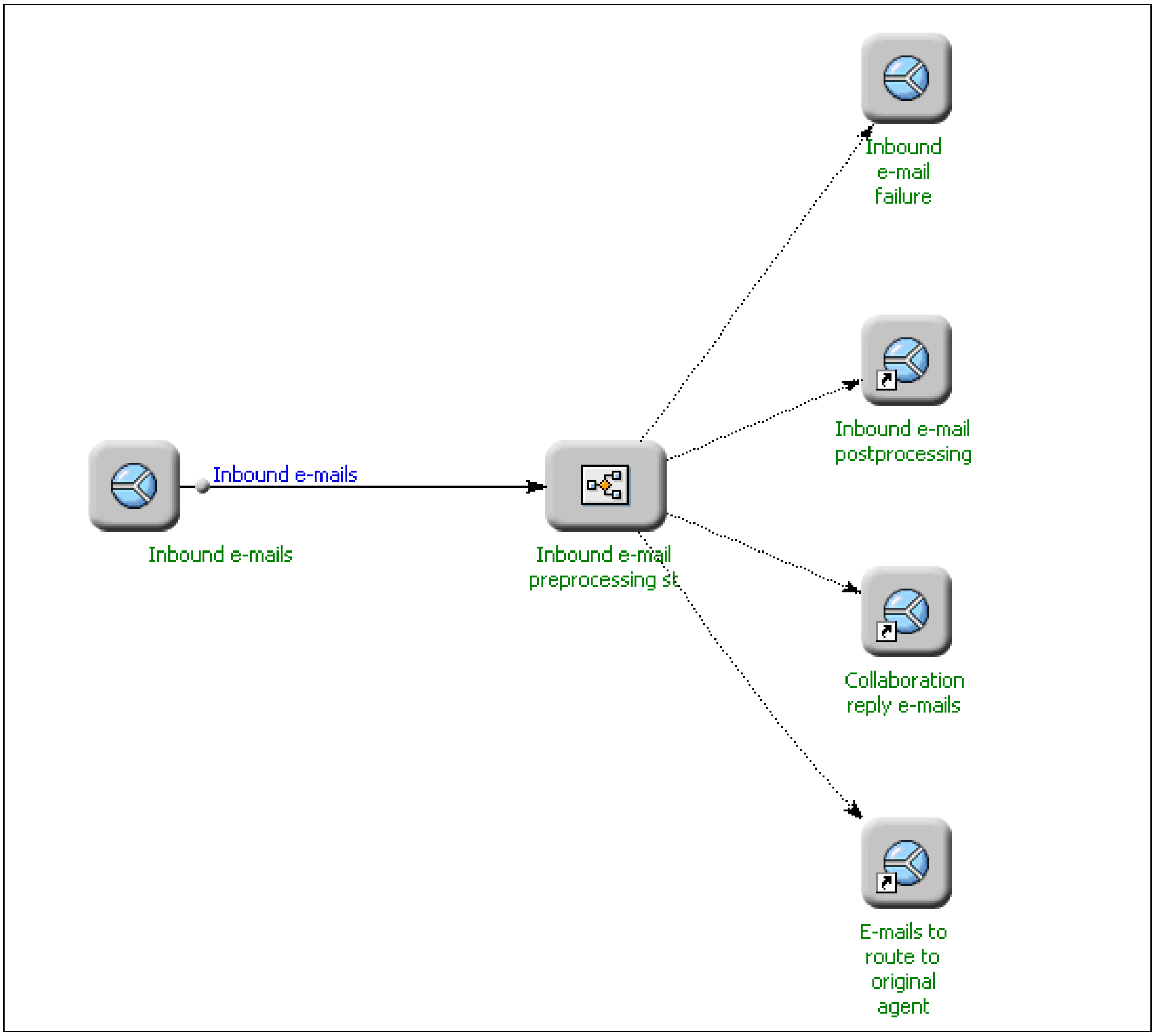

Figure 171: Step 1. Pre-Routing Business Process

Connecting Business Processes Via Queues

As can be seen in Figure 171, `Step 1. Pre-routing` directly outputs to four queues:

1. `Collaboration reply e-mails`. Input queue for `Step 2.2. Inbound Collaboration Reply`.
2. `E-mails to route to original agent`. Input queue for `Step 2.1. NDR Handling`.
3. `Inbound e-mail failure`.
4. `Inbound e-mail postprocessing`. Input queue for `Step 2.3. New Inbound E-mails`.

Queues can connect business processes in this manner to create an *interaction workflow*. You can find the business process that "owns" (originated) a queue by right-clicking the queue and selecting `Locate` from the menu. The queue is highlighted in the object browser under the business process that owns the queue. If the queue originated in a different business process, it displays an up arrow (see Figure 8 on page 30).

Step-Numbered Business Processes

The step-numbered business processes demonstrate how to construct the functional areas of `Default BP`. To help you estimate the queues and strategies you will need if you wish to emulate the samples, Table 27 on page 363 shows the elements in each step-numbered business process. It also points you to the corresponding IRD objects used to implement the functional area.

Defining the Required Functionality

To isolate the interaction processing functionality required at your contact center, you can start by using the samples to these questions:

1. What functionality from the first column in Table 27 on page 363 is applicable to your site? The middle column in Table 27 on page 363 shows the IRD objects you could use. The third column shows the queues you would need to define if emulating the samples.
2. Is there any special interaction processing functionality required at your contact center that is not covered by the first column in Table 27 on page 363 or by the overall samples functionality (see "Samples Functionality" on page 353).
3. Can the Web Service (see Table 12 on page 205) or External Service object (see Table 8 on page 199) be used to supply this functionality?
4. Does this special interaction functionality require its own business process or will it be part of another business process?
5. What queues and strategies are required to implement this special functionality?
6. What are your contact center's special conditions for extracting interactions from queues? See "Interaction Attributes" on page 211.

After listing the interaction processing functionality required at your site, decide whether you should:

- Create one large business process as demonstrated by `Default BP` (see page 362).
- Build a number of smaller business processes and connect them via queues as demonstrated by the step-numbered samples (see page 363).

IRD Objects Used in Business Processes

This section highlights the strategy-building objects that are specifically intended for routing strategies called by business processes.

Multimedia Objects

Table 8 summarizes the Multimedia strategy-building objects (see Figure 104 on page 124) in alphabetical order.

Table 8: Multimedia Objects Used in Business Processes

Name	Purpose	Strategy-Linked Nodes (page 34)
Acknowledgement	Generates an acknowledgement e-mail using text from your Standard Response library explaining that the customer's e-mail has been received and will be answered. You can send an Acknowledgement in reply to an incoming interaction in any medium. The Acknowledgment object has two methods for getting text for the acknowledgement e-mail. The first method automatically selects Standard Response text based upon the Category specified in interaction User Data placed there as a result of using the Classification Request object. The second method lets you preset a Standard Response. If you select this option, you are presented with a tree of Categories and associated Standard Responses.	When Operation Mode is E-mail or Open Media, generates server and queue nodes in a business process.
Attach Categories	Lets you manually emulate the results of the Classify object's request to Classification Server to attach one or more classification Categories to an interaction. Use when creating a strategy in which screening results determine what Categories to attach to an interaction with the Attach Categories object. Use when creating a strategy in which an If object creates an expression based on Categories manually attached to interaction with Attach Categories object. URS analysis (true/false) of the expression determines interaction path in strategy. You can also segment interactions based on Categories using the Classify Segmentation object and/or use Categories to select a Standard Response.	

Table 8: Multimedia Objects Used in Business Processes (Continued)

Name	Purpose	Strategy-Linked Nodes (page 34)
Autoresponse	Generates (but does not send) an automatic response message using text from your Standard Response library. You can send an Autoresponse in reply to an incoming interaction in any medium. The Autoresponse object has two methods for getting a Standard Response. 1. The first method automatically selects a Standard Response based upon the Category specified in interaction User Data placed there as a result of using the Classification Request object. 2. The second method lets you preset a Standard Response. If you select this option, you are presented with a tree of Categories and associated Standard Responses.	When Operation Mode is E-mail or Open Media, generates server and queue nodes in a business process.
Chat Transcript	Generates (but does not send) an e-mail, using text from your Standard Response library, with the customer's chat transcript attached. (Use the Send E-Mail object to send it.) Does not generate any strategy-linked nodes in a business process.	Generates server and queue nodes in a business process.
Classify (note: there is also a Classify Segmentation object)	Requests Classification Server to assign one or more Categories to text-based interactions. The Categories can then be used to select a Standard Response, as well as for routing or reporting. The input parameters include the minimum relevancy each Category must have in order for Classification Server to consider an interaction as belonging to that Category (threshold). Parameters also specify whether to analyze only for the Parent Categories set up in Configuration Manger or both parent and child Categories.	
Create E-mail Out	Creates an outbound e-mail interaction. This outbound e-mail is sent via an E-mail Server Java that has been specifically configured to handle Open Media interactions. Use the Send E-maili object to send this message after it has been created.	Generates server and queue nodes in a business process.

Table 8: Multimedia Objects Used in Business Processes (Continued)

Name	Purpose	Strategy-Linked Nodes (page 34)
Create Interaction	Have URS request that an interaction record be created in the Universal Contact Server database for a customer contact. This object applies to all interaction types other than voice, chat, or e-mail. The UCS Database can store three types of interaction content simultaneously: Text, Structured Text, Binary Data. When interaction content is expected to be large, Genesys recommends using the Create Interaction object as early as possible in a strategy.	
Create Notification	Creates an informational e-mail to a customer. The e-mail may contain the information requested by the customer or may direct the customer to a URS where the inforomation is located. The outbound e-mail is sent via an E-mail Server Java that has been specifically configured to handle Open Media interactions.	Generates server and queue nodes in a business process.
Create SMS	Use to create a new outbound message in a format to be sent by a specifically configured E-mail Server Java to SMS-ready targets, such as cell phones, via an E-mail-to-SMS gateway. Use the Send E-Mail object to send the SMS message after you have created it.	Generates server and queue nodes in a business process.
Forward E-mail	Use when sending an incoming message to an external address (see E-mail Accounts on page 240) with the expectation of getting a response back. Supports agent collaboration. The resource can be another agent such as an "expert" or an e-mail server. The Forward E-Mail object is a request to E-mail Server Java for method Forward to create the forwarded e-mail. Use the Send E-Mail object to send the forwarded e-mail waiting in a queue.	Generates server and queue nodes in a business process.
Identify Contact	Use to locate one or more contacts in the Universal Contact Server (UCS) database with attributes that match data attached to the interaction. If you choose to match one unique contact, if UCS locates it, it returns all stored data concerning that contact.You can also choose to have UCS create a new contact if no existing contact matches the attached data.This object requires you to specify a Contact Server.	

Table 8: Multimedia Objects Used in Business Processes (Continued)

Name	Purpose	Strategy-Linked Nodes (page 34)
MultiScreen	See Screen object. The difference between the two objects is that MultiScreen can use multiple Screening Rules, supplies additional return options, and does not require a conditional test to determine whether a match occurred.	
Redirect E-mail	Use this when sending an incoming message to an external address (see E-mail Accounts on page 240) without expecting a response or the need for any further processing. The Redirect E-Mail object is a request to E-mail Server for method Redirect to create the redirected e-mail. Use the Send E-Mail object to send the redirected e-mail waiting in a queue.	Generates server and queue nodes in a business process.
Reply from External Resource	Takes an External Resource Reply inbound e-mail as input (such as one generated as a result of using the Forward object), extracts the external resource reply text from it, creates a Customer Reply outbound e-mail, and submits the e-mail to Interaction Server.	Generates server and queue nodes in a business process.
Screen	Requests Classification Server to screen text-based interactions for certain words or patterns of words using rules set up in Knowledge Manager. You can choose to return Screening Rule identifiers (associated with Categories in Knowledge Manager) or Categories (associated with Standard Responses in Knowledge Manager), matched pairs, or all of the above. Requires that you name the Classification Server used for screening as well as a language and a Screening Rule.	
Send E-mail	Sends an e-mail waiting in an interaction queue to a customer or another agent. This can be the final e-mail response or an e-mail generated with the Acknowledgement, Autoresponse, ChatTranscript, Forward, or Redirect object.	
Stop Interaction	Sends a stop interaction request to Interaction Server. Optionally, notifies Universal Contact Server that interaction processing in this particular routing strategy is finished. Requires a Reason Code.	Generates a stop node in a business process.

Table 8: Multimedia Objects Used in Business Processes (Continued)

Name	Purpose	Strategy-Linked Nodes (page 34)
Update Contact	Updates information for an existing contact in the Universal Contact Server (UCS) Database based on data associated with the interaction.	
Routing objects	Certain Routing objects also generate queue, person, and stop nodes. See Table 9 on page 203 for more information.	

Routing Objects

Table 9 describes Routing objects (see Figure 102 on page 123) that can be used strategies called by business processes.

Table 9: Routing Objects Used in Business Processes

Name	Purpose	Strategy-Linked Nodes
Route Interaction	Routes a non-voice interaction to a specified target type: Agent, AgentGroup, Place, PlaceGroup, Skill (see Figure 117 on page 135), or target contained in a variable (see "Defining Variables" on page 148).	Generates a queue node in a business process. If `Agent` is specified as a target, generates a person node in a business process.
Workbin	Use to place an interaction in a temporary storage area called a Workbin, which is associated with one of the following: Agent, AgentGroup,Place, or PlaceGroup	Generates a workbin node in a business process. If a Person object (agent) is specified as a target, generates a person node. If the Stop Processing(__ queue is selected, generates a stop node.
Queue Interaction	Generates a message from URS to Interaction Server to place the interaction into a queue see page 47). Queues defined in the Interaction Design window (see page 251) are listed for selection.	Generates a queue node in a business process.

The remaining Routing objects on the toolbar are intended for voice routing strategies.

Segmentation Objects

Table 10 describes the Segmentation strategy-building objects that you will frequently use in routing strategies called by business processes.

Table 10: Segmentation Objects Used in Business Processes

Name	Purpose
Generic	Segments interactions to take different paths in the strategy based on the true/false value of an expression created in Expression Builder (see Figure 115 on page 133). Expressions can be created using `Interaction Data` (see page 117), Business Attributes (see page 175), or Functions (see page 313). For an example, see "Segmenting Interactions" on page 310.
Screen	Segments interactions to take different paths in the strategy (see Figure 343 on page 394) based on analyzing whether a Screening Rule match occurred.
Classify	Segments based on classification Categories (see Figure 141 on page 159).

Miscellaneous Objects

Any of the objects accessed from the Miscellaneous icon (see Figure 98 on page 121) can be used in routing strategies called by business processes. However, if you study the samples, as described in "Business Process Samples" on page 351, you will note frequent use of the Miscellaneous objects listed in Table 11.

Table 11: Miscellaneous Objects Used in Business Processes

Name	Purpose
Assign and Multi-Assign	The Assign object (see Figure 112 on page 131) gives a value to a variable, which has been predefined in the Variable List dialog box (see Figure 135 on page 148). For an example, see page 323. The variable can then be used as a parameter of almost any object. For example, the Function object allows you to assign the function return to a variable.
Function	When you open the properties dialog box for the Function object, you select one of the functions detailed in *Universal Routing 7.6 Reference Manual*. If applicable, you can use the `Expression` box (see Figure 136 on page 149) in the Function object to create an expression, which assigns the output to a variable.
If	The properties dialog box lets you create an If expression (see Figure 116 on page 134). You can create expressions using `Interaction Data` (see page 117), Business Attributes (see page 175), or Functions (see page 313).

Table 11: Miscellaneous Objects Used in Business Processes (Continued)

Name	Purpose
Error Segmentation	The Error Segmentation object processes error codes generated by functions and objects. Connecting an object to the Error Segmentation object overrides standard behavior for a particular error. This enables further processing of errors and presents interactions from going to the default destination.
Call Subroutine	The Call Subroutine object lets you all a subroutine from within a strategy or subroutine. When URS encounters this object in a strategy, control of the interaction is passed to the subroutine. Values can be passed between a strategy and a subroutine through input and output parameters

Note: For detailed information on using these and other strategy-building objects, see the section on IRD objects the *Universal Routing 7.6 Reference Manual*.

Data & Services

Table 12 describes Data & Services objects (see Figure 100 on page 122) that can be used strategies called by business processes.

Table 12: Data & Services Objects Used in Business Processes

Name	Purpose
External Service	Use to exchange data with third party (non-Genesys) servers that use the Genesys Interaction SDK or any other server or application that complies with Genesys Interaction Server (GIS) communication protocol. Note: To use this object, you must already have created the third-party server or application in Configuration Manager. Before completing the object properties dialog box, you must already know the names of the services, methods, and signatures (requested input/output parameters) provided by the external service.
Web Service	Use to interact with Web-based applications (Web Services) outside of Genesys applications. You specify request parameters, what type of data you expect to be returned, and what to do with the returned data. This object can be used in both voice and non-voice routing strategies.

Outbound

Note: The Outbound objects are designed to be used in strategies configured for proactive routing functionality, which are Open Media interactions processed with the `outbound_preview` media type.

Any of the objects accessed from the Outbound toolbar (see Figure 98 on page 121) can be used in routing strategies called by business processes. For more information on these objects and example strategies, see *Genesys 7.6 Proactive Routing Solution Guide*.

Table 13: Outbound Objects

Name	Purpose
Add Record	Use the Add Record object to automate building of Calling Lists by adding a new record to a specified Outbound List, such as a Calling List. For example, use to develop a Calling List, such as one to follow up on inbound calls that were abandoned during traffic peaks. You can then configure a routing strategy to detect abandoned calls and add records to the Calling List with the parameters of the incoming interactions. The Calling List can subsequently be used by an Outbound Campaign that dials out these customers during off peak hours and has the agent apologize and follow up.
Do Not Call	Use to add a phone number or e-mail address to a specified Do Not Call List and mark the corresponding record as Do Not Call. Use the Do Not Call and Processed (page 92) objects to finalize Outbound record processing. You cannot use other Outbound objects to process records with the same Record Handle after using Processed or DoNotCall in a strategy flow. The Do Not Call object prevents a record from being dialed by any Campaign. If a record is marked as Do Not Call, Outbound Contact Manager rejects all subsequent requests for the record. When URS executes this object in a strategy, it sends (via Interaction Server) a DoNotCall request to OCS. Using the GSW_RECORD_HANDLE provided, OCS: • Identifies the record and updates the record type as NoCall. • Enters the phone number and e-mail address or customer ID of this record in the gsw_donotcall_list (table). If you require more information on Do Not Call Lists in general, see the section on submitting Do Not Call requests in the *Outbound Contact 7.6 Reference Manual*.

Table 13: Outbound Objects (Continued)

Name	Purpose
Processed	Use to finalize Outbound record processing. You cannot use other Outbound objects to process records with the same Record Handle after using Processed or DoNotCall in a strategy flow. In the Outbound Contact 7.6 product, when an agent finishes processing a Calling List record, Genesys Desktop sends a RecordProcessed event to indicate that the record is processed and Outbound Contact Server updates the record accordingly. Use the Processed object in a strategy to have URS request that Outbound Contact Server finish processing a record created as a result of a customer call that was previously: • Initiated from a Calling List • Automatically dialed by the Genesys Outbound Contact product • Routed to an agent when the potential customer answered When URS executes this object in a strategy, it results in an External Service Request to Outbound Contact Server.
Reschedule	Use to reschedule a customer call on a Calling List. A record is typically rescheduled during a call when a customer requests a callback at a certain time. As described in the section on scheduling and rescheduling records in the Outbound Contact 7.6 Reference Manual, Outbound Contact supports two methods for rescheduling records: • Using RecordReschedule to reschedule a call. • Using ScheduledRecordReschedule when a rescheduled call cannot be completed and must be set for another time. The Reschedule object emulates the first method. URS sends Outbound Contact Server (through Interaction Server) a RecordReschedule message and receives a RecordRescheduleAcknowledge in return.
Update Record	Use to update a Calling List record that you specify via a RecordHandle parameter. The resulting UpdateCallCompletionStats request updates Genesys modifiable mandatory fields and custom fields in a record to Outbound Contact Server. In Predictive Dialing mode, this request can be used to overwrite the call result detected by call progress detection when needed. Or you can overwrite a call result answer with the call result wrong party. When URS executes this object in a strategy, it results in an External Service Request to Outbound Contact Server.

Naming the Required Business Processes

Once you have determined the interaction processing functionality required at your site by identifying the IRD objects you will use, ask whether a single business process can implement all the functionality (such as the `Default BP` sample in Appendix A on page 362). If you require more than one business process, use Table 14 to name the functionality, the required business process, the next business process(es) in the flow, and the connecting queue(s).

Table 14: Required Business Processes and Connecting Queues

Functionality	Business Process	Connecting Business Process(es)	Connecting Queue(s)

Naming the Required Queues

Many of the Multimedia objects listed in Table 8 on page 199, as well as the Routing objects listed in Table 9 on page 203, require you to specify an output queue. Table 15 lists the objects that require output queues and contains columns for your queue names.

Table 15: IRD Objects and Required Queues

IRD Objects Specifying Queues	How Queue Is Used	Name of Your Queue	Originating Business Process
Acknowledgement	Output queue where E-mail Server Java should place the acknowledgement e-mail that will be sent to the customer.		
Autoresponse	Output queue where E-mail Server Java should place the autoresponse e-mail that will be sent to the customer.		
Chat Transcript	Output queue where E-mail Server Java should place the e-mail with the attached chat transcript that will be sent to the customer.		
Create E-mail Out	Output queue where E-mail Server Java will find the e-mail.		
Create Notification	Output queue where E-mail Server Java will find the e-mail.		
Create SMS	Interaction queue where E-mail Server Java will find the message.		
Forward E-mail	Output queue where E-mail Server Java should place the e-mail to be forwarded.		
Queue Interaction	Output queue for the e-mail. Could be one read by agents, a queue for failed interactions, used for routing interactions from one business process to another, and so on.		
Redirect E-mail	Output queue where E-mail Server Java should place the e-mail to be redirected.		

Table 15: IRD Objects and Required Queues (Continued)

IRD Objects Specifying Queues	How Queue Is Used	Name of Your Queue	Originating Business Process
Reply from External Resource	Output queue for outbound e-mails that contain final replies to be sent to customers.		
Route Interaction	The `Interaction Queue` tab is optional. It gives the option of specifying: A queue for the existing interaction. For example, after the agent constructs a response, the interaction may need to be checked by QA. A queue for a new interaction if a new interaction is created.		
Workbin	The `Interaction Queue` tab is optional. It gives the option of specifying: A queue for the existing interaction. For example, after the agent constructs a response, the interaction may need to be checked by QA. A queue for a new interaction if a new interaction is created. See "Adding Workbins" on page 281.		

Note: IRD predefines a `Stop_processing (_STOP_)` queue, which is not actually a queue, but a notification to Interaction Server that processing has stopped for a particular interaction if it reaches this point.

Determining View Criteria

Views (see Figure 9 on page 30) extract interactions from queues or workbins. Part of the planning process includes determining whether all interactions should be extracted or a subset of interactions based selection criteria (see "Adding a View" on page 255).

You enter the selection criteria in the `View` properties dialog box (see Figure 211 on page 259). It has two tabs, `Condition` (see Figure 212 on page 261) and `Order` (see Figure 214 on page 262), where you specify column names and values (interaction attributes).

Interaction Attributes

When creating a View object, you can create an expression comprised of:

- An interaction attribute (field) name from the `interactions` table
- An equal sign if required
- For string data, the attribute value in single quotes (not necessary for integers)

For an example, see Figure 212 on page 261.

Note: See the *Multimedia 7.6 User's Guide* for details on the `interactions` table, including column names and descriptions.

Some attribute values will be contained in the original e-mail. E-mail Server Java may assign other values. Routing strategies objects, such as the Database object or Classify object, may assign yet other values.

The attributes you use to create the expression will be those in the `interactions` table as well as any custom attributes you define in the `interactions table` (see `custom_1s` through `custom_3n`).

Translations

Translations, when used in the `Conditions` tab (see Figure 212 on page 261), provide database manipulation tools that are independent of the underlying database—including functions, attributes, and customizable property names for use in view and snapshot definitions.

Translations are optional. Interaction Server will accept either customized property names or actual database field and construct names. For more information, see the chapter on Interaction Properties in the *Multimedia 7.6 User's Guide*.

View Information Worksheet

Use Table 16 to record view information.

Table 16: View Objects Configuration Data

View Name	Associated Queue or Workbin	Conditions (if any)	Order By information (if any)

Order of Configuration

Certain objects must be defined in Knowledge Manager in order to be viewable in Configuration Manager. Similarly, certain objects must exist in the Configuration Database before the objects are selectable in IRD Strategy objects. Because of this dependency, Genesys recommends that you configure objects in the following order:

1. Start with Knowledge Manager (see "Knowledge Manager Interface" on page 153).

   Define any required classification Categories, Standard Responses, Screening Rules, Field Codes, and Custom Variables (see "Creating Knowledge Manager Objects" on page 217).

   Once these are saved in the Universal Contact Server Database, the object definitions carry over to Configuration Database and are accessible to the strategy-building objects that use them.

2. Next, use Configuration Manager (see "Configuration Layer Interface" on page 169).

   Define any required media server, `Skill`, `Person`, `Agent Group`, `Place`, `Place Group`, and certain `Business Attribute` objects (see "Creating Configuration Manager Objects" on page 231).

   Once these are saved in the Configuration Database, the objects are selectable in the IRD objects that use them.

3. If not already defined, use the `Interaction Design` window to define endpoints (see Figure 22 on page 40) for the media server `Application` objects.

4. Use the `Interaction Design` window (see Figure 34 on page 61) to define Business Process objects, including queues, views, and strategy placeholders (see "Creating Business Process Objects" on page 241).

   Once definitions are saved in the Configuration Database, the names are selectable in the strategy-building objects that use them.

Notes: The properties dialog box for most of the IRD Multimedia objects requires an interaction output queue. Before any interaction queue can be listed for selection in one of the Multimedia objects, you must first associate the queue with a business process in the `Interaction Design` window.

The properties dialog box for the Workbin object requires you to select a workbin name. In order for a workbin name to display for selection in the Workbin object, you must the associate Workbin object with a business processes in the `Interaction Design` window.

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5. Use the Routing Design window (see Figure 96 on page 120) to create the required routing strategies (see "Creating Strategies" on page 305).
6. Edit your business processes by pulling in existing Strategy objects and connecting them to queues with Submitter objects (see "Adding a Strategy to a Business Process" on page 338).

If you proceed in this sequence, you will be able to select the applicable queue or other object.

Limitations

When developing a strategy or a business process, familiarize yourself with the following limitations pertaining to Configuration Manager and IRD:

Warning! If you do not observe these limitations, your interactions might be routed to an incorrect destination, URS might unexpectedly shut down, or a requested operation might not be performed.

Configuration Manager Limitations

- While the Configuration Layer supports the full character set for use in object names, using certain characters can cause problems in the behavior of other Genesys applications.

  The objects affected by this limitation that are used in Universal Routing include Tenant, Field, Format, Script (strategies and subroutines), Table Access, Tenant, and Transaction (routing rules, interaction data, attributes, business rules, and custom statistics).
- The maximum length of any Configuration Server object name is 256 bytes (a limitation that is automatically enforced by Configuration Server).
- When configuring Employee IDs, Login IDs, Place names, DN numbers, and Switch names that will be used to define routing targets, the maximum length is 63 bytes.
- When a URS name is added to the name of a T-Server that is connecting through a Load Distribution Server, the sum of the bytes cannot exceed 126 bytes.
- When defining agent states on the Annex or Options tab of a URS Application object (for example when preparing to use the UseAgentState function), the maximum number of user-defined agent states is 32.
- The names of skills, if they are used in a skill expression, cannot exceed 126 bytes.
- The priority of an interaction cannot exceed 1,000,000,000.

IRD Limitations

When creating or modifying strategies in IRD:

- Certain symbols, listed in Figure 172, should not be used in object names. The names of all IRD reusable objects and data (strategies, routing rules, schedules, and so on) as well as `Interaction Design` window configuration objects (business processes, queues, and so on) are limited to alphanumeric characters and cannot begin with a space, an underscore, or a hyphen. Please note that although some IRD objects allow you to enter names containing special characters, Genesys strongly recommends not using them.

Figure 172: Invalid Symbols and Characters

- IRD allows you to use only one special character, an underscore, in the middle of a strategy name. You may also use an underscore in any reusable object name, as well as in the name of a service, method, method parameter, or the name of any strategy object that results in executing an external or internal service or procedure.

  The underscore is the only character that you can safely use in the middle of the name of a strategy or other reusable object, service, method, or method parameter name of any strategy object that results in executing an external or internal service or procedure.

> **Warning!** Using commas and square brackets as data separators can make IRD incorrectly interpret the entered values if those symbols are used in Treatment, Data and Services, Multimedia, and Outbound objects.

- When specifying busy treatment parameters, do not include pipes "|" and colons ":" in values.
- Skill expressions (see Figure 117 on page 135) that are used by the Selection, Service Level, and Route Interaction Routing objects cannot exceed 100 elements (skill names, numbers, comparisons, and logical operands). That is, a skill expression should have no more than 25 constructions, such as `English > 1`. It is especially important to observe this limitation in the case of Service Level routing rules, which use skills internally—that is, every skill criterion used in a Service Level routing rule generates 1–3 constructions in the form `<Skill> > <Number>`.
- The maximum size of an overall skill expression (as text) is 10239 bytes.

- The maximum length of a string using the format `placename@statservername.AP agentname@statservername.A` for any routing target is 253 bytes.
- The maximum length of a request to Custom Server or DB Server through XData (used for 5.x strategies) is 10239 bytes.
- When creating a key-value list that uses a string format (such as `aaa:5|gggg:123|...`), the maximum key length is 1000 bytes and the maximum length of one key-value pair is 4096 bytes.
- When using the Database Wizard object to query a database, the maximum size of a SQL statement created by the DB Wizard is 1010 bytes.
- When using the IRD statistical adjustment functions, the name of an object plus the name of the statistic cannot exceed 250 bytes.
- The name of any single target (including a skill group) cannot exceed 256 bytes.
- Integer variables can have a maximum value of approximately four billion, with a range of -2 billion to +2 billion. If a value number exceeds the maximum capacity of an integer variable, the number wraps back around. If the number gets larger than largest allowed number, the integer variable wraps to a negative number. If the value number gets smaller than the smallest allowed number (around negative two billion), the integer variable wraps back into being positive. In any case, the returned number will be an error.
- The name of a strategy created in IRD can incorporate only 194 characters. If you create the `Simple Routing` script object (or rename an existing one) in Configuration Manager with the 254-byte name length , such an object will be displayed in the IRD `Strategies` list, but its `.rbn` file is not accessible for any kind of operation.

Chapter

8 Creating Knowledge Manager Objects

This chapter provides step-by-step instructions for creating Knowledge Manager objects used by routing strategies (see Table 4 on page 154). The information in this chapter covers the following topics:

For background information, see "Knowledge Manager Interface" on page 153.

Opening Knowledge Manager

The information in this section assumes you have already installed the Multimedia software components and Knowledge Manager as described in the *Multimedia 7.6 Deployment Guide*.

Procedure: Logging into Knowledge Manager

Start of procedure

1. Click the desktop shortcut if one exists.

   As an alternative, use the `Start` button on your computer desktop and select `Programs > Genesys Solutions > Multi Channel Routing 7.6> Knowledge Manager > Start Knowledge Manager`.

Either action brings up the `Knowledge Manager` login dialog box shown in Figure 173.

Figure 173: Knowledge Manager Login Dialog Box

2. Use the information in Table 17 to complete the `Knowledge Manager` login dialog box:

Table 17: Knowledge Manager Login Dialog Box

Field	Description
User name:	Name of `Person` object defined in Configuration Manager.
User password:	Password of `Person` object defined in Configuration Manager.
Application:	Use `default` to have the `Application` object (see Figure 150 on page 171) selected automatically or enter the name of a Knowledge Manager Application object defined in the Configuration Manager. This Application object is associated Contact Server Application object, which is associated with a UCS Database Access Point.
Host name:	Name of machine where Configuration Server is located.
Port:	Port number used by Configuration Server.

3. Click `OK`, the Knowledge Manager interface opens.

End of procedure

After you complete the login fields and click `OK`, Knowledge Manager opens with the `Categories` tab selected. Figure 174 shows a `Categories` tab with various top level (root) classification Categories.

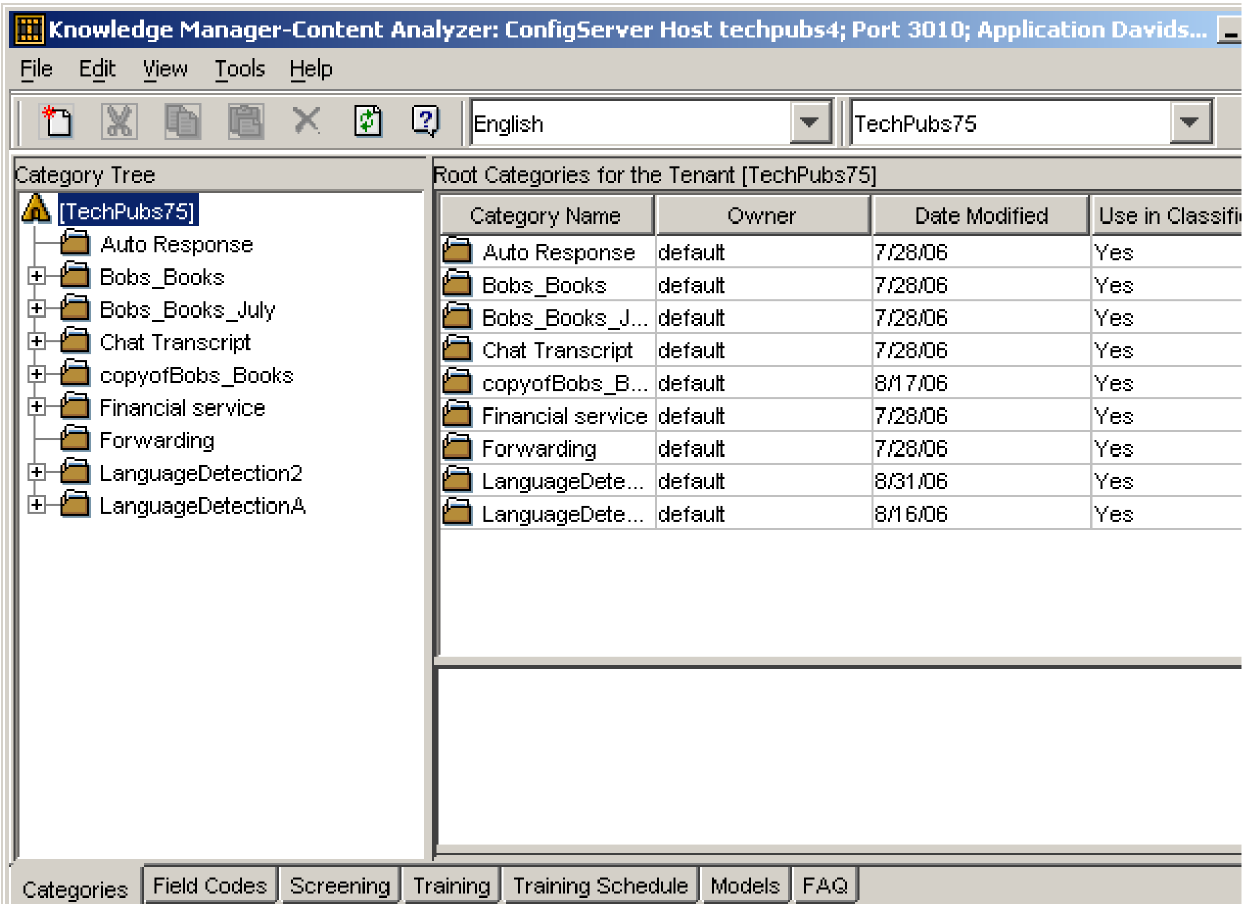


Figure 174: Knowledge Manager, Categories Tab

Categories and Standard Responses

When creating a new Category in Knowledge Manager, you must understand the concept of a *root Category*. Then you can decide whether you need to define a new root Category or whether you can place the new Category under an existing root.Note the expanded Category tree in Figure 175.

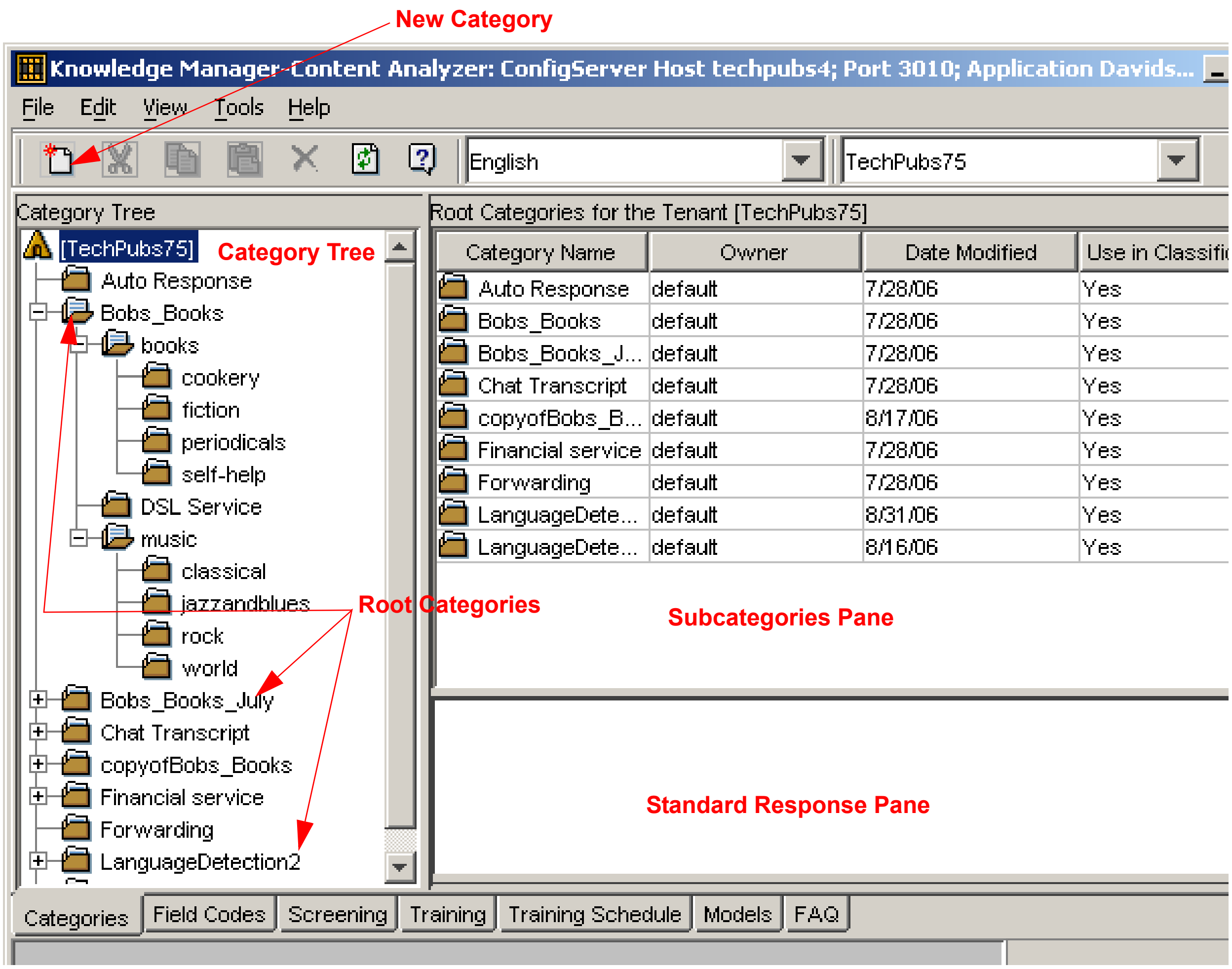


Figure 175: Example Knowledge Manager Root Categories

The example root Categories in Figure 175 are:

- `Bobs_Books`
- `Bobs_Books_July`
- `Chat Transcript`
- `copyofBobs_Books`
- `Financial service`
- `Forwarding`
- `LanguageDetection2.`

Procedure:
Creating a New Category

Purpose: To define a Category for the Category tree discussed on page 156. You can then use the Classify strategy-building object (see page 200) to request Classification Server to assign one or more classification Categories to an interaction, which can then be used to automatically select a Standard Response for customers.

Start of procedure

1. Decide whether you need to define a new root Category or a Subcategory.
   - For a new root Category, select `Resources`, which is the topmost node in the Category tree.
   - For a new Subcategory, select an existing root Category or a lower level Category.
2. Do one of the following to start creating a new Category:
   - Select `New` from the `File` menu.
   - Click the icon for a new Category on the toolbar (first icon).
   - Put the cursor in the Category tree or subcategories pane, right-click, and select `New Category` from the shortcut menu.

   The dialog box for creating a new Category opens. Figure 176 shows the `New Root Category` dialog box.

Figure 176: New Root Category Dialog Box

Figure 177 shows the dialog box when `Resources` is not selected.

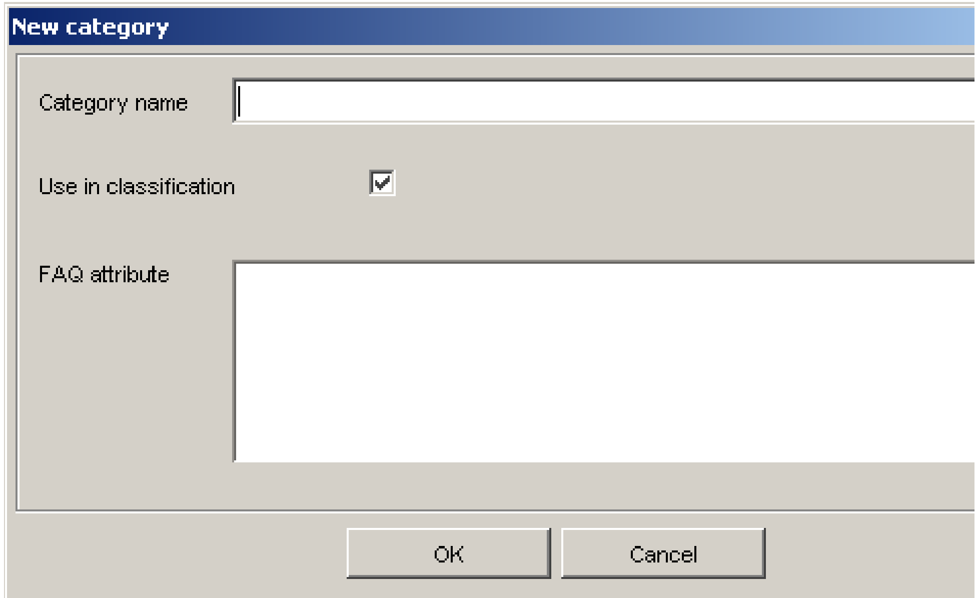


Figure 177: New Category Dialog Box

3. Enter the Category name.

Note: Names of Knowledge Manager objects can use only alphanumeric characters (A–Z, a–z, 0–9), hyphen (-), underscore (_), and space.

4. If using the `New Category` dialog box shown in Figure 177, the `Use in Classification` check box is selected by default. Clear it if you want Genesys Content Analyzer to omit this Category.

> **Note:** Not all categories may have Standard Responses attached. For example, some categories in a deep tree may exist only for the purpose of organizational structure. You may only be interested in viewing only the terminal categories that have Standard Responses attached. Other reasons include preventing a higher level Category from getting too high a relevancy and thereby shielding the lower ones from agents. In summary, this field gives you the ability to fine tune your Category structure.

5. Click `OK`.

End of procedure

See the *Multimedia 7.6 Knowledge Manager Help* for information on FAQs, operating on a Subcategory, searching Standard Responses associated with a Category, and deleting a Category.

Procedure:
Creating a Standard Response

Purpose: To create a pre-written response that can be used by agents when responding to interactions such as e-mail interactions. Can also be used to automatically respond to a customer inquiry without agent intervention (Autoresponse object).

Start of procedure

1. On the Category tree pane in Figure 175 on page 220, select the Category that should be associated with the Standard Response.
2. On the Standard Responses pane in Figure 175 on page 220, right-click and select `New Standard Response`.The `New Standard Response` dialog box displays, as shown in Figure 178.

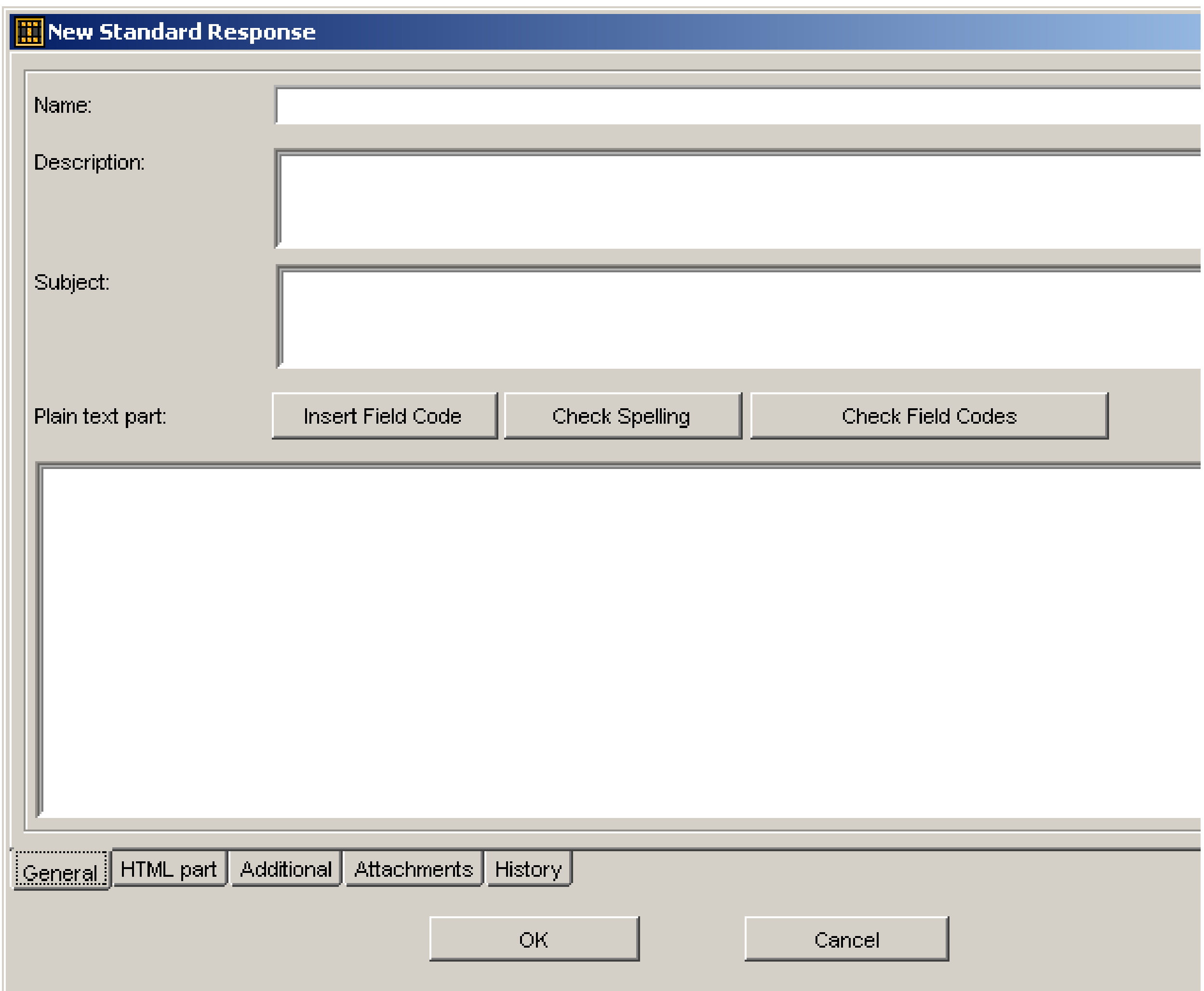


Figure 178: New Standard Response

Note: The title of the Standard Response editor dialog box is `New Standard Response` if you are creating a Standard Response and `Edit Standard Response` if you are editing an existing Standard Response. The contents are otherwise identical.

Note the `General` tab in Figure 178 on page 223. To complete the `General tab`:

3. Enter a name (required) and description (optional) for the Standard Response. Remember that the name can only use alphanumeric characters (A–Z, a–z, 0–9), hyphen, underscore, and space.
4. Enter a subject for the Standard Response. What you enter here appears as the Subject line in an e-mail (acknowledgement or autoresponse) generated from this Standard Response.
5. Enter text for the plain text version of the Standard Response, using the `Insert Field Code` button to insert Field Codes. If you have not yet created Field Codes, you can continue creating the Standard Response, then return to it and insert Field Codes after you have created them.
6. Use the relevant buttons to check spelling and Field Codes. Checking Field Codes shows you the result of applying (rendering) the Field Codes in this Standard Response. The values rendered are taken from a collection of generic properties that exists for this purpose.

End of procedure

For information on the remaining elements in the `General` tab, as well as the `Additional`, `Attachments`, and `History` tabs, see the *Multimedia 7.6 User's Guide*.

Note: When E-mail Server Java uses the Standard Response to create an e-mail (as when generating an acknowledgment, for example), it creates a multipart e-mail including both plain text and HTML versions. Then the settings of the e-mail client that receives the e-mail determine which version displays. For more information, see the *Multimedia 7.6 User's Guide*.

Creating Field Codes

The IRD Acknowledgement and Autoresponse objects allow you to specify Standard Responses, which can contain Field Codes (see Figure 142 on page 160 and Figure 146 on page 163). The Knowledge Manager `Field Codes` tab shows the name, description, and body of all Field Codes currently in the Universal Contact Server Database. Figure 179 shows an example tab.

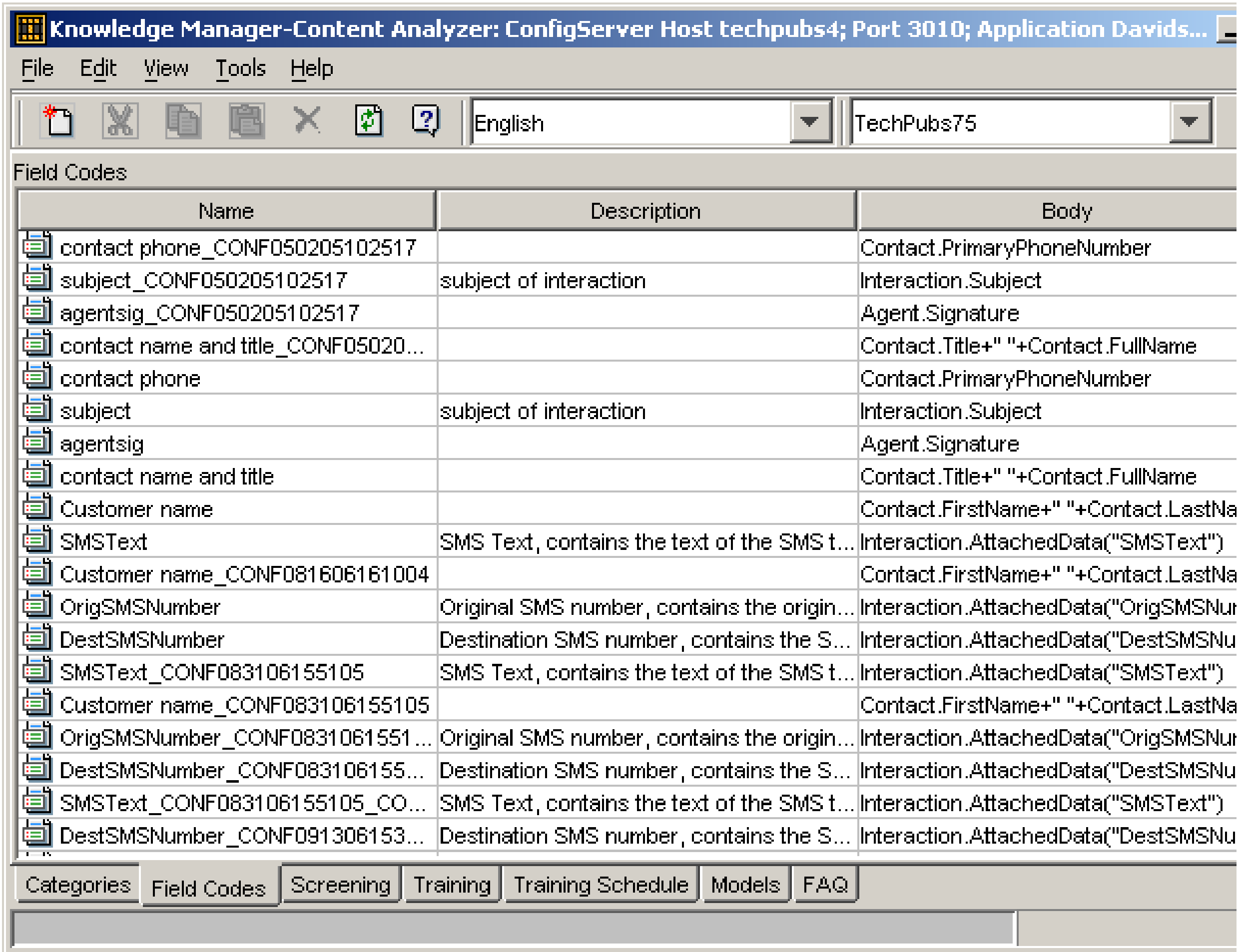


Figure 179: Knowledge Manager Field Codes Tab

Procedure: Creating a Field Code

Purpose: To create a Field Code to customize a Standard Response, usually for a particular customer.

Start of procedure

1. Click the `Field Codes` tab in the Knowledge Manager main window.
2. Click the icon on the toolbar for a new Field Code (first icon as shown in Figure 179). This brings up the `New Field Code` dialog box (see Figure 180).

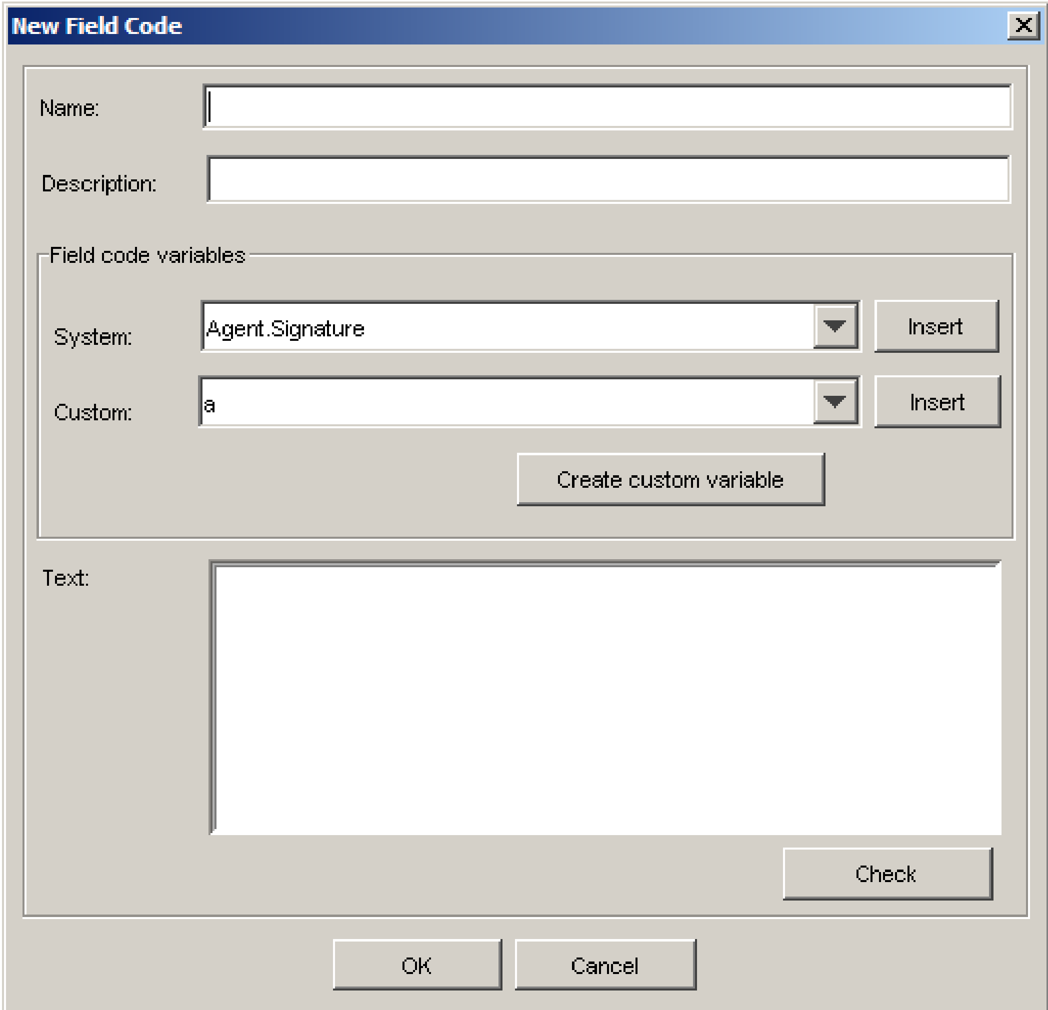


Figure 180: New Field Code Dialog Box

Note: Figure 145 on page 162 shows a completed dialog box.

As an alternative method, on the `Field Codes` tab of Knowledge Manager, right-click and select `New Field Code`. The `New Field Code` dialog box, shown in Figure 180, opens.

The `Text` field shows the Field Code as you create and edit it.

3. Enter a name and description for the Field Code. `Name` is the only required field in this dialog box.

   Enter the `Field Code variables` section, which includes two fields:

   - `System`. Click the down arrow to display a list of all system variables.
   - `Custom`. Click the down arrow to display a list of all custom variables that you have created.

4. To create a new Field Code, click `Create custom variable`. The `New Custom Variable` dialog box opens (see Figure 181).

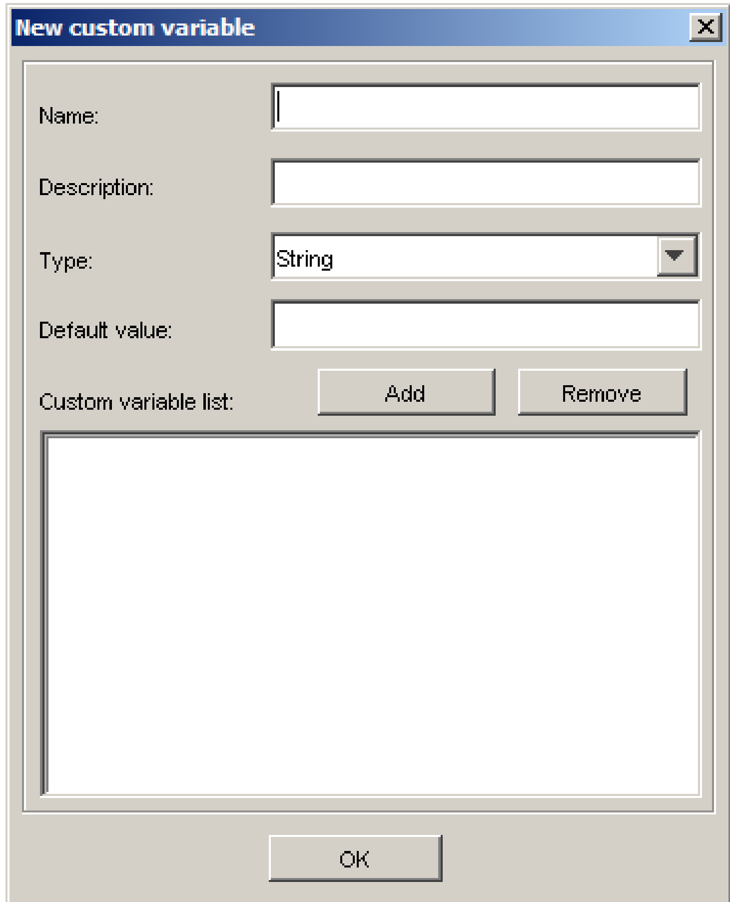


Figure 181: New Custom Variable

5. For information on creating Custom Variables, see the *Multimedia 7.6 User's Guide*. Also see that guide for information on:
    - Inserting Field Codes into a Standard Response.
    - Editing an Existing Field Code.
6. Click `OK`.

End of procedure

Creating Screening Rules

Note: To review the difference between screening and classification, see Table 4 on page 154.

When constructing a routing strategy that screens e-mails for certain words or word patterns, you use the Screen or Multi-Screen IRD object. Each of these objects requires Screening Rules, which must be set up in Knowledge Manager in order to be selectable from the object dropdown menus.

Figure 182 shows the `Screening` tab of Knowledge Manager filled in with sample Screening Rules.

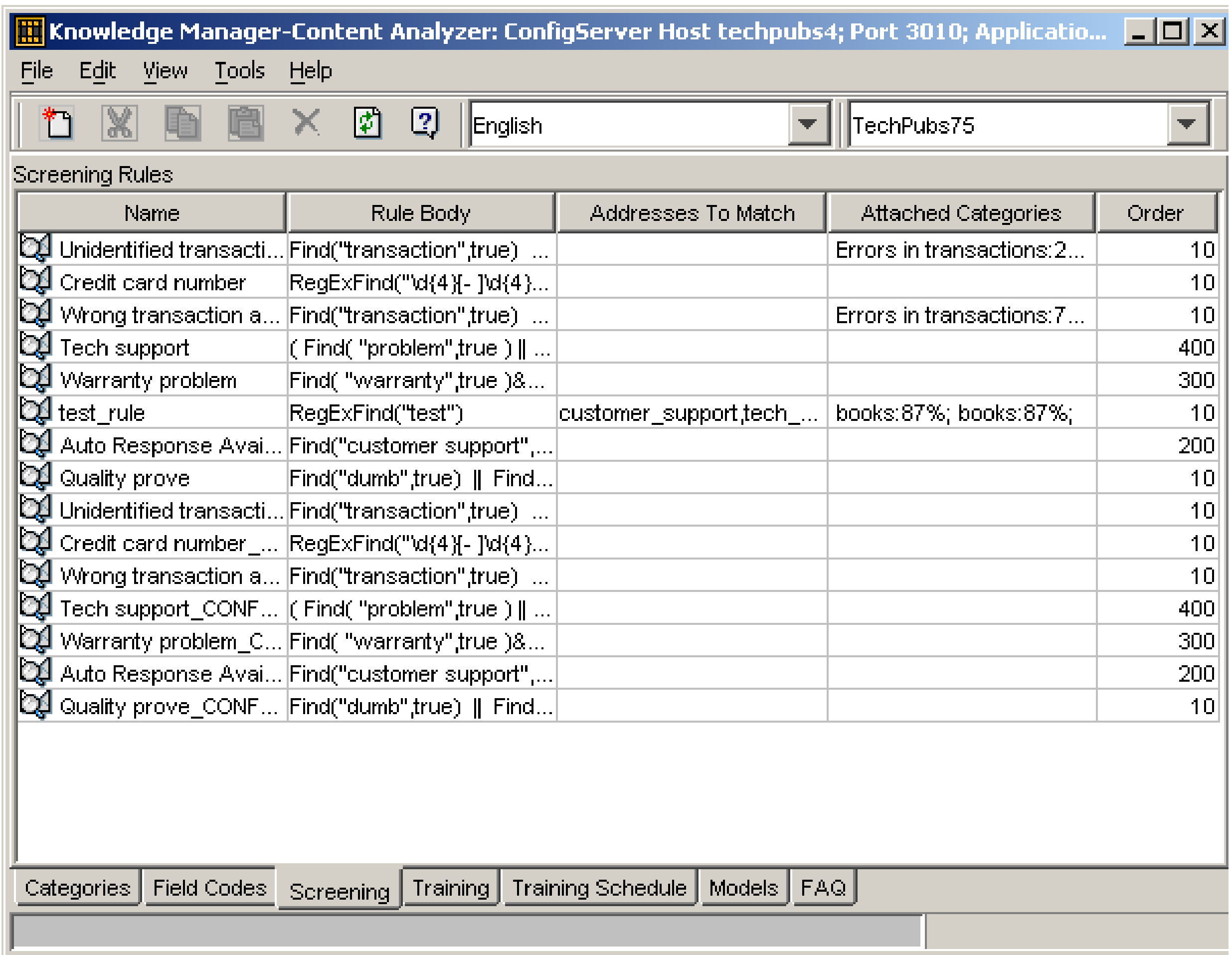


Figure 182: Knowledge Manager Screening Tab

Procedure:
Creating a Screening Rule

Purpose:

To create or edit a Screening Rule that can be used in the Screen or MultiScreen IRD strategy object to filter interactions for specific words or word patterns.

Start of procedure

1. Go to the `Screening` tab in the Knowledge Manager main window (see Figure 182 on page 228).
2. Do one of the following:
   a. Select `New` from the `File` menu.
   b. Right-click anywhere on the `Screening` tab and select `New`.
   c. Select an existing Screening Rule and double-click or select `Edit` from the `File` menu.

   The Screening Rule dialog box opens, as shown in Figure 183.

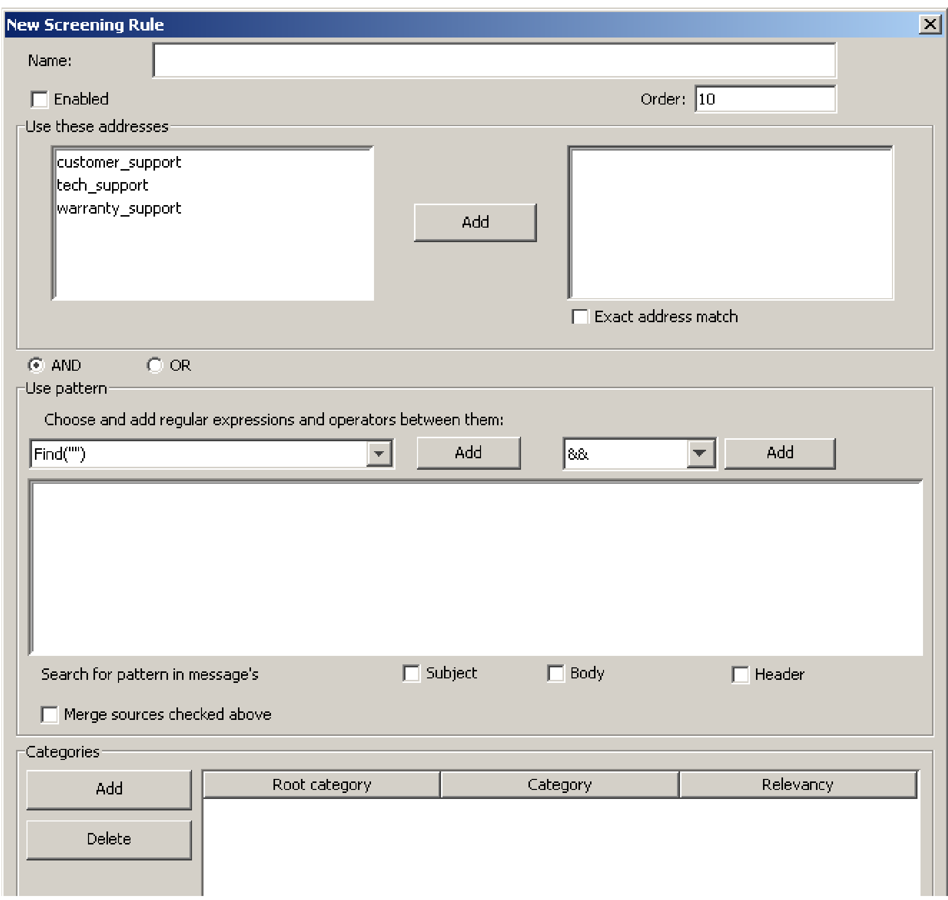


Figure 183: New Screening Rule Dialog Box

Note: In the case of Steps 2a or 2b, its title is `New Screening Rule`; in the case of Step 2c, its title is `Edit Screening Rule`.

3. Complete this dialog box using the detailed instructions on creating a Screening Rule found in the *Multimedia 7.6 User's Guide*.

End of procedure

Notes: To obtain all available screening functionality, Genesys recommends that you use the MultiScreen object instead of the Screen object. Use the Screen object for backward compatibilty only; for example, for 7.0 backward compatibility.

When you first start creating routing strategies, you may wish to use the Screen object instead of the Classify object if your site's classification Catgories are not yet defined or if your site has not purchased the Content Analysis option required by the Classify IRD object.

Chapter

9 Creating Configuration Manager Objects

This chapter provides step-by-step instructions for creating Configuration Manager objects used by IRD's strategy-building objects. This chapter includes these sections:

For background information, see "Configuration Layer Interface" on page 169.

Opening Configuration Manager

The information in this section assumes you have already set up the Genesys Configuration Layer as described in *Framework 7.6 Deployment Guide*.

Procedure:
Logging into Configuration Manager

Start of procedure

1. Click the desktop shortcut if one appears (see Figure 184).

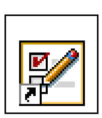


Figure 184: Configuration Manager Desktop Icon

As an alternative, use the `Start` button and select `Programs > Genesys Solutions > Framework > Configuration Manager`.

2. Respond to any security-related screens that your company may have configured to appear before the `Configuration Manager` login dialog box. The `Configuration Manager` login dialog box appears as shown in Figure 185.

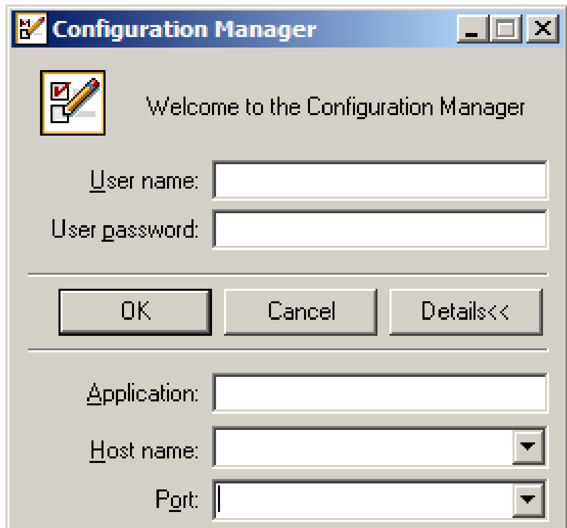


Figure 185: Configuration Manager Login Dialog Box

3. Use the information in Table 18 to complete the `Configuration Manager` login dialog box:

Table 18: Configuration Manager Login Dialog Box

Field	Description
User name:	Name of Person object defined in Configuration Manager.
User password:	Password of Person object defined in Configuration Manager.
Application:	Use `default` to have the Application object selected automatically or enter the name of an Configuration Manager Application object.
Host name:	Name of machine where Configuration Server is located.
Port:	Port number used by Configuration Server. By default, this value is `2020`.

4. Click `OK`. Configuration Manager opens (see "Environment Folder and Tenants" on page 170).

5. If working in a Multi-Tenant environment, select a `Tenant` object (one of the tenants is named `Environment`).

End of procedure

Note: All figures in this chapter are based on a Multi-Tenant environment.

Defining Skills

If you plan to route based on agent skills or skill levels, you must first create `Skill` objects and then assign those `Skill` objects to agents (`Persons`).

Procedure:
Defining Skill objects that can be assigned to agents

Start of procedure

1. Log into Configuration Manager as described on page 231.
2. Expand the `Resources` folder.
3. Right-click the `Skills` folder and select `New > Skill`. The `New Skill Properties` dialog box opens (see Figure 186).

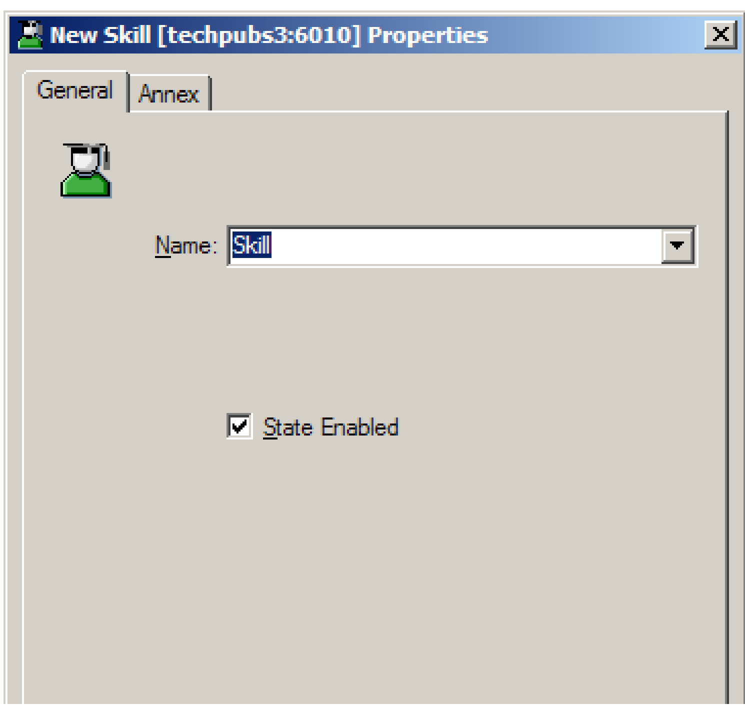


Figure 186: Skill Properties Dialog Box

4. Type the Skill name. Examples: Email, Chat, English, Spanish, New Accounts, Existing Accounts.
5. Leave State Enabled checked.
6. The Annex tab is not required (if it does not display, select View > Options.

Note: Annex is an additional data structure Genesys uses to quickly introduce additional information properties for any object. Annex describes such properties as simple text options arranged in sections, where each section typically relates to the product that uses this set of properties.You can find information about when and how to add and change information in Annexes in the configuration sections of application-specific manuals.

7. Click OK in the properties dialog box.
8. Continue defining Skills in this manner.

End of procedure

Note: In addition to assigning Skills to agent Persons as described below, you can also route based on the value of a skill expression (see Figure 117 on page 135).

Defining Persons

Once you have defined Skills, you can assign them to Persons, such as agents, QA, managers, and supervisors. You can then route interactions to Persons that have specific Skills and Skill Levels.

Procedure:
Defining Person objects

Purpose: To represent agents that can be routed to in the Configuration Database.

Start of procedure

1. Log into Configuration Manager as described on page 231.
2. Under Resources, right-click the Persons folder and select New > Person. The New Person Properties dialog box opens (see Figure 187).

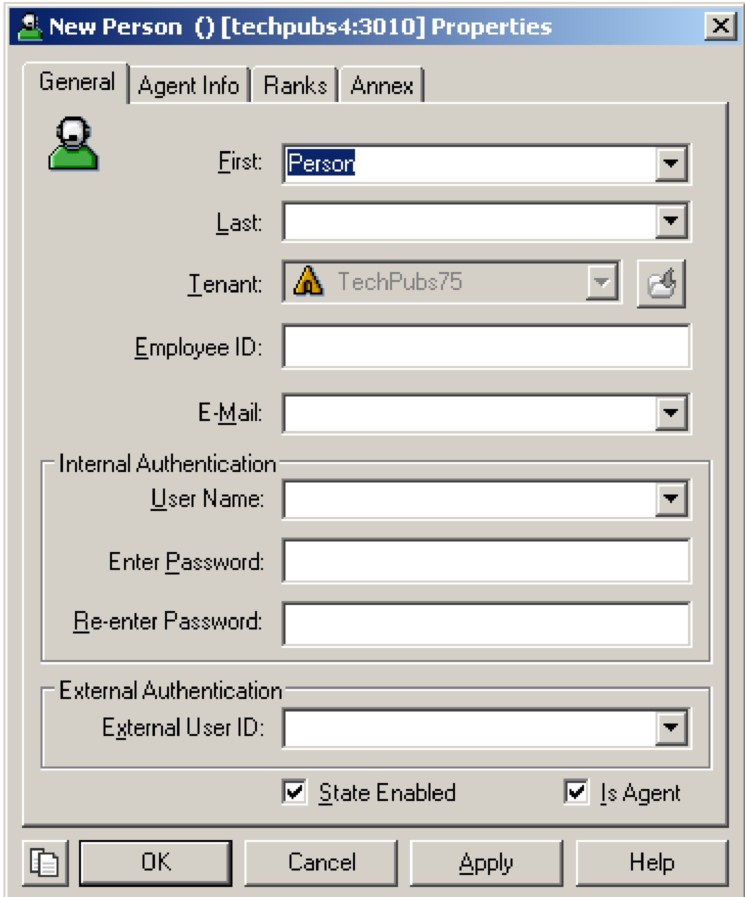


Figure 187: New Persons Dialog Box, General Tab

3. Complete the `General` tab. If you need help, click the Configuration Manager `Help` menu and select `Help Topics`.
4. Click the `Agent Info` tab. Figure 188 on page 236 shows the dialog box filled in with sample data.

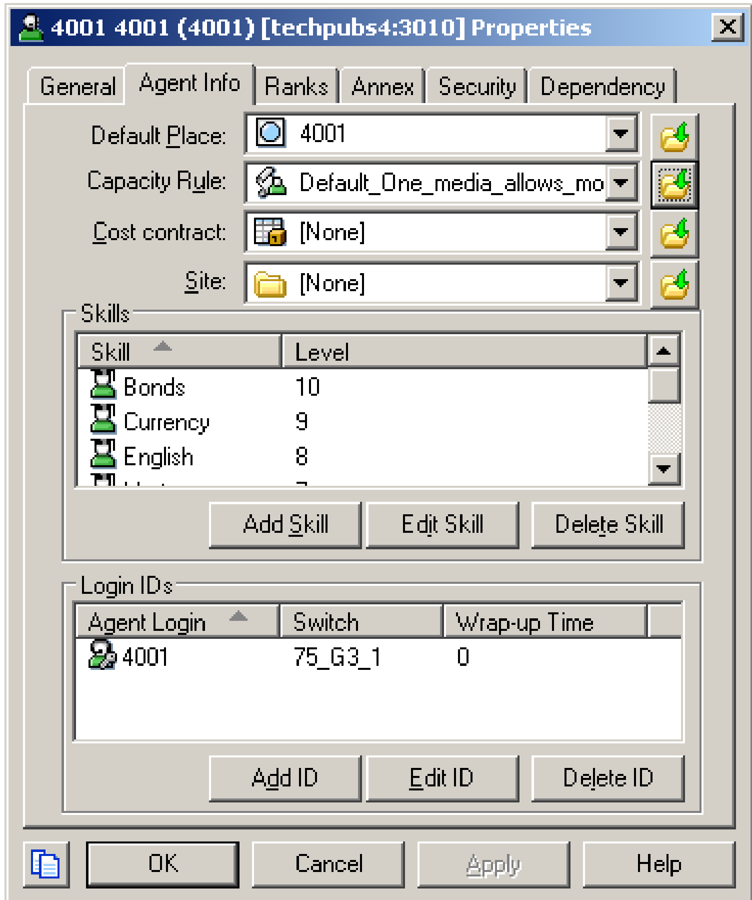


Figure 188: Person Dialog Box, Agent Info Tab

5. Complete the `Agent Info` tab. Click the `Add Skill` button to add a previously defined agent skill. If you need help, click the Configuration Manager `Help` menu and select `Help Topics`.

> **Note:** If applicable, you can assign a `Capacity Rule` to the agent, which defines the agent's ability to handle multiple interactions. For more information, see "Agent Capacity Rules" on page 179.

6. Click the `Security` tab.
7. Click the `Permissions` button in the `Security` tab and assign permissions (see "Setting Permissions" on page 187). Figure 189 shows the dialog box filled in with sample data.

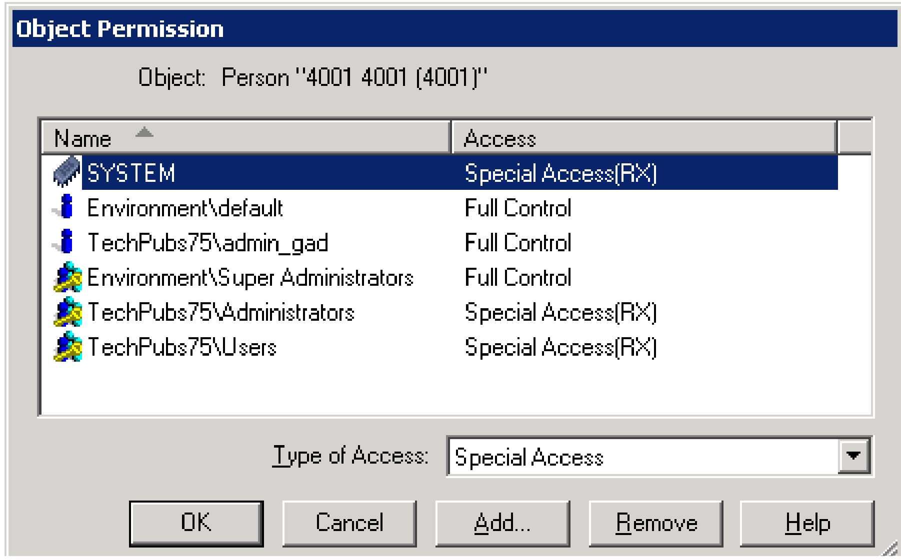


Figure 189: Object Permissions Dialog Box

8. When through defining permissions, click `OK` to save in the `Object Permission` dialog box.
9. Click `OK` in the `New Person` properties dialog box.

End of procedure

Defining Agent Groups, Places, and Place Groups

Once you have defined `Persons`, define `Agent Groups` and assign `Persons` to each group. You only need to do this if you plan to route to agent groups. After completing the previous sections, you now understand how to create new objects in Configuration Manager:

1. Log into Configuration Manager as described on page 231.
2. Under `Resources`, right-click the object and select `New` <*object_name*> to open the properties dialog box.
3. Complete the properties dialog box.
4. Click `OK` to save your entries.

Defining Business Attributes

The `Resources` folder contains a `Business Attributes` folder. Figure 155 on page 176 shows the folder expanded.

As described in the chapter on interaction properties in the *Multimedia 7.6 User's Guide*, the origin of `Business Attributes` varies:

- Some `Business Attributes` are predefined by Genesys and can be expanded.
- Other `Business Attributes` are customer-defined in Configuration Manager.
- Other `Business Attributes` are initially defined in Knowledge Manager and then carried over to Configuration Manager.

Business Attributes From Knowledge Manager

If you followed the "Order of Configuration" on page 213:

- Names of Screening Rules, defined in Knowledge Manager, will also have carried over from the Universal Contact Server database.
- Names of classification Categories, defined in Knowledge Manager, will have carried over from the Universal Contact Server database. The names will be viewable in the `Category Structure` folder along with the name of the associated Standard Responses (see Figure 190).

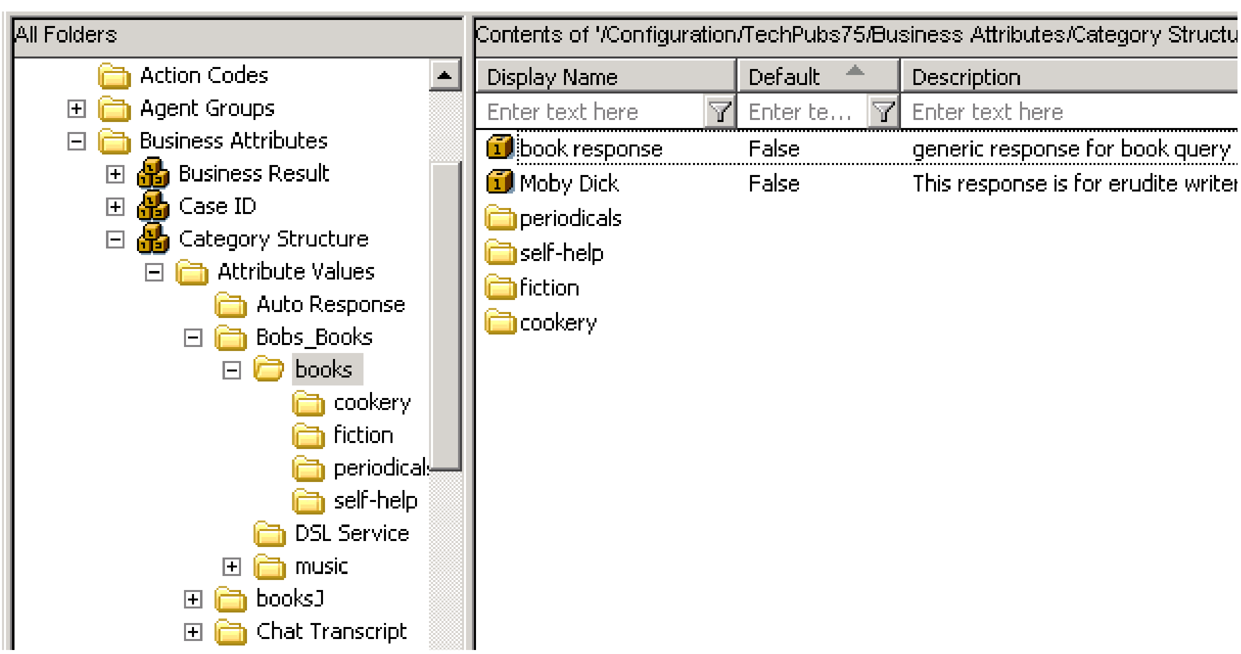


Figure 190: Classification Categories and Standard Responses

Other Business Attributes That May Need To Be Defined

You may still need to use Configuration Manager to define the following `Business Attributes`:

- `Service Type` and `Customer Segment` used in the MultiAttach object (see Figure 191).

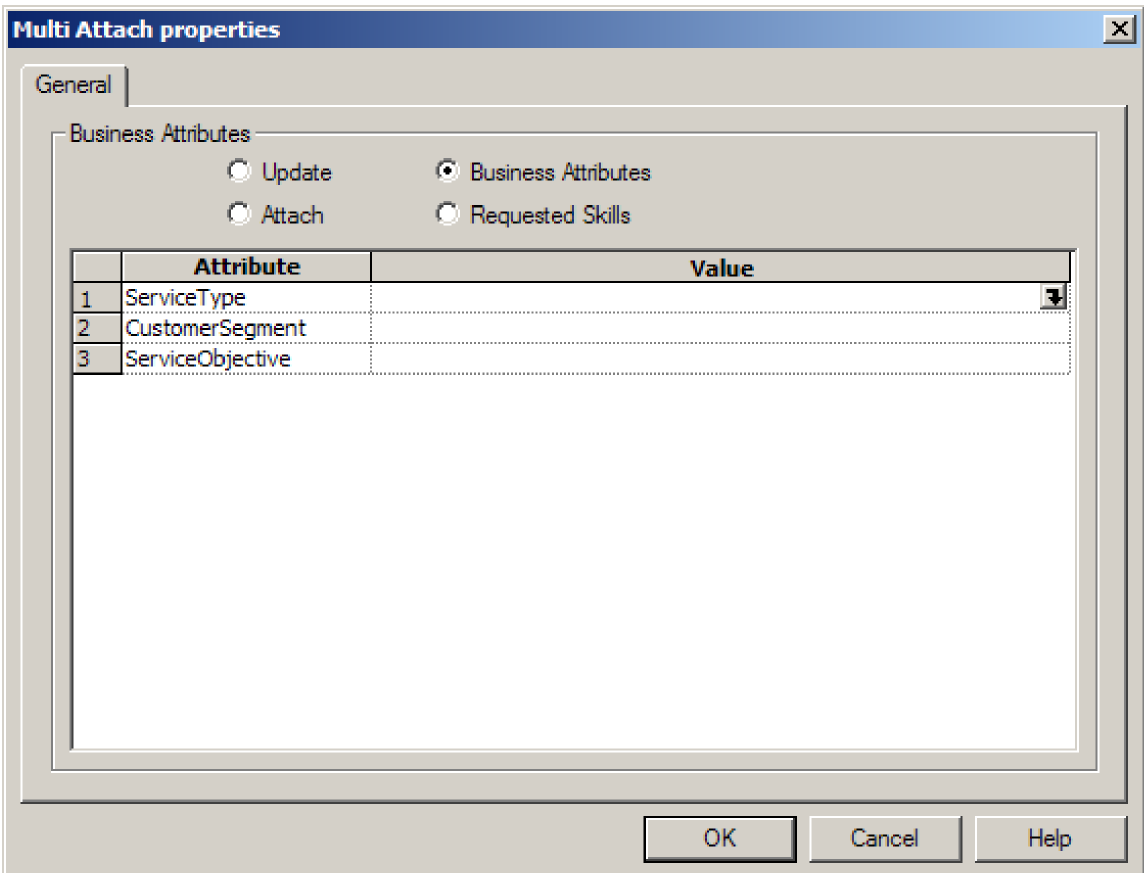


Figure 191: Multi-Attach Object Properties Dialog Box

The above three attributes are described in the chapter on IRD objects, MultiAttach object section, in the *Universal Routing 7.6 Reference Manual*.

Note: `ServiceObjective` is defined outside of the `Business Attributes` folder under `Objective Tables`.

- `Disposition Code`. Currently not used by any IRD object, but contained in `Interactions` table.
- `Language`. The primary motivation for creating is the necessity to use this `Business Attribute` in conjunction with some particular `Tenant` in Knowledge Manager. All objects in Knowledge Manager, including classification Categories and Screening Rules, can only be created under

specific combination of `Language` and `Tenant`. The following IRD objects use the `Language Business Attribute`: Screen, Multi-Screen, and Screen Segmentation. For more information on this attribute, see the chapter on interaction properties in the *Multimedia 7.6 User's Guide*.

- `PIN`. Currently not used by any IRD object, but you may want to include in interactions.
- `Reason Code` and `Stop Processing Reason` when using the IRD Stop object described in Table 8 on page 199. For more information on Reason Codes, see the Stop Interaction object description in the chapter on IRD objects in the *Universal Routing 7.6 Business Process User's Guide*.
- As described in the *Universal Routing 7.6 Reference Manual*, `E-mail Accounts` specifies an external e-mail address required when using the following IRD objects: Acknowledgement, Autoresponse, Chat Transcript, Create Notification, Create SMS, Forward E-mail, Redirect E-mail, Reply From External Resource, and Send E-mail. See Table 8 on page 199.

  For additional information on `E-mail Accounts`, see the chaper on preparing your environment for Genesys Desktop in the *Genesys Desktop 7.6 Deployment Guide*.
- `Media Type`. When implementing the Genesys Open Media concept, another `Business Attribute` that you may want to create is a custom `Media Type` that will be added to the Genesys predefined set of `Media Types`. A service performed by some third party server associated with a custom `Media Type` could be used in the External Service object described in Table 8 on page 199.
- `Contact Attributes`. See the topic on matching contact attributes in the *Multimedia 7.6 User's Guide*. Also see the chapter on contact identification and creation in that guide.

Chapter

10 Creating Business Process Objects

This chapter provides step-by-step instructions for starting a new business process, including adding Queue, View, and Workbin objects, and Strategy object placeholders.

This chapter includes these sections:

Note: See "Order of Configuration" on page 213.

Simple Versus Complex

The chapter "Planning a Business Process" on page 193 discusses two types of business processes:

1. A complex business process encompassing many different functional areas, such as the Genesys-supplied `Default_BP` (see Figure 170 on page 196).
2. Smaller, less complex business processes each encompassing a single functional area, such as the Genesys-supplied step-numbered business processes (see Figure 171 on page 197).

This guide assumes that, as a new user, you will create smaller, less complex business processes and connect them via queues. This chapter assumes you wish to create something similar to the `Step 1. Pre-Routing` business process shown in Figure 171 on page 197.

Defining the Business Process Object

Note: When you run IRD on a clean configuration, it automatically creates a default Business Process object for you, which you can rename or use to create other Business Process objects. The instructions and figures in this section assume you do not have a clean machine, but have loaded the samples as described in "Using the Samples" on page 195.

Procedure:
Defining a Business Process Script object

Purpose: To define the Business Process Script object in Configuration Layer.

Start of procedure

1. Log in as described in "Opening IRD" on page 57.
2. Click the `Interaction Design` shortcut bar on the left.
3. Click the `Business Process icon`. Existing business processes are listed for selection as shown in Figure 33 on page 60.
4. If a folder is already selected, from the `File` menu, click `New`. You can also right-click any folder on the list pane and select New; The `New` dialog box opens. A temporary name for the business process appears in the browser as shown in Figure 192.

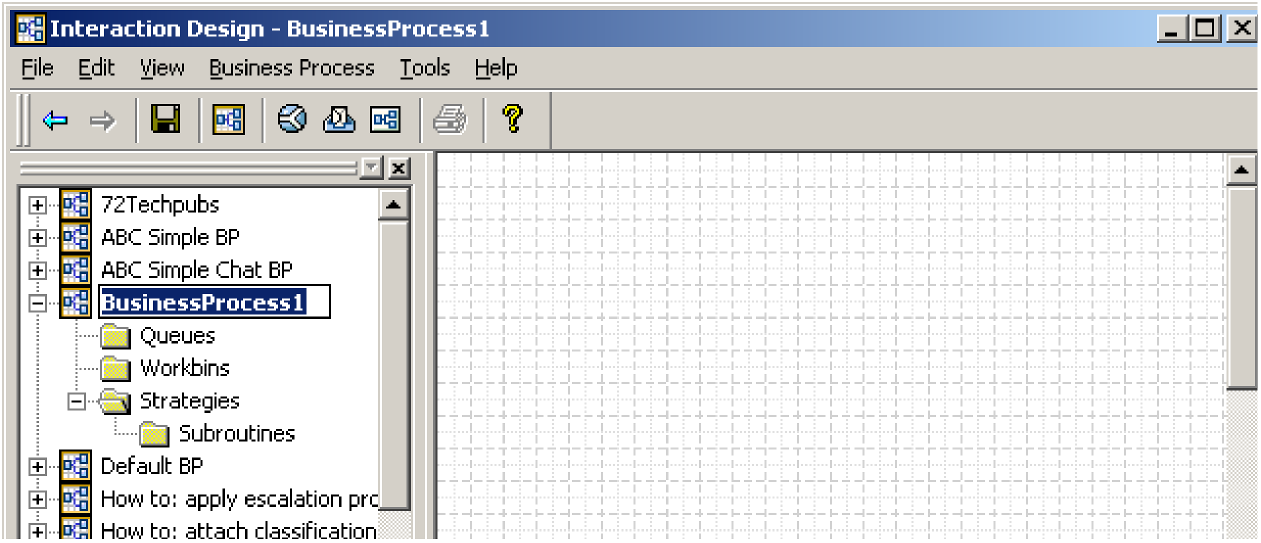


Figure 192: New Business Process with Temporary Name

5. Select (slowly double-click) temporary name and replace it, supplying the name to be used for the `Script` object (see Figure 152 on page 173).

   Assume you enter `Preprocessing`. Since the browser lists business processes in alphabetical order, it now appears as shown in Figure 193.

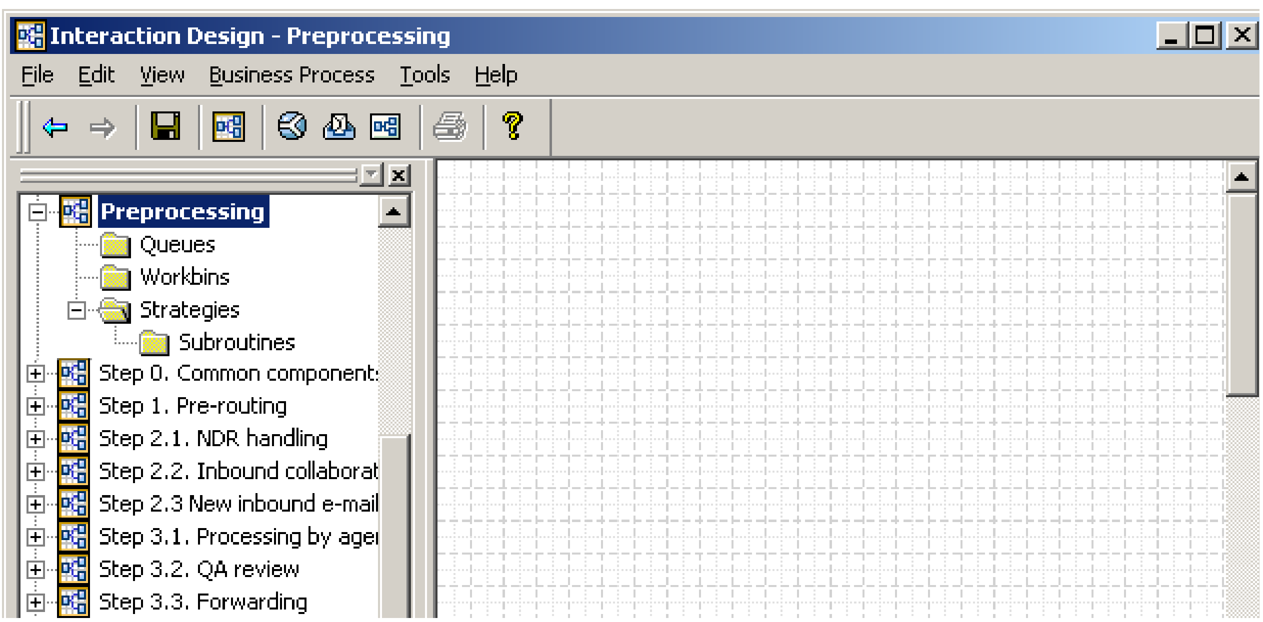


Figure 193: Business Process Renamed

Note: If you change your mind at any point, click the `Edit` menu and select `Undo Creating` or `Undo Updating`.

6. Right-click the business process and select `Properties` from the shortcut menu. The `Business Process Properties` dialog box opens (see Figure 194).

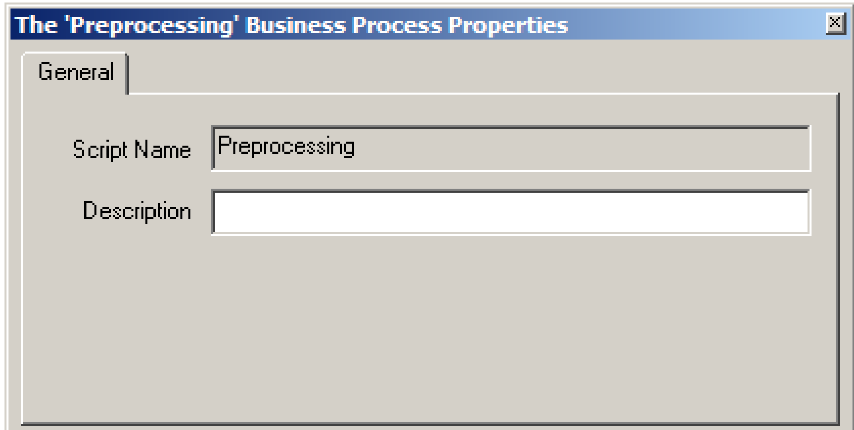


Figure 194: Business Process Dialog Box

7. In this dialog box, describe the business process.
8. After completing the dialog box, click its upper-right corner. The new Business Process object remains selected in the viewer.
9. Select `Save` from the `File` menu. This creates a new `Script` object in the Configuration Database of type `Business Process` (see Figure 152 on page 173). You can still change the name in the `Interaction Design` window as shown in Figure 71 on page 87.

End of procedure

Note: To switch to another business process, save the changes in the current business process, and double-click the business process you want to switch to.

Note: Unlike the `Routing Design` window, the `Interaction Design` window does not allow you to save a business process within a tree of customized folders/subfolders, which is then viewable on an IRD list pane. You may save a business process only in the predefined default `Scripts` folder (see Figure 33 on page 60).

Warning! Do not use Configuration Manager to manually create business process and the other `Script` objects described in this guide. To ensure database integrity, use only IRD to create these objects.

Procedure:
Deleting a Previously Saved Business Process

Warning! If you do not wish to delete the strategies associated with a business process, move them to the `Independent Objects` folder (see Figure 36 on page 63) before deleting the business process.

If you have not yet saved the business process, you can delete it by exiting the `Interaction Design` window and clicking no to the prompt indicating that the configuration has been changed.

Start of procedure

1. To delete a business process, right-click it in the object browser.
2. Select `Delete` from the shortcut menu. If the business process was previously saved, the message shown in Figure 195 appears.

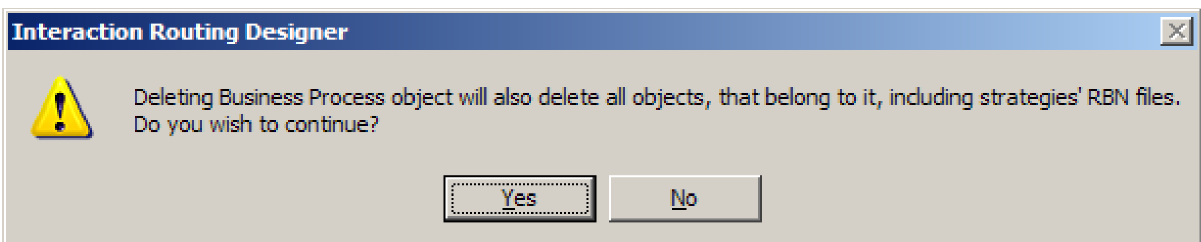


Figure 195: Delete Confirmation Message

3. Click Yes. See page 186 if you need to review strategy `*.rbn` files.

End of procedure

Procedure:
Switching to Another Business Process

Start of procedure

Later on, if you wish to switch to a different business process, you can double-click that business proceess or use the shortcut menu:

1. Select the business process in the object browser,
2. Right-click to open a shortcut menu.
3. Select `Open the Process` from the menu. The business process is highlighted in the object browser.

End of procedure

Using Media Server Objects

For background information on Media Server objects, see page 39.

The Multimedia software components include two media servers, E-mail Server Java and Chat Server, which process e-mail and chat interactions respectively. For more information on these servers, start with the *Multimedia 7.6 Deployment Guide*.

E-mail Server Java (see page 52) and Chat Server `Application` objects and their *endpoints* already defined in your Configuration Environment are listed in the object browser of the `Interaction Design` window. Figure 196 shows an example `Media Servers` folder fully expanded.

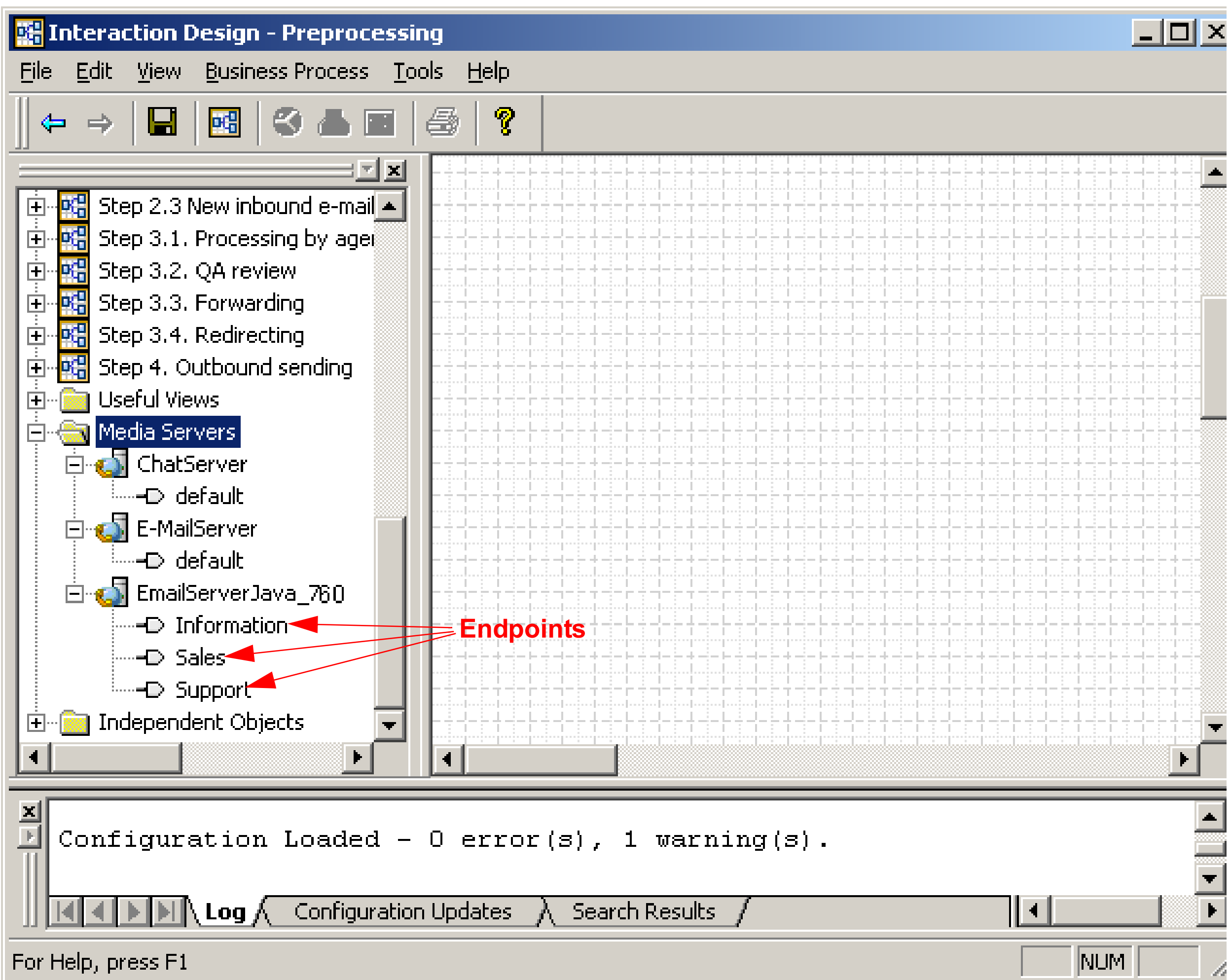


Figure 196: Media Servers and Endpoints in Object Browser

In the example in Figure 196 on page 246, there are two Media Server objects: `72_ChatServer` and `72_E-mailServer`. Note the arrow-shaped objects under each media server. These are Endpoint objects (see page 41 if you need a review).

Placing a Media Server Object

To get interactions of a particular media type into a business process, you have the option of placing a Media Server object, and then connecting some or all of its endpoints to queues. Once you do this, you can continue processing the media server's interactions in the current business process and in subsequent business processes. Follow these steps:

1. First determine whether the Media Server object has already been placed in the workflow via a previously-configured business process.
   - If yes, continue with "Adding Endpoints" below.
   - If no, continue with step 2.
2. To place a Media Server object in this particular business process, drag the Media Server object from the object browser and drop it into the workflow viewer.

Adding Endpoints

You may or may not need to configure additional endpoints for your media server in order to get interactions into the proper queue. To determine this, review the information in "Media Server Object" on page 39 and "Endpoint Object" on page 41.

Note: You can add endpoints before or after you drag a Media Server object into a business process. Endpoints added to a Media Server in the object browser automatically appear in the workflow viewer.

Procedure: Adding Endpoints

Purpose: To connect a media server and its interactions with a queue in a business process.

Start of procedure

1. Select `Add Endpoint` using one of the following methods:
   - From the shortcut menu that appears when you open the `Media Servers` folder in the object browser and right-click a media server.
   - From the shortcut menu that appears when you right-click a media server in the workflow viewer (if a media server has already been placed there).
   - From the `Business Process` menu, when you select a media server in the object browser or workflow viewer.

The new Endpoint object appears in the object browser with a temporary name, which you can edit (see Figure 197).

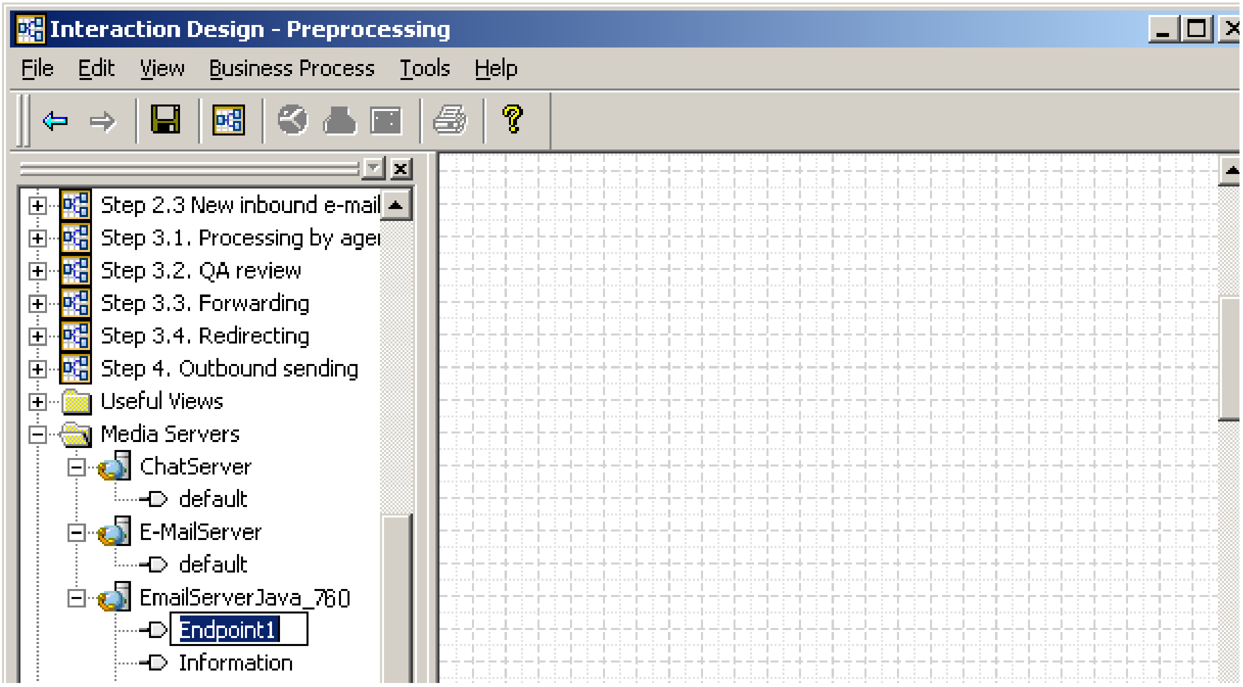


Figure 197: Object Browser After Selecting Add Endpoint

If the media server is already in the workflow viewer, the new endpoint with its temporary name appears there as a port on the right side of the media server (see Figure 198).

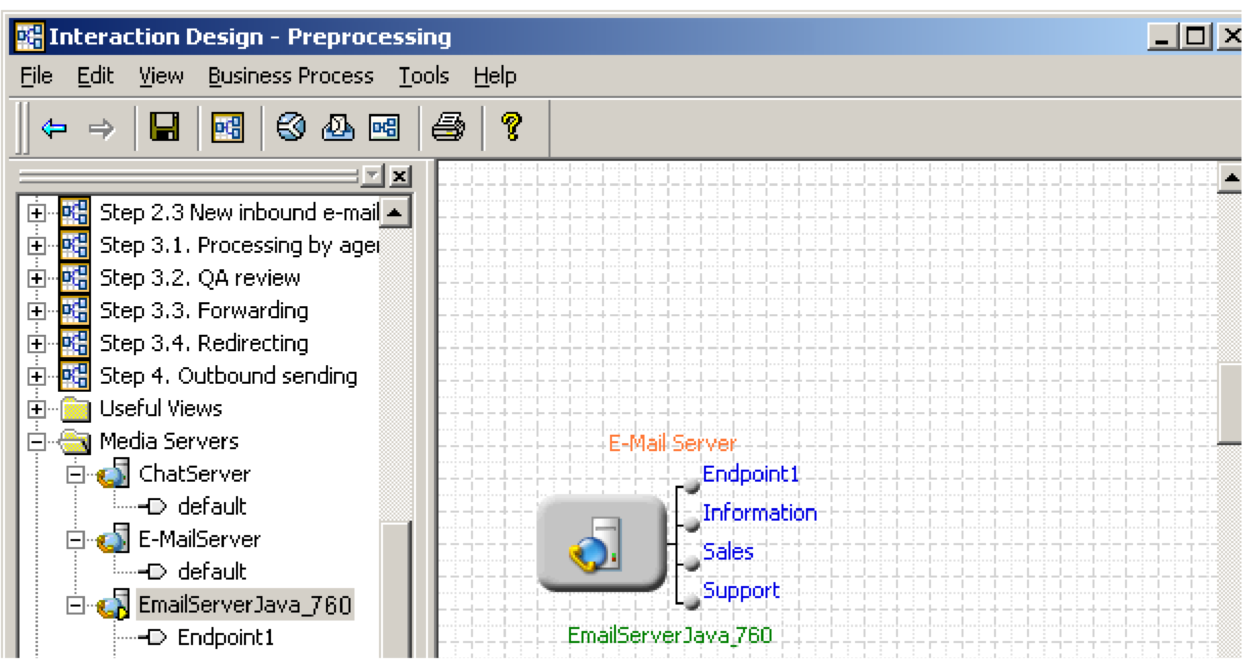


Figure 198: Workflow Viewer After Selecting Add Endpoint

2. Select (slowly double-click) the temporary name to edit it. You have the option of supplying a more descriptive name. Assume you name it `ProductB`. IRD moves the endpoint down to maintain alphabetical order.
3. Save the business process as it exists so far.
4. Define the queue to be connected to the endpoint (see "Adding a Queue" on page 251). Asume you name it `ProductB`.
5. Connect the endpoint(s) to the queue(s). Figure 199 shows the endpoint connected to a queue.

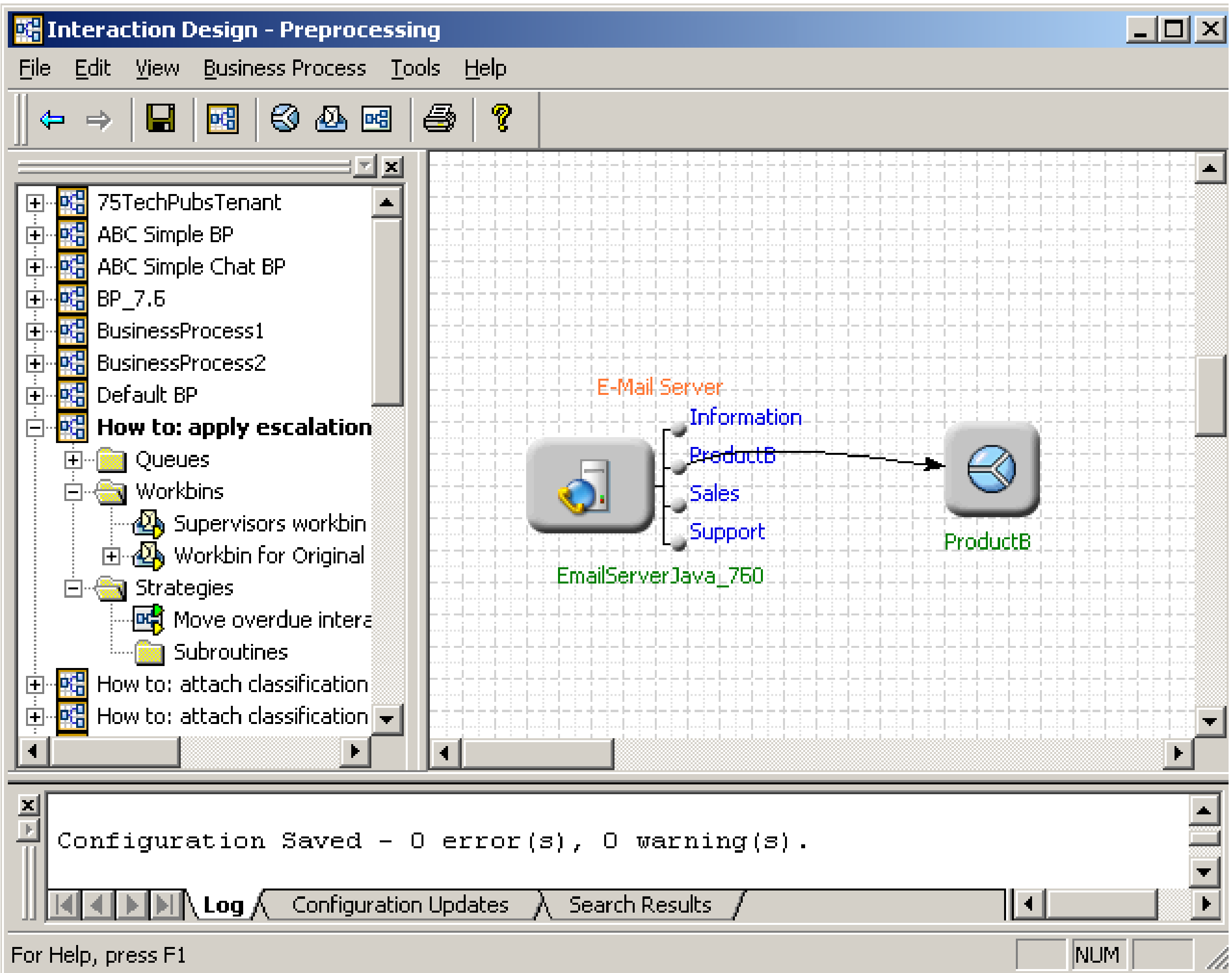


Figure 199: Media Server Endpoint Connected to Queue

Note: If an endpoint is used in another business process, IRD allows you to draw the connector. In the business process where the endpoint was previously used, IRD outlines the endpoint in red and no longer shows connector. This ensures a single endpoint is only connected to a single queue.

6. Save the business process, as it exists so far.

End of procedure

The endpoint appears in the `endpoints:<endpoints::DBID>` section in the media server `Application` object. Figure 200 shows an example for a Multi-Tenant `Application` object.

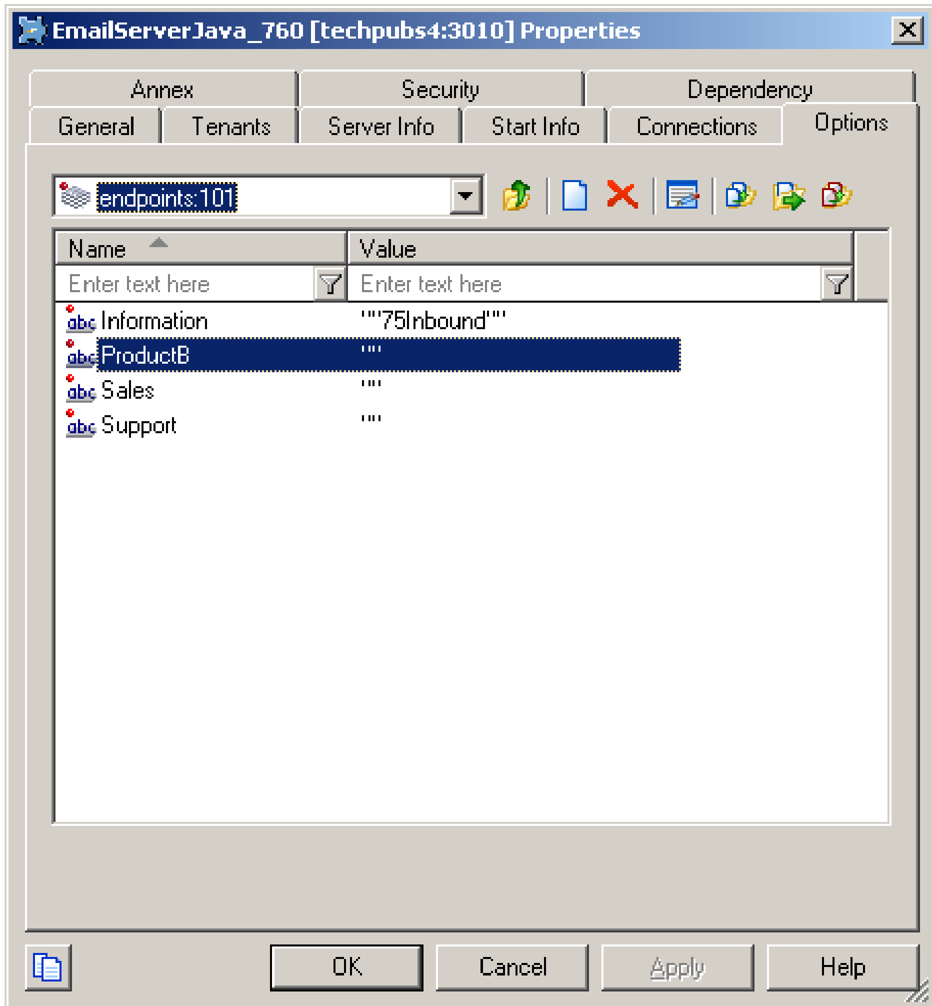


Figure 200: E-mail Server Java, Example Endpoints Section

Note: If you are planning to use a single Interaction Server as a Multi-Tenant `Application`, you can configure as many inbound queues as you need for directing media server interactions into queues by creating Endpoint objects in the `Interaction Design` window, which writes to the `endpoints:<tenant_DBID>` section in the media server `Application` object.

Adding a Queue

For background information on Queue objects, see page 29. For information on connector lines, see page 293.

The next step is to define a Queue object. For information on the initial inbound queue, see Figure 2 on page 25.

Procedure: Adding a Queue object

Purpose: Associating a Queue object with a business process.

The instructions below assume you are continuing from the previous section.

Start of procedure

1. Click the `Business Process` menu.
2. Select `New Queue`. A new Queue object appears in the object browser with a temporary name (see Figure 201).

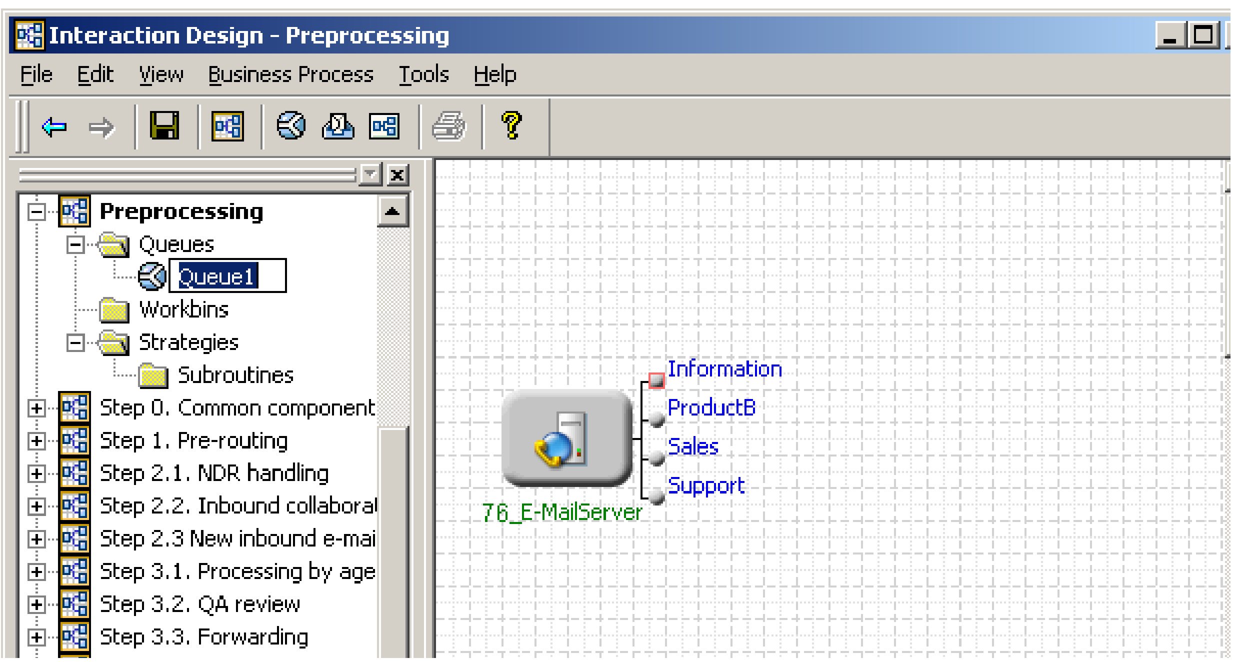


Figure 201: New Queue With Temporary Name

3. Select (slowly double-click) temporary name and replace it with the name to be used for the `Script` object (see Figure 152 on page 173).

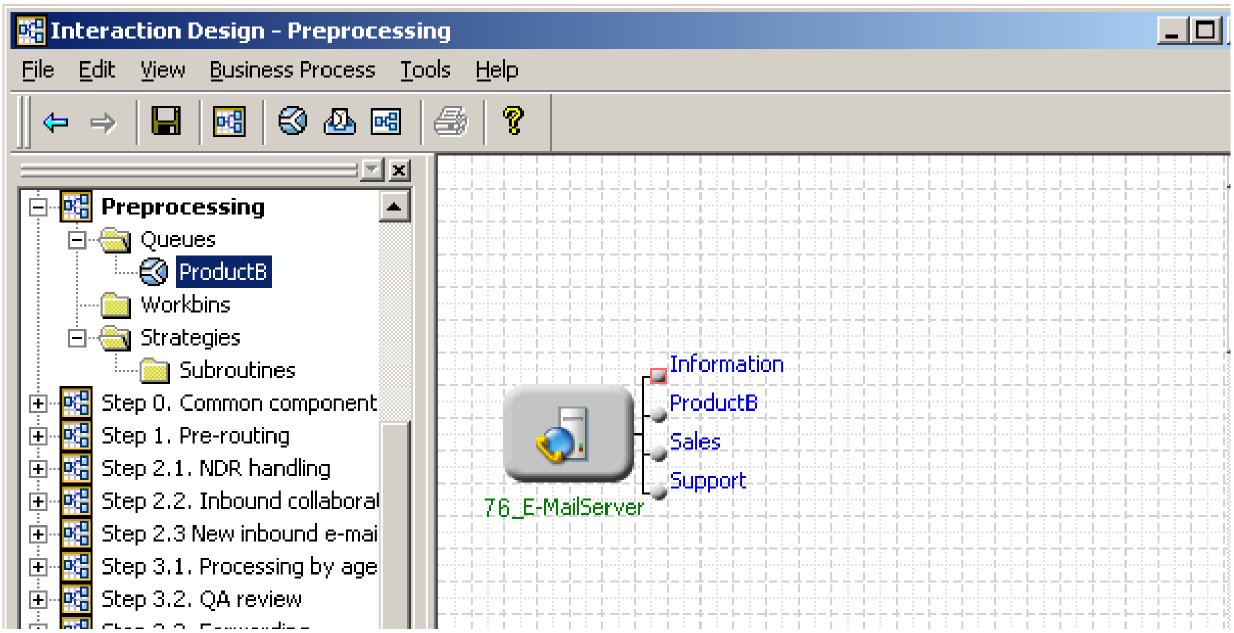


Figure 202: New Queue Renamed

4. Drag the Queue object to the viewer and drop it there (see Figure 203).

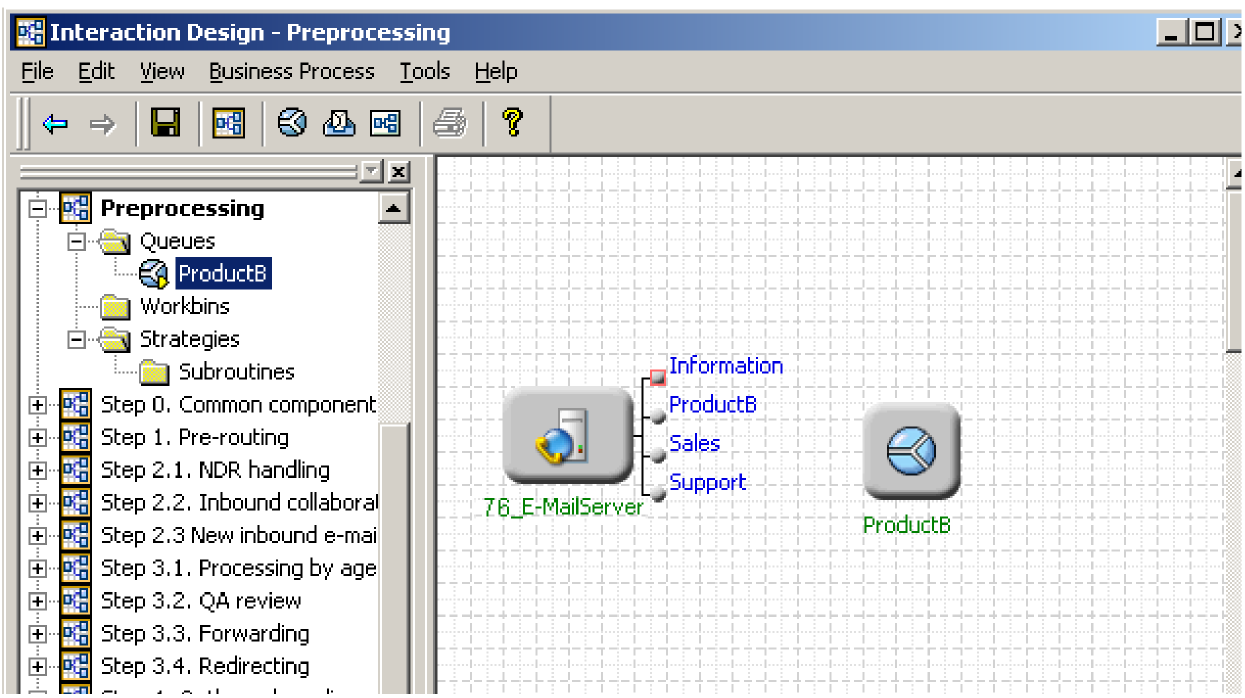


Figure 203: Queue in Workflow Viewer

5. Right-click the Queue object in the right pane and select `Properties of` and then select the queue name. The `Queue Properties` dialog box opens (see Figure 204).

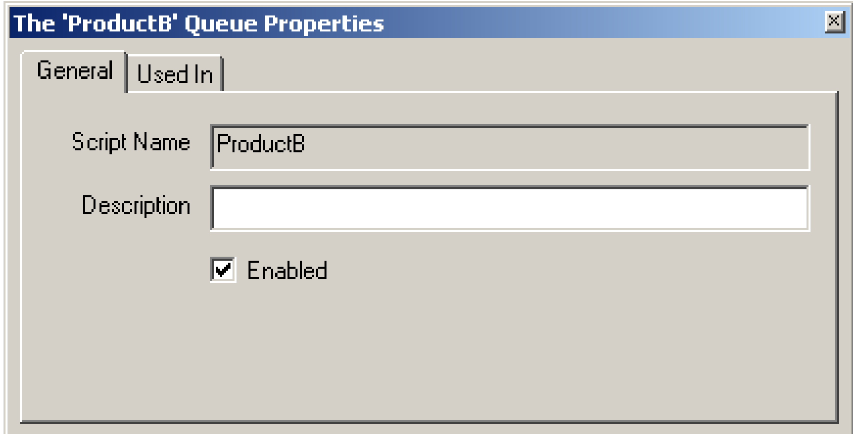


Figure 204: Queue Properties Dialog Box, General Tab

Note: You can also enable/disable Queue objects the same as any other object in Configuration Manager.

The `Used In` tab names the business process where the queue is used.

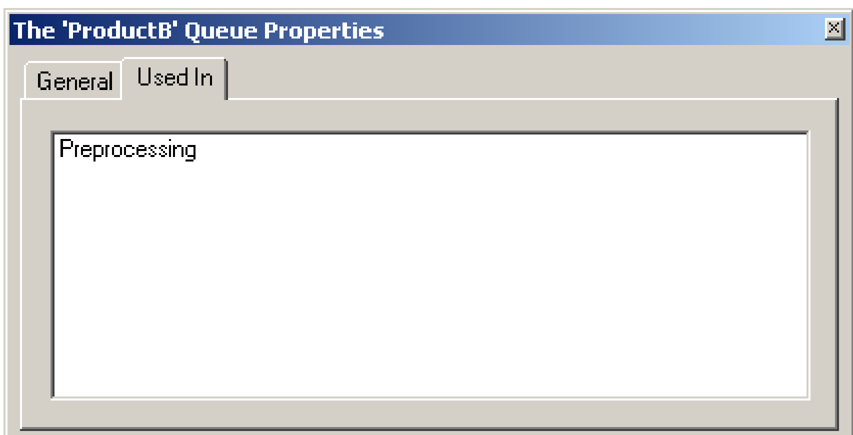


Figure 205: Queue Properties Dialog Box, Used In Tab

6. Use the information in Table 19 to complete the `General` tab of the `Queue Properties` dialog box:

Table 19: Queue Properties Dialog Box

Field	Description
Script Name	Reflects the name entered in the object browser. When you save, the definition will be saved as a Script of type Interaction Queue in the Configuration Database (see Figure 152 on page 173).
Description	Describe the queue.
Enabled	After activating strategies as described on page 343, open the Queue Properties dialog box and select the Enabled check box to specify the queue state as ready to accept interactions. The default is checked (enabled).

7. If this queue will receive media server interactions via an Endpoint object, connect the Endpoint object to the Queue object (see Figure 206).

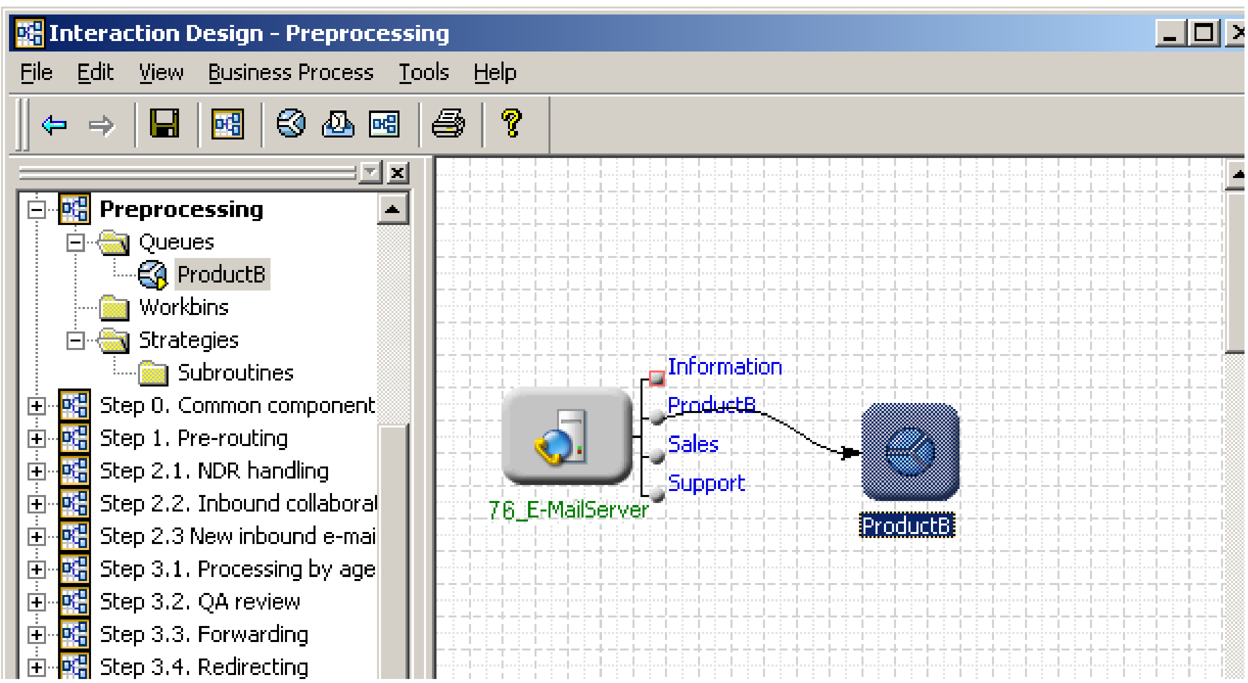


Figure 206: Media Server Endpoint Connected to Queue

8. Select Save from the File menu.

End of procedure

Later, when creating routing strategies, the queue will be selectable in the properties dialog box for all IRD objects that let you select queues, such as Queue Interaction (see Figure 207 on page 255). You will find it under the associated business process (see Figure 207).

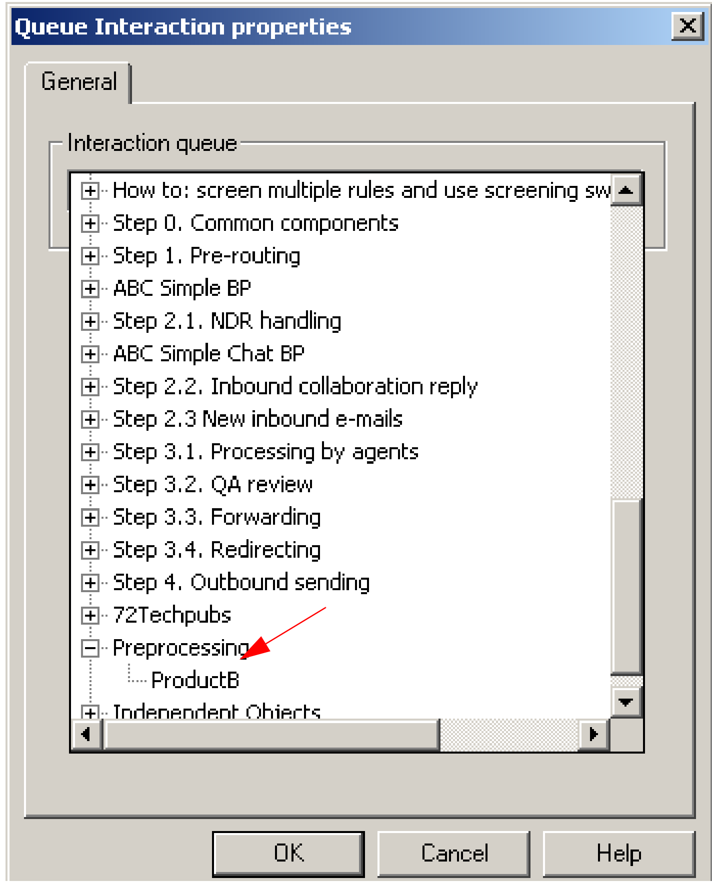


Figure 207: Queues Available for Selection

Note: Be sure that you define separate interaction queues and workbins for each Open Media type.

Adding a View

For background information on View objects, see page 30. For information on connector lines, see page 293. A View object allows you to define one or more of the following:

- The name for the View object in the Configuration Manager `Scripts` folder (see page 259).
- The conditions for interaction selection including parameterized conditions, such as those used by Agent Desktop (see pages 260 and 270).
- The order of interaction selection (see page 262).
- The time interval that Interaction Server uses to check for interactions (page 263)
- The schedule for submitting interactions to strategies (see page 263).

- Database hints (see page 271)
- The number of interactions of different segments (see page 272).

In addition, you can use Configuration Manager to limit the number of interactions based on interaction properties, such as `Customer Segment` (see page 275).

You can set other values in the Interaction Server `Application` object, as described in the chapter on configuration options in the *Multimedia 7.6 Reference Manual*.

Same Queue, Multiple Views

You can define multiple View objects for a single queue or workbin. The examples below use queues. For an example of a view attached to a workbin, see "How To: Apply Escalation Procedure" on page 385.

Example #1

You must define multiple views for a queue if you want to deliver interactions from one queue to different routing strategies. For example, if you have E-mail Server Java submit all e-mails into one queue, but have two separate strategies—one for normal e-mails and another for nondeliverable e-mails—you must define two views.

Example #2

You may want to define multiple views for a queue for priority escalation:

- You could use one view to pull interactions for standard processing by a routing strategy that delivers interactions to agents.
- You could use a second view to select interactions for special processing by a routing strategy that changes interaction priority and then returns the interaction to the same queue.

Warning! If you configure multiple views for the same queue and the view-selection conditions overlap, more that one view could potentially select the same interaction. When configuring views, be sure conditions do not overlap. Also, make sure that conditions process all the interactions in the queue.

Procedure: Adding a View to a Queue Object

Purpose: Views enable you to extract interactions from queues, either all interactions or interactions based on specific selection criteria.

Note: This section describes attaching a view to a queue. The instructions also apply to attaching a view to a workbin.

Start of procedure

The instructions below assume you are continuing from the previous section.

1. Select the queue to which you want to attach the view, either in the object browser or in the workflow viewer.
2. Right-click and select `New View` from the shortcut menu that opens (see Figure 208). You can also select `New View` from the `Business Process` menu.

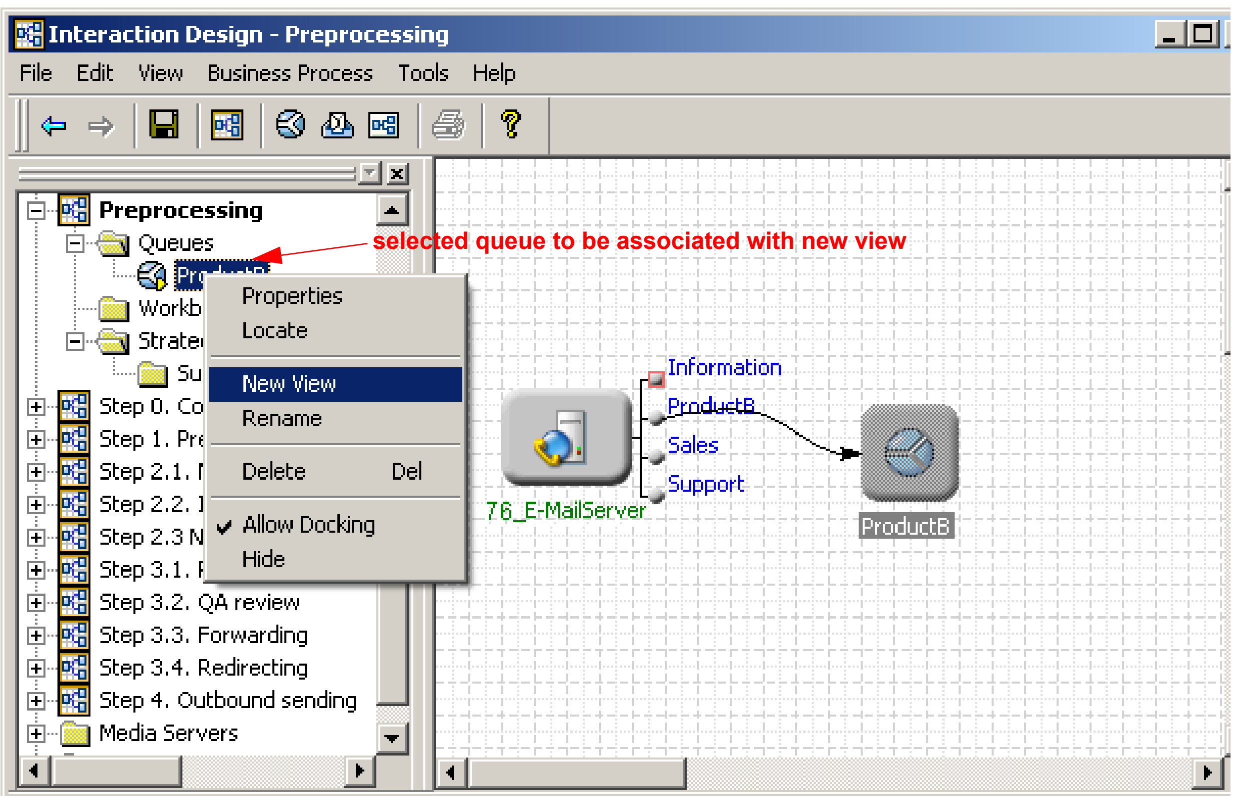


Figure 208: New View From Context Menu

After you select `New View`, the object browser and viewer show a new view with a temporary name (see Figure 209).

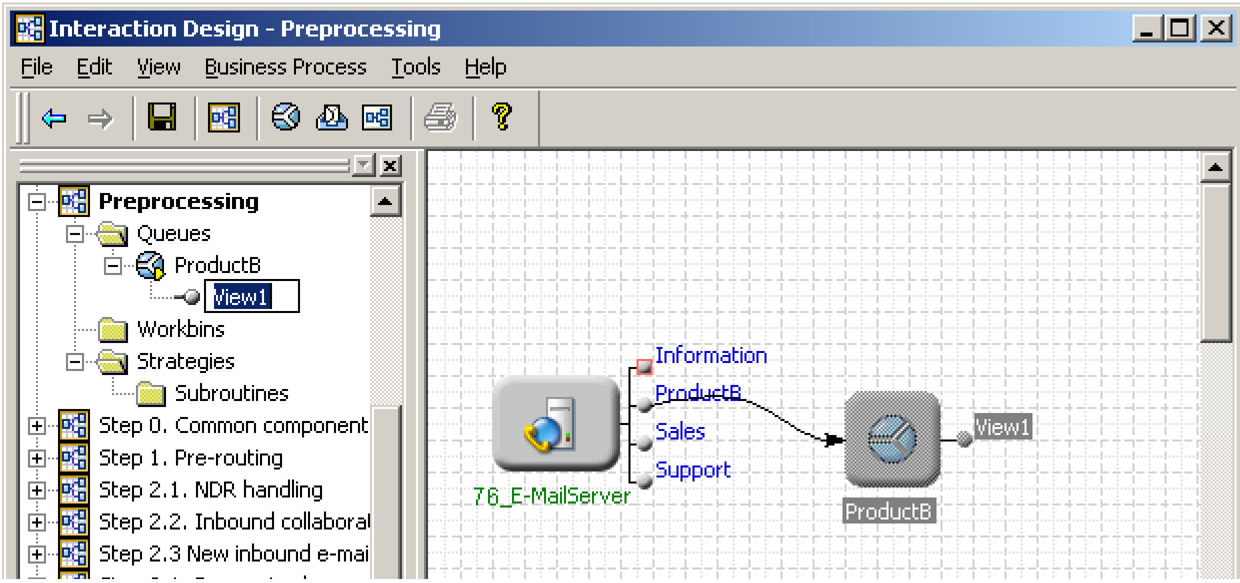


Figure 209: New View With Temporary Name

3. Select (slowly double-click) the temporary name and replace it with the name to be used for the `Script` object.

   Assume you rename it `ProdBView1`

4. Double-click the small circle representing the new view (see Figure 210).

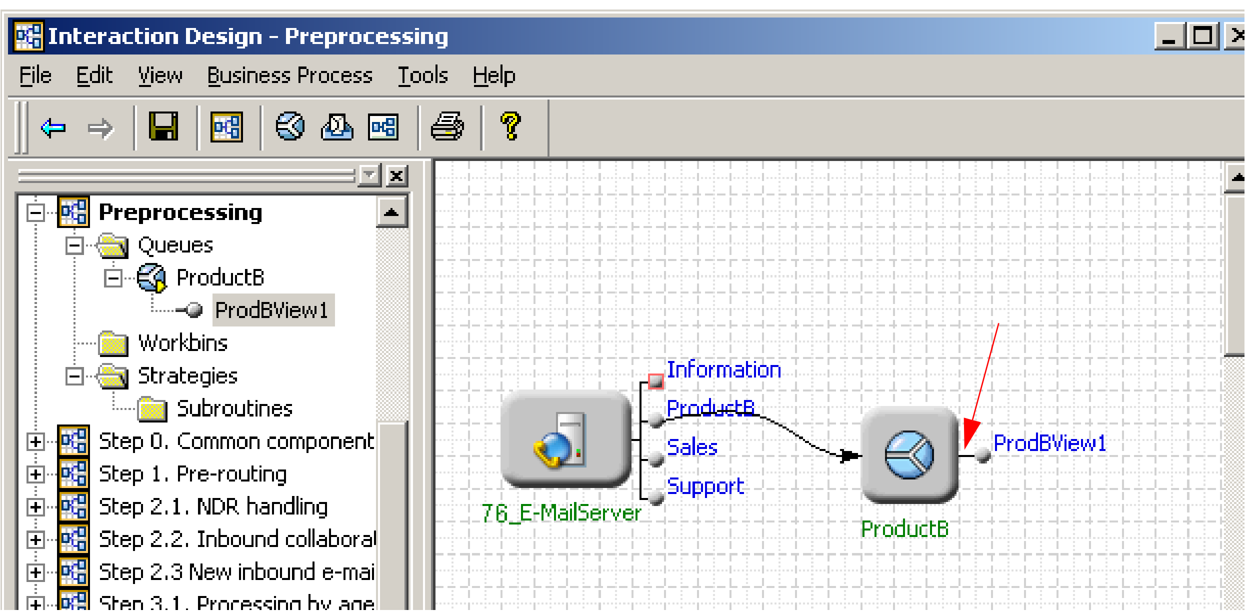


Figure 210: New View Attached to Queue Object

The `View Properties` dialog box opens (see Figure 211).

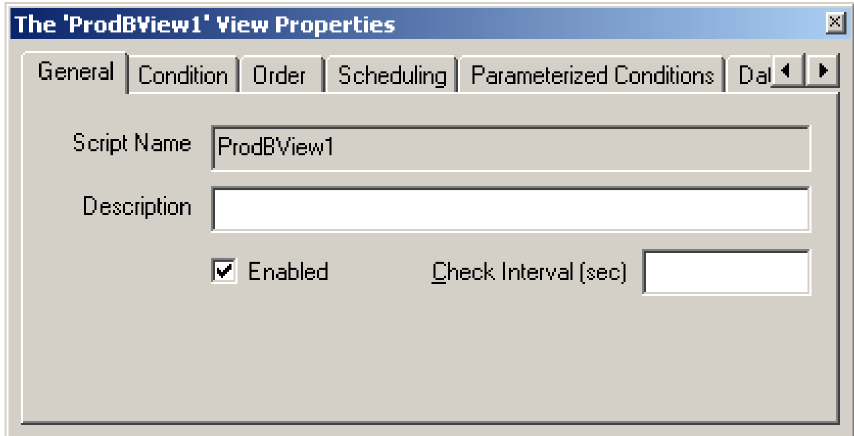


Figure 211: View Properties Dialog Box, General Tab

Note: You can also enable/disable View objects the same as any other object in Configuration Manager.

End of procedure

Next Steps

- Complete the `General` tab (optional step).

General Tab

This section contains procedures for completing each tab in the `View Properties` dialog box.

Procedure: Completing the View object General tab

Purpose: To describe the view and to specify the frequency for checking the queue if the default will not be used.

Start of procedure

1. Click the `General` tab in the `View Properties` dialog box.
2. Use Table 20 to complete the `General` tab of the dialog box shown in Figure 211.

Table 20: View Properties Dialog Box, General Tab

Field	Description
Script Name	Reflects the name entered in the object browser. When you save, the definition will be saved as a Script of type Interaction Queue View in the Configuration Database (see Figure 152 on page 173).
Description	Enter a description for the view.
Enabled	After activating strategies as described on page 343, open the `Queue Properties` dialog box and select the `Enabled` check box to specify the view as ready to extract interactions. The default is checked (enabled).
Check Interval (sec)	Enter the number of seconds to specify the frequency (time interval) that Interaction Server will use to check the queue and, if necessary, adjust the number of interactions that can be submitted to the strategy based on options in the Scheduling tab (Figure 215 on page 263). Acceptable values are 0~300 seconds. You may wish to use this field for high-value interactions or time-sensitive conditions, such as when checking should be performed more frequently. This field creates or updates option freeze-interval for the view. It overrides option default-view-freeze-interval (in the settings section of Interaction Server options) for the view. The freeze-interval defines how long Interaction Server suspends database checking for a view if no interactions were selected. If option freeze-interval is not present for a particular view, the value of default-view-freeze-interval is used. If option default-view-freeze-interval is not specified, Interaction Server uses the default of 300 seconds.

3. When you have finished completing the `General` tab, select `Save` from the `File` menu.

End of procedure

Next Steps

- Complete the `Condition` tab (optional step).

Condition Tab

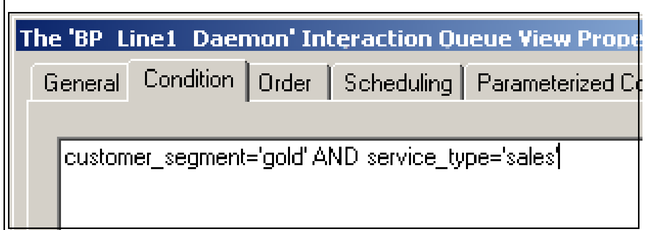
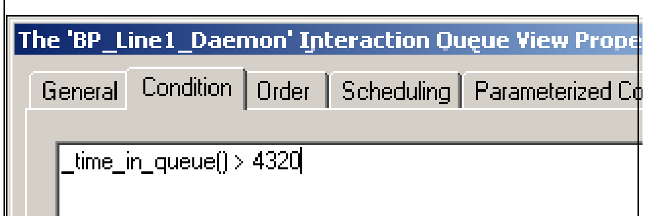
This section describes the tab where you specify the condition for extracting interactions from queues.

Procedure:
Completing the View object Condition tab

Start of procedure

1. Click the `Condition` tab in the `View Properties` dialog box.
2. Use Table 21 to complete the `Condition` tab shown below.

Table 21: View Properties Dialog Box, Condition Tab

Field	Description
Condition	Here you have the option of creating an expression. Figure 212 shows an example from another business process.  **Figure 212: Extracting Based on Customer Segment**
	Another example from another business process:  **Figure 213: Extracting Based on Time in Queue** As an alternative to the `Condition` tab, the `Segmentation` tab (see page 273) uses a more complex approach that involves specifying limits and submitting equal numbers of interactions.

The expression defines the conditions for interaction selection. You can specify one or more expressions, which can be comprised of:

- An interaction attribute name from the `interactions` table. *Multimedia 7.6 User's Guide* lists and describes the interaction attributes that you can use when building an expression.
- A relational operator, such as an equal sign or a greater than sign.
- The attribute value in single quotes.

The expression is used for interaction selection as if you were constructing a SQL SELECT statement and specifying a WHERE clause.

For a comparison of the `Condition` tab with the `Parameterized Condition` tab, see page 270.

3. When you have finished completing the `Condition` tab, select `Save` from the `File` menu.

End of procedure

Next Steps

- Complete the `Order` tab (optional step).

Order Tab

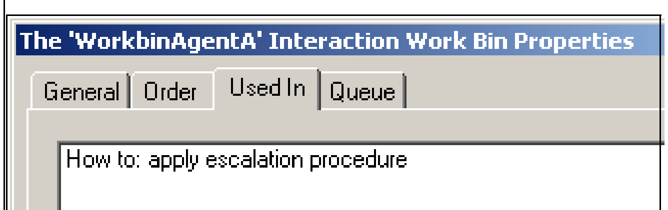
This section describes how to specify the order of interaction selection.

Procedure: Completing the View object Order tab

Start of procedure

1. Click the `Order` tab in the `View Properties` dialog box.
2. Use Table 22 to complete the `Order` tab shown below.

Table 22: View Properties Dialog Box, Order Tab

Field	Description
Order	Here you have the option of defining the order for pulling interactions from the queue when using this view. order:= [property_order[,order]]property_order:= property_name [asc|desc] Example using an attribute found in the `interactions` table.  **Figure 214: Order Tab** For more information interaction attributes that can be used on the Order tab, see the section on System Properties in the chapter on Interaction Properties in the *Multimedia 7.6 User's Guide*.

3. When you have finished completing the Order tab, select Save from the File menu.

End of procedure

Next Steps

- Complete the Scheduling tab (optional step).

Scheduling Tab

This section describes how to schedule submitting interactions to a routing strategy. You may wish to do this for various reasons, such as scheduling of a customer callback or to escalate overdue interactions.

Procedure:
Completing the View object Scheduling tab

Start of procedure

1. Click the Scheduling tab in the View Properties dialog box (see Figure 215).

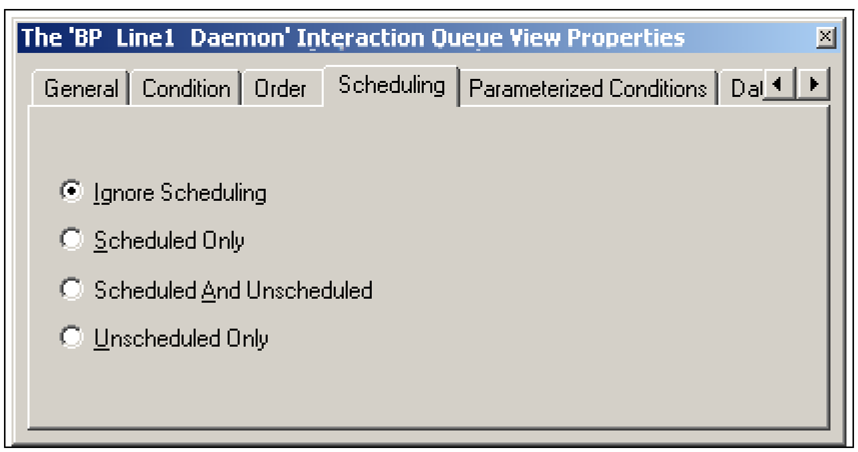


Figure 215: Scheduling Tab

2. Use Table 23 to complete the Scheduling tab.

Table 23: View Properties Dialog Box, Scheduling Tab

Field	Description
Scheduling	The Scheduling tab shown in Figure 215 on page 263 lets you specify the scheduling condition that Interaction Server should use, based upon the scheduled time contained in interactions (see "Setting the ScheduledAt Property" on page 264).Background: The interaction scheduling functionality uses a database field called scheduled_at, which is mapped to an interaction property called ScheduledAt. For information on this field, see the chapter on interaction properties in the *Multimedia 7.6 User's Guide*.
Ignore Scheduling	Default. Select if there is no scheduled processing. Even if the value of ScheduledAt is set for some interactions, Interaction Server ignores it.
Scheduled Only	Select to process only interactions that are scheduled (ScheduledAt is set) as per the value of the scheduled time. If selected, Interaction Server uses the following condition: (_current_time() >= scheduled_at) and the following order: scheduled_at, received_at, id. This condition and the conditons below are stored in the Scripts folder of Configuration Manager, Interaction Queue View object, Annex tab.
Scheduled and Unscheduled	Select to process scheduled interactions at scheduled times (ScheduledAt is set) and after that, process unscheduled interactions. In this case, scheduled interactions are delayed until the scheduled time, and all others are processed immediately afterwards. If selected, Interaction Server uses the following condition: ((scheduled_at is NULL) OR (_current_time() >= scheduled_at)) and the following order: scheduled_at, received_at, id.
Unscheduled Only	Select to process only interactions that are unscheduled ('ScheduledAt' is not set). Interaction Server uses the following condition: (scheduled_at is NULL)

3. When you have finished completing the `Scheduling` tab, select `Save` from the `File` menu.

End of procedure

Next Steps

- Complete the `Parameterized Conditions` tab (optional step) as described on page 270.

Setting the ScheduledAt Property

There are several methods for setting the scheduled time:

1. **Setting scheduled time directly.** You can directly set the value of the `ScheduledAt` property using:

RequestChangeProperties, RequestUpdateUserData, RequestAttachUserData, or RequestDeletePair from URS. For information on these message types, start with the *Multimedia 7.5 Interaction Models Reference Manual*.

Note: This method is more likely to be used by custom applications using the RequestChangeProperties API (Open Media Platform SDK).

2. **Setting processing delay relative to the current time.** You can configure a routing strategy to set the special interaction property ScheduleDelay to the number of seconds to schedule processing at timestamp current time + ScheduleDelay.

   Note: This property is not stored in the database and is not maintained as an interaction property in the Interaction Server protocol. Instead, the ScheduledAt property is calculated as current time + ScheduleDelay and is stored at the time when the interaction is placed in queue (current time is a timestamp of RequestChangeProperty).

   This method is particularly useful to schedule processing of interaction in strategy. Property 'ScheduleDelay' is not visible to reporting (it is not propagated in any reporting events). Instead it appears that property ScheduledAt is changing.

3. **Setting processing delay relative to a fixed timestamp.** Sometimes it is useful to schedule processing delay for a specific timespan relative to a well known timestamp such as ReceivedAt, SubmittedAt, MovedToQueueAt, PlacedInQueueAt, DeliveredAt, SubmittedToRouterAt, or possibly any other timestamp not related to interactions.

   To accomplish this, Interaction Server can interpret another special interaction property, ScheduleBase. In this case, the ScheduledAt timestamp is calculated as ScheduleBase + ScheduleDelay. The ScheduleBase must be in the standard date format of Interaction Server protocol YYYY-MM-DD HH:MM:SS. If the property is not present in the update request (when ScheduleDelay is present), then it is considered as a current time, which leads to the scenario described above in setting processing delay relative to current time.

   This schema of scheduling allows URS (via the strategy) to schedule processing using a calculated delay in seconds and a fixed (existing) timestamp. For example, it is easy to schedule processing for two hours after interaction submission by simultaneously updating ScheduleBase to SubmittedAt and ScheduleDelay to 7,200. Setting ScheduleBase to SubmittedAt does not require any date manipulation in the URS strategy; it is simply a substitution of an existing value.

Sample Strategy to Set the Scheduled Time

IRD's Function object contains several Date and Time functions that you can use when setting the scheduled time: GetUTC, UTCAdd, UTCFromString, and UTCToString. For information on these functions, as well as the Attach and Update functions that you may also use when setting the scheduled time in interactions, see the chapter on functions in the *Universal Routing 7.6 Reference Manual*. Figure 216 shows a sample strategy, which uses these functions.

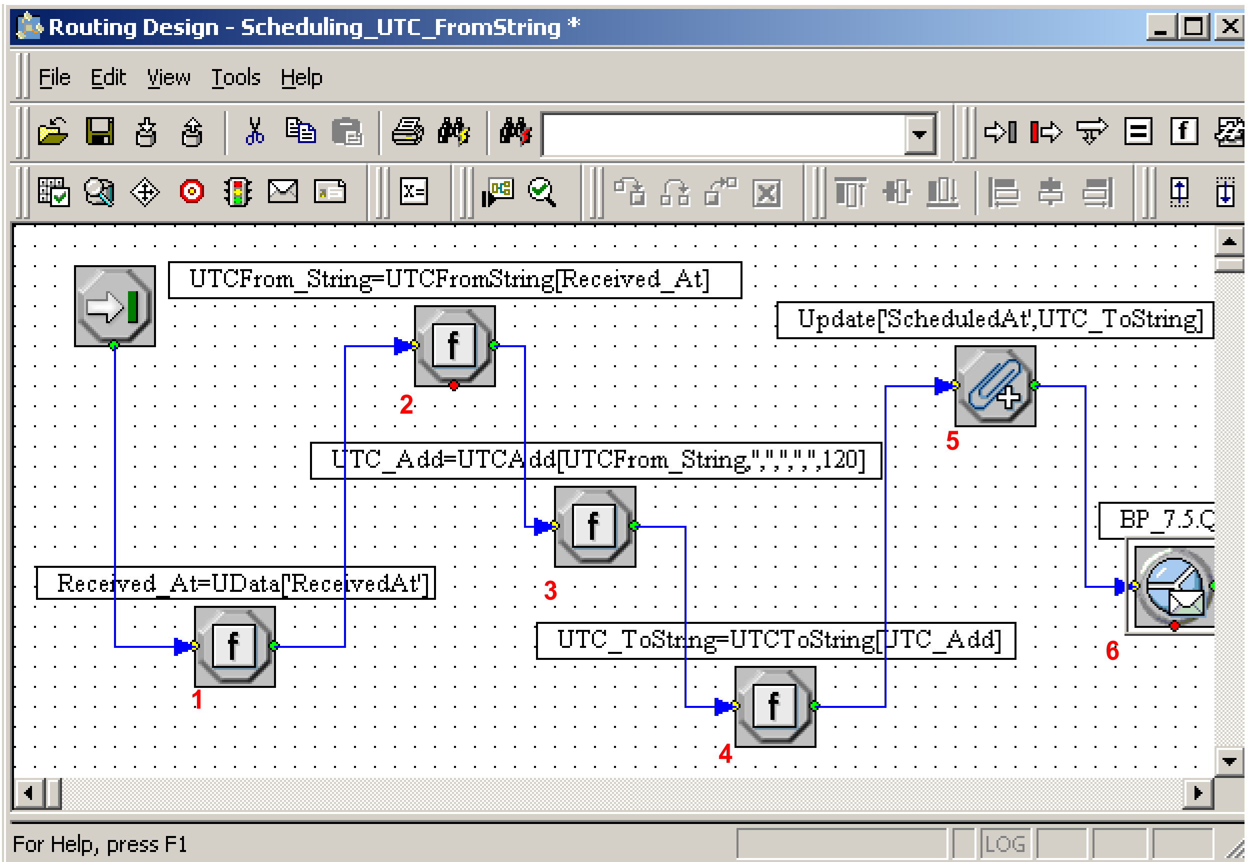


Figure 216: Strategy for Setting Scheduled Time and Placing in Queue

Strategy Flow

1. The UData function specified in object 1 in Figure 216 retrieves the value from the `ReceivedAt` attribute. It points to the time when the interaction was received (see Figure 217).

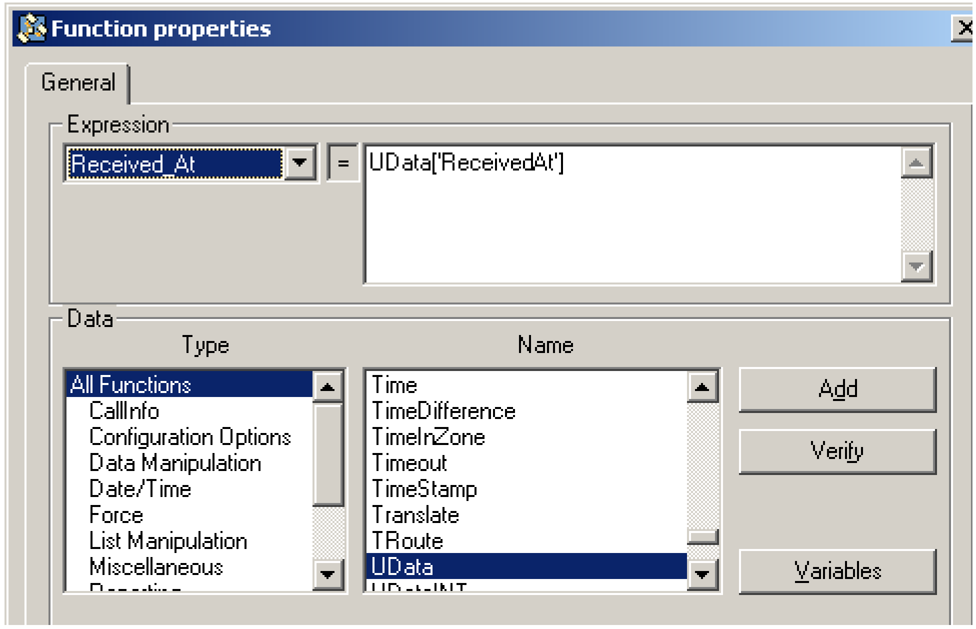


Figure 217: Retrieving Time Interaction Received

2. The UTCFromString function in object 2 in Figure 216 on page 266 takes the time string from the `ReceivedAt` attribute (presented in `YYYY-MM-DDTHH:MM:SSZ` UTC format) and returns it as the number of seconds (see Figure 218).

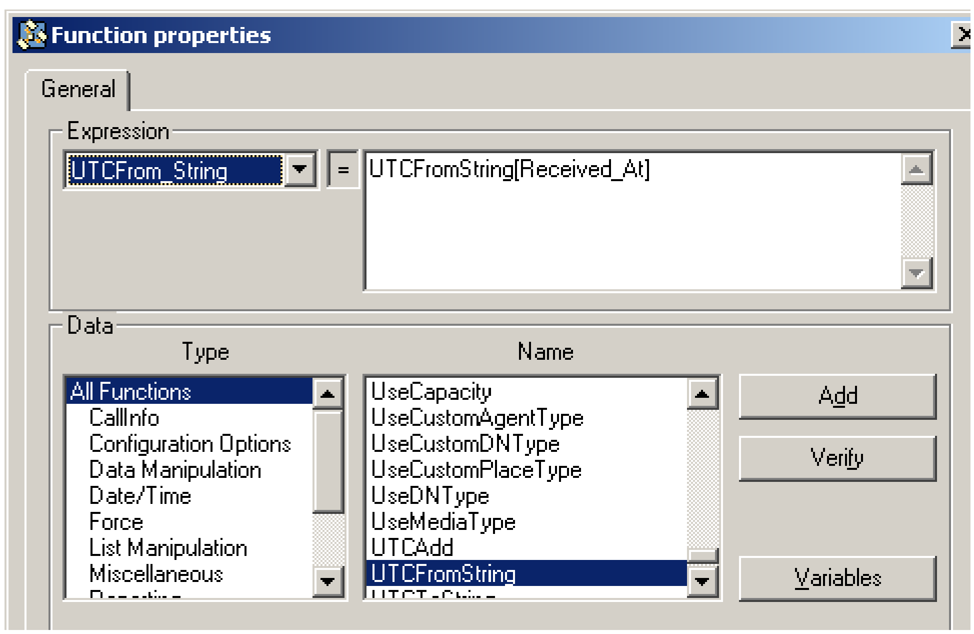


Figure 218: Returning Number of Seconds

3. The UTCAdd function in object 3 increments the time string supplied by the UTCFromString function by 120 seconds (see Figure 219).

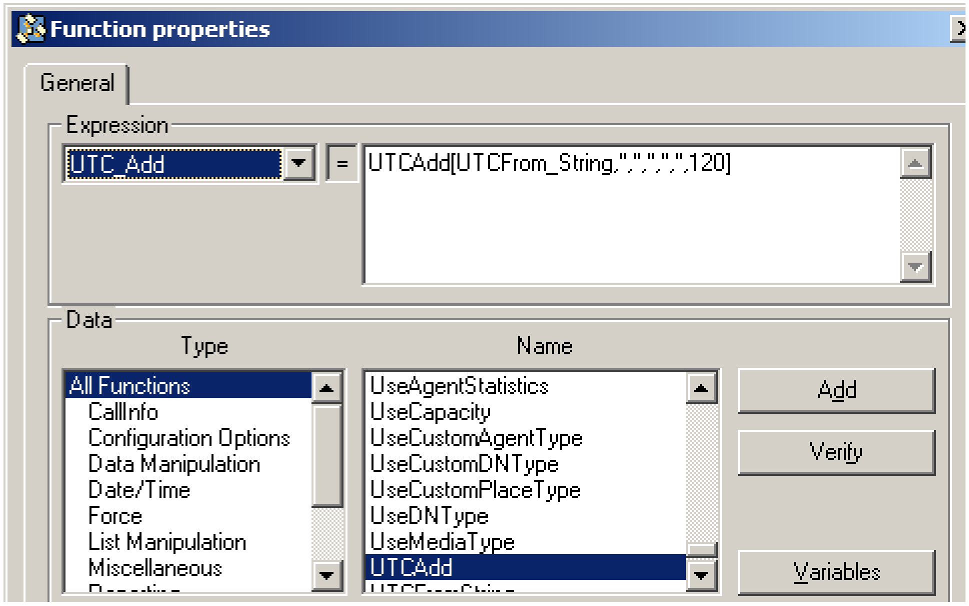


Figure 219: Incrementing Time

4. The UTCToString function in object 4 in Figure 216 on page 266 takes the updated UTC time in seconds (supplied by the UTCFromString function) and converts it back into `YYYY-MM-DDTHH:MM:SSZ` UTC format (see Figure 220).

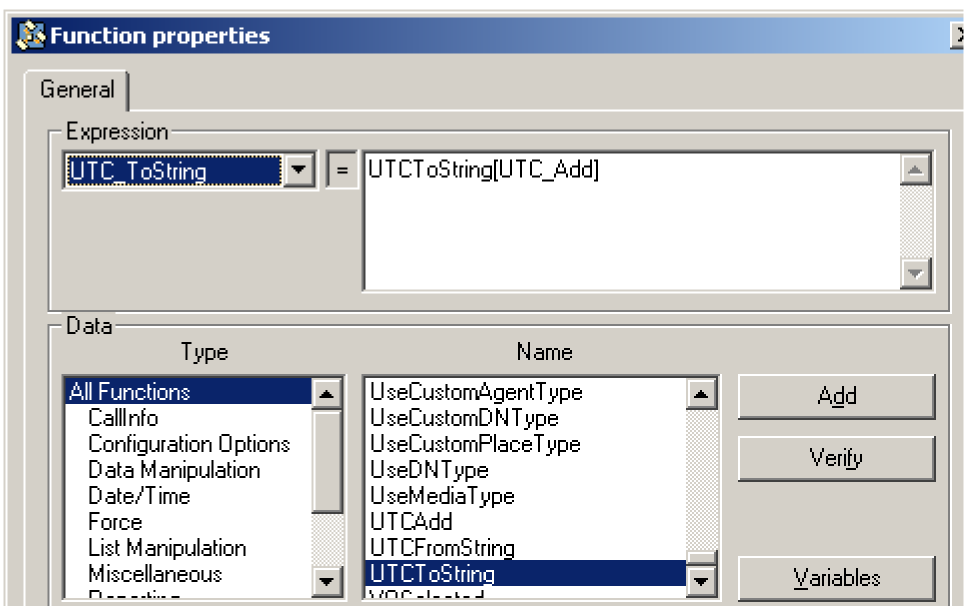


Figure 220: Convert Back to UTC Format

5. In object 5, the time in the `ScheduledAt` attribute in the interaction is updated by the time (in `YYYY-MM-DDTHH:MM:SSZ` format) supplied by the UTCToString function (see Figure 221).

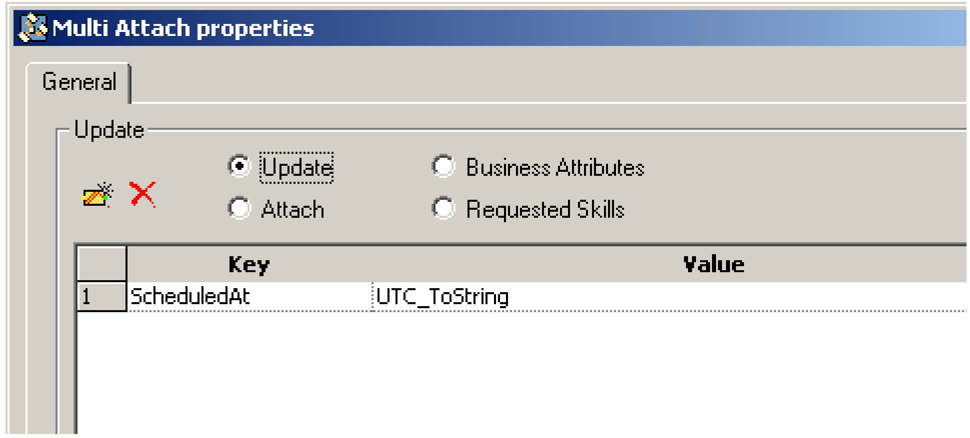


Figure 221: Update ScheduledAt Attribute

6. In object 6, the interaction takes its place in queue. From there (see Figure 222), it will be executed by the time set in the `ScheduledAt` attribute.

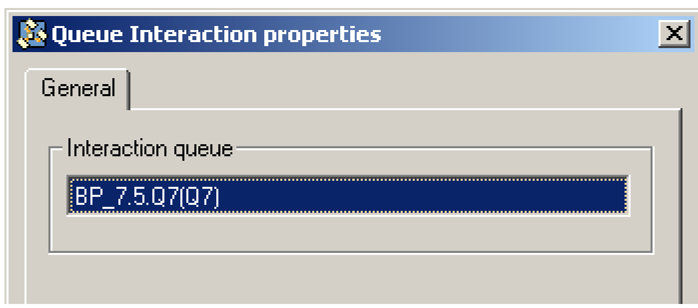


Figure 222: Interaction Placed in Queue

Cancelling Scheduling

To cancel scheduling, you must configure a strategy to delete the property `ScheduledAt` using attribute `attr_deleted prop` of `RequestChangeProperties` or by using `RequestDeletePair`. Setting the value of this property to an empty string will also lead to deletion of this property.

When property `attr_deleted prop` is deleted, the corresponding field (`scheduled_at`) is set to `NULL` and property `ScheduledAt` is no longer present in the interaction data (not visible in Events).

Note: The `Script` file for the View object reflects what you select in the `Scheduling` tab. To preserve database integrity, do not change this field in the `Script` object; use only the `Scheduling tab`.

Parameterized Conditions Tab

The `Parameterized Conditions` tab lists the interaction attributes that can be used in pull requests from clients of Interaction Server (for example, from Agent Desktop). Each pull request can use any listed attribute, a combination of listed attributes, or none. If an attribute is not listed on this tab, then client applications cannot use it. For details on pull requests, see the "RequestPull" section in the chapter on Interaction Management Protocol in the *Multimedia 7.5 Open Media Interaction Models Reference Manual*.

For example, if the `Parameterized Conditions` tab lists the `from_address` attribute, then a pull request from a client can include a condition such as `from_address=joe_customer@myisp.com`. This would retrieve all interactions from a particular contact.

The `Condition` tab and the `Parameterized Conditions` tab both make use of interaction attributes (see the chapter on Interaction Properties in the *Multimedia 7.6 User's Guide*). The difference between them is:

- The `Condition` tab states a condition that applies to all pull requests.
- The `Parameterized Conditions` tab only lists attributes that can be used as parameters in a pull request, but it is up to the client whether or not to use these attributes.

You can:

- Select the attribute from a drop-down list of interaction attributes. This list includes most of the attributes in the `interactions` table. the exceptions are `abandoned_at`, `destinations`, `moved_to_queue_at`, `scheduled_at`, `server_id`, and `snapshot_place_id`.
- Enter the name of a custom property that you have created in Configuration Manager. Creating custom properties is described in the "Interaction Properties" section of the chapter on Interaction Properties in the *Multimedia 7.6 User's Guide*.

Procedure:
Completing the Parameterized Conditions tab

Start of procedure

1. Click the `Parameterized Conditions` tab in the `View Properties` dialog box. This tab is used by Genesys Supervisor Desktop interface. See *Genesys Desktop 7.6 Supervisor Help* for more information on this interface.
2. There are two ways to add an attribute:
   - Click `Add` and manually type the attribute name in the text box (where Figure 223 shows `NewCondition`).

- Click the down arrow opposite `NewCondition` and double-click an attribute name from the `interactions` table (described in the *Multimedia 7.6 User's Guide*). Figure 223 shows the tab after clicking `Add` and selecting `NewCondition`.

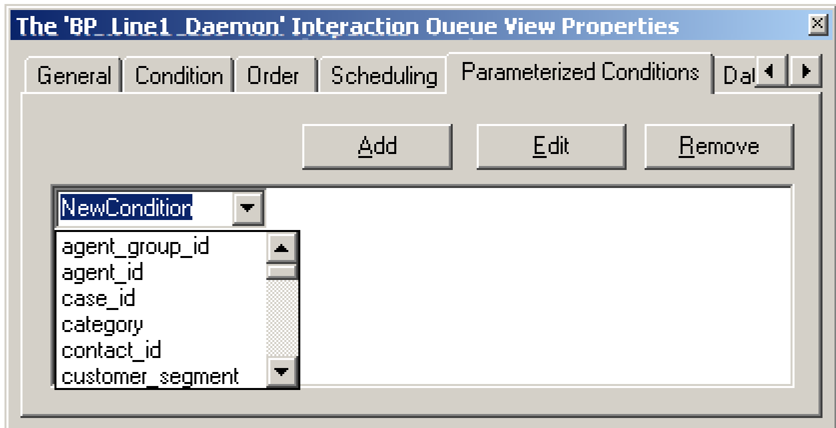


Figure 223: Parameterized Conditions Tab

3. You can add multiple attributes.
4. To change an attribute, select the attribute, click `Edit` and then select the attribute to substitute.
5. To remove an attribute, select it and click `Remove`.
6. When finished completing the `Parameterized Conditions` tab, select `Save` from the `File` menu.

End of procedure

Next Steps

- Complete the `Database Hints` tab (optional step).

Database Hints Tab

The `View Properties` dialog box has `Database Hints` tab, which is applicable to an Oracle database.

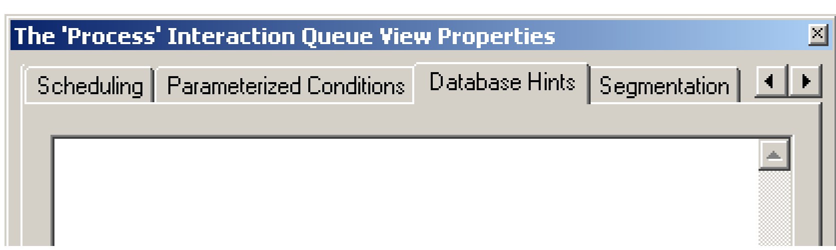


Figure 224: Database Hints Tab

Oracle allows special tags in SQL queries that cause queries to execute in a way that optimizes performance. These tags are called *Hints*. For example, you may wish Oracle to use a certain index to reorder data during query execution. You can apply a Hint, which will cause Oracle to use a specific index. One Hint that Oracle provides is:

`/*+ index (interactions interactions_default_view_idx) */.`

You could enter this Hint in the `Database Hints` tab of the View object.

Procedure: Completing the View object Database Hints tab

Purpose: To accommodate Oracle Database users.

Start of procedure

1. Click the `Database Hints` tab in the dialog box.
2. Use the information given above under Purpose to apply an Oracle Database Hint.
3. Save your entry.

End of procedure

Next Steps

- Complete the `Segmentation` tab (optional step).

Segmentation Tab

Use the `Segmentation` tab on the `View Properties` dialog box to submit an equal number of interactions of different segments and to limit the total number of interactions that can be submitted to a strategy.

Use Case

Assume the following:

- You have a simple business process: a queue, the queue's view, a strategy, and a submitter that submits interactions from the queue to the strategy through the view.
- There are two groups of agents equal in number. One group is trained to handle only customers of the gold `Customer Segment` (see note on page 177) and another group is trained to handle only customers of the bronze `Customer Segment`.

- The strategy directs interactions to the corresponding group of agents based on the value of the `customer_segment` property of an interaction (assume the value could be either `gold` or `bronze`).
- Next, start placing interactions into the queue, five interactions from bronze customers, then four interaction from gold customers, then again five interactions from bronze customers, three from gold, and so on.

If the strategy has a limit (see "Total Limit" on page 275) of five interactions that may be submitted into it, when the limit is reached, the strategy will be full of interactions from bronze customers, but will have no interactions from gold customers. As a result, interactions from gold customers will be waiting back in the queue and free agents, who are able to handle them, will also be waiting. Because the interactions are not yet in the strategy, the strategy is unable to route the interactions.

To avoid such a scenario, you could add the `customer_segment` value to the `Segmentation` tab of the `View Properties` dialog box. After that, Interaction Server will fetch all interactions from the queue, grouping by the `customer_segment` property. It will find two distinct values of the property: `gold` and `bronze`. Interaction Server will then divide strategy limit by two (the number of distinct values) and limit the submission of each group of interactions to the strategy by the calculated value. As a result, Interaction Server submits an equal number of interactions from each group.

Procedure: Completing the View object Segmentation tab

Start of procedure

1. Click the `Segmentation` tab in the `View Properties` dialog box (see Figure 225).

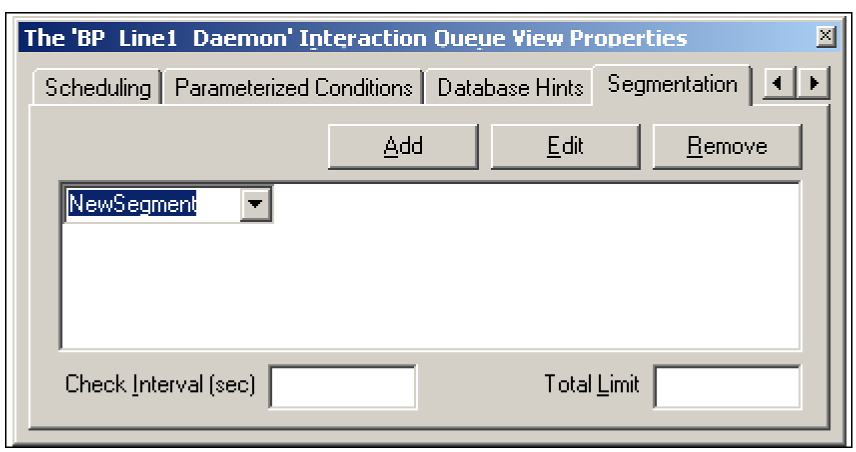


Figure 225: Segmentation Tab

2. Use Table 24 to complete the `Segmentation` tab (optional step).

Table 24: View Properties Dialog Box, Segmentation Tab

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td>Segmentation</td><td>For background information on this tab, see “Use Case” on page 272.</td></tr>
<tr><td>Add</td><td>Figure 225 on page 273 shows the Segmentation tab after clicking Add. There are two ways to add an attribute in this dialog box:

Click <code>Add</code> and manually type the attribute name in the text box (where Figure 223 shows <code>NewSegment</code>).
Click the down arrow opposite <code>NewSegment</code> and double-click an attribute name from the <code>interactions</code> table (described in the Multimedia 7.6 User’s Guide).
</td></tr>
<tr><td></td><td>Figure 226 shows the Segmentation tab after adding several segments and clicking Add.

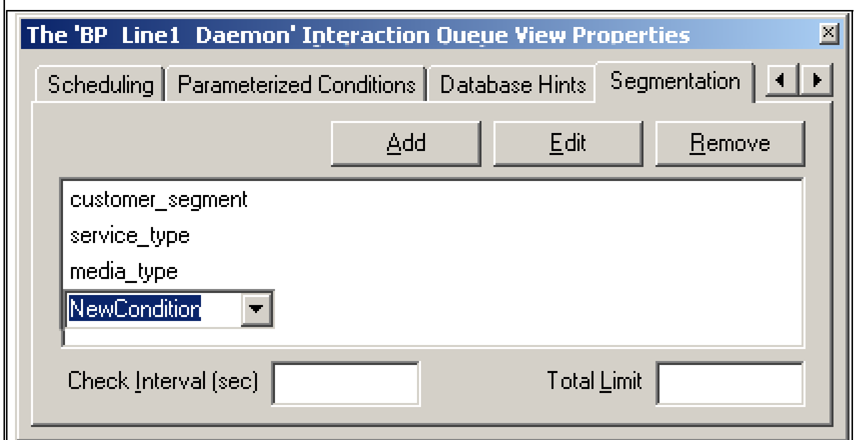


Figure 226: Segmentation Tab After Specifying Segments

Option <code>segment-by</code> (see Figure 227) reflects the added segments.

If the routing strategy connected to the view uses the Generic Segmentation object (see “Segmenting Interactions” on page 310), the segments you specify in the <code>Scheduling</code> tab should match those segments.</td></tr>
<tr><td>Edit</td><td>To change an attribute, select the attribute, click <code>Edit.</code> You can then manually type the name of another attribute or select the segment to edit from the dropdown menu.</td></tr>
<tr><td>Remove</td><td>To remove an attribute, select it and click <code>Remove</code>.</td></tr>
</table>

Table 24: View Properties Dialog Box, Segmentation Tab (Continued)

Field	Description
Check Interval (sec)	Enter the number of seconds that Interaction Server should use for checking the queue connected to this view. This interval controls how often Interaction Server checks the main queue and adjusts the number of interactions that will be submitted to the strategy according to the Total Limit field. Option `segment-check-interval` (see Figure 227) reflects the number of seconds.
Total Limit	Enter the total number of interactions that can be submitted to the strategy connected to the View object. This option allows you to override the maximum number of interactions that can be submitted to the strategy according to the specified segments. Option `segment-total-limit` (see Figure 227) reflects Total Limit.

Notes: If segments are not configured but `Total Limit` is configured, then Interaction Server calculates a dynamic value. It divides `Total Limit` by the number of *actual types present* in the main queue and uses the result to limit the number of each interaction type in the cache queue.

When some segments are specified, Interaction Server adheres to `Total Limit`. If/when there is room for more interactions to be submitted to the strategy after submitting the specified segments, Interaction Server divides the remaining types up equally.

Setting Numerical Limits for Segments

In some cases, instead of having Interaction Server submit equal numbers of specified interaction segments to a strategy as just described, you may wish to set numerical limits for those segments and save that configuration information for reuse with another queue. You can do this in Configuration Manager via the `segment-limits` section in an `Interaction Queue View` object in the `Scripts folder` (see Figure 152 on page 173). As described below, to specify limits for specific segments, you use a combination of values for segmentation attributes separated by a semi-colon.

Assume that you wish to configure limits for attributes entered in the `Segmentation` tab of the `View Properties` dialog box (see Figure 226 on page 274). After entering the attributes shown in Figure 226, assume the `View` section in the `Annex` tab of the corresponding `Interaction Queue View Script` object appears as shown in Figure 227:

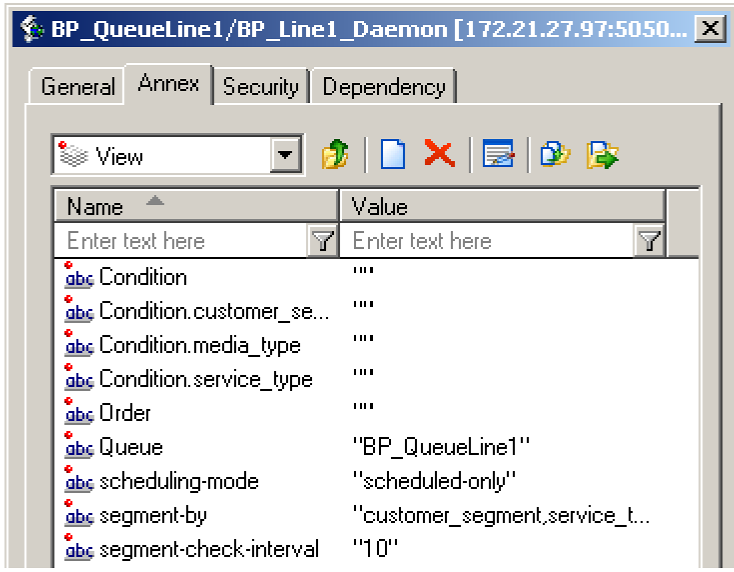


Figure 227: Intearction Queue View Script Object

Warning! To ensure database integrity, you must only define the options shown in Figure 227 in IRD's `Interaction Design` window; do not define them in Configuration Manager. The only exception is the `segment-limits` option described below.

The procedure below describes how to specify limits for different interaction segments, such as `work item` interactions for different types of services for customers of the Gold, Silver, and Bronze revenue potential.

Procedure: Limiting Submission of Segments using Configuration Manager

Start of procedure

1. Open Configuration Manager (see page 231) and go to to the `Scripts` folder for the `Tenant`.
2. Select the `Interaction Queue View Script` object that you wish to configure with segment limits.
3. Click the `Annex` tab.
4. Double-click the `View` section so it appears under the `Annex` tab (see Figure 228).

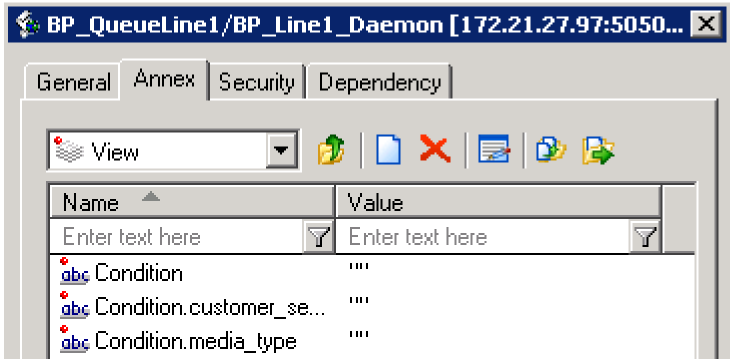


Figure 228: View Section in Annex of View Object Properties Dialog Box

5. Click the button to create a `New Section/Option`.
6. In the resulting `Add Section` dialog box, enter `segment-limits` as the `Option Name`. In the `Option Value` field, enter the name of another `Script` object (to be created) that contains the segment limits configuration. Genesys suggests creating a `Script` object of type `Data Collection` for this purpose as described ahead. Figure 229 shows an example completed dialog box.

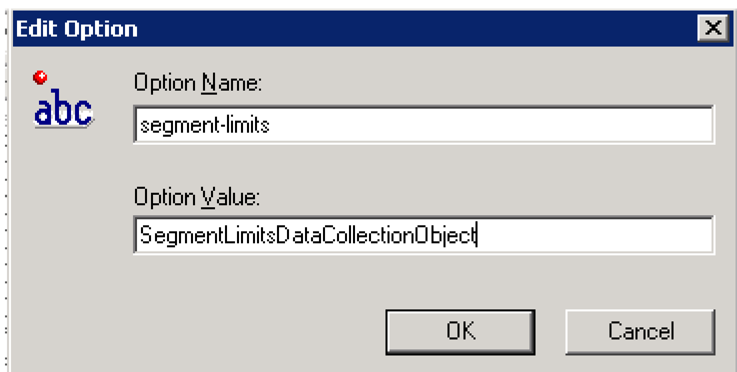


Figure 229: View Object Edit Option Dialog Box for segment-limits

7. Click OK in the `Edit Option` dialog box. The option is added to the `View` section (see Figure 230).

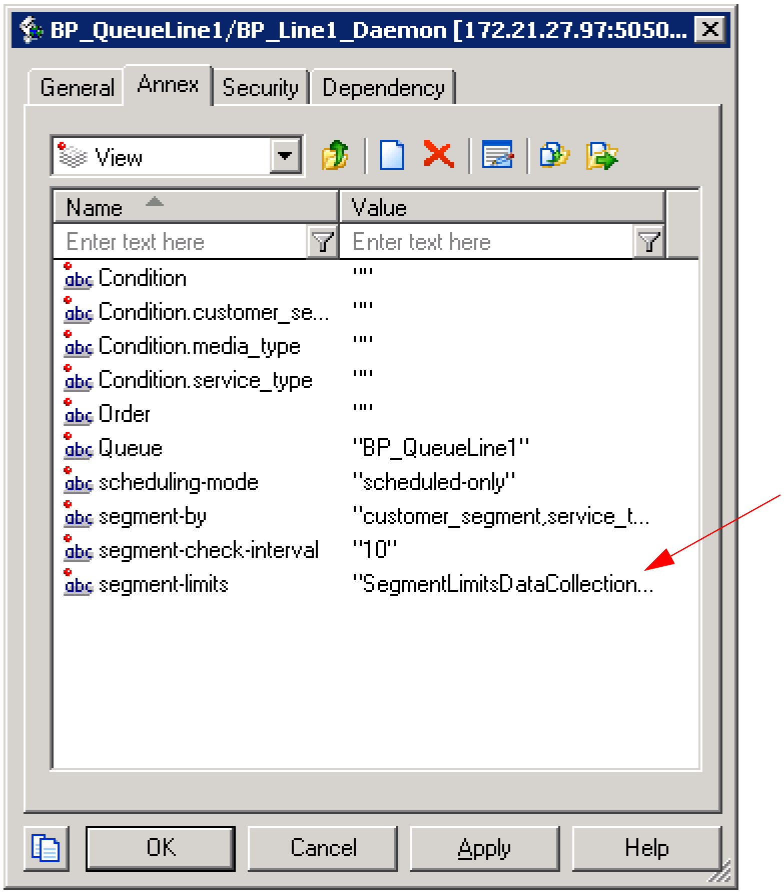


Figure 230: View Object, View Section, segment-limits

8. Still in the Configuration Manager `Scripts` folder, create a new `Script` object of type `Data Collection`. Continuing with this example, assume you name it `SegmentLimitsDataCollectionObject`, the same as the `Option Value` shown in Figure 229.
9. Click the `Annex` tab. There will be no existing sections.
10. Click the button to create a `New Section/Option`.
11. In the `Add Section` dialog box, enter `segment-limits` as the section name and click `OK`.
12. Double-click `segment-limits` so it appears in the dropdown under the `Annex` tab.
13. Click the button to create a `New Section/Option`. The `Edit Option` dialog box opens.
14. In the `Option Name` field, enter one or more interaction attributes separated by semi-colons. Figure 231 shows an example.

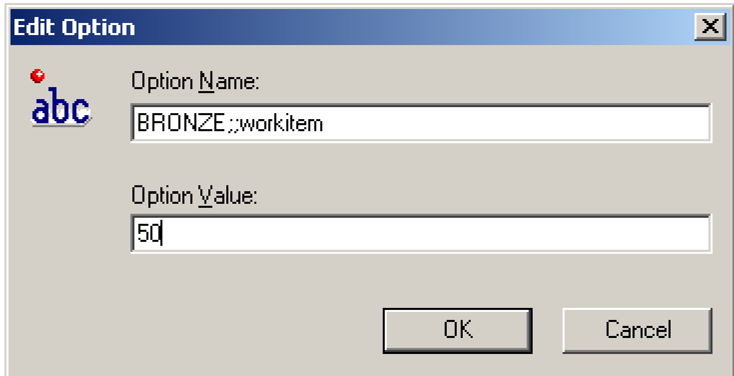


Figure 231: Sample Entry in Edit Option Dialog Box

Note: In the above example, there are two semicolons. The second semicolon indicates an unspecified attribute (see Figure 232).

15. In the `Option Value` field, enter a number to specify a limit for this interaction type and click `OK`.
16. Repeat steps 13~15 for the next type of interaction that you wish to limit.
17. Click `OK`.

End of procedure

Figure 232 shows the example `Data Collection Script` object for `segment-limits`.

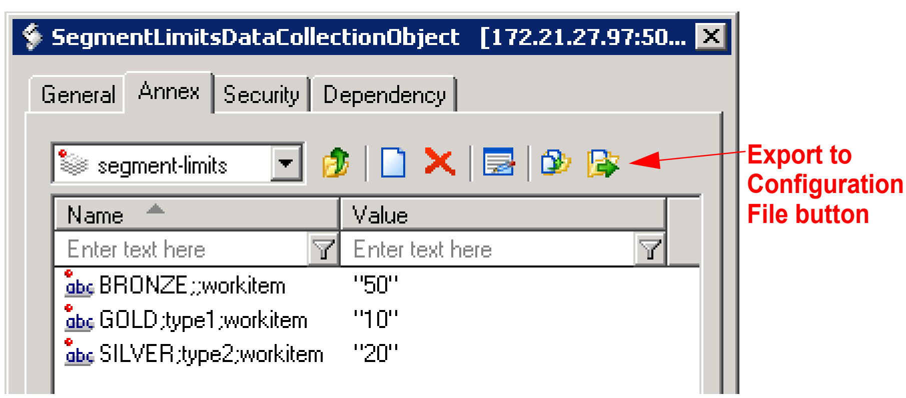


Figure 232: Example Entries for segment-limit option

In this example, the `Script` object sets limits for submitting three types of interactions to a strategy:

- For segment `customer_segment=GOLD`, `service_type=type1`, `media_type=workitem` (see Figure 157 on page 178), the limit is set to `10`.
- For segment `customer_segment=SILVER`, `service_type=type2`, `media_type=workitem`, the limits is set to `20`.

- The first segment sets a limit of 50 for interactions (`workitems`) of `BRONZE` customers for which `service_type` is not set.

Re-Using a Configuration

To re-use a `segment-limits` configuration for use with another queue, click the `Export to Configuration File` button in the `Interaction Queue View Script` object (see Figure 232). This opens a `Save As` dialog box where you can save the information information to a file. You can then import the file for a different `Interaction Queue View Script` object by opening that object, clicking the `Import from Configuration File` button, and selecting the export file.To import only the `segment-limits` configuration, click `No` when the dialog asks whether you wish to overwrite existing data.

View Configuration Caveats

- Do not use attached data for interaction attributes and values.
- Define conditions that process all e-mails in the queue. Any interactions not pulled by a view, remain in the queue.
- Expressions vary between underlying databases, but you can use generic expressions that provide a single interface independent of the underlying database (Oracle, MS SQL, DB2). They are called *Translations*. Figure 213 on page 261 shows the `_time_in_queue` translation used in the `Condition` tab.

> **Note:** See the chapter on interaction properties in the *Multimedia 7.6 User's Guide* for information on translation functions.

- Logic that appears under the `Condition` tab is incorporated into the `where` clause of a SQL `select` statement and, therefore, has a direct impact on Interaction Server's performance. In some cases, you may need to create additional indexes in the underlying database to improve performance.
- The order of the view is incorporated in the `order` clause of the same SQL select statement, and also may impact performance. The default order (by `date_received` and `id`) and condition (filter by `queue` and `state`) both use an index on the following fields: `queue`, `state`, `date_received`, and `id`.

Adding Workbins

For background information on Workbin objects, see page 33. In order for workbins to be selectable in the IRD Workbin object, they must first be defined as described in this section.

Procedure:
Adding a Workbin Object to a Business Process

Purpose: To hold interactions for later processing by a particular agent (or Agent Group, Place, Place Group).

Start of procedure

1. Right-click the `Workbins` folder in the object browser to bring up a menu and select `New Workbin` (see Figure 233). Alternative methods:
   - Select `New Workbin` from the `Business Process` menu.
   - Right-click in the workflow viewer and select `New > Workbin`.

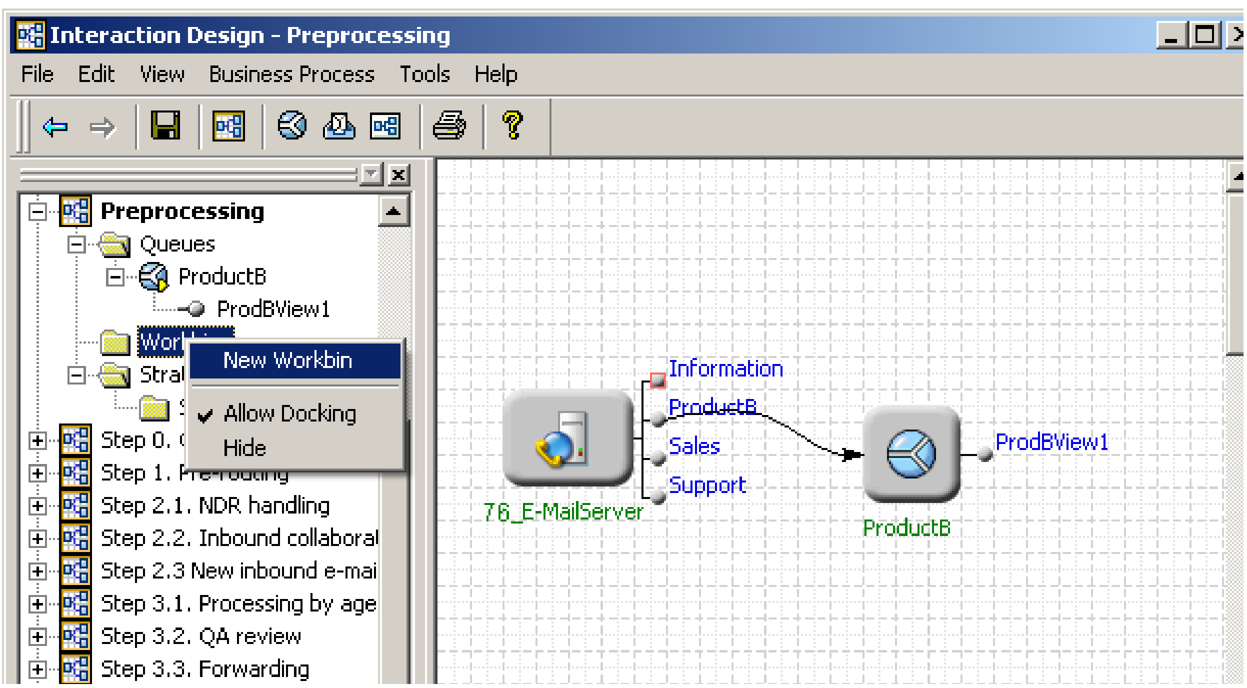


Figure 233: New Workbin Menu Item

The object browser shows a new Workbin object with a temporary name (see Figure 234).

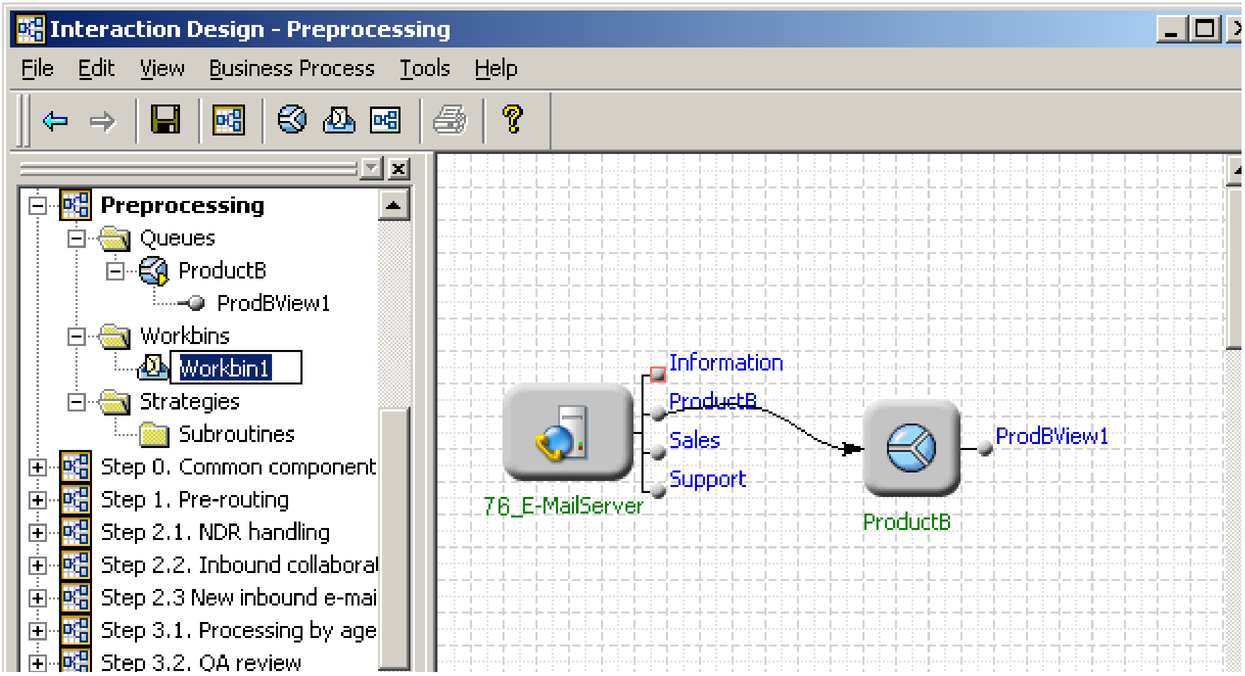


Figure 234: New Workbin With Temporary Name

2. Select (slowly double-click) the temporary name and replace it, supplying your own name. Assume you name it `WorkbinAgentA`. The browser now appears as shown in Figure 235.

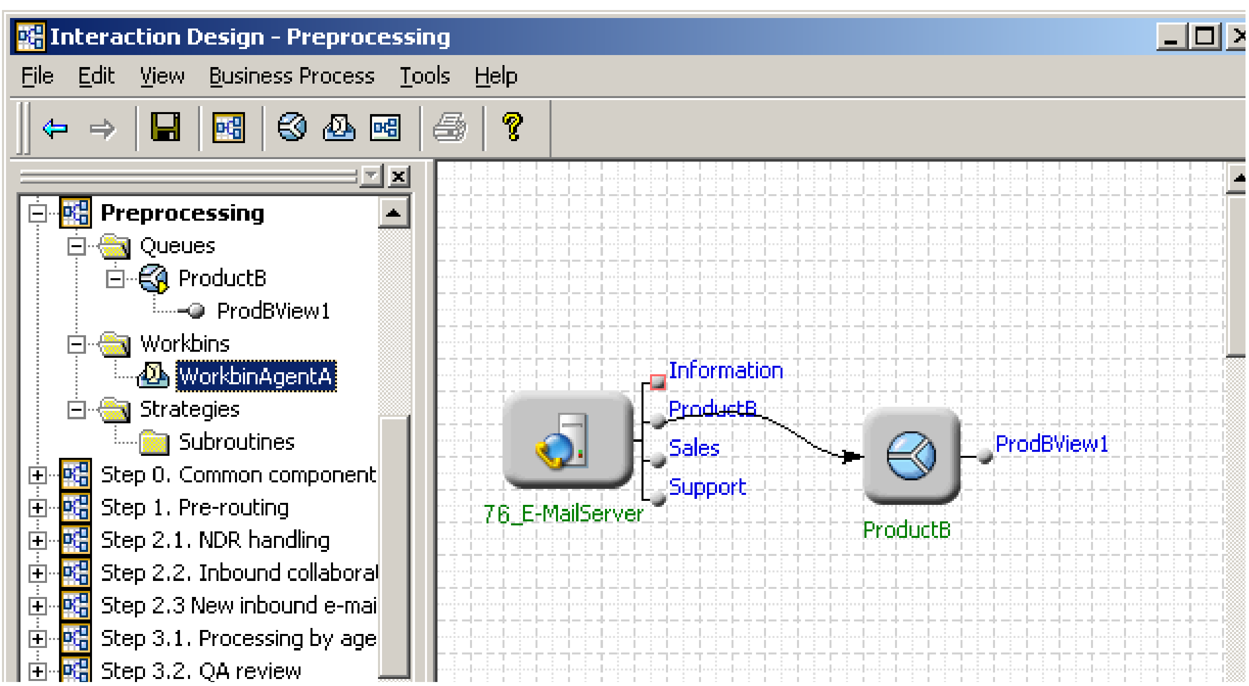


Figure 235: New Workbin Renamed

3. Drag the Workbin object into the workflow viewer now or after the next step.
4. Right-click the Workbin object and select `Properties` from the menu. The `Workbin Properties` dialog box opens (see Figure 236).

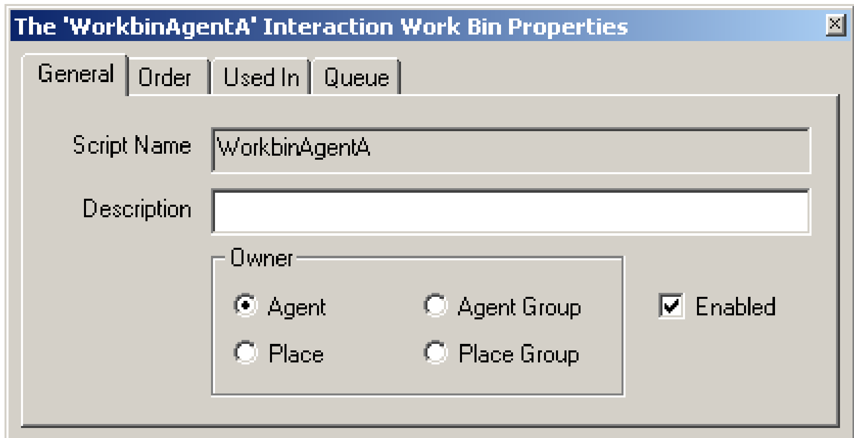


Figure 236: Workbin Properties Dialog Box

5. Use the information in Table 25 to complete the `Workbin Properties` dialog box:

Table 25: Workbin Properties Dialog Box

Field	Description
Script Name	In Figure 236, Script Name reflects the name entered in the object browser. The queue definition will be saved as a Script of type Workbin in the Configuration Database (see Figure 152 on page 173).
Description	Describe the purpose of the Workbin object.
Owner Agent Agent Group Place Place Group	Indicates whether the Workbin is associated with an agent (Person), Agent Group, Place, or Place Group. If you change the type of workbin Owner in the Workbin object properties dialog box in the `Interaction Design` window, you will also need to change it in the `Routing Design` window in the strategy containing the Workbin routing object. Otherwise, no message will be generated in the IRD Details tab or in the Log tab of the Interaction Design window. This is because Check Integrity (see page 336) was not designed to distinguish the wrong types of existing objects as in the case of selecting the wrong type of Owner in the General tab of the IRD Workbin properties dialog box.

Table 25: Workbin Properties Dialog Box (Continued)

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td>Enabled</td><td>

After activating the strategy as described on page 343, open the Workbin Properties dialog box and select the Enabled check box to specify the workbin state as ready to accept interactions. The default is checked (enabled).

- You can also enable/disable Queue objects the same as any other object in Configuration Manager.

</td></tr>
<tr><td>Order</td><td>

In the Order tab, you have the option of defining the order for pulling interactions from the Workbin (see Figure 237).

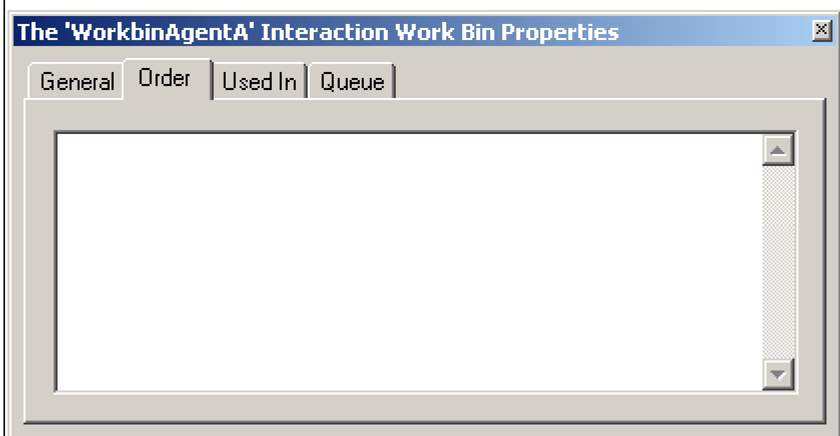


Figure 237: Order Tab

See Figure 214 on page 262 for an example view entry.

</td></tr>
<tr><td>Used In</td><td>

If this workbin is eventually used by other business processes, the Used In tab will list the names of those business processes. Figure 238 shows an example.

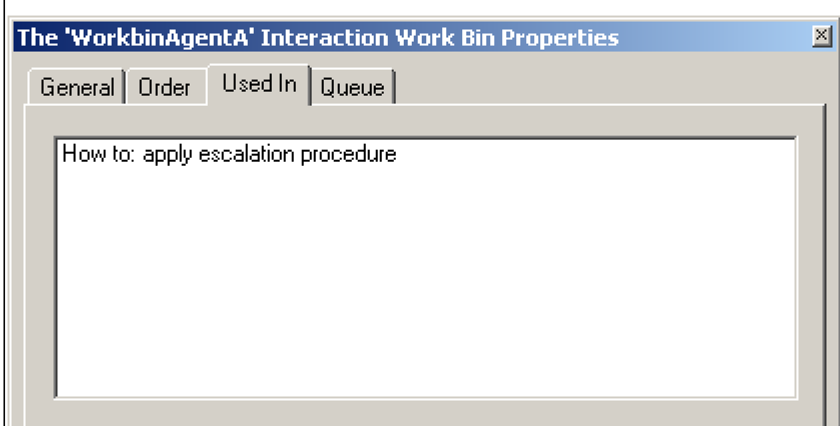


Figure 238: Used In Tab

</td></tr>
</table>

Table 25: Workbin Properties Dialog Box (Continued)

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td>Queue</td><td>Use the Queue tab (see Figure 239) to associate the workbin with a base queue or when associating multiple workbins with the same queue as described in “Configuring an Escalation Workflow” on page 286.

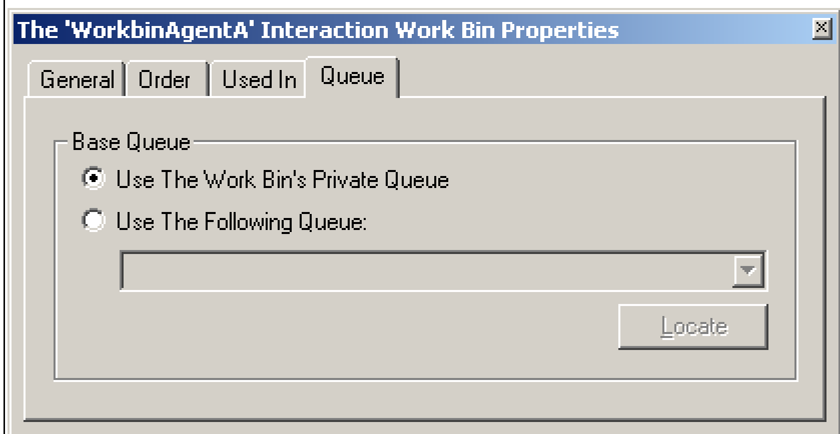


Figure 239: Queue Tab

You have two queue association options:

- Use The Work Bin’s Private Queue
- Use The Following Queue (enabled when at least one queue exists in the business process)</td></tr>
<tr><td>Use The Work Bin’s Private Queue</td><td>When this option is selected, IRD will:

- Create (if no such queue already exists) a private queue.
- Link the workbin to it.
- Hide the private queue from view (you cannot view it in the workflow).

When this option is selected, the next option is disabled.</td></tr>
<tr><td>Use The Following Queue</td><td>When this option is selected, the dropdown menu allow you to choose an existing queue. If the workbin was previously linked to a private queue, upon saving the business process, IRD will delete the private queue from the Configuration Database. Later, when you click Locate, IRD highlights the queue within the workflow.

The dropdown menu lists the names of queues that belong to the same business process where the workbin resides. However, if you then move the queue to another business process, IRD shows this queue in the form of `<business process>::<queue name>`.</td></tr>
</table>

6. Select `Save` from the `File` menu.

End of procedure

Later, when creating routing strategies, any workbins you define in the `Interaction Design` window will be selectable in the properties dialog box for the Workbin object in the `Routing Design` window (see Figure 240).

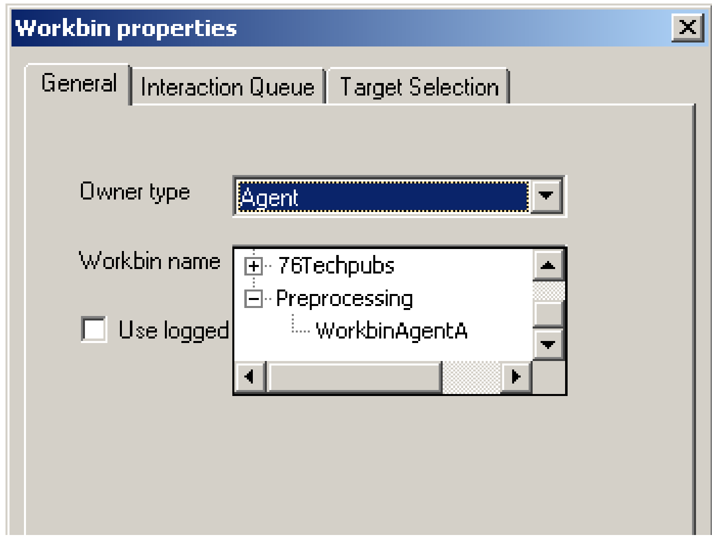


Figure 240: Workbin Properties Dialog Box

- For information on attaching a view to a workbin, refer back to “Adding a View” on page 255.
- For an example of a workbin with an attached view, see “How To: Apply Escalation Procedure” on page 385.
- For information on connector lines, see page 293.

Configuring an Escalation Workflow

Assume you have a single workbin and want to submit interactions from the workbin that are over three days old for special processing (escalation). For a single workbin, you could:

- Define a View object for the workbin (see page 255).
- In the `Condition` tab of the `View Properties` dialog box, define the following condition to specif the number of seconds in three days:
- `age() > 259200`
- Draw a Submitter from the view to the escalation strategy.

Now assume you have *five different workbins* and want to do the same special processing. You could configure five additional View objects with the same condition and draw five additional Submitters. This “long way” would not only repeats steps, but also would make the workflow picture more complex.

A more efficient way is to lay all the workbins on the same queue and then use the queue in the workflow. This works because a workbin can be associated with a queue in the `Queue` tab of the Workbin object as shown in Figure 239 on

page 285. Although the queue may be hidden in the workflow picture, it does exist. The steps to implement this shortcut are listed below.

Procedure: Configuring an Escalation Workflow

Start of procedure

1. Define the five Workbin objects as described on page 281.
2. Set the same queue for all the workbins with the `Use the Following Queue` option described on page 285. The queue will appear in the object browser.
3. Place the Queue object in the workflow.
4. Define a single View object for the queue with the specified escalation condition.
5. Draw a single Submitter line from the view to an escalation strategy. That's it!

End of procedure

Strategy Placeholder Option

So far you have created a Queue, View, and Workbin objects. Once interactions are extracted using a view, you submit them to a routing strategy.

The `Independent Objects` folder (see Figure 36 on page 63) holds existing routing strategies that are unconnected to a business process. If the routing strategies already exist, you can simply drag and drop them into `Strategies` folder for the business process.

Note: Once a routing strategy has been used in a business process, you can find it under that business process and re-use it if necessary.

If the required routing strategies do not exist yet, you have two options:

1. Create a strategy placeholder and postpone the actual routing strategy configuration (which can be more time-consuming than creating queues and views) to a later time. If this option is used, you could continue creating the remaining queues and views required by the business process.
2. The second option is to immediately create the routing strategy as described in "Creating Strategies" on page 305.

The instructions below explain how to create a strategy placeholder in a business process. See page 305 if you wish to create the routing strategy at this time.

Note: You must use the Routing Design window to create subroutines; you cannot create them in the Interaction Design window.

Procedure: Creating Strategy Placeholders

Purpose: To create an empty Strategy Script object as a placeholder in a business process, which can be configured later.

Start of procedure

1. With the applicable business process open and selected (see "Switching to Another Business Process" on page 245), click the Business Process menu and select New Strategy. The New dialog box opens in the Routing Design window (see Figure 241 on page 288).

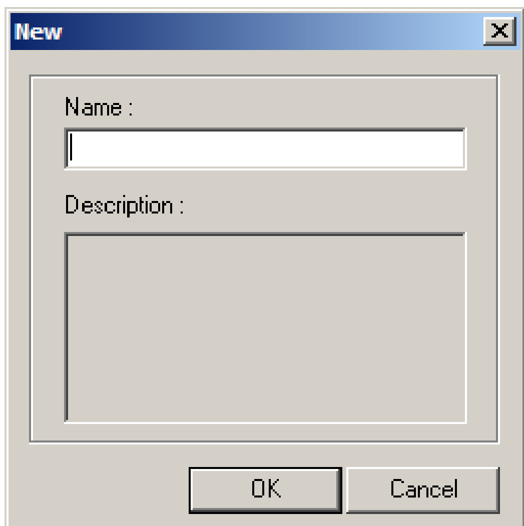


Figure 241: Dialog Box For Creating New Strategy

2. Name and describe the strategy and click OK. The Routing Design window opens with the name of the strategy in the title bar (see Figure 242).

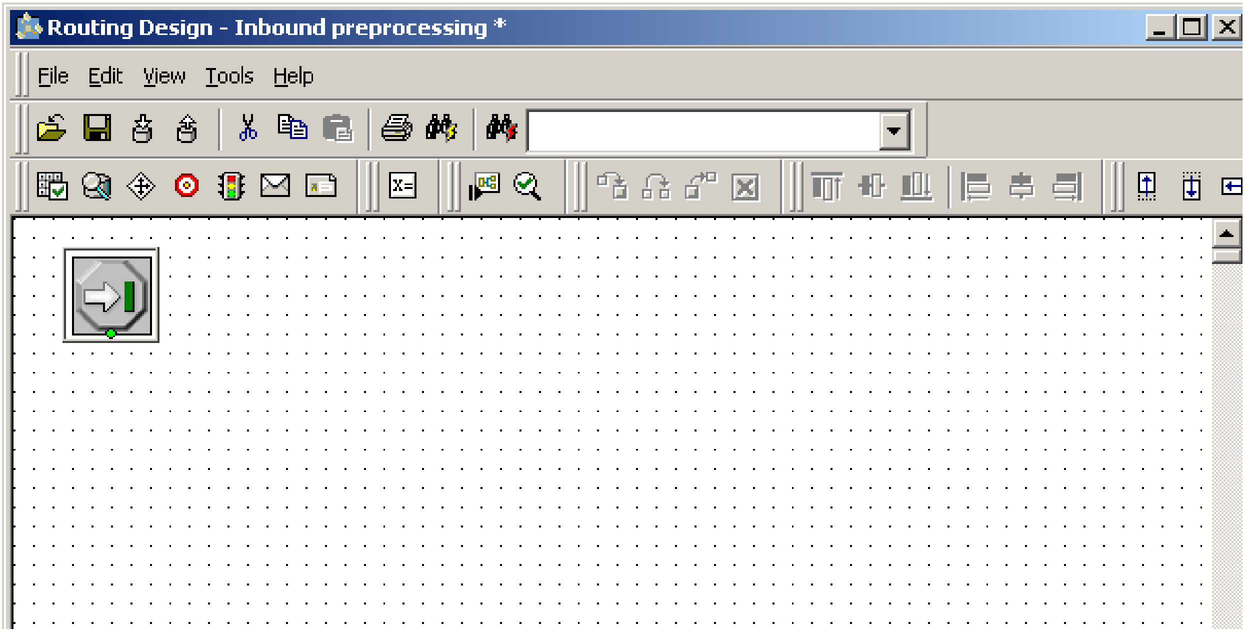


Figure 242: Routing Design Window

3. Click the `File` menu and select `Save`. The `Save` dialog box opens (see Figure 243 on page 289).

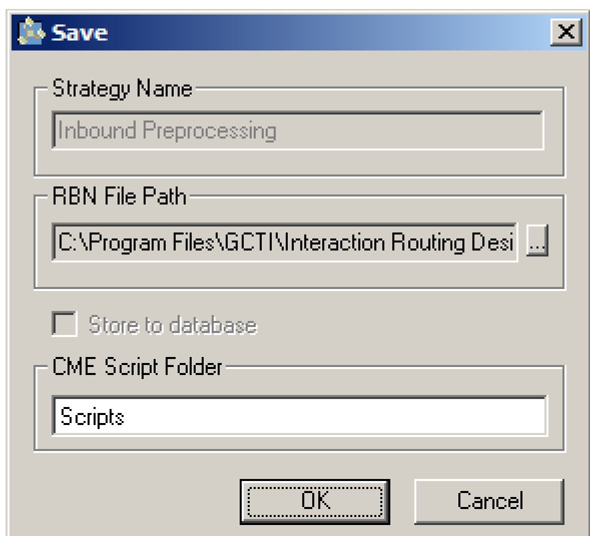


Figure 243: Save Dialog Box

4. Keep the path for the graphical portion (see page 186) of the strategy (`RBN File Path`) or click the browse button (...) to select a new path.
5. Optional step. Click in the box under `CME Script Folder` and double-click a subfolder under the `Scripts` folder.
6. Click `OK` in the `Save` dialog box.

7. Click the `x` in the upper right corner of the `Routing Design` window to close the strategy. A dialog box requesting update confirmation appears (see Figure 244).

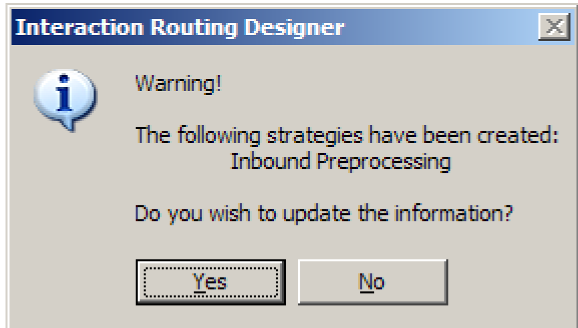


Figure 244: Update Dialog Box

8. Click `Yes`. The message box shown below opens (see Figure 245).

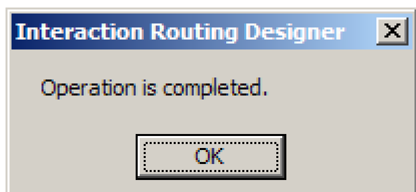


Figure 245: Operation Is Completed

9. Click `OK`. The strategy name appears under the `Strategies` folder in the business process (see Figure 246).

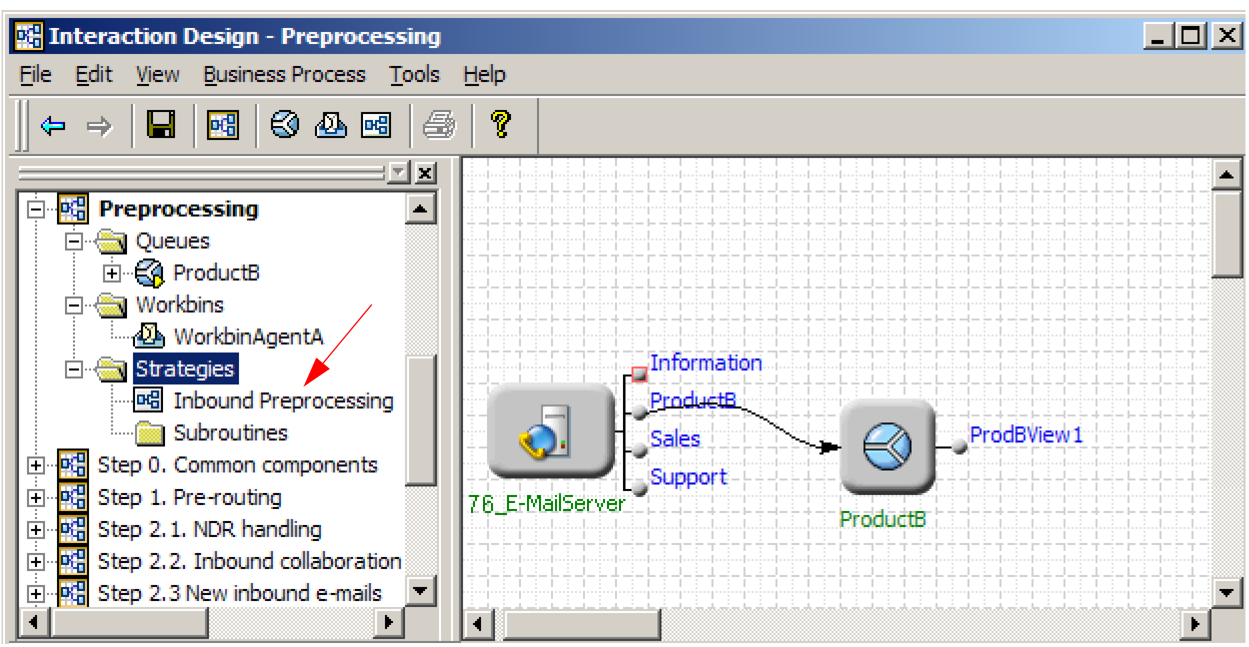


Figure 246: Strategy Placeholder

10. Drag the strategy from the browser to the viewer (see Figure 247).

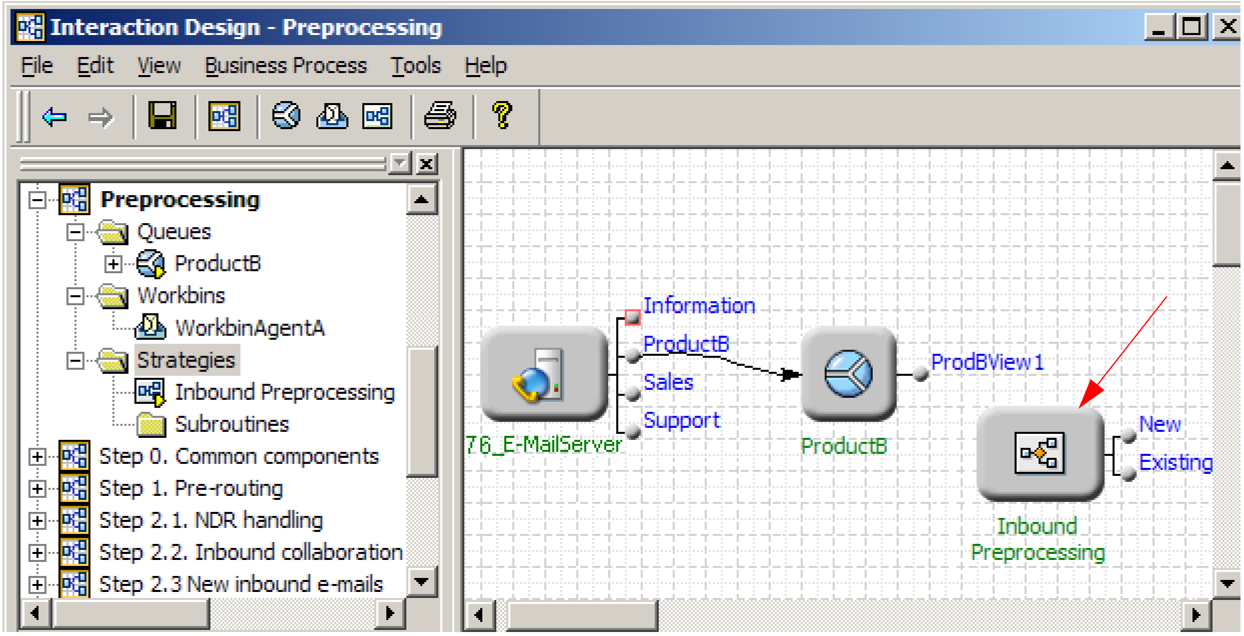


Figure 247: Strategy in Viewer

11. Select `Save` from the `File` menu.

End of procedure

Next Steps

- Use the information in the next section to connect the queue to the strategy.

Note: Later on, when you are ready to configure the strategy, right-click the strategy in the browser and select `Edit/View Strategy`.

Adding a Submitter

Now that you've created queue-processing rules in the form of a view, and a routing strategy placeholder, the next step is to connect these objects. You do this by drawing a line called a *Submitter object*. It represents interactions being pulled from the queue and pushed (submitted) to a routing strategy.

Figure 248 graphically depicts an interaction submitter in relation to views and routing strategies.

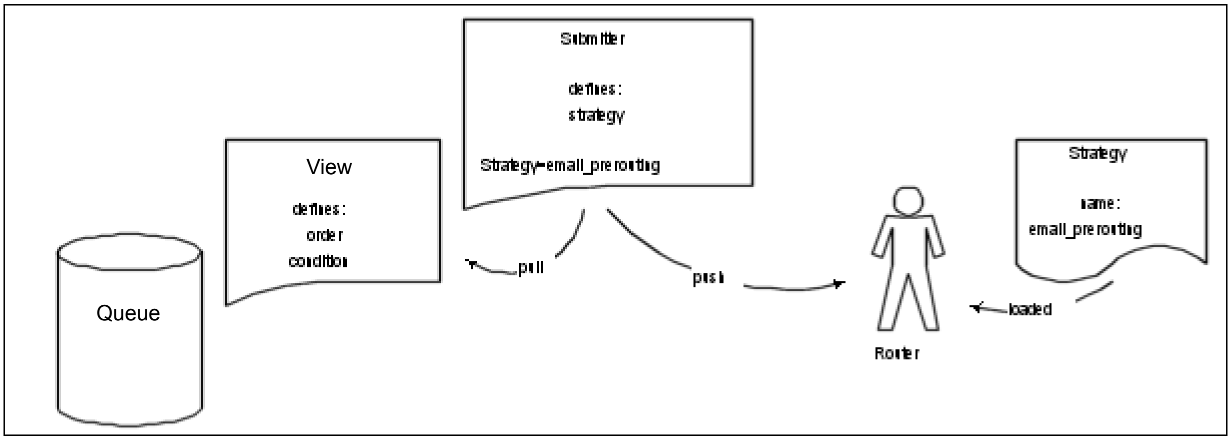


Figure 248: Submitter Actions

Procedure: Creating a Submitter object

Purpose: To connect a view extracting interactions from a queue to a routing strategy where the interaction can have specialized processing tasks applied.

Start of procedure

1. Draw a submitter (see "Submitters" on page 39) from the View object to the Strategy object. This tells Interaction Server to submit interactions extracted from the queue using the view to the strategy (see Figure 249).

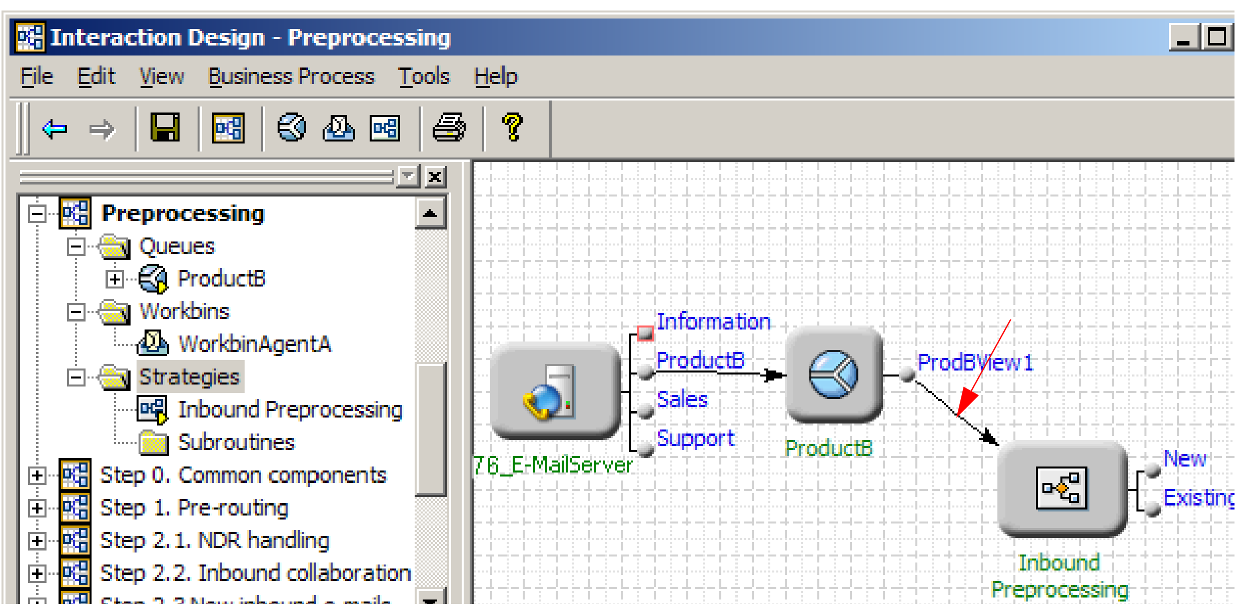


Figure 249: Submitter Object

2. Click the `File` menu and select `Save`.

End of procedure

Next Steps

- Later, when you are ready to configure the strategy, right-click it and select `Edit/View Strategy` from the menu (see Figure 250).

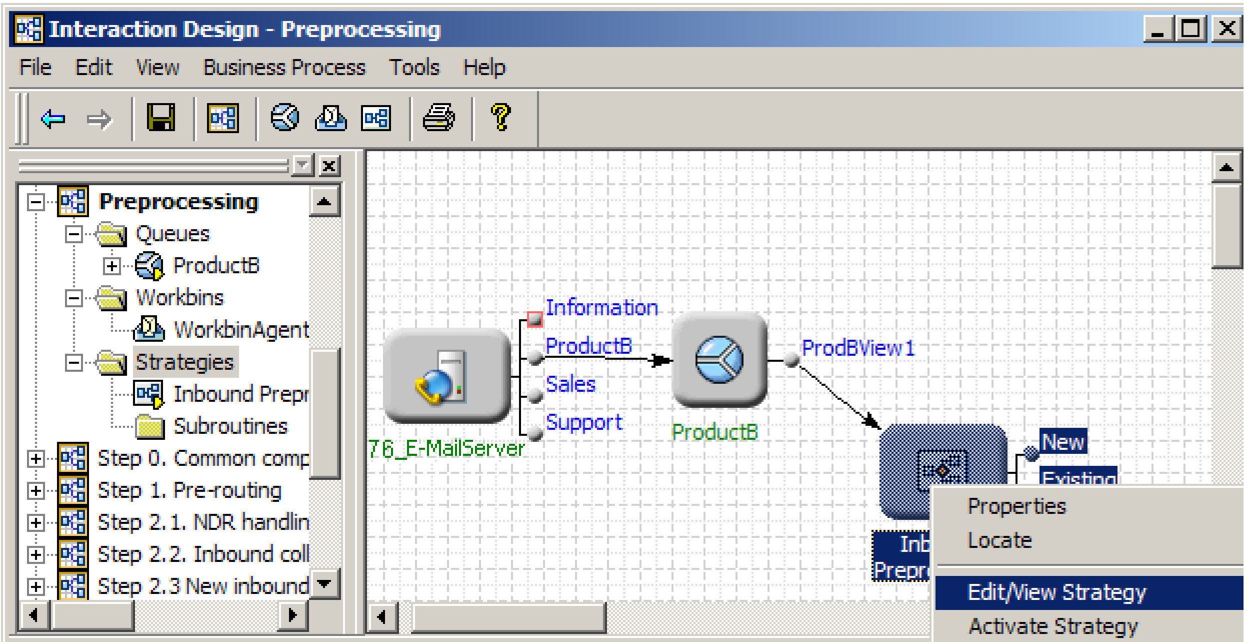


Figure 250: Edit/View Strategy

Note: For information on options that affect the submission of interactions to routing strategies, see the chapter on configuration options in the *Multimedia 7.6 Reference Manual*.

About Connector Lines

Connector lines show the path for interactions (how intereactions must be processed) by joining one object in a business process to another. Sometimes IRD draws the lines automatically such as when an interaction path is specified inside a strategy. You draw the line at other times, and thereby specify the path for interactions.

- A **black line** indicates a the path for an existing interaction (the same interaction that came into the object).
- A **red line** indicates a path for an interaction that has been newly created in the object.

Depending on the type of object, connectors may be placed automatically, or you may need to place them manually.

- To add a connector, hover your cursor over the object where the connector should start. When the cursor becomes a pointing hand, hold down the left mouse button and move the cursor to the object where the connector should end.
- To delete a connector, select it, and then press the Delete key; or, right-click the connector, and then select `Disconnect and/or Hide` from the shortcut menu.

Note: You cannot delete a connector that has been automatically placed, or delete the object to which it connects. Instead, you must edit the object that generated the automatically-placed connector so that it no longer contains that particular strategy-linked node. In the figure above, to remove the Stop interaction node and its connector, you must edit the Forward e-mail processing strategy.

- To reshape a connector, select it, place the cursor over one of the red x's that mark the ends of the lines and the control points along the line's Bezier curve, and drag the x to a new location.

Removing an Object

To remove an object from a business process: in the object browser, drag it from the business process folder and drop it into the `Independent Objects` folder.

Exporting and Importing a Business Process

Notes: In addition to exporting and importing business processes in the `Interaction Design window` as described in this section, you can also use IRD's `Export solution` and `Import solution` views to:

- Export/import objects between strategies.
- Export strategies using archive, native, open, and text format.
- Export a group of strategies or subroutines.

For more information on these views, see the chapter on routing strategies, Migrating Strategies and Other Objects section, in the *Universal Routing 7.6 Reference Manual*.

This section describes how to export and import business processes. Having the ability to export and import business processes allows you to:

- Store the information contained in a business process; for the purpose of creating a backup copy, for example.
- Easily move business processes located in your Test environment to your Production environment.
- Share or consult on workflow design with a co-worker.
- Automatically create all the required Configuration Layer objects during the export process and write them to a Configuration Database during the import process.

IRD simplifies the operation by letting you export/import multiple business processes at once. You will most likely use this feature since one business process may depend on processing that occurs in another business process or use objects that originate outside of itself.

Procedure: Exporting a Business Process

Follow the steps below to export a business process. If the business process is already open, skip to step 5.

Start of procedure

1. Log in as described in “Opening IRD” on page 57.
2. Click the `Interaction Design` shortcut bar on the left.
3. Click the `Business Processes` icon. Existing business processes are listed for selection as shown in Figure 33 on page 60.
4. Double-click any business process to open the `Interaction Design` window.
5. Click the `File` menu and select `Export`. The `Export` dialog box opens (see Figure 251 on page 296).

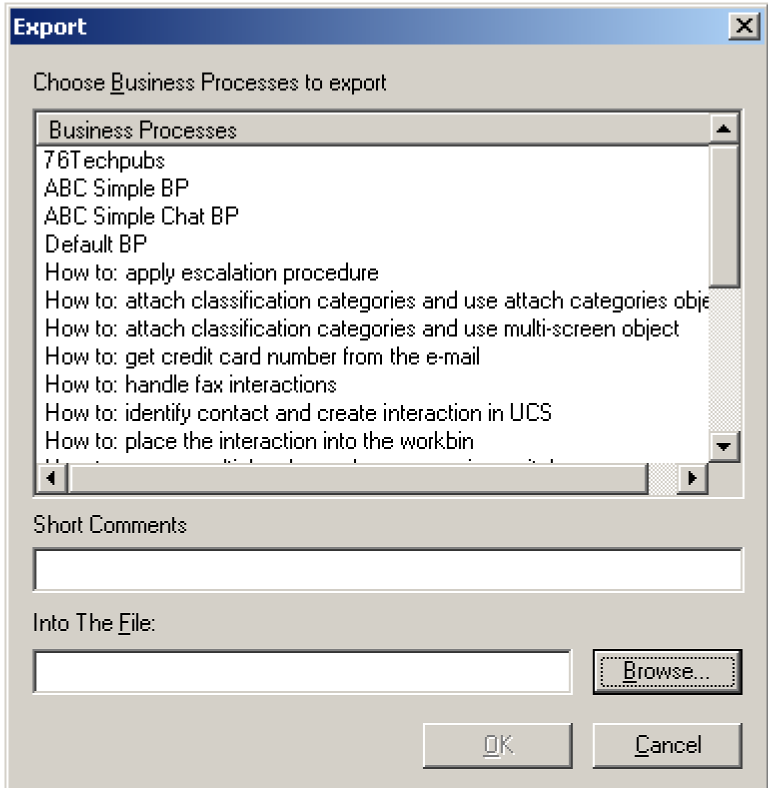


Figure 251: Export Dialog Box

6. In the `Export` dialog box, select the business processes that you wish to export so they are highlighted.
   - To select individual business processes, hold down the `Ctrl` key while you select.
   - To group-select, hold down the `Shift` key while you select.

> **Note:** Media servers (see page 39) are not included in IRD's export/import process.

7. Under `Short Comments` in the `Export` dialog box, enter any comments (optional).
8. Click the `Browse` button. The `Choose File Name` dialog box opens (see Figure 252).

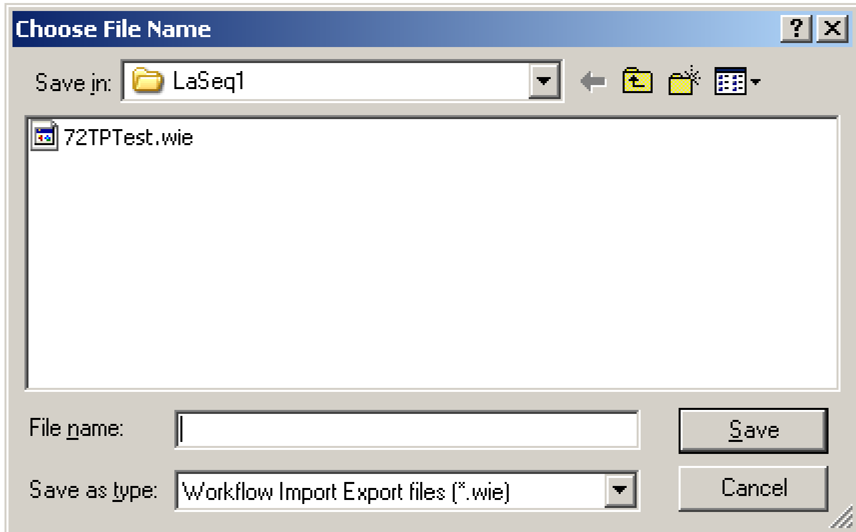


Figure 252: Choose File Name Dialog Box

9. If not already selected, browse to/create the folder to hold the exported business process.
10. Enter the file name for the exported business process.
11. Click `Save` in the `Choose File Name` dialog box. The `Export` dialog box reflects your entries. Figure 253 shows an example completed dialog box.

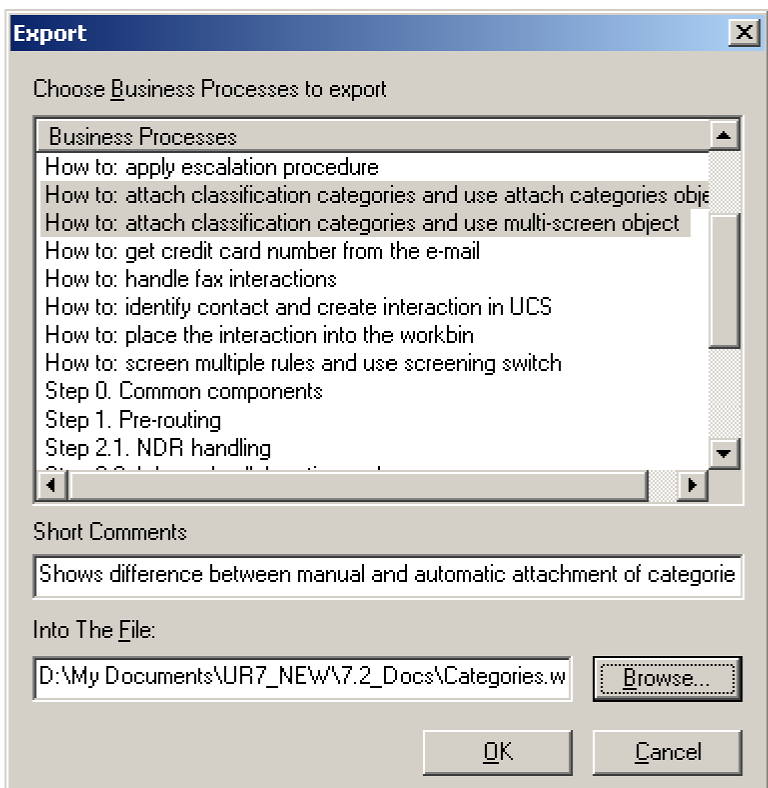


Figure 253: Export Dialog Box

Note: IRD uses a `.wie` file name extension when importing/exporting business processes.

12. Click `OK` in the `Export` dialog box. `Configuration Exporting` appears. After a successful export, `Done` appears.

End of procedure

Procedure: Importing a Business Process

Start of procedure

1. Log in as described in "Opening IRD" on page 57.
2. Click the `Interaction Design` shortcut bar on the left.
3. Click the `Business Processes` icon. Existing business processes are listed for selection as shown in Figure 33 on page 60.
4. Double-click a business process to open the `Interaction Design` window.
5. Click the `File` menu and select `Import`. The `Configuration Import Wizard Choose File` screen opens (see Figure 254).

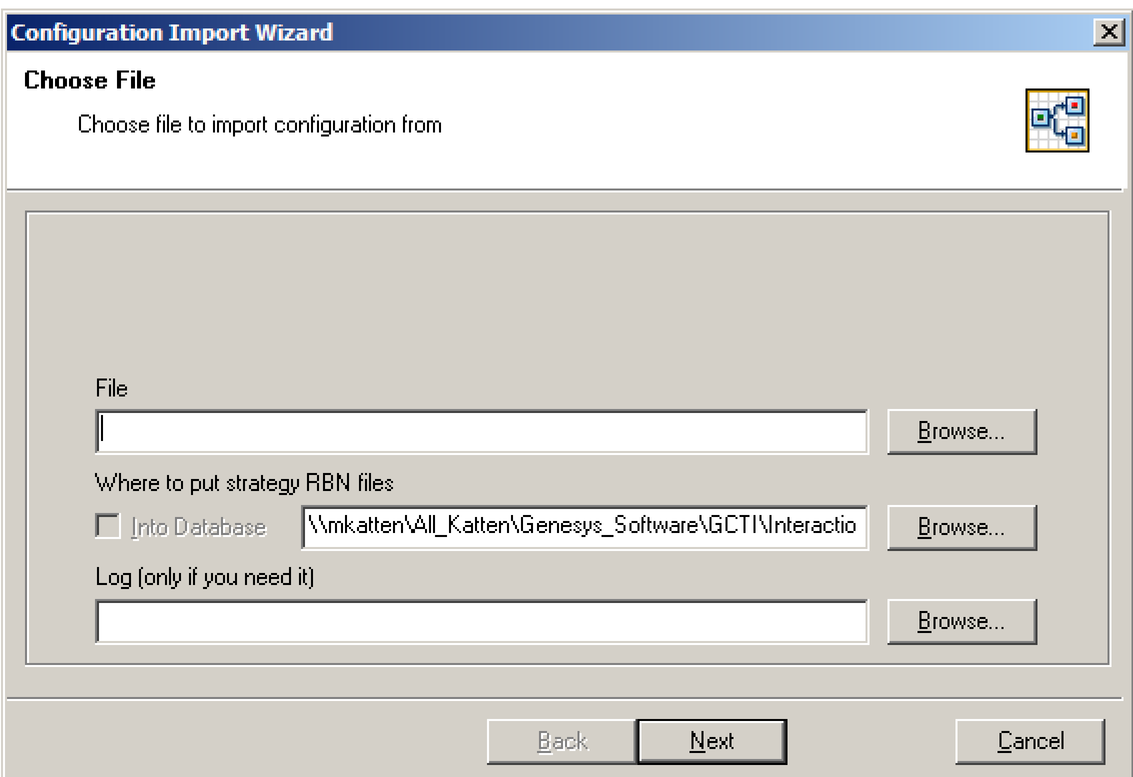


Figure 254: Configuration Import Wizard, Choose File

6. Under File, click the Browse button. The Open dialog box opens.

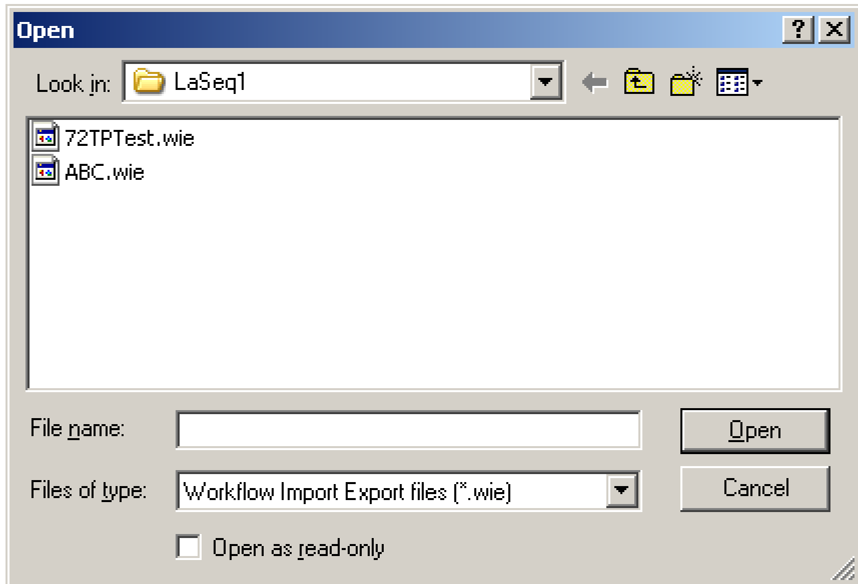


Figure 255: Open Dialog Box

7. Locate the *.wie file you wish to import and double-click it. The Open dialog box closes. IRD inserts the selected directory path and file name under File in the Configuration Import Wizard (see Figure 254 on page 298).

8. In the Configuration Import Wizard, under Where to put strategy RBN files, there are two options.
   - Click the Browse button and locate the folder to contain the graphical portion of strategies contained in the business process. See "Graphical Portion of a Strategy" on page 186 if you need to review strategy .rbn files (which consume more space than the script portion of strategies).
   - Click the Into Database checkbox (if enabled) to save .rbn files in a database.

Note: In order for the Into Database checkbox to be enabled, a Database Access Point must appear in the Connections tab of the IRD Application in Configuration Manager. The database used is the Configuration Server database. The table name is ird_strategies. If security is a consideration, you may wish to store to a database. For example, if you are a Service Provider, you may not want your subscribers to have access to your corporate drives. In this case, saving to the database in the preferred method.

9. Under Log (only if you need it), you have the option of saving business process import details in a log file. If you wish to do this, click the Browse button and locate/name the log file.

10. Click `Next`. The `Configuration Wizard Confirm Importing` screen opens (see Figure 256 on page 300).

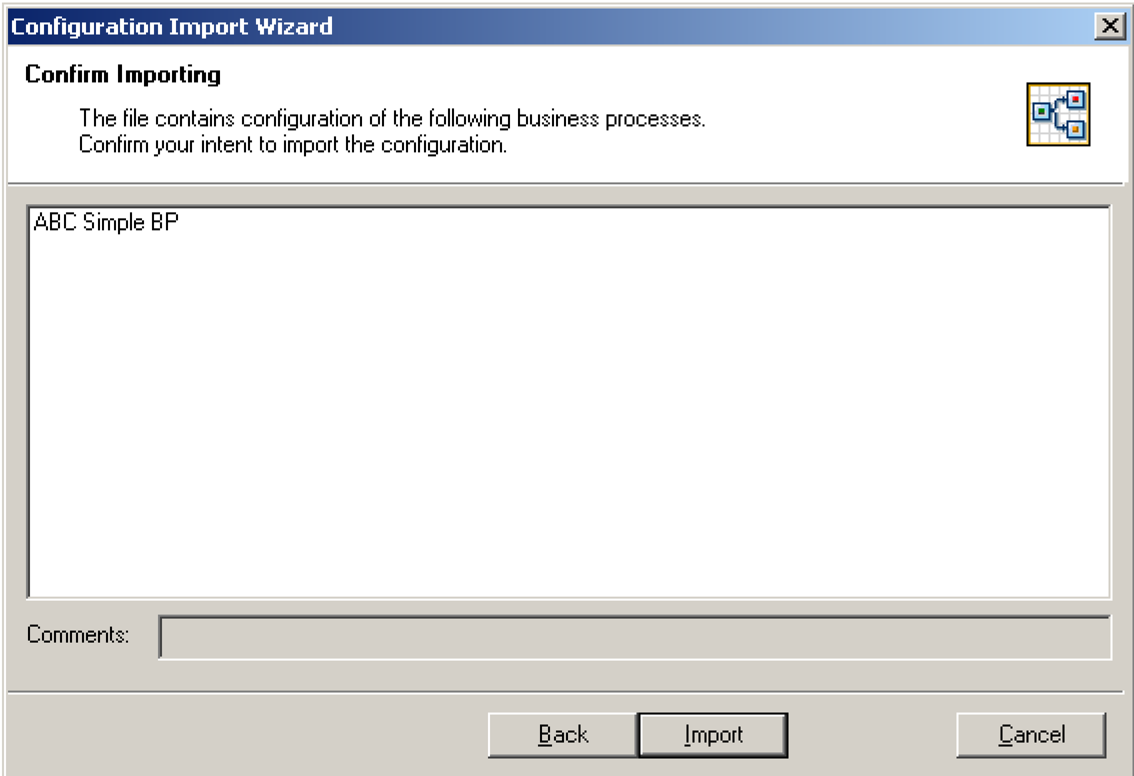


Figure 256: Configuration Import Wizard, Confirm Importing

11. If satisfied with your entries, click `Import`; otherwise click `Back` to return to the `Configuration Import Wizard Choose File` screen.
12. Respond to any messages that may appear.

End of procedure

Problems During Importing

If an import request encounters problems, IRD lists the problems and possible workarounds. You can:

- Choose the workaround for each problem.
- Cancel the import operation.

Figure 257 shows an example dialog box when objects to be imported already exist in the Configuration Database.

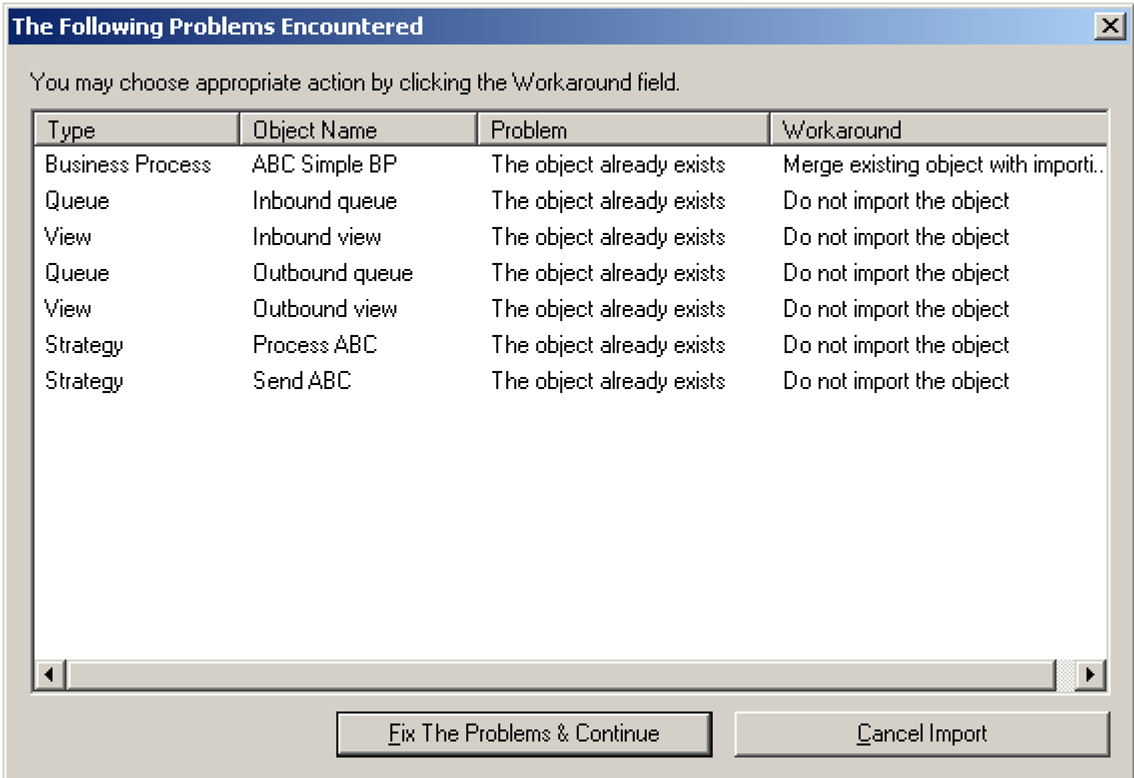


Figure 257: The Following Problems Encountered Dialog Box

Note: Choosing particular workaround may trigger another problem. For example, if a strategy already exists, choosing to overwrite the strategy may cause a problem if the `.rbn` file associated with the strategy already exists in the specified location. In such cases, IRD displays another dialog box.

If you click `Cancel Import`, the dialog box appears as shown in Figure 258.

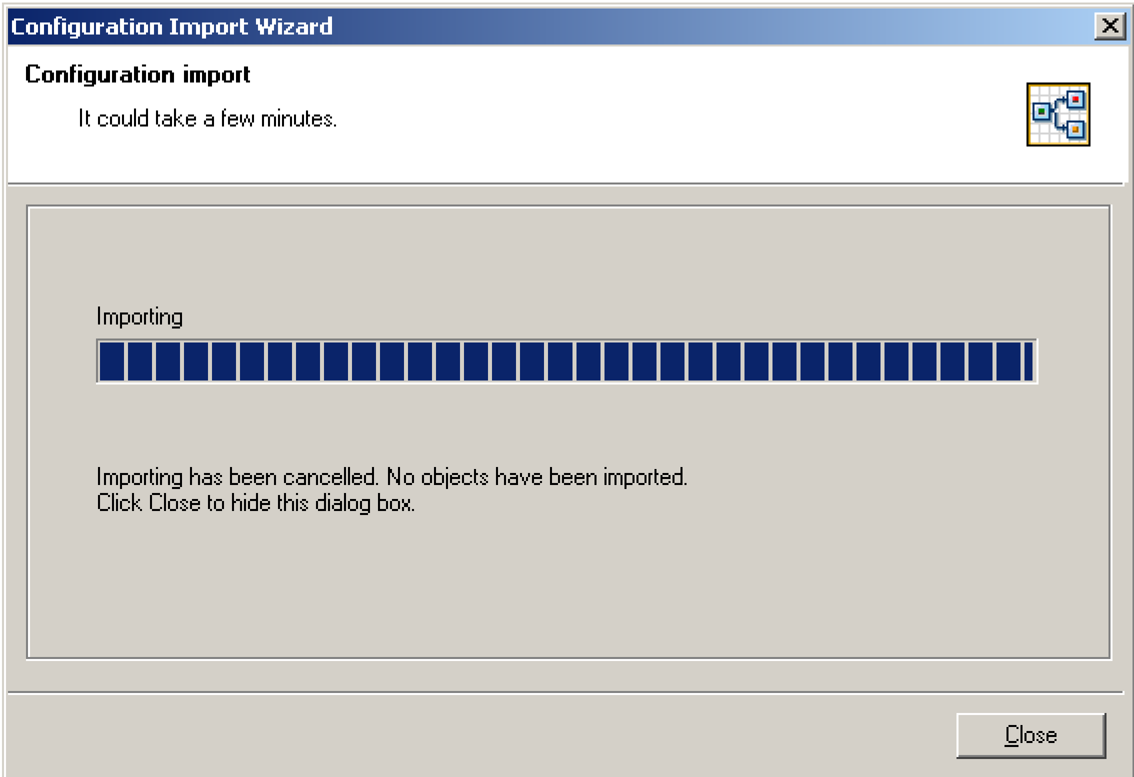


Figure 258: Cancelling an Import Operation

Problem types and workarounds are listed below.

Problem: Object to be Imported Already Exists in Configuration Database.

Applicable to objects of the same type (queues, views, strategies, and so on). IRD offers the following workarounds:

- Do not import the object
- Overwrite existing object

Exceptions: For business processes, the only allowed workaround is merging. Since a business process object keeps a list of the objects that belong to it, merging combines that list of objects with the objects belonging to the business process being imported.

Problem: Name of Object Being Imported Conflicts with Existing Object.

Applicable to objects of different types (business process, queue, view, strategy, workbin) that are of the same Configuration Manger object type (`Script`). For example, a conflict is created when you attempt to import a queue `Script` object having the same name as an existing strategy `Script` object. IRD offers the following workaround:

- Do not import the object.

Exceptions: If importing business process conflicts with an existing object (`Script` object of different type), IRD considers the problem to be severe and the import operation always aborts.

Problem: The .rbn file of Imported Strategy Already Exists in The Specified Location.

Applicable to strategies. IRD offers the following workarounds:

- Put the file into alternative location. The alternative location is an automatically created subfolder in the location you specified on import startup.
- Overwrite existing file.

Exceptions: None.

Automatic Decisions

IRD's import utility automatically makes/logs the following decisions:

- When the attempt to import a submitter (see page 39) conflicts with either an existing submitter or a `Script` object of a different type, the imported submitter takes a new name.
- When an association between a view (see page 30) and strategy (see page 31) already exists (i.e., there is a submitter that connects the view and the strategy), IRD does not import the submitter.
- When a parent object is not imported (such as a queue with a view child object or a view with a submitter child object) according to the chosen workaround), the child object is also not imported.

Chapter

11 Creating Strategies

This chapter provides step-by-step instructions for creating a routing strategy. It covers the following topics:

Preparation

At this point, this guide assumes you have already:

- Started the business process with its queues and views (see "Creating Business Process Objects" on page 241).
- Created Knowledge Manager objects so that Categories, Standard Responses, and Field Codes will be selectable in the associated IRD object properties dialog boxes (see "Creating Knowledge Manager Objects" on page 217).

- Created Configuration Manager objects so that `Persons`, `Agents`, `Agent Groups`, `Place`, `Place Groups`, and `Business Attributes` will be selectable in IRD object properties dialog boxes (see "Creating Configuration Manager Objects" on page 231).

If this preparation is complete, the process of creating routing strategies will not be interrupted by the need to create additional configuration objects.

Sample Strategy

This chapter demonstrates how to create the strategy shown in Figure 259.

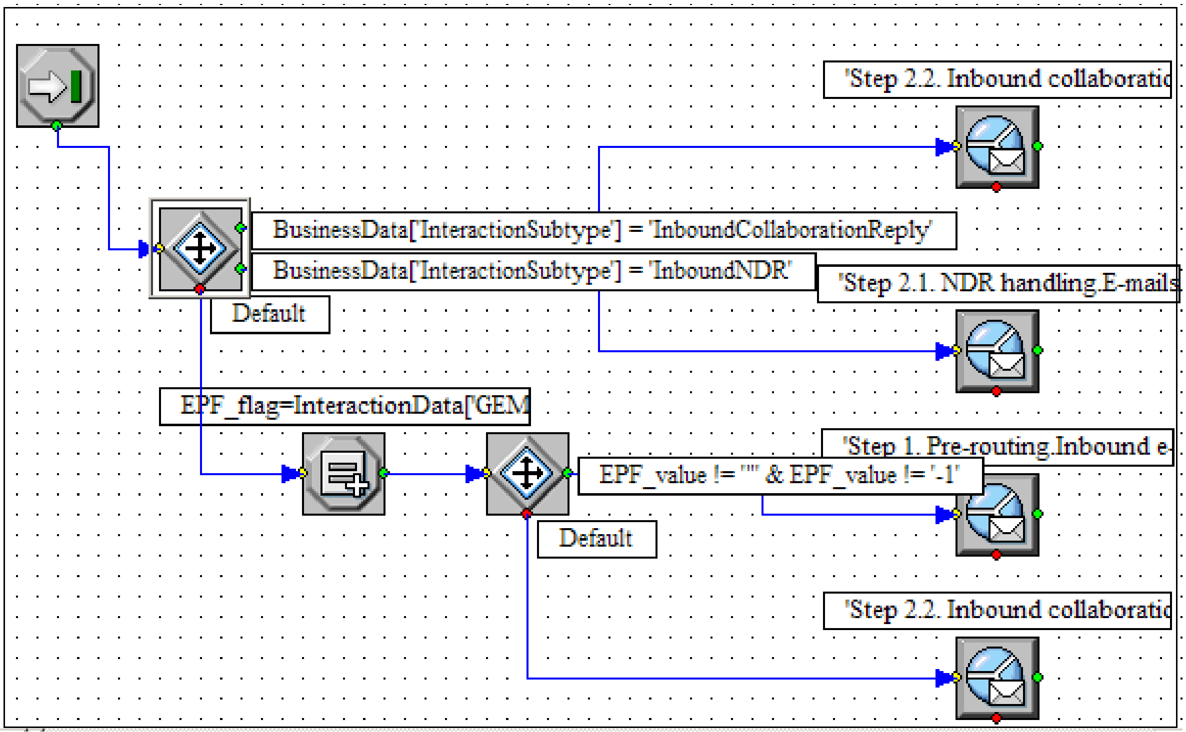


Figure 259: Inbound E-mail Preprocessing Strategy

This same strategy is contained in the business process "Step 1. Pre-Routing" on page 366 as part of the Genesys-supplied Interaction Workflow Samples component as described in "About the Samples" on page 352.

Summary of Strategy-Creation Process

Table 26 summarizes the process of creating the routing strategy shown in Figure 259. For complete, step-by-step instructions on creating routing strategies in general, see the *Universal Routing 7.6 Interaction Routing Designer Help*.

Table 26: Steps for Creating the Inbound Preprocessing Strategy

Objective	Related Procedures
1. To open the Routing Design window where you create a new strategy.	• "Creating a new strategy from the IRD main window" on page 308.
2. To cause incoming interactions to take difference paths in the strategy based on media type, processing status, and so on.	• "Placing the Generic Segmentation object and opening Expression Builder" on page 310. • "Segmenting Based on an Expression" on page 313. • "Sending Segmented Interactions to Queues" on page 319.
3. Writing interaction data to variables for later use in a business process.	• "Defining Variables" on page 323. • "Assigning a value to a variable from Interaction Data" on page 324. • "Assigning a value to a variable using a function" on page 327.
4. Determining interaction status (new inbound, already processed by Genesys, and so on)	• "Using the Generic Segmentation object to determine interaction status" on page 329.
5. Sending interactions to queues.	• "Sending interactions to queues from the Generic Segmentation object" on page 332.
6. Compiling a routing strategy.	• "Compiling a routing strategy" on page 335.
7. Checking that objects contained in a strategy are found in the Configuration Database.	• "Using Check Integrity" on page 336.
8. Adding a strategy to a folder in the Interaction Design window prior to using the strategy in a business process.	• "Adding a strategy in the Independent Objects folder to a business process" on page 338.
9. Re-using a strategy.	• "Re-using a strategy already contained in a business process" on page 338
10. Viewing and editing strategies.	• "Editing/viewing a strategy from the Interaction Design window" on page 339 • "Viewing a strategy from the IRD main window" on page 341 • "Deleting strategies from the Interaction Design window" on page 341 • "Deleting strategies from the Strategies List pane" on page 342

Creating a New Strategy

The very first steps in creating a new strategy depends on your starting location within IRD and whether a strategy placeholder exists in the business process (see page 287).

Methods

After logging into IRD (see page 58), one of the options below will apply:

- If you are in the IRD main window (see Figure 32 on page 59), continue with step 1 below.
- If the business process is already open in the `Interaction Design` window, right-click the `Strategies` folder in the object browser and select `New Strategy`.
- If the business process is already open in the `Interaction Design` window, and you previously created a strategy placeholder, right-click the strategy and select `Edit/View Strategy` from the menu (see Figure 250 on page 293). The strategy appears in the `Routing Design` window as shown in Figure 261. To create the sample strategy shown in Figure 259 on page 306, continue with "Segmenting Interactions" on page 310.

Procedure:
Creating a new strategy from the IRD main window

While this procedure describes how to create an inbound interaction preprocessing strategy shown in Figure 110 on page 129, the steps apply to creating a routing strategy in general.

Start of procedure

1. In the IRD main window (see Figure 32 on page 59), click the `Strategies` button.

   Note: To enable `New` from the `File` menu, a folder or subfolder in the list pane must already be selected.

2. If a folder is already selected, from the `File` menu, click `New`. You can also right-click any folder on the list pane and select `New`. The `New` dialog box opens. Figure 260 on page 309 shows an example completed dialog box.

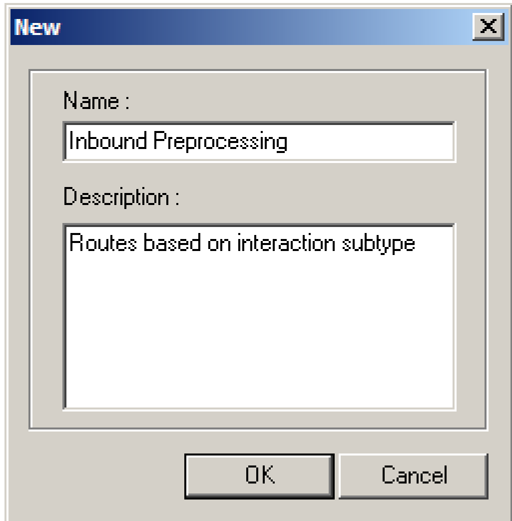


Figure 260: New Dialog Box After Naming and Describing Strategy

3. After clicking `OK`, the `Routing Design` window opens with an Entry object (see Figure 261).

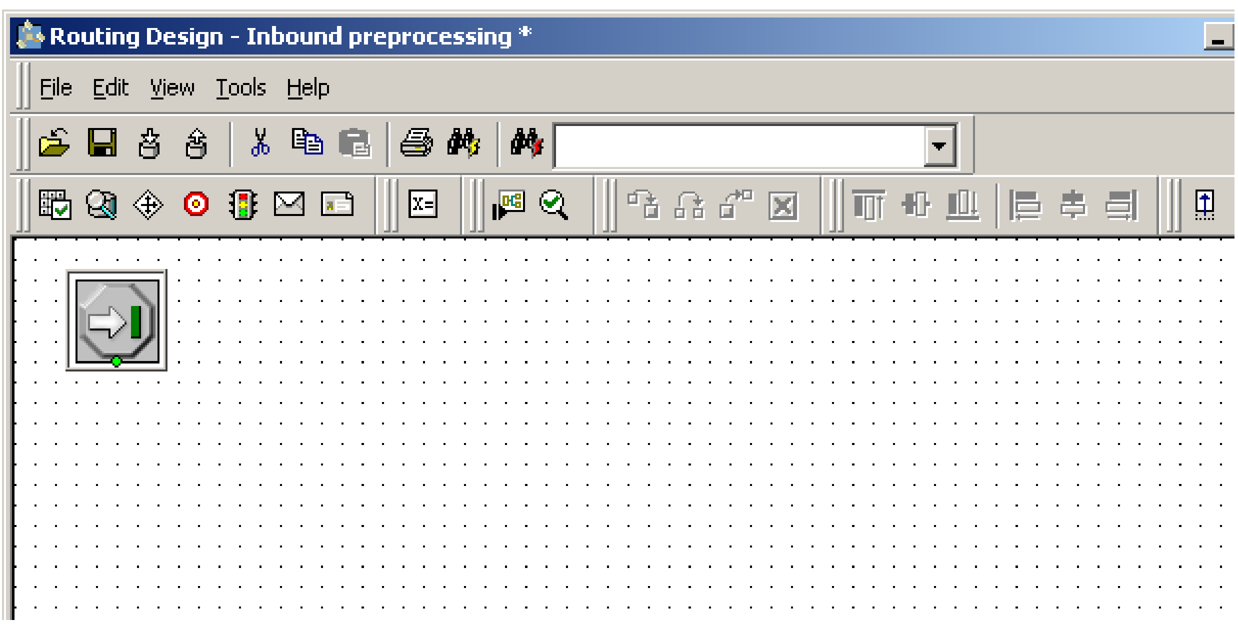


Figure 261: Routing Design Window Before Strategy Configuration

End of procedure

Next Steps

- Placing, configuring, and connecting IRD objects to define strategy processing.

Segmenting Interactions

After the Entry object in Figure 259 on page 306, the next object is a Generic Segmentation object.

Procedure:
Placing the Generic Segmentation object and opening Expression Builder

Purpose: To open the dialog box where you create an expression to causes interactions to take different paths in the strategy.

Start of procedure

1. In the `Routing Design` window, click the icon for Segmentation objects (see Figure 262).

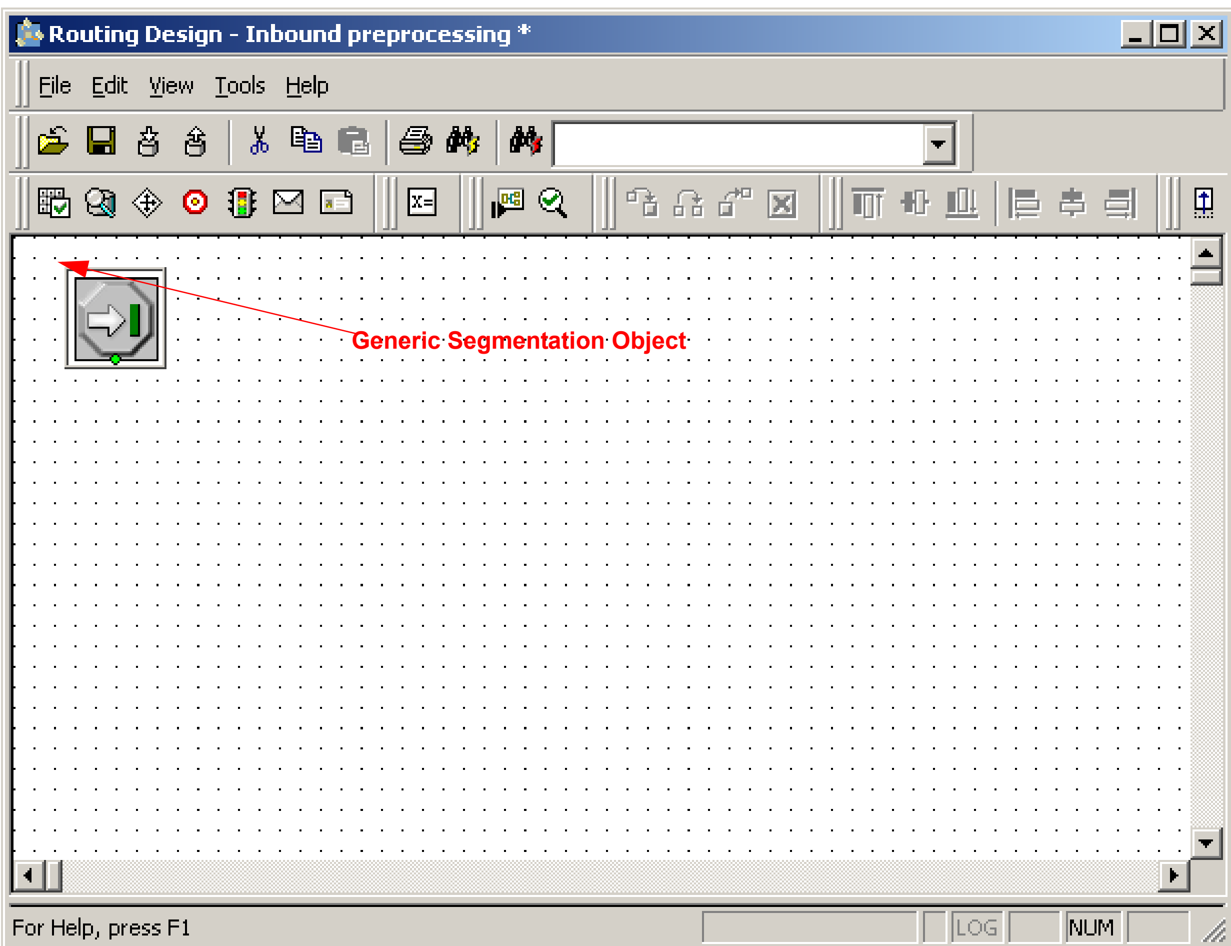


Figure 262: Segmentation Objects Icon

Note: See “Segmentation Objects” on page 203. For detailed information on all Segmentation objects, see the section on IRD objects in *Universal Routing 7.6 Reference Manual*.

2. Click the button for the Generic Segmentation object. Then click inside the `Routing Design` window at the location where you want to place the object. The `Routing Design` window now appears as shown in Figure 263.

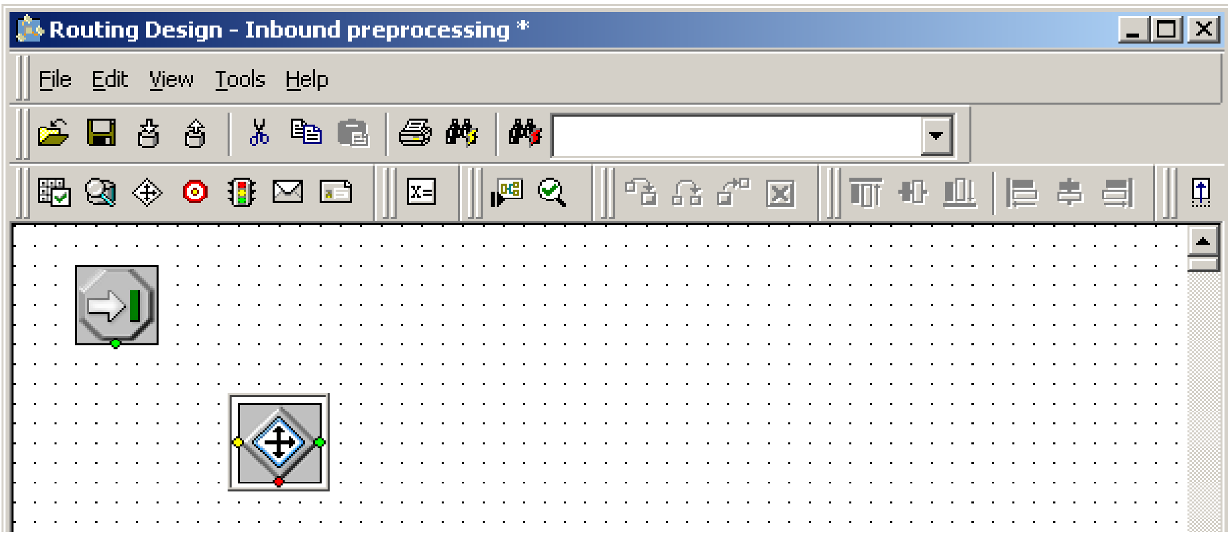


Figure 263: Segmentation Object After Entry Object

3. Double-click the Segmentation object to opens its properties dialog box.
4. Click the button for creating a new entry. The properties dialog now appears as shown in Figure 264.

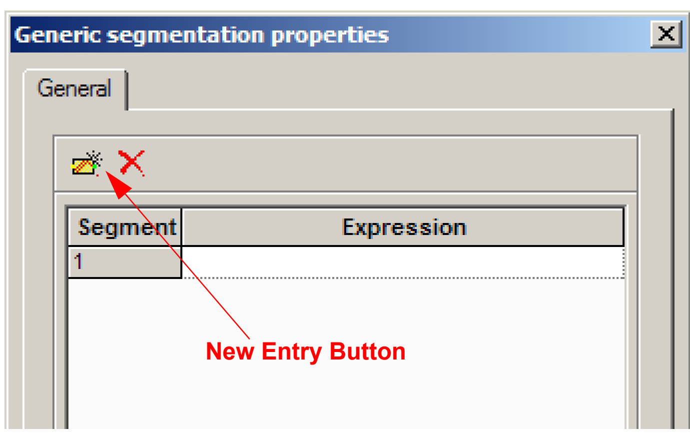


Figure 264: Generic Segmentation Properties Dialog Box: Starting

5. Click under `Expression`. A down arrow appears (see Figure 265).

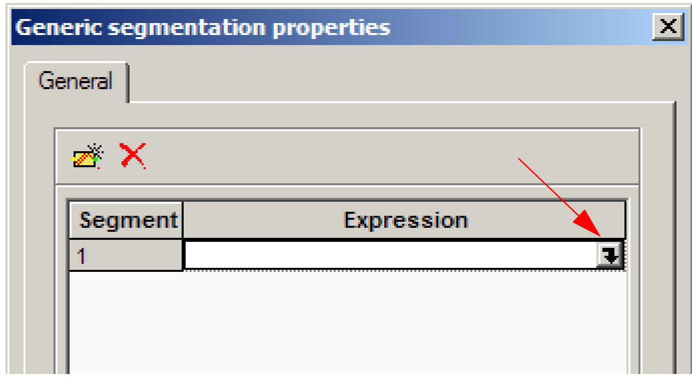


Figure 265: Down Arrow Under for Specifying Expression

6. Click the down arrow. `Expression Builder` opens (see Figure 266).

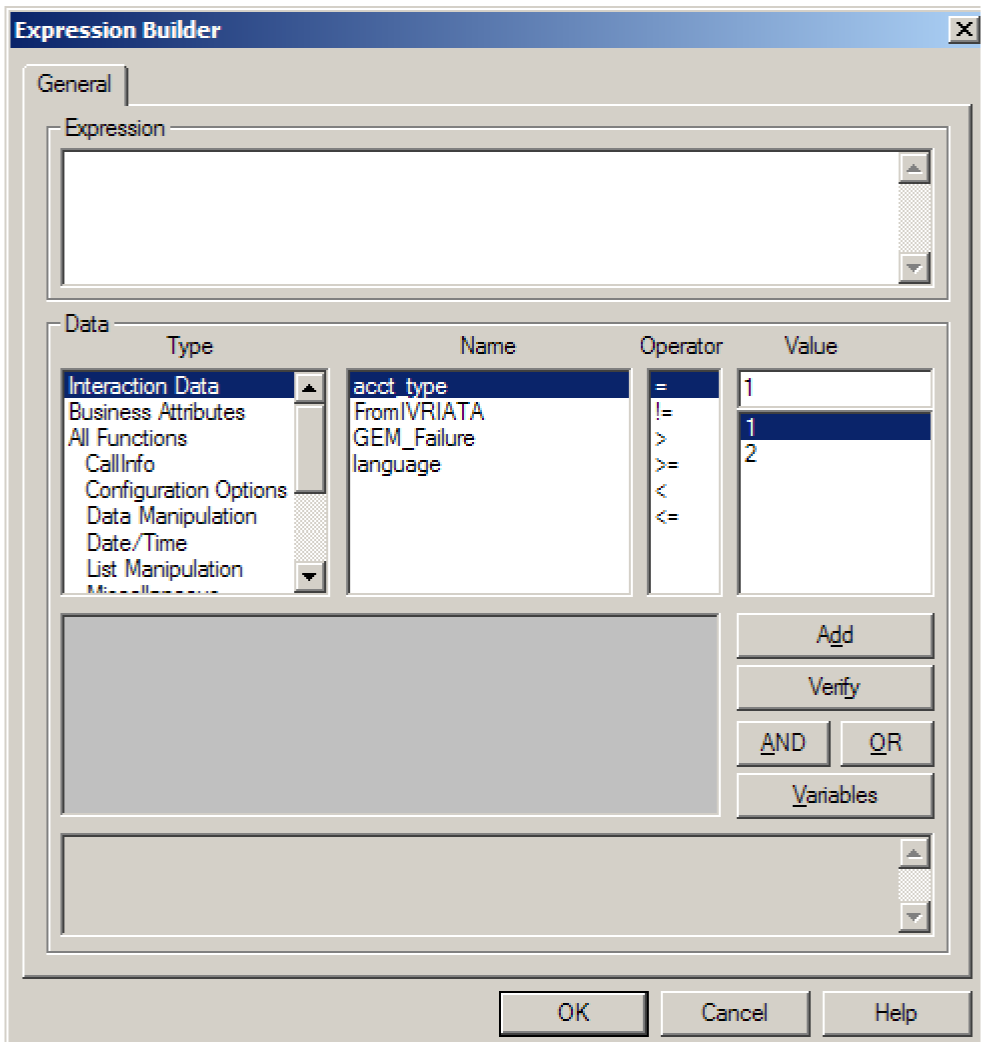


Figure 266: Expression Builder, Starting

End of procedure

Procedure:
Segmenting Based on an Expression

Purpose: To define an expression in the `Expression Builder` dialog box where the true/false value of the expression will determine each segment (each path) in the routing strategy.

The first expression will determine whether the interaction has contains the `InboundCollaborationReply Interaction Subtype` (see Figure 157 on page 178). Use the instructions below to create this expression.

Start of procedure

1. In `Expression Builder` (see Figure 266 on page 312), under `Type`, click `All Functions`.
2. Under `Name`, scroll down and click `Business Data`. `Expression Builder` adds a new panel where you enter parameters and values (see Figure 267).

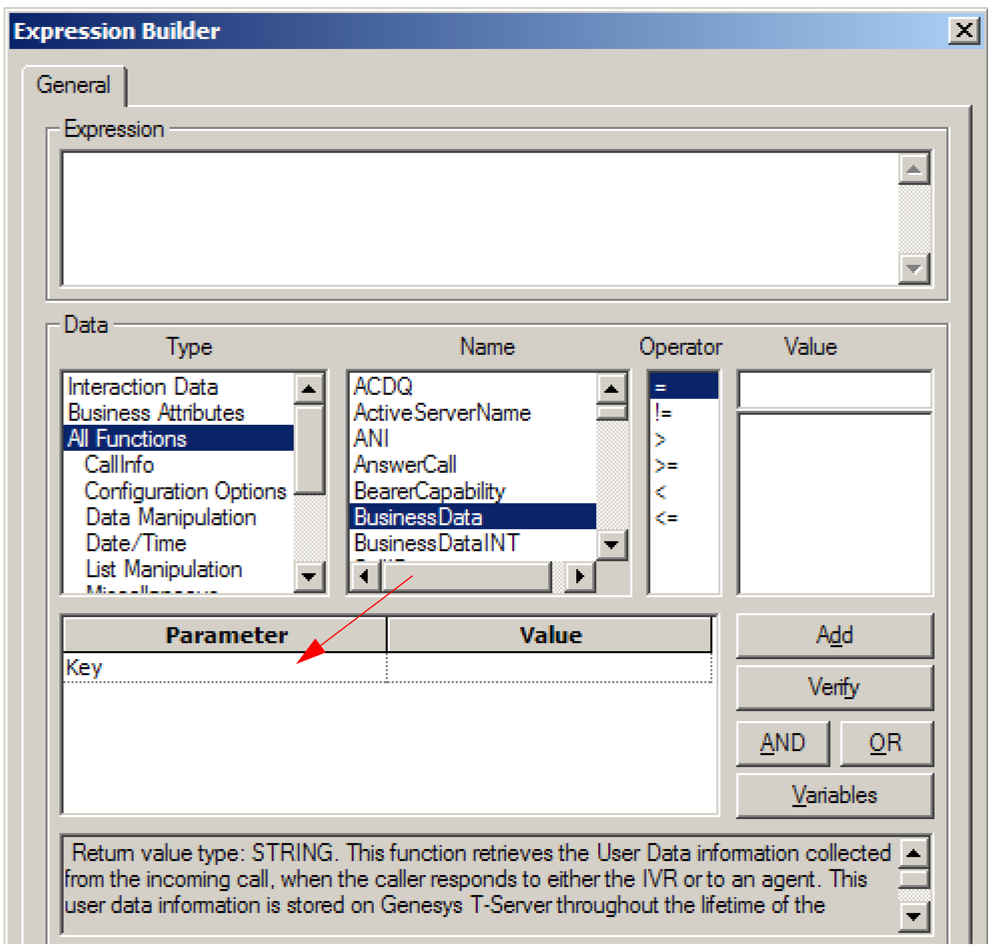


Figure 267: Expression Builder, Parameter and Value Fields

3. Leave the equal sign selected.
4. Click in the row under `Value` to display a down arrow.
5. Click the down arrow to bring up the `Key` dialog box (see Figure 268).

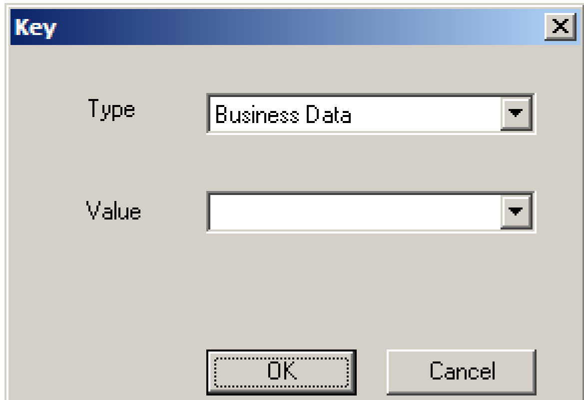


Figure 268: Key Dialog Box, Business Data Type

6. Click the `Value` down arrow in Figure 268 and select `InteractionSubtype` (see Figure 269).

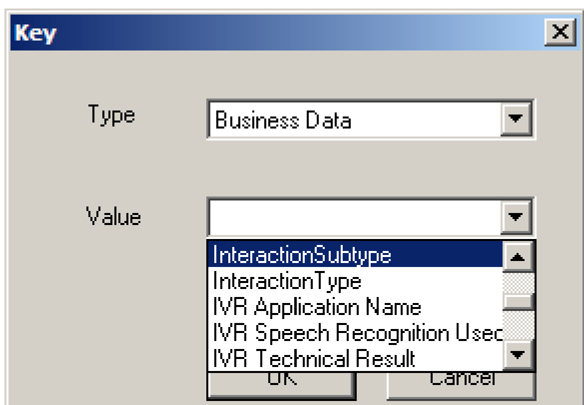


Figure 269: Key Dialog Box, Interaction Subtype Value

7. Close the `Key` dialog box. The row under the `Value` area in `Expression Builder` now appears as shown in Figure 270.

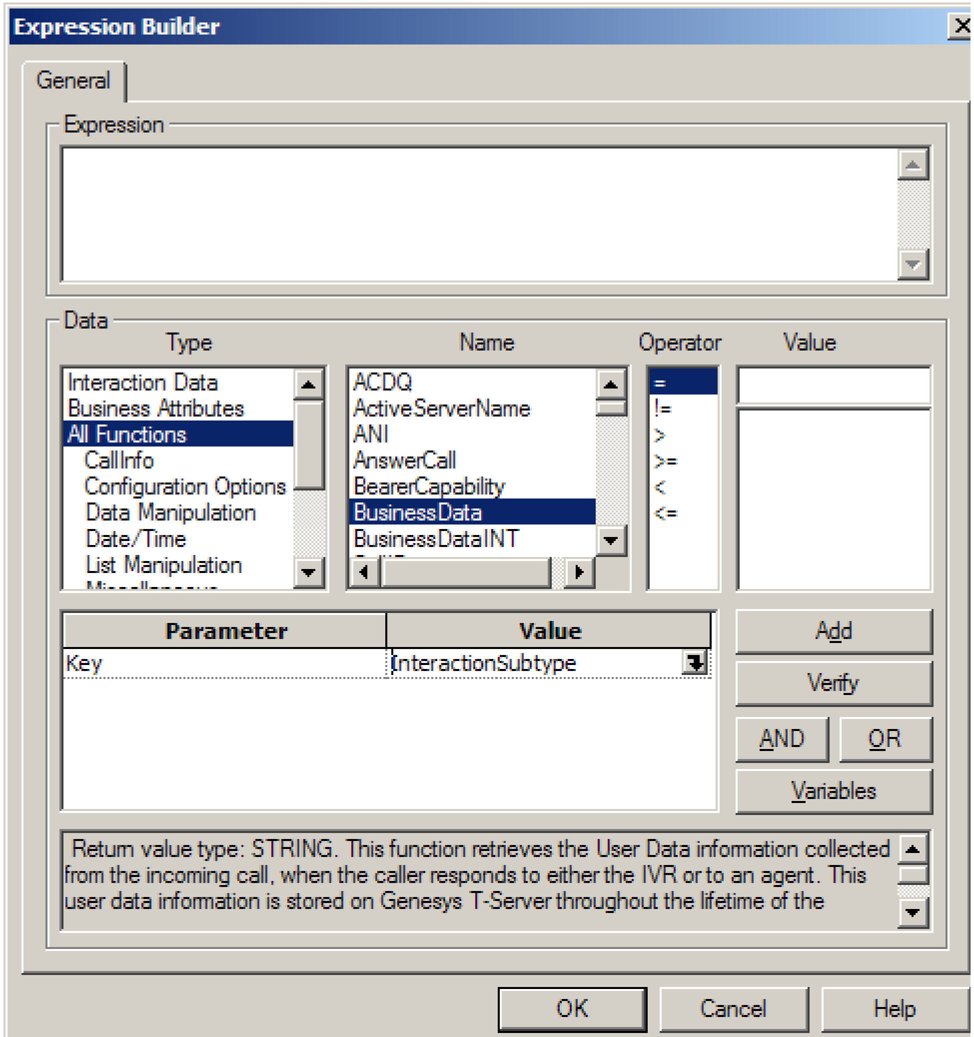


Figure 270: Expression Builder Parameter Value Area

8. Under `Operator` in `Expression Builder`, select the equal sign (=).
9. Click under `Value` and enter: `CollaborationReply` (see Figure 157 on page 178).

> **Note:** `Collaboration Reply` is the display name; the internal name in the Configuration Database is `CollaborationReply`. You can see this in Configuration Manager when you right-click an Interaction Subtype and select `Properties`.

10. Click the `Add` button. `Expression Builder` now appears as shown in Figure 271.

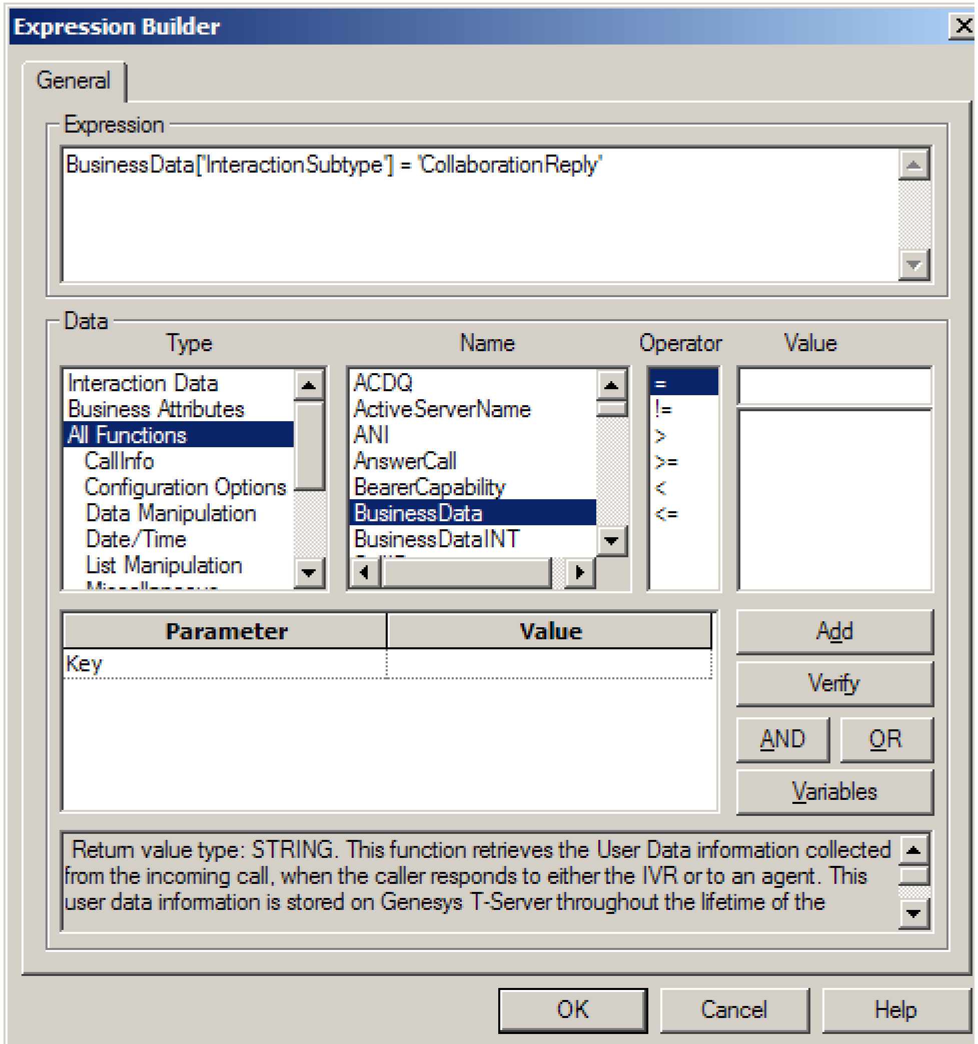


Figure 271: Expression Builder With Expression Created

11. Click the `Verify` button.

    The expression turns green indicating it is successfully verified. The following message appears in the lower pane: `The expression is successfully verified.`

12. Click `OK` to close `Expression Builder`. The `Generic Segmentation Properties` dialog box appears as shown in Figure 272 (entire expression not shown).

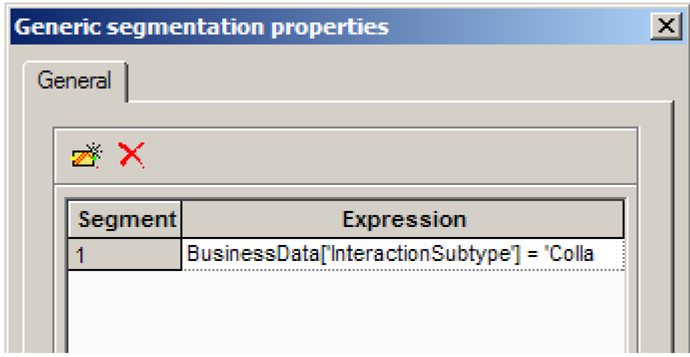


Figure 272: Expression in Generic Segmentation Properties Dialog Box

In Segment 1 in Figure 272, the entire expression reads:

`BusinessData['InteractionSubtype'] = 'CollaborationReply'`

The expression instructs URS to use the BusinessData function (documented in the *Universal Routing 7.6 Reference Manual*) with a Business Data parameter of type `InteractionSubtype` with a value of `CollaborationReply`.

13. Construct the next row in the `Generic Segmentation Properties` dialog box (Figure 272) as follows:
    - Click the button to add an item (see Figure 264 on page 311).
    - Repeat the above steps, but substitute `NDR` for the `Value` in Step 14.
    - When through in the `Generic Segmentation Properties` dialog box, you will have created two expressions (see Figure 273).

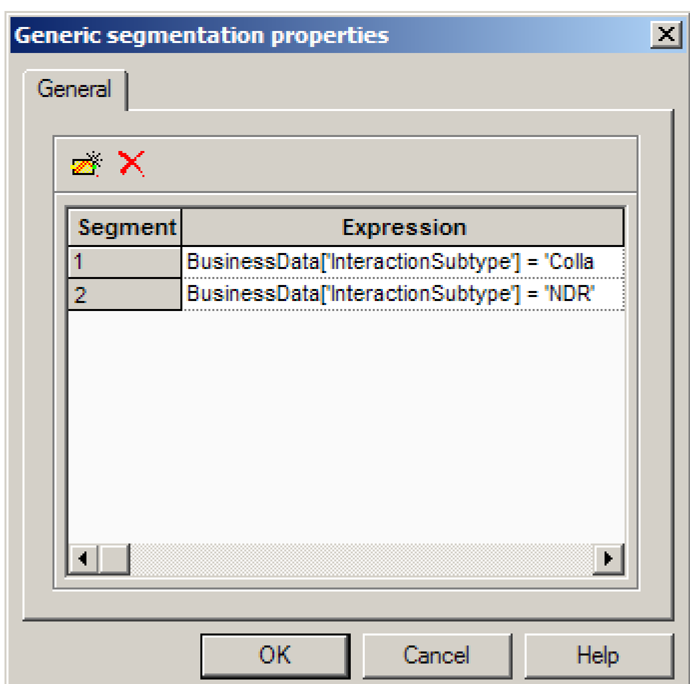


Figure 273: Expressions in Generic Segmentation Properties Dialog Box

- URS will use the first expression to determine whether an interaction has already been processed by Genesys and now contains the `CollaborationReply Interaction Subtype`. If true, it is an interaction resulting from two agents collaborating. The interaction contains the draft reply being sent back to the original agent from the collaborating agent.
- URS will use the second expression to determine whether an interaction has already been processed by Genesys and now contains an `NDR Interaction Subtype`. If true, it is an interaction where no destination can be reached (NDR). It needs to take a different path in the strategy than a `CollaborationReply` interaction.

14. Close the `Generic Segmentation Properties` dialog box,. The `Routing Design` window still appears as shown in Figure 263 on page 311.

15. Connect the Entry object to the Generic Segmentation object as follows:

- Click and hold on the bottom port of the Entry object.
- Drag the cursor to the green input port of the Generic Segmentation object and release. The objects now appear as shown in Figure 274.

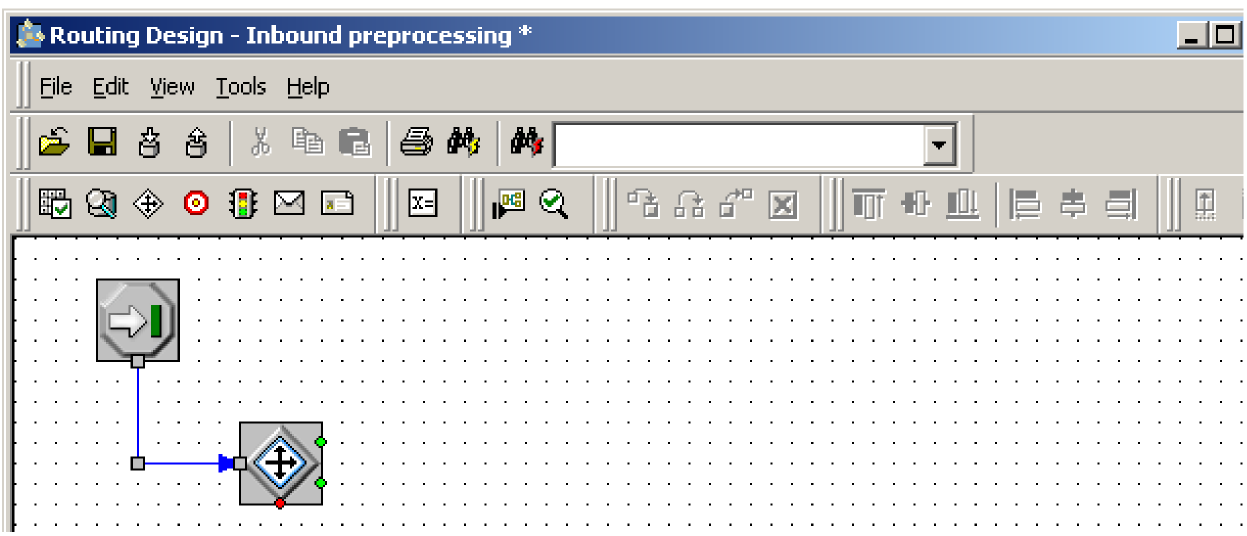


Figure 274: Entry Object Connected to Generic Segmentation Object

In Figure 274, note that the Generic Segmentation object has two green side ports.

- The first port corresponds to the first expression in Figure 273 on page 317.
- The second port corresponds to the second expression in Figure 273 on page 317.

Each port will have different processing associated with it. This means:

- If an interaction meets the first condition, it goes out the first port for inbound collaboration replies.

- If an interaction meets the second condition, it goes out the second port for interactions where no destination can be reached.

16. Click the `File` menu and select `Save`.

End of procedure

Next Steps

- Sending segmented interactions to queues.

The next stage in constructing the routing strategy shown in Figure 259 on page 306 consists of connecting each of the two side ports (see Figure 274) in the Generic Segmentation object to different Queue Interaction objects (each specifying a different queue).

Procedure: Sending Segmented Interactions to Queues

Purpose: Once segmented interactions are placed in queues, you can send them to different objects within the strategy for additional pocessing.

Start of procedure

1. In the `Routing Design` window, click the icon for Routing objects (see Figure 275).

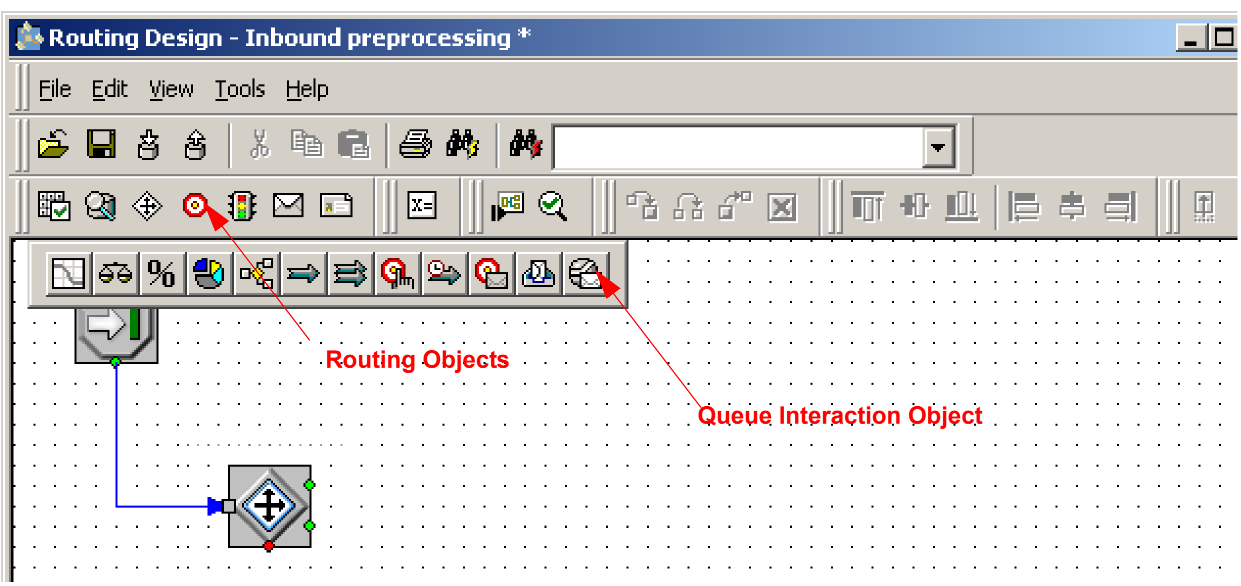


Figure 275: Icon For Multimedia Objects

2. Click the button for the Queue Interaction object (see Figure 275). Then click inside the Routing Design window at the location where you want to place the object. The Routing Design window now appears as shown in Figure 276.

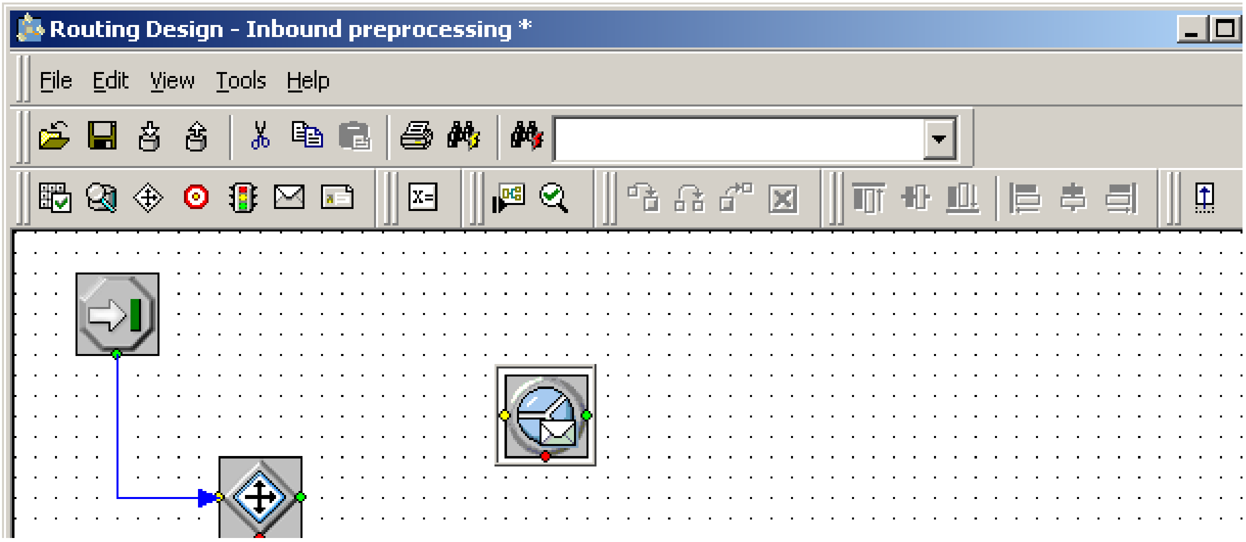


Figure 276: Routing Design window, Queue Interaction Object Placed

3. Double-click the Queue Interaction object to opens its properties dialog box (see Figure 276).
4. Click the down arrow to drop down a menu where you can select an interaction queue by expanding existing business processes (see Figure 277).

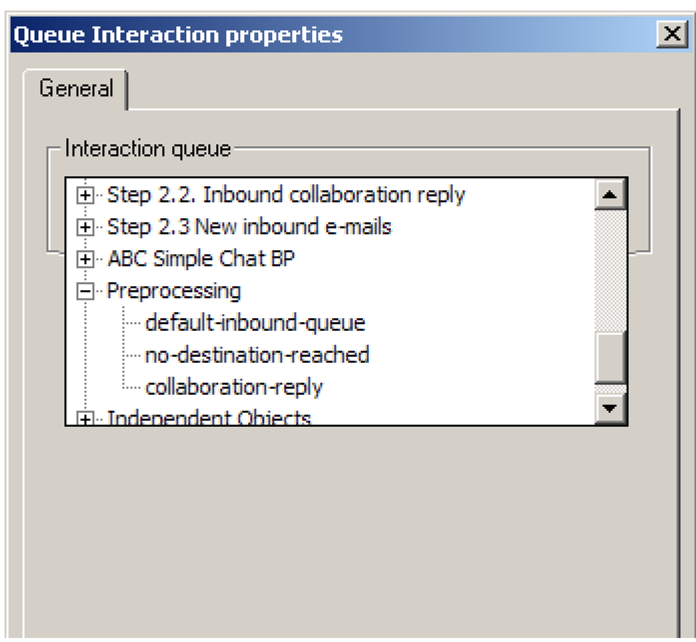


Figure 277: Queue Interaction Properties Dialog Box

Note: If you followed the "Order of Configuration" on page 213, the required queue will be available for selection.

5. Double-click a queue and click `OK`. The `Queue Interaction Properties` dialog box appears as shown in Figure 278.

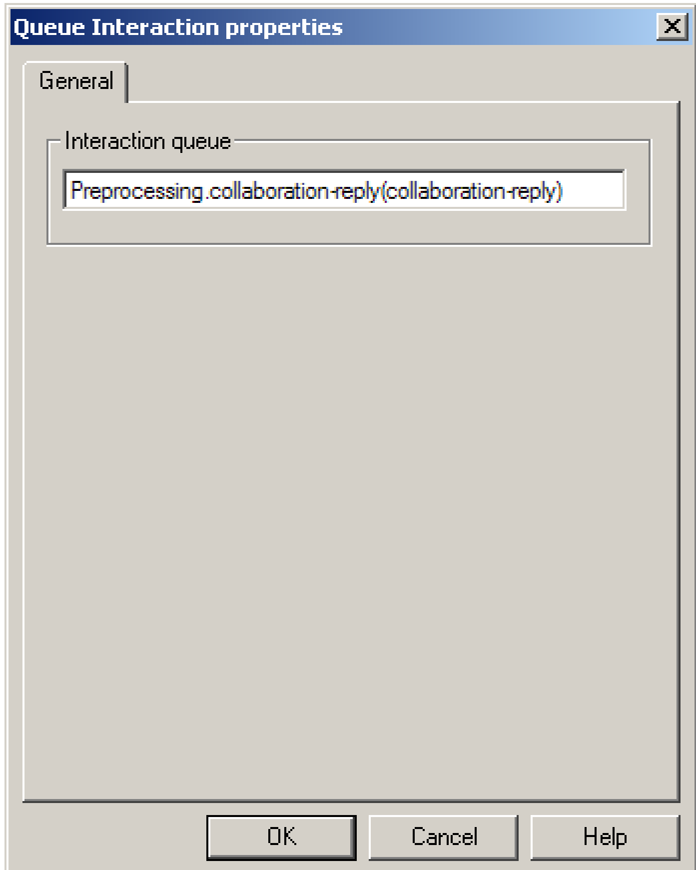


Figure 278: Queue Interaction Object, Queue Selected

Note: The queue could be one used by another business process if creating a number of smaller, less complex business processes (see page 198). Or the queue could be one in a different functional area of this business process if creating a larger, more complex business process.

6. Click `OK` in the `Queue Interaction Properties` dialog box.
7. Draw a connector line from the first side port of the Generic Segmentation object in Figure 276 on page 320 to the yellow input port of the Queue Interaction object. This indicates that inbound collaboration reply interactions should be sent to this queue.

8. Follow steps 1~6 to create a second Queue Interaction object to handle No Destination Reached (NDR) interactions, but this time select a different queue in Figure 277 on page 320.

9. Draw a connector line from the second side port of the Generic Segmentation object in Figure 276 on page 320 to the yellow input port of the Queue Interaction object for inbound NDR interactions.

   The routing strategy now appears as shown in Figure 279.

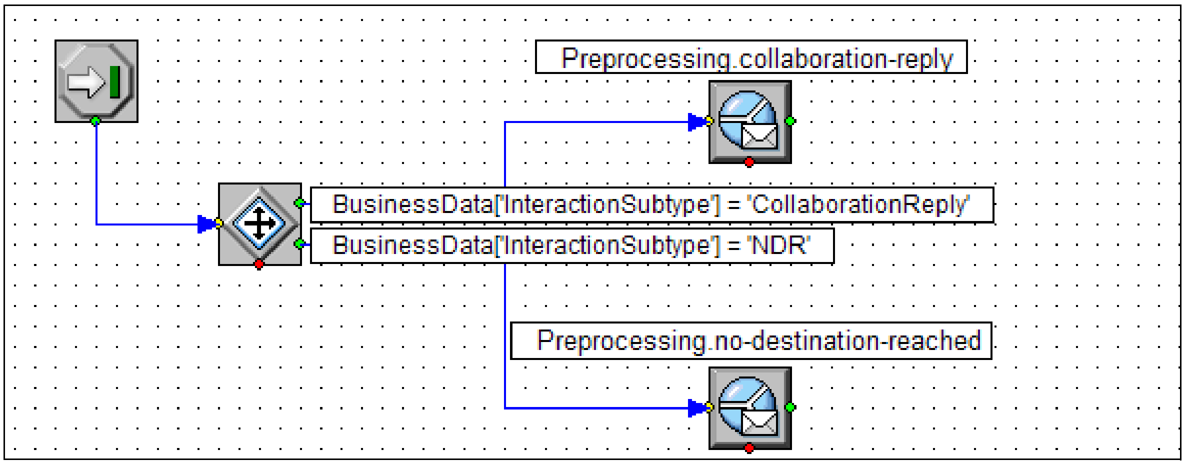


Figure 279: Routing Design Window, Segmenting to Different Queues

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Note: If the strategy isn't commented as shown above, click the `Tools` menu in the IRD main window and select `Routing Design Options`. The `Routing Options` dialog box opens (see Figure 123 on page 139). Put an `X` in the checkboxes opposite `Show Conditions On Graph` and `Show Description of Objects On Graph`.

---

10. Save the strategy.

End of procedure

Note: In addition to showing conditions and descriptions, you can also insert comments. Right-click inside the strategy and select `Insert Comment` from the context menu. In the resulting text box, enter your comments.

Writing Interaction Data to Variables

So far we have configured the sample strategy shown in Figure 259 on page 306 to handle collaboration reply and NDR interactions. The next objects to be configured determine whether an incoming interaction has an inbound processing failed status. To do this, the strategy will:

Write the contents of custom interaction keys (GEM_Failure and GEM_FailureMsg) to variables. The assumption is that these keys were previously added to the interaction attributes via the custom* fields in the interactions table as described in the chapter on interaction properties in the *Multimedia 7.6 User's Guide*.

The strategy then checks those variables and routes based on the true/false value of an expression.

- If the interaction does have inbound processing failed status, it will be sent to a queue for these types of interactions.
- If the interaction does not have inbound processing failed status, the interaction will be sent to a different queue for new inbound interaction processing.

Procedure: Defining Variables

Purpose: To define variables to hold the content of the GEM_Failure and GEM_FailureMsg attached data keys.

Start of procedure

1. In the Routing Design window, click the button for defining variables (see Figure 280).

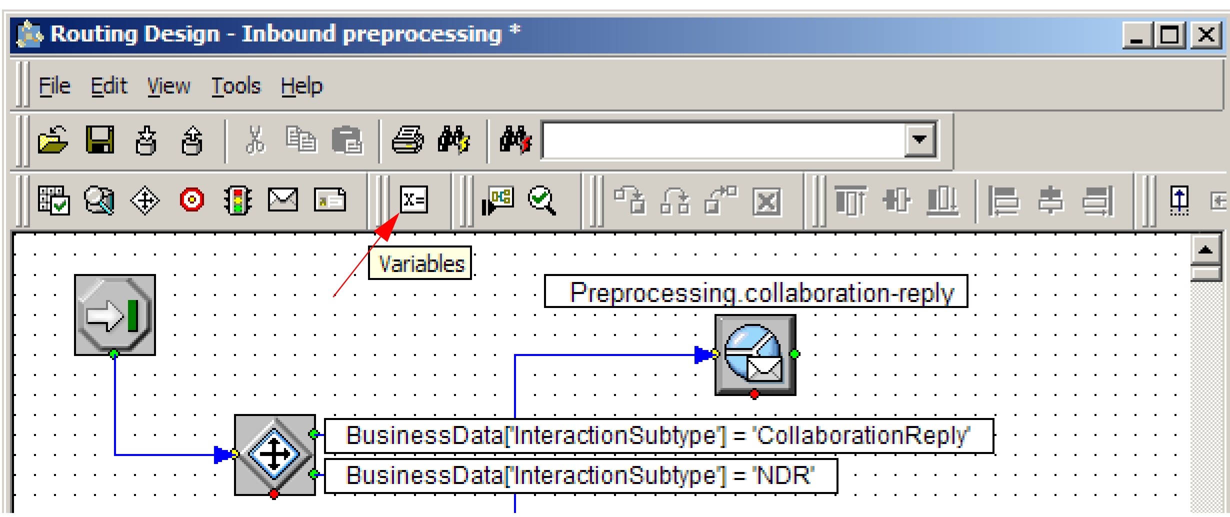

Figure 280: Variables Button

2. In the resulting Variable List Properties dialog box, define EPF_flag and EPF_value string variables. The dialog box appears as shown in Figure 281.

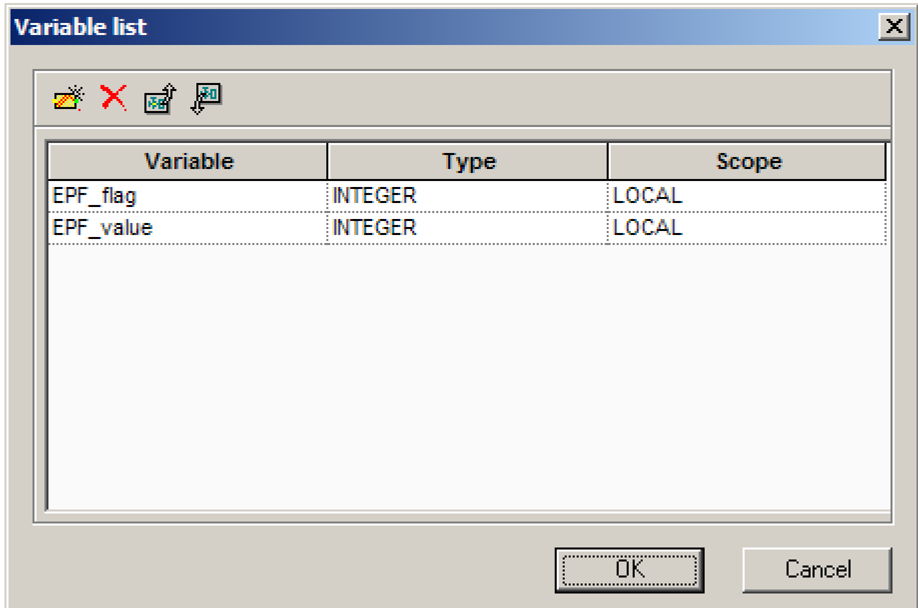

Figure 281: Variable List Properties Dialog Box

3. Click `OK` in the `Variable List Properties` dialog box.

End of procedure

Next Steps

- Assigning values to variables.

Now that the variables exist, use the Multi-Assign object to assign values.

Procedure: Assigning a value to a variable from Interaction Data

Start of procedure

1. In the `Routing Design` window, click the button for Miscellaneous objects (see Figure 282).

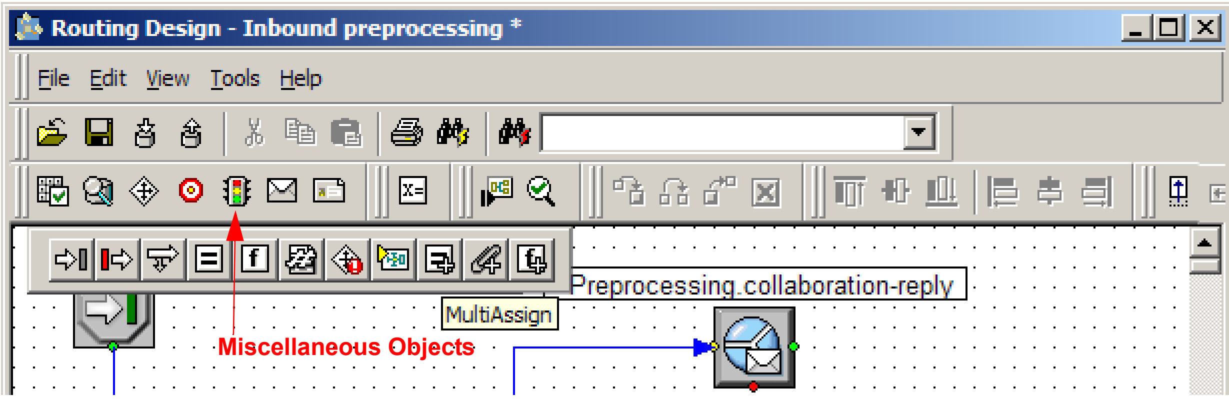

Figure 282: Miscellaneous Objects

2. Click the button for the Multi-Assign object (see Figure 104 on page 124). Then click inside the empty `Routing Design` window at the location where you want to place the object.
3. Double-click the Multi-Assign object to opens its properties dialog box.
4. Click the button to add an item in the `Multi-Assign Properties` dialog box (see Figure 283).

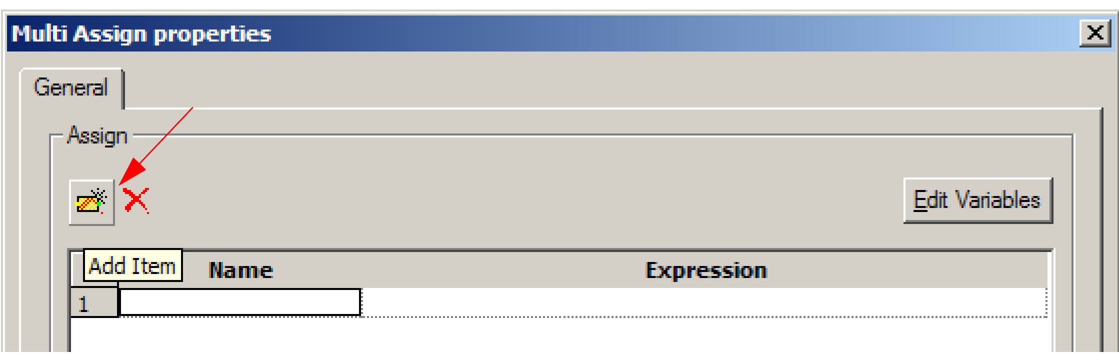

Figure 283: Multi-Assign Properties Dialog Box

5. Click in the `Name` field and select the `EPF_flag` variable.
6. Click under `Expression`. A down arrow appears (see Figure 284).

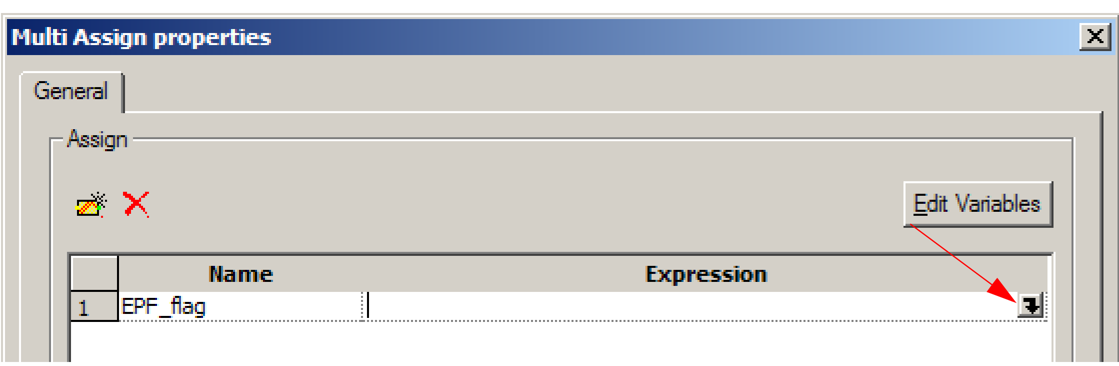

Figure 284: Expression Down Arrow

7. Click the down arrow to open the `Assign Properties` dialog box (see Figure 284) where you can assign a value to the variable.
8. Under `Type`, select `Interaction Data`.
9. Under `Name`, select `GEM_Failure`.

Note: The assumption is that this key is contained in the interaction and was previously defined in IRD as `Interaction Data` (see page 117).

10. Click `Add` followed by `Verify`. The `Assign Properties` dialog box appears as shown in Figure 285.

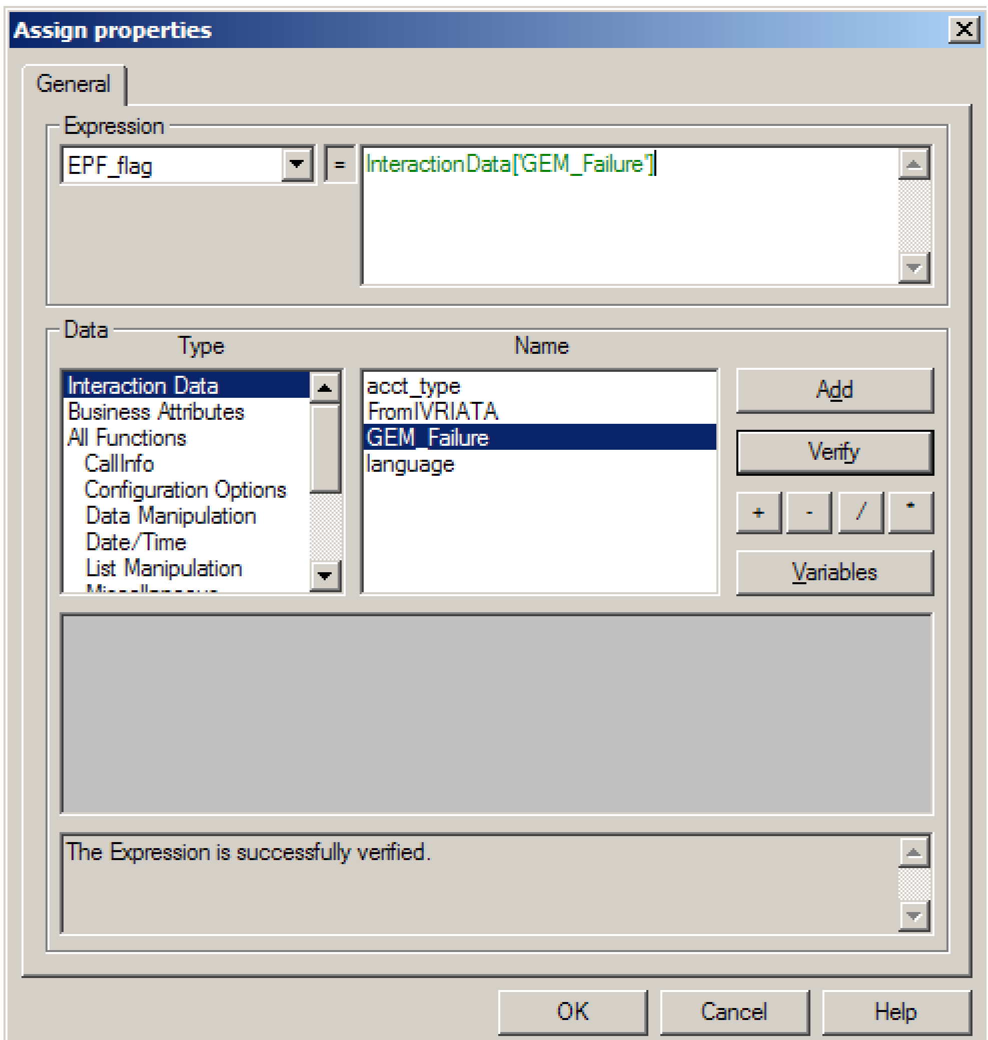

Figure 285: Assign Properties Dialog Box, Expression Verified

The content of the `GEM_Failure` key in the interaction will be written to the `EPF_flag` variable.

11. Click OK in the Assign Properties dialog box.

End of procedure

Procedure:
Assigning a value to a variable using a function

Start of procedure

1. Click the button to add an item in the Multi Assign Properties dialog box (see Figure 283 on page 325).
2. Click in the Name field and select the EPF_value variable.
3. Click under Expression in the Multi-Assign Properties dialog box. A down arrow appears similar to Figure 284 on page 325.
4. Click the down arrow to open the Assign Properties dialog box (see Figure 285 on page 326).
5. Under Type, select All Functions.
6. Under Name, select the Update function.
7. Click the down arrow under Value in the Assign Properties dialog box. The Key dialog box opens.
8. Click the Type arrow and select the EPF_flag variable (see Figure 286)

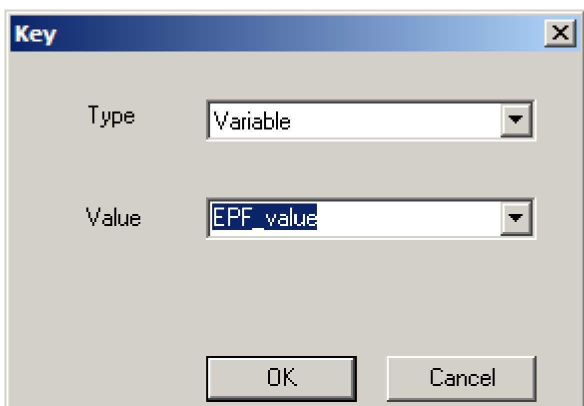

Figure 286: Key Dialog Box

9. Click OK.
10. Back in the Assign Properties dialog box, click Add followed by Verify. The Assign Properties dialog box appears as shown in Figure 287.

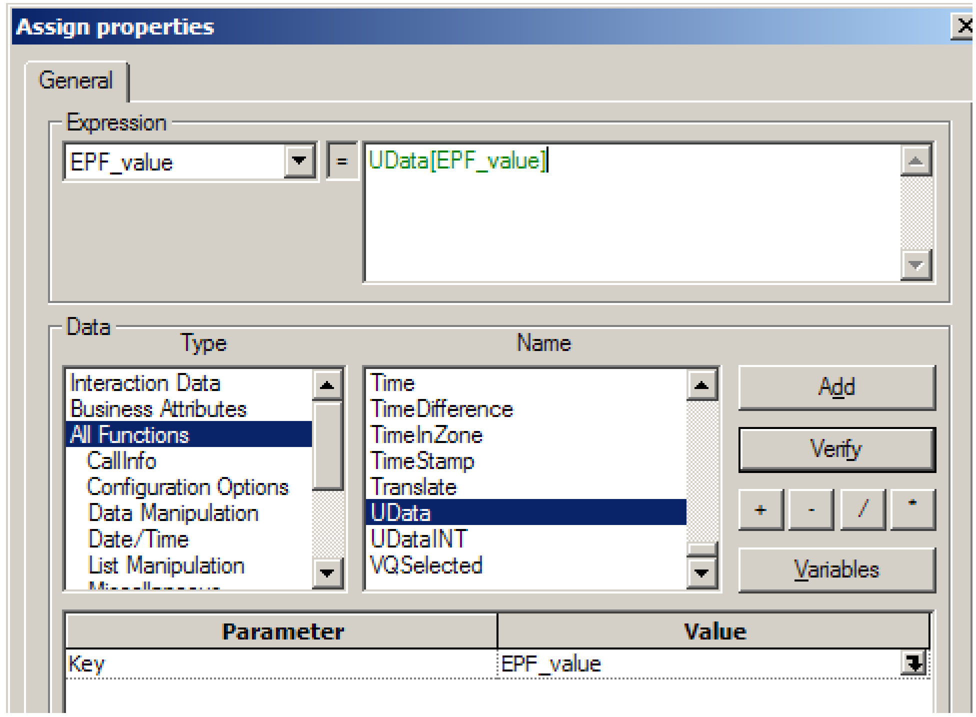

Figure 287: Assign Properties Dialog Box, Assigning to EPF_Flag Variable

11. Click `OK` in the `Assign Properties` dialog box. The `Multi-Assign Properties` dialog box now appears as shown in Figure 288.

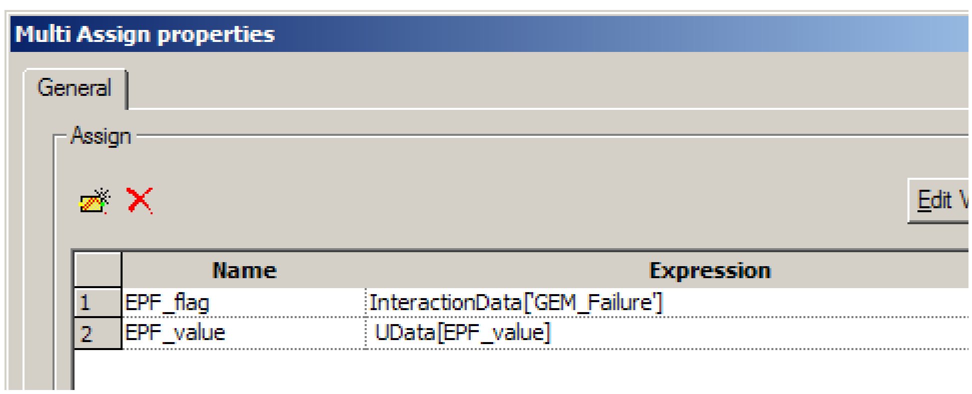

Figure 288: Assign Properties Dialog Box

12. Click `OK` in the `Multi-Assign Properties` dialog box.

End of procedure

To continue the strategy:

- Draw a connector line from the bottom red port of the Generic Segmentation object to the yellow input port of the Multi Assign object. The routing strategy now appears as shown in Figure 289.

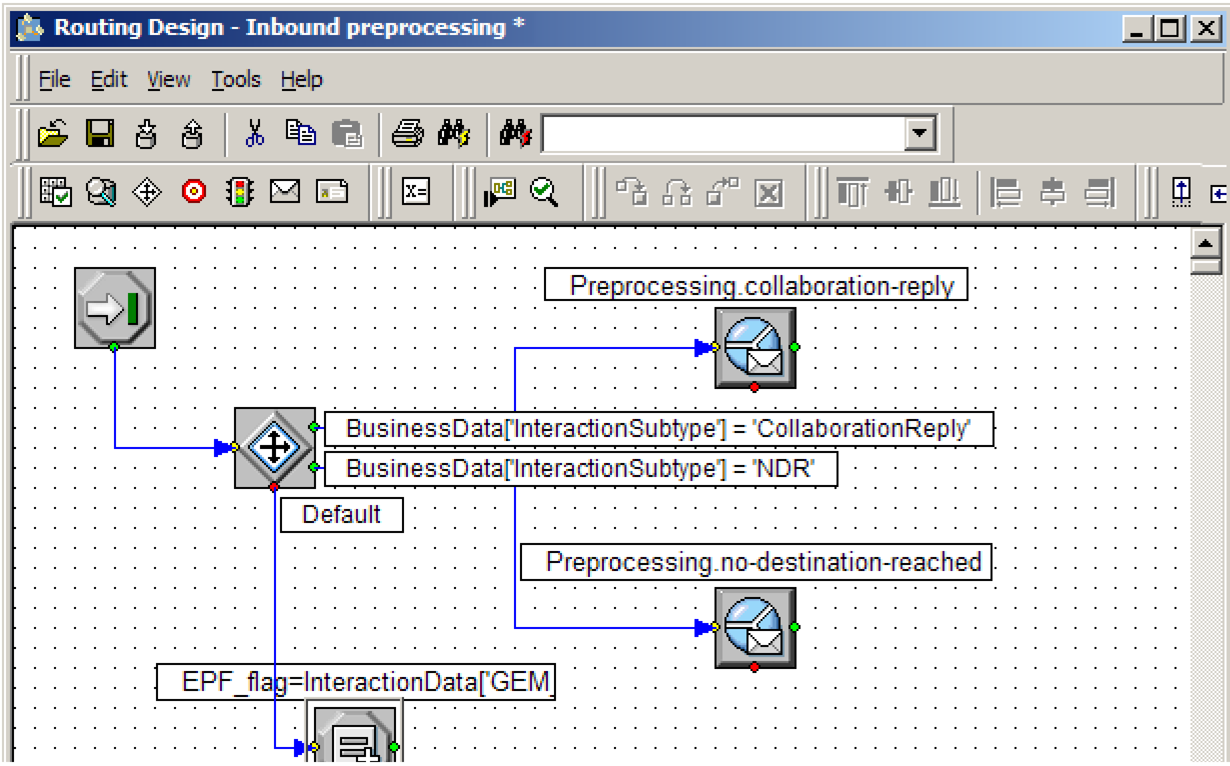

Figure 289: Routing Design Window, Multi Assign Object Added

If an incoming interaction does not contain an `Interaction Subtype` of `CollaborationReply` or `NDR`, the interaction goes out the red error port to a Multi-Assign object.

- Save the strategy as it exists so far.

Determining Interaction Status

Next the strategy will determine whether the interaction has inbound processing failed status or whether it is a new interaction that has never been processed by Genesys.

Procedure: Using the Generic Segmentation object to determine interaction status

Start of procedure

1. In the `Routing Design` window, click the icon for Segmentation objects (same as Figure 262 on page 310).

2. Click the Generic Segmentation object icon (see Figure 101 on page 122). Then click inside the empty design window at the location where you want to place the object.
3. Double-click the Generic Segmentation object to opens its properties dialog box (same as Figure 264 on page 311).
4. In the dialog box, click under `Expression`. A down arrow appears (same as Figure 265 on page 312).
5. Click the down arrow. The `Expression Builder` opens (same as Figure 266 on page 312).
6. In `Expression Builder`, construct the expression shown in Figure 290;

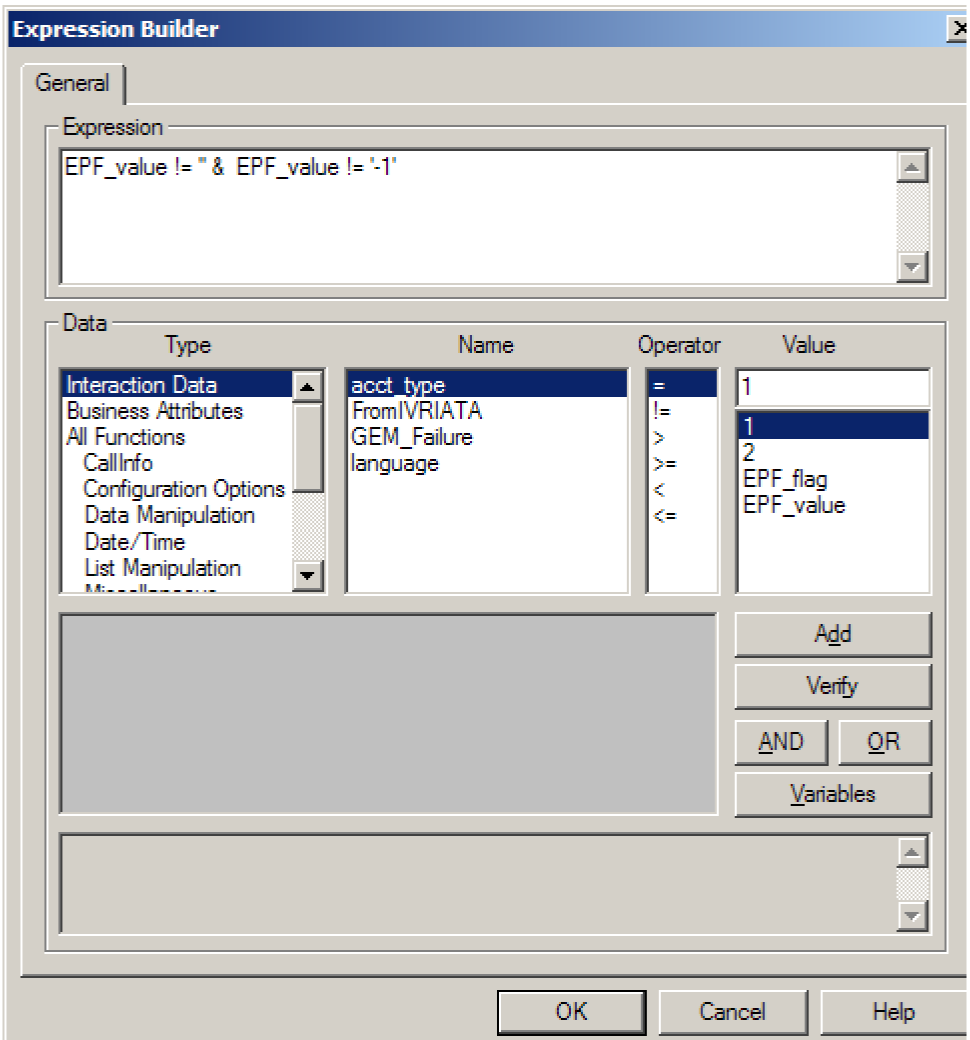

Figure 290: Expression Builder, Verified Expression

7. Click `Verify`. The lower pane indicates the expression was successfully verified.

8. Click OK in Expression Builder. The Generic Segmentation object appears as shown in Figure 291.

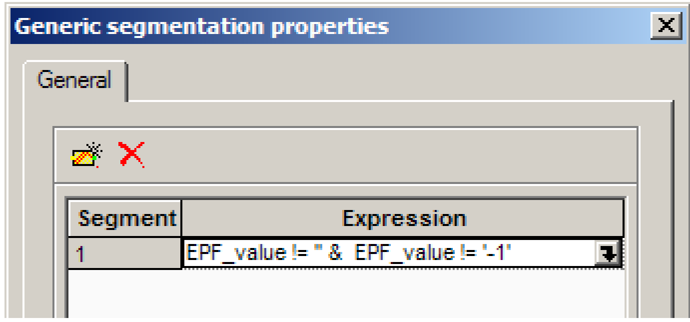

Figure 291: Generic Segmentation Object With One Expression

9. Click OK in the Generic Segmentation Properties dialog box.
10. Draw a connector line from the output port of the Multi Assign object to the input port of the Generic Segmentation object.

End of procedure

The strategy now appears as shown in Figure 292.

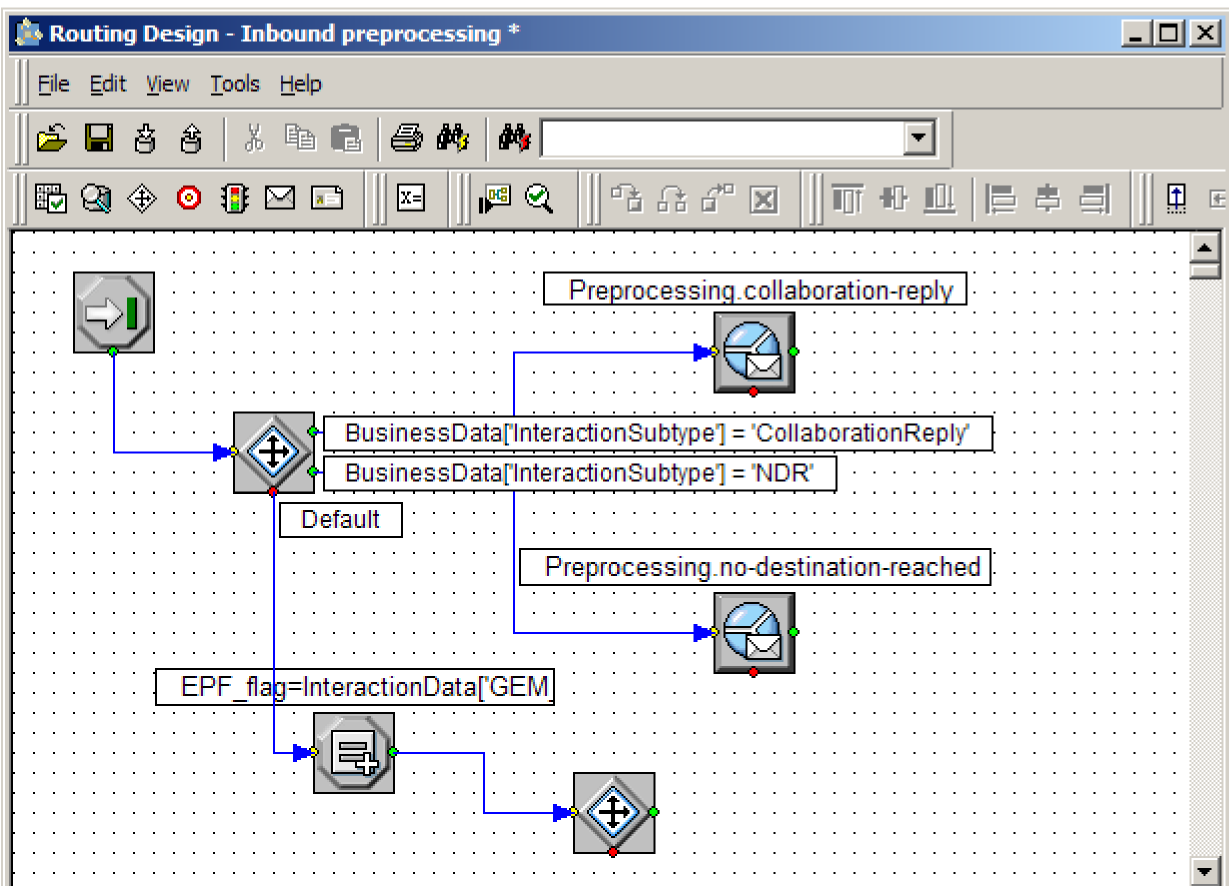

Figure 292: Multi Assign Connected to Generic Segmentation

Sending interactions to Queues

The expression in Figure 291 on page 331 determines whether an interaction has inbound processing failed status:

- If the expression is true for the current interaction (if GEM_Failure contains a value due to previous processing by Genesys), the interaction has inbound processing failed status, and goes out the green port.
- If the expression is false for the current interaction (if GEM_Failure is empty), the interaction does not have inbound processing failed status. It is a new interaction, and goes out the red port.

The next step configures the queue associated with new interactions that have never been processed by Genesys.

Procedure: Sending interactions to queues from the Generic Segmentation object

Purpose: To send interactions to two different queues; one for further inbound processing and another queue for inbound processing failures.

Start of procedure

1. Click the Queue Interaction object icon (see Figure 275 on page 319). Then click inside the Routing Design window at the location where you want to place the object.
2. Double-click the Queue Interaction object to opens its properties dialog box (same as Figure 277 on page 320).
3. Click the down arrow to drop down a menu where you can select an interaction queue. This example assumes you have followed the “Order of Configuration” on page 213 so the queue already exists in the Configuration Database.
4. Select the inbound postprocessing queue. (see Figure 293).

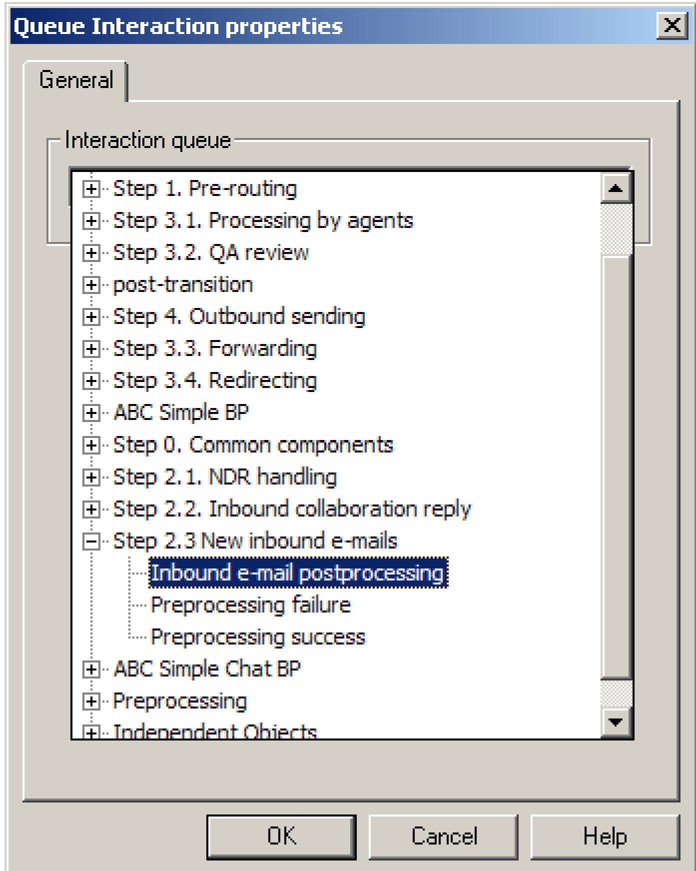

Figure 293: Queue Interaction Object, Queue Selected

5. Click `OK` in the `Queue Interaction Properties` dialog box.
6. Follow the above steps to create another Queue Interaction object, but this time select the queue, `inbound preprocessing failures` (see Figure 293).
7. Draw a connector line from the side port of the Generic Segmentation object in Figure 292 on page 331 to input port of the Queue Interaction object specifying the `inbound postprocessing` queue.
8. Draw a connector line from the side port of the Generic Segmentation object to the yellow input port of the Queue Interaction object for inbound interaction failures.
9. Draw a connector line from the bottom port of the Generic Segmentation object in Figure 292 on page 331 to the input port of the Queue Interaction object for inbound preprocessing failures.

   The routing strategy now appears as shown in Figure 294.

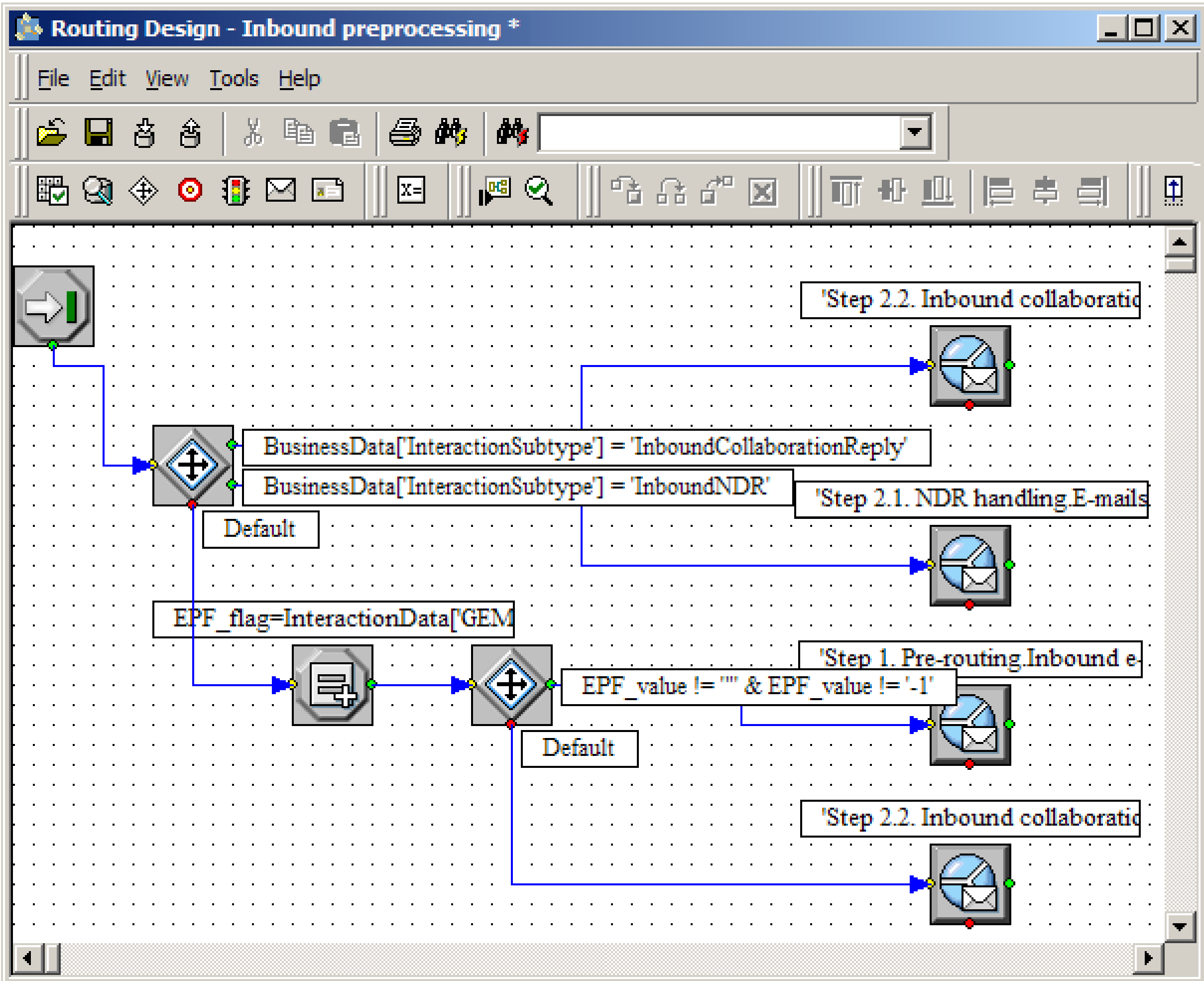

Figure 294: Queue Objects for Failures and New Inbound Interactions

10. Click the `File` menu and select `Save`.

End of procedure

Next Steps

Continuing with the above example, when this routing strategy is placed in a business process:

- The next step might be to extract interactions out of the queues and submit them to routing strategies in the same business process.
- Or the next step might be to use the same queues in different business processes and continue processing from there. The Interaction Workflow Samples component takes this latter approach (see “Step 2.1. NDR Handling” on page 368).

Compiling

This section describes how to compile a routing strategy in the `Routing Design` window:

Procedure:
Compiling a routing strategy

Purpose: To check whether the strategy can be executed and does not contain errors.

Start of procedure

1. Click the button for compiling (see Figure 295).

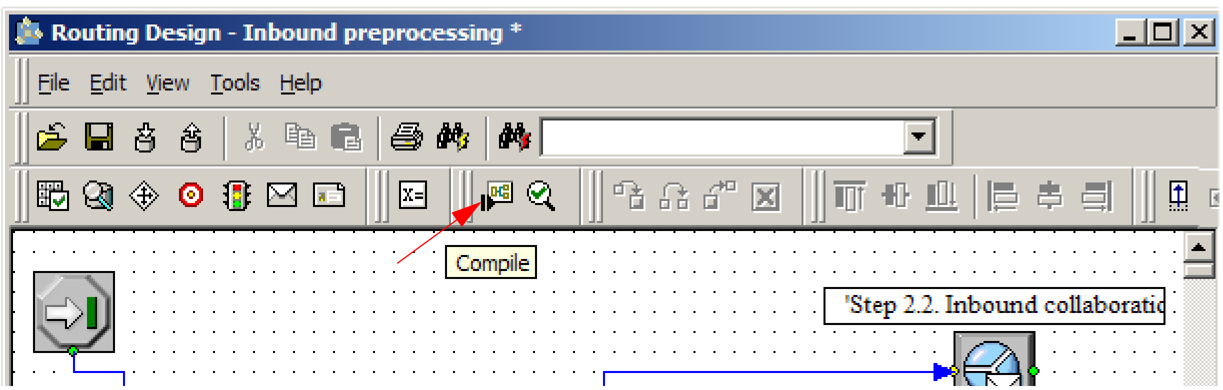

Figure 295: Compile Button

2. View the results of the compile. If the strategy compiles successfully, the following message appears (see Figure 296).

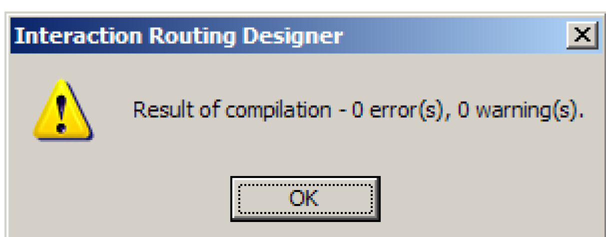

Figure 296: Message When Strategy Compiles Successfully

Note: This message also appears in the `Errors in Strategy` tab, which appears once you compile, at the bottom of the `Routing Design` window (see Figure 297).

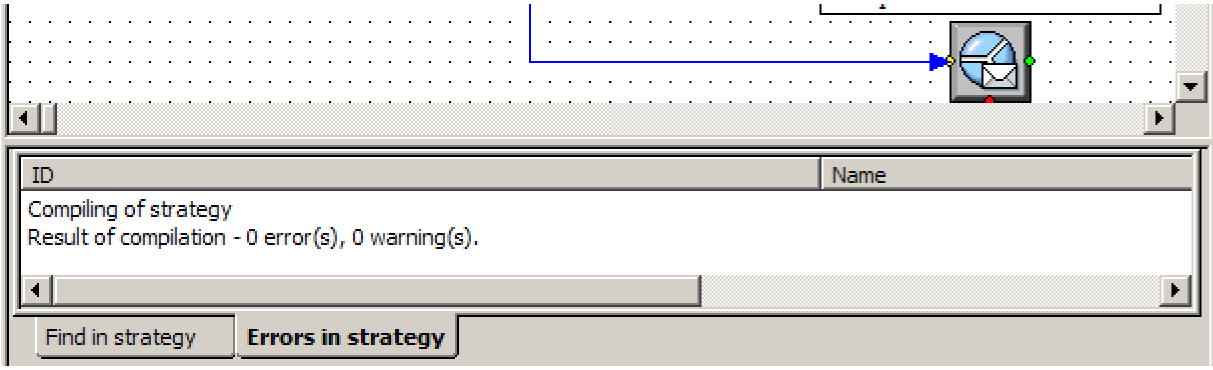

Figure 297: Errors in Strategy Tab

3. View the `Errors in Strategy` tab. If the strategy does not compile successfully, the `Errors in Strategy` tab details the error.
4. Correct the error and recompile until no more errors.

End of procedure

You may also wish to use the Check Integrity tool, which highlights invalid references in the Configuration Database.Using Check Integrity

Checking Database Integrity

You can locate invalid Configuration Database object references within a saved or compiled strategy using the Check Integrity tool. The tool is located on the toolbar in the `Routing Design` window (see Figure 298).

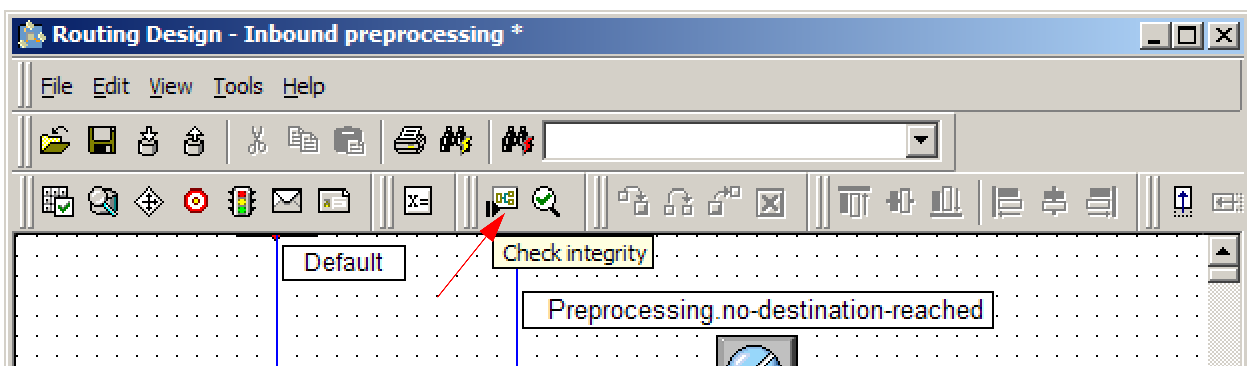

Figure 298: Check Integrity Tool

Procedure:
Using Check Integrity

Purpose: To check for invalid database references.

Start of procedure

1. Open the strategy if not already open. You can open by selecting the strategy in the `Strategies List pane` (see Figure 32 on page 59) or by using `Edit/View Strategy` in the `Interaction Design` window (see Figure 250 on page 293).
2. If you made any changes to the strategy since it was last saved or compiled, save the strategy again.
3. Click the icon for checking integrity (see Figure 298 on page 336) in the toolbar. The objects containing the invalid references are highlighted with a red border in the `Routing Design` window, and the `Errors in Strategy` output window appears below the `Routing Design` window listing the invalid references.
4. Double-click a highlighted object to open its properties dialog box.
5. Make corrections to the object as required. The highlight disappears when you close the properties dialog box for the object.
6. Use the Search or the Search and replace capabilities (see page 137) to search for all occurrences of an invalid reference.

End of procedure

Important Information

Keep the following points in mind when using Check Integrity:

- When a call should be routed to a `Resource` under a different Tenant using the routing rule Switch-to-Strategy, the Check Integrity function will always return an error.
- When Check Integrity is off, IRD allows the opening and editing of a loaded strategy.
- Before checking strategy integrity, save your changes. If you do not save your changes before using the Check Integrity tool, this error message appears:

  `Check Integrity Operation aborted`
- If the Check Integrity tool is not available select `View > Check Integrity` to activate the tool. When the Check Integrity command is activated, all strategies and objects are checked. While IRD performs the check, you cannot perform any other operation.
- The Progress Bar indicates the progress of the integrity checking.
- Use the Compile command to check for strategy syntax errors.
- Turn off Check Integrity when updating permissions apply to a large number of objects. If Check Integrity is turned on, it could take a long time to update permissions, for example from No Access to Full Control.

Adding a Strategy to a Business Process

Strategies unconnected to a business process can be found in the `Independent Objects` folder (see Figure 36 on page 63).

Procedure:
Adding a strategy in the Independent Objects folder to a business process

Start of procedure

1. In the `Interaction Design` window object browser, `Independent Objects` folder, select the strategy.
2. Drag/drop it into the `Strategies` folder for the applicable business process.
3. Select `Save` from the `File` menu.

End of procedure

Procedure:
Re-using a strategy already contained in a business process

If the strategy is already connected to a business process, you can still use it.

Start of procedure

1. Switch to the business process that contains the strategy by double-clicking it to make it active (highlighted). You can also select `Open the Process` from the shortcut menu.
2. Expand the `Strategies` folder where you will copy the strategy to.
3. Select the strategy that you wish to re-use so it is highlighted.
4. Drag only (don't drop yet) to the `Strategies` folder for the applicable business process.
5. Place the mouse pointer directly over the `Strategies` folder.
6. When the mouse pointer becomes a left-pointing arrow, drop the strategy into the folder.

End of procedure

Editing/Viewing Strategies

Note: You must deactivate a strategy before you can open it for editing or viewing. For more information, see page 349.

You can edit or view a strategy that is not loaded on a virtual routing point from either the `Interaction Design` window or from the `Routing Design` window.

Procedure: Editing/viewing a strategy from the Interaction Design window

Start of procedure

1. Right-click the strategy name and select `Edit/View Strategy` from the menu (see Figure 299).

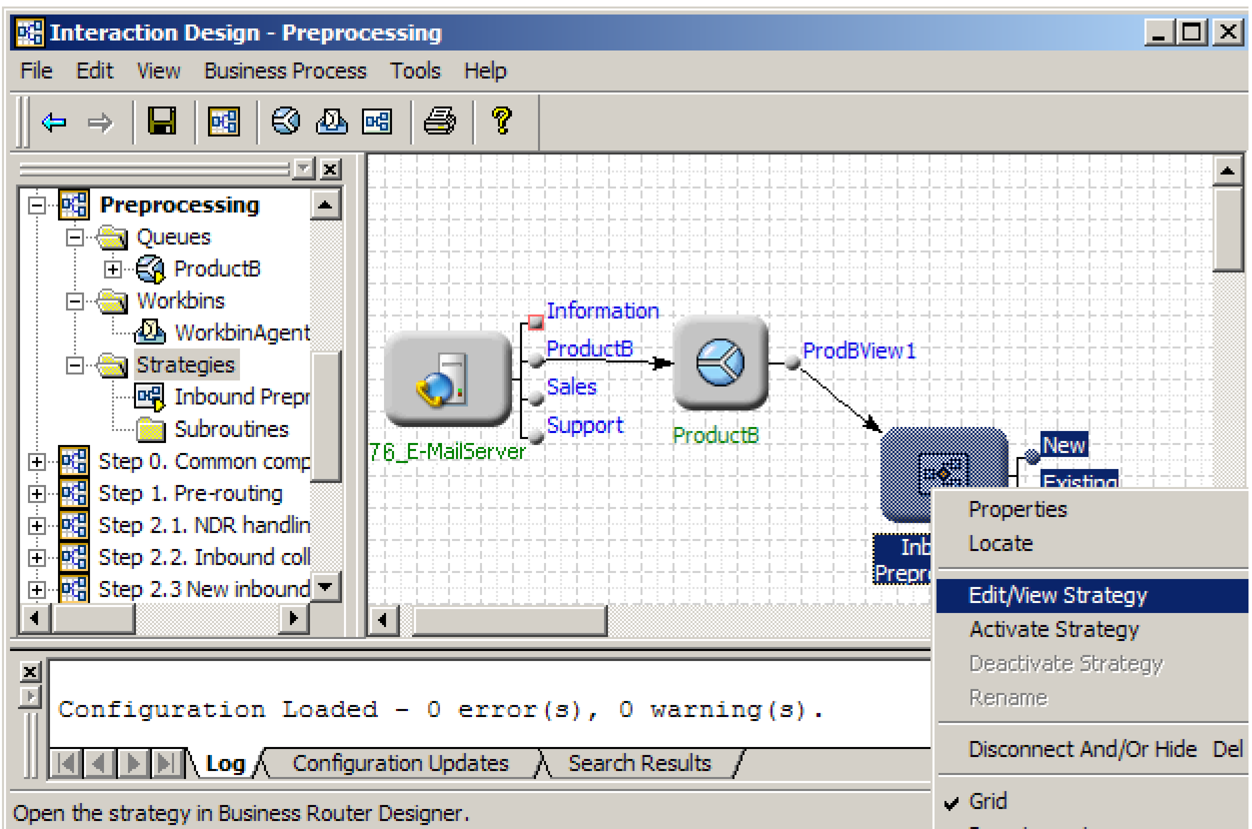

Figure 299: Edit/View Strategy From the Interaction Design Window

If you have access to the `.rbn` file (see “Graphical Portion of a Strategy” on page 186), the strategy opens for editing in the `Routing Design` window (see Figure 300 on page 340).

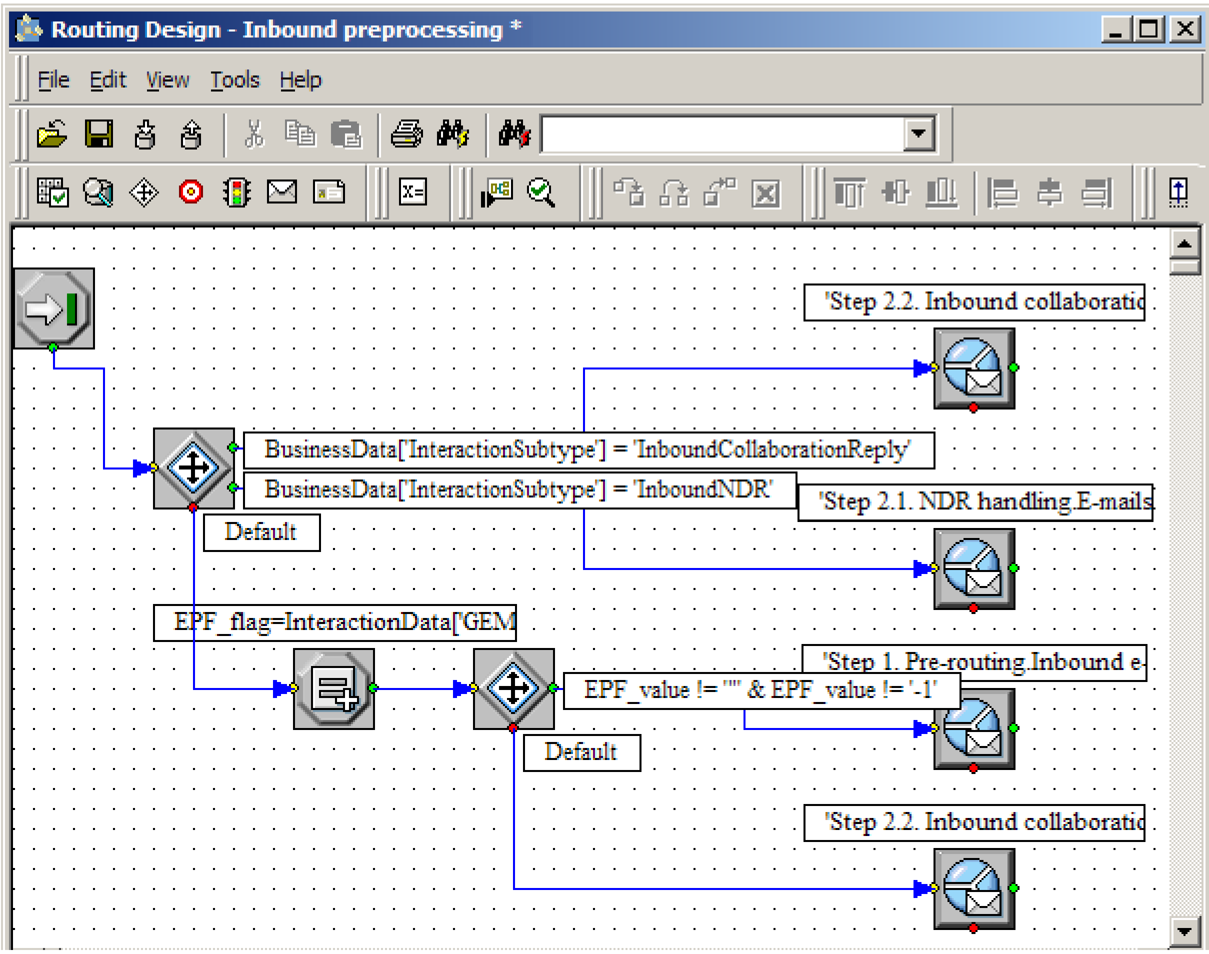

Figure 300: Strategy Available for Editing in Design View

2. If you have unsaved changes in the currently open business process, respond to the message that appears (see Figure 301).

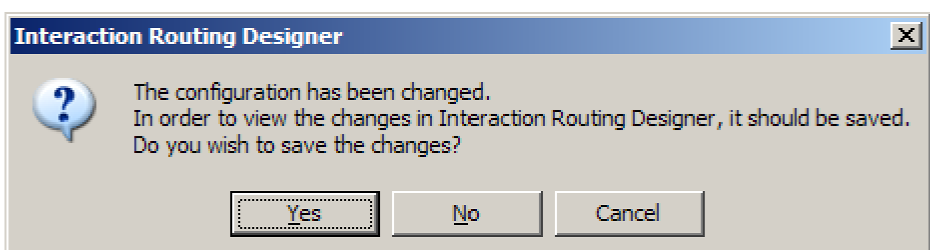

Figure 301: Configuration Changed Prompt

End of procedure

Procedure:
Viewing a strategy from the IRD main window

To edit/view from the `Strategies` list pane in the IRD main window (see Figure 88 on page 113), use one of the methods below.

Start of procedure

1. If working in the `Interaction Design` window, minimize the window.
2. Open the window that contains the IRD main window.
3. Single-click the strategy to highlight and select `Open` from the `File` menu.
   - As an alternative, double-click the strategy to open.

End of procedure

With either method, if you have access to the `.rbn` file (see "Graphical Portion of a Strategy" on page 186), the strategy opens for viewing/editing in the `Routing Design` window (see Figure 300 on page 340).

Deleting Strategies

You can delete strategy that is not loaded on a virtual routing point in either the `Interaction Design` window or the `Routing Design` window.

Procedure:
Deleting strategies from the Interaction Design window

Start of procedure

1. In the object browser (see Figure 35 on page 62), right-click the strategy.
2. Select `Delete` from the shortcut menu. The strategy is not deleted in the Configuration database, but only disappears from the business process that uses it. If you want to remove it from the Configuration Database, you must do so in the `Routing Design` window.

End of procedure

Procedure:
Deleting strategies from the Strategies List pane

Start of procedure

1. In the `Strategies List` pane (see Figure 32 on page 59), single-click the strategy.
2. Press the `Delete` key. The following message appears (see Figure 302):

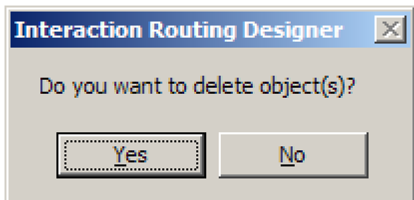

Figure 302: Delete Object Confirmation

3. Click `Yes`. The strategy is deleted. Any re-usable objects (see page 113) that the strategy uses are not deleted.

End of procedure

Chapter

12 Using a Business Process

This chapter provides step-by-step instructions for using business processes. It covers the following topics:

Activating Strategies

Before testing a routing strategy, you must load it on a virtual routing point in your Test environment (do not load it in your Production environment). Use the `Strategy Activation Wizard` for this purpose as described below.

Procedure: Loading a multimedia strategy on a virtual routing point

Start of procedure

1. As described in the *Multimedia 7.6 Deployment Guide*, make sure a Multimedia `Switch` object is configured and available in IRD's `Monitoring` view (see Figure 303 for an example).

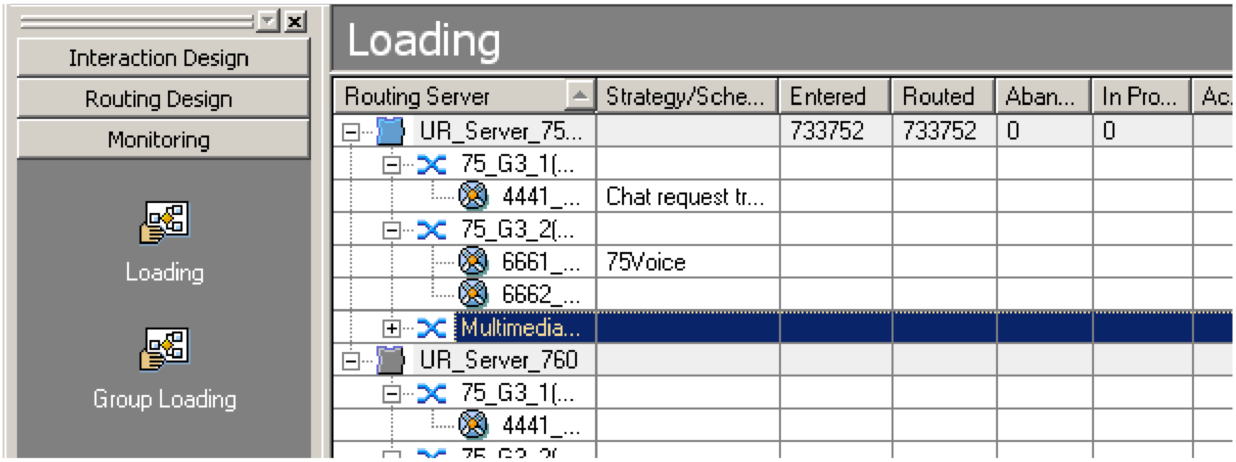

Figure 303: Example Multimedia Switch

2. Open the business process associated with the strategy by double-clicking it. Or use `Open the Process` from the shortcut menu.
3. Use one of the following methods to open the `Strategy Activation Wizard`:
   - Highlight the business process name in the object browser and select `Deactivate Strategy(ies)` from the `Tools` menu. Using this method, you can activate multiple strategies at once
   - Right-click the Strategy object in the object browser or workflow viewer and select `Activate Strategy` from the shortcut menu (see Figure 304).

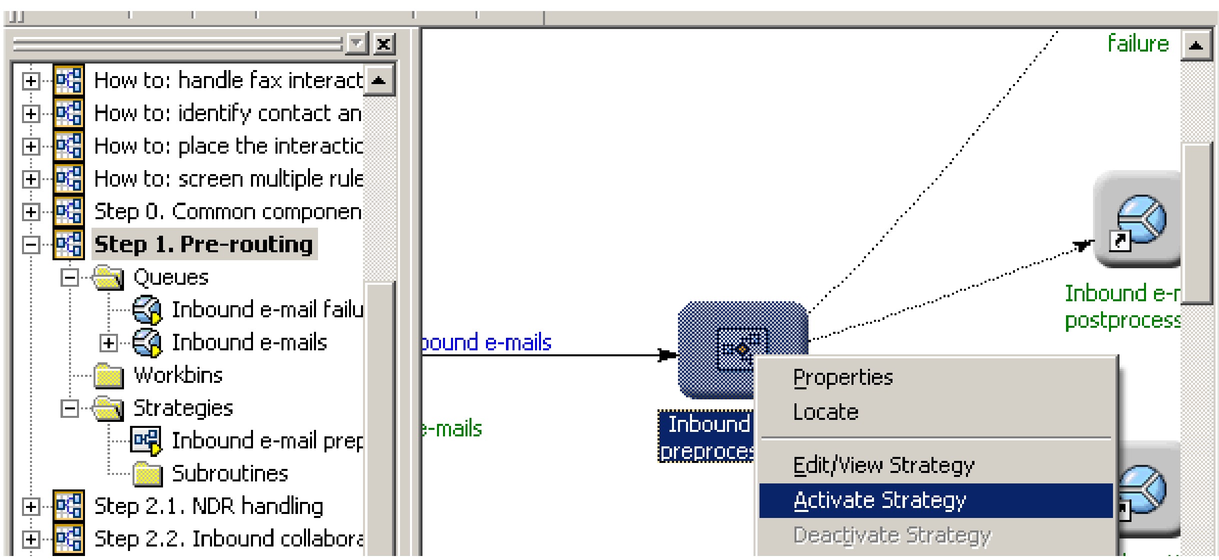

Figure 304: Activate Strategy From Context Menu

With either method, the `Strategy Activation Wizard` launches (see Figure 305).

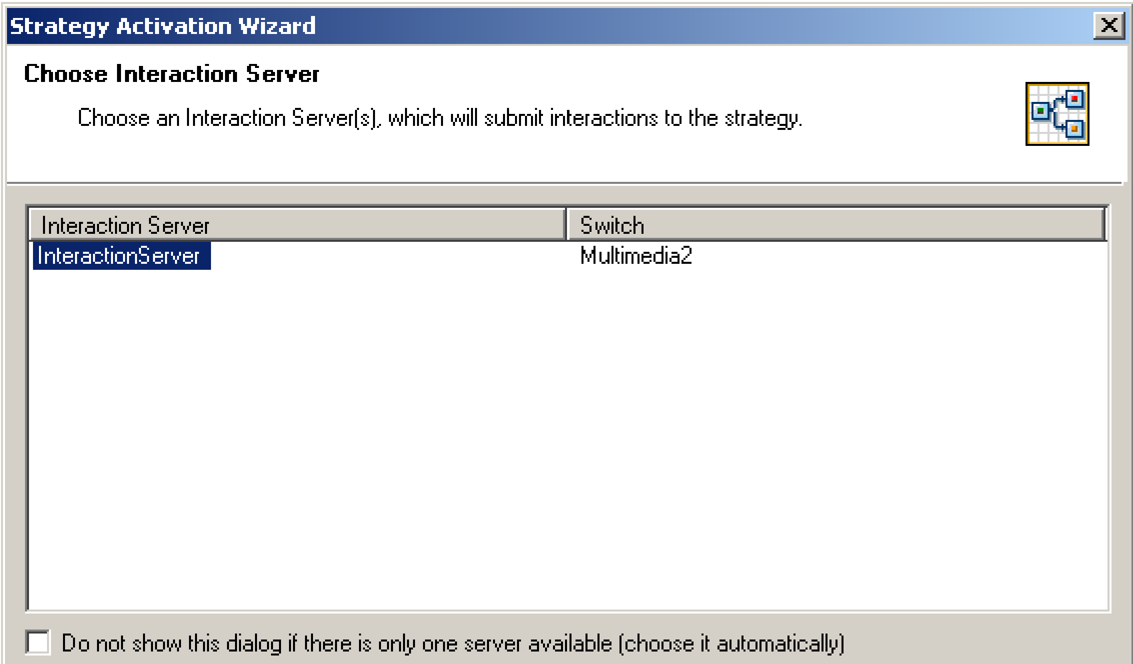

Figure 305: Strategy Activation Wizard, Start

4. Select an Interaction Server and click `Next`. `Choose Universal Routing Server` appears at the top of the wizard (see Figure 306).

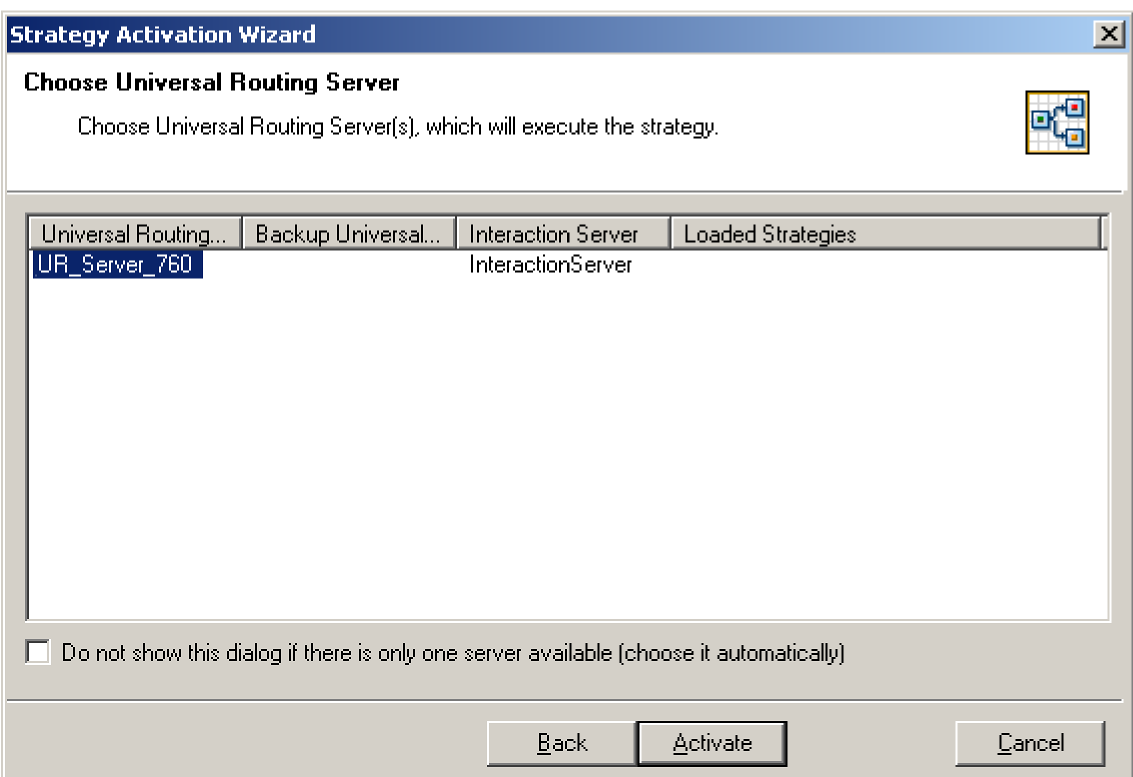

Figure 306: Strategy Activation Wizard, Choose Universal Routing Server

5. Select a Universal Routing Server and click `Activate`. The next dialog box indicates the activation is done (see Figure 307).

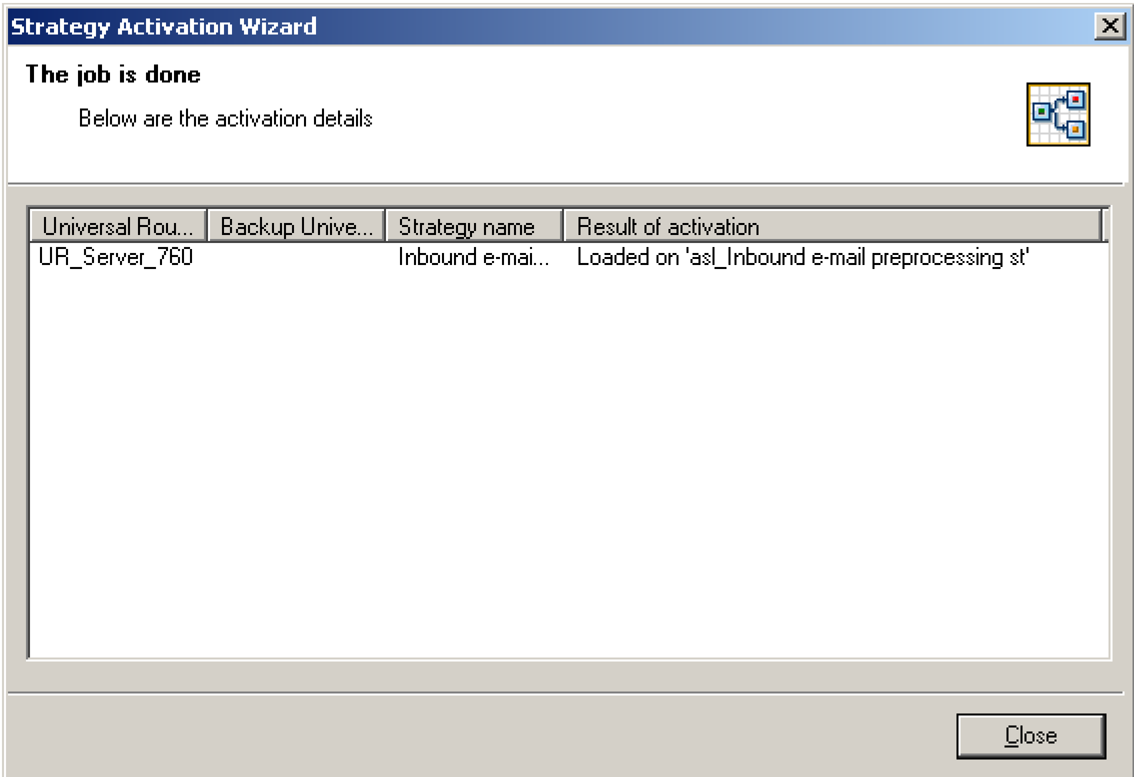

Figure 307: Strategy Activation Wizard, Choose Universal Routing Server

End of procedure

If you do not have a Switch connection to Interaction Server, when you select `Activate Strategy` from the menu shown in Figure 304 on page 344, the `Strategy Activation Wizard` explains what to do next.

Note: It is possible to manually load strategies in `Monitoring` view (see Figure 65 on page 83). The `Strategy Activation Wizard` is the preferred method because it creates the virtual routing points for you. Similarly, when you use the Wizard to deactivate a strategy loaded on a virtual routing point (see Figure 66 on page 84), the Wizard also deletes the virtual routing points.

Testing the Strategy

Testing the strategy is accomplished using a combination of your e-mail client and Genesys Desktop, which flashes a yellow icon when an e-mail is received by a ready agent (see Figure 308).

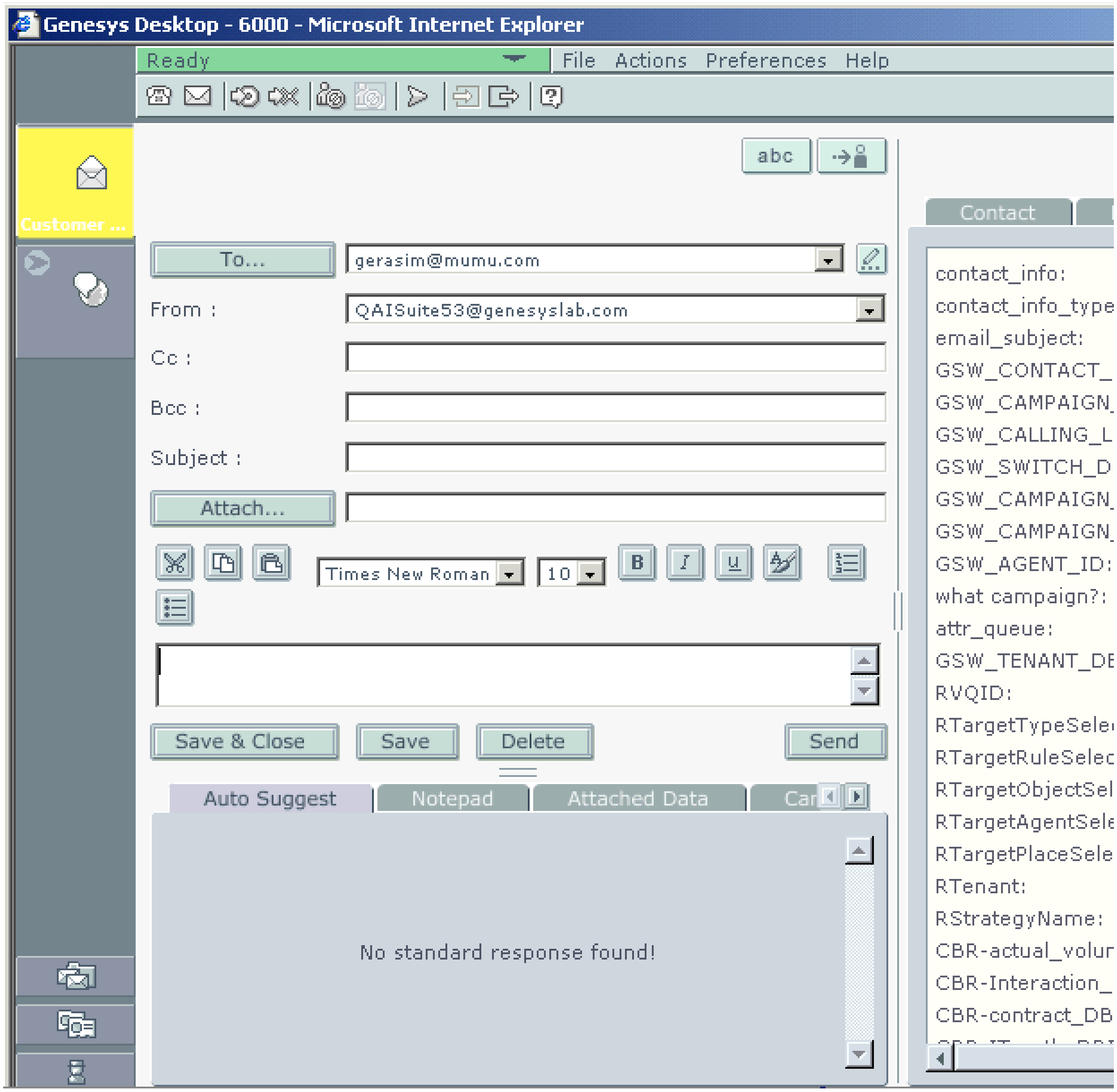

Figure 308: Genesys Agent Desktop

For information on testing business processes, consult the *Multimedia 7.6 Deployment Guide*, Chapter 4.

Verifying the Workflow

A business process must be consistent. This means that:

- All routing strategies are valid.
- All non-dynamic queues have at least one Submitter object.
- All agent targets and routing strategies must have the appropriate number of connections.
- All interaction processing must have an end. The end can be specified by the IRD Stop Processing object or a special target (different from an agent and/or queue).

To verify a business process:

1. Select `Options` from the `Tools` menu.
2. Make sure the following option is selected:
   `Fix Referential Integrity Errors Automatically (on Load).`
3. Select `OK.`
4. Close and re-open the business process.
5. Respond to any messages that might appear.

Deactivating/Unloading Strategies

Note: It is possible to manually unload strategies in `Monitoring` view (see Figure 65 on page 83). Using `Deactivate,` as described below, is the preferred method because it gives you more options.

You must either deactivate or unload a strategy before you can open it for editing or viewing with `Edit/View Strategy`.

Procedure:
Deactivating or Unloading a Strategy in a business process

Start of procedure

1. Open the Strategy Activation Wizard using one of the following methods:
   - Right-click the Strategy object in the object browser or workflow viewer and select `Deactivate Strategy` from the shortcut menu.
   - Highlight the business process name in the object browser and select `Deactivate Strategy(ies)` from the `Tools` menu. Using this method, you can deactivate multiple strategies at once

Depending on which method you use, the `Deactivate <name> Strategies` dialog box opens listing either one or all of the strategies contained in the business process that could be deactivated.

In the figure below, the business process contains one strategy (see Figure 309).

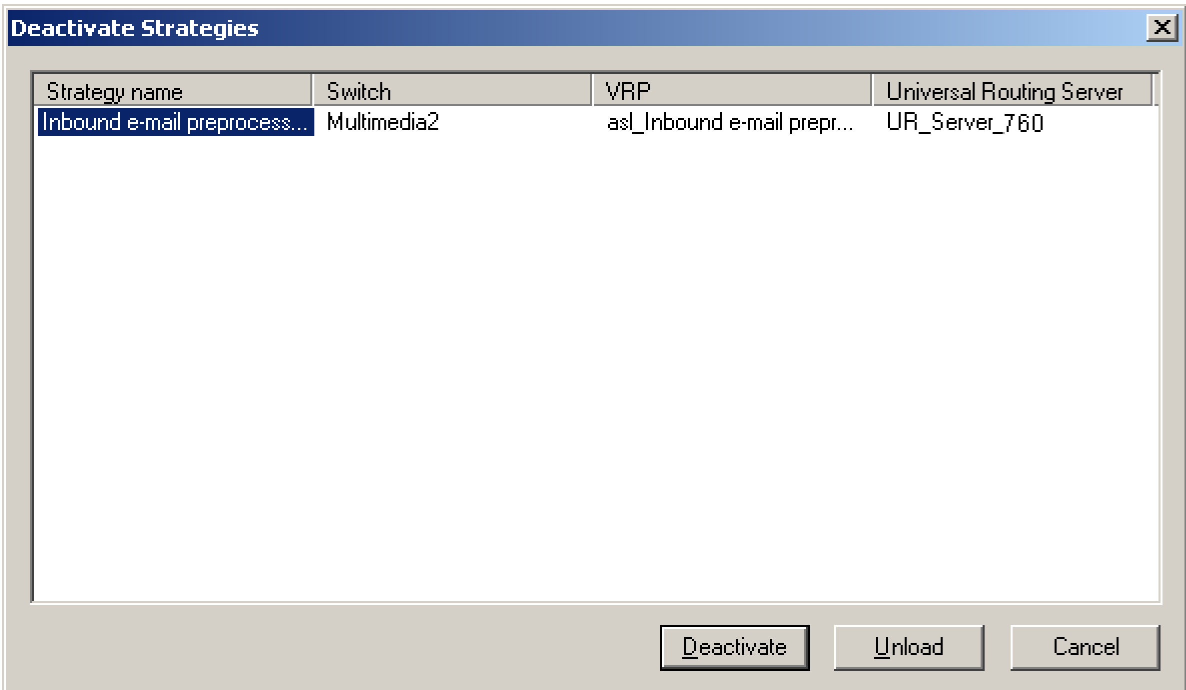

Figure 309: Deactivate Strategy Dialog Box

2. Select either `Activate` or `Unload`.
   - `Deactivate` deletes the virtual routing point as well as deactivating the strategy in the business process.
   - `Unload` does not delete the virtual routing point. You must unload a strategy before you can view or edit it. In a large environment, the `Unload` option could save time later when activating multiple strategies back to existing routing points.

   If multiple strategies are listed, select only the strategies you wish to deactivate or unload.
3. When the strategies are highlighted, click the button for the desired action. IRD will not display confirmation prompts. After you click the desired button, the dialog box closes and IRD performs the action.

End of procedure

Appendix

Business Process Samples

This appendix discusses the Genesys-supplied business process samples. It builds on the information contained in "Using the Samples" on page 195 and covers the following topics:

About the Samples

Because each company has its own environment and different requirements, supplying business process samples that accurately reflect all real-word business scenarios is not possible. Therefore, do not consider the Genesys-supplied Interaction Workflow Samples suitable for a Production environment, but instead demonstrations of one way to implement various types of functionality. Use them as a starting point to develop your own customized business processes adjusted to your company's specific needs.

Through its `Interaction Workflow Samples` component (shown ahead in Figure 310 on page 354), Genesys provides the following business processes:

- `ABC Simple BP` (page 356) is a basic business process useful to get a concept and check the samples installation.
- `ABC Simple Chat BP` (page 361) offers minimal chat interaction processing.
- `Default BP` (page 362) is a complex business process with a lot of functionality. See "Functionality Demonstrated in the Samples" below.
- The step-numbered samples break down `Default BP` into functionally-themed components:

  `Step 0. Common Components` (see Table 27 on page 363)

  `Step 1. Pre-routing` (page 366)

  `Step 2.1. NDR Handling` (page 368)

  `Step 2.2. Inbound Collaboration Reply` (page 369)

  `Step 2.3. New Inbound E-mails` (page 371)

  `Step 3.1 Processing by Agents` (page 373)

  `Step 3.2. QA Review` (page 376)

  `Step 3.3. Forwarding` (page 378)

  `Step 3.4. Redirecting` (page 380)

  `Step 4. Outbound Sending` (page 382)
- The how-to business processes:

  `How to: apply escalation procedure` (page 385)

  `How to: attach classification categories & use attach categories object` (page 387)

  `How to: attach classification categories & use multi-screen object` (page 393)

  `How to: get credit card number from the e-mail` (page 399)

  `How to: handle fax interactions` (page 402)

  `How to: identify contact and create interaction in UCS` (page 409)

  `How to: place the interaction into the workbin` (page 414)

`How to: screen with multiple rules and use multi-screen object` (page 417)

Samples Functionality

The Interaction Workflow Samples component supplies the following functionality:

- Pre-routing based on interaction sub-type (see page 366)
- Routing interactions to the original agent (see page 368)
- Screening of inbound interactions (see page 371)
- Attaching classification Categories (see page 393)
- Processing of attached data (see page 368)
- Redirecting interactions (see page 380)
- Forwarding interactions (see page 378)
- Collaboration reply sending (see page 369)
- Automatic treatment with an acknowledgement e-mail (see page 419)
- Autoresponse e-mail when applicable (see page 419)
- Placing interactions in workbins (see page 414)
- Escalating overdue interactions to supervisor workbins (see page 414)
- Routing to agents (see page 373)
- Assigning failure codes to interactions (see page 419)
- Promoting an interaction that failed pre-routing to the next process (see page 366)
- Routing interactions for QA review (see page 376)
- Skill-based review of agent response (see page 376)
- Re-processing interactions that failed QA review (see page 376)
- Quality control for outbound interactions based on screening (see page 382)
- Re-processing interactions that failed quality control (see page 376)
- Sending e-mail responses to customers (see page 382)
- Re-processing interactions that failed sending (see page 382)
- Stopping an interaction with a reason code (see page 359)
- Handling fax interactions (see page 402)
- Identify customer contacts and create interaction records (see page 409)
- Get credit card information from an interaction (see page 399)

Note: In order to fully understand a business process, you must understand its strategies. *Universal Routing 7.6 Strategy Samples* details many of the strategies found in the Genesys Multimedia `Interaction Workflow Samples` component.

Viewing the Samples

Once the samples are installed (as described in the *Multimedia 7.6 Deployment Guide*) you can view them in the `Interaction Design` window (see Figure 310).

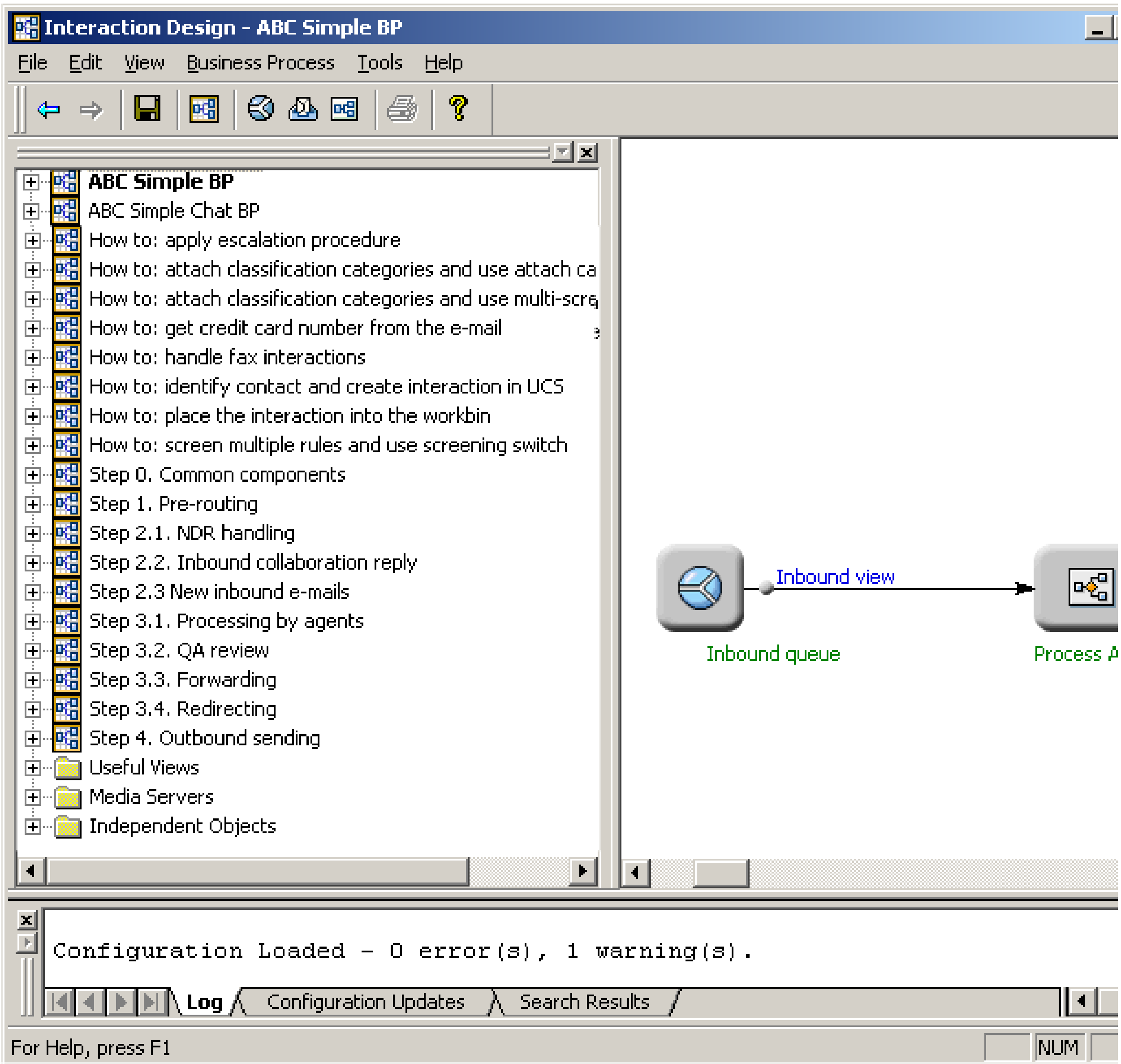

Figure 310: Interaction Workflow Samples

- For information on printing a business process, see page 75.
- For information on printing the strategies contained in a business process, see page 107.
- To change to a different business process, double-click the business process.

Properties Dialog Boxes for Strategy Objects

When you load the samples, as described in the *Multimedia 7.6 Deployment Guide*, part of the installation process involves using Knowledge Manager to import the file `UCS_impex.kme`. This file contains Screening Rules and other objects found in the Universal Contact Server Database, which must be synchronized with objects in the Configuration Database. If Screening Rules or other Knowledge Manager objects do not display in the object properties dialog boxes for the sample strategies, check whether this step was performed.

If the file was imported and the properties dialog boxes still do not display the proper objects, one possible reason may be that the database identifiers of the default Screening Rules and/or other objects changed. In this case, use Knowledge Manager to re-import the `ucs_impex.kme` file. In the `Import` dialog box, uncheck the following: `Preserve uniqueness of objects by creation of new UCS ids`.

Warning! Normally, it is very risky to not preserve uniqueness (that is why the above check box is selected by default). However, when importing the `ucs_impex.kme` file related to the Interaction Workflow Samples, you do NOT want to change any of the database ids associated with the default Screening Rules and other objects Leaving this box unchecked will insure that these rules do not get assigned new UCS ids.

ABC Simple BP

ABC Simple BP in Figure 310 on page 354 is a basic version of a real-life business process. Figure 311 shows the business process.

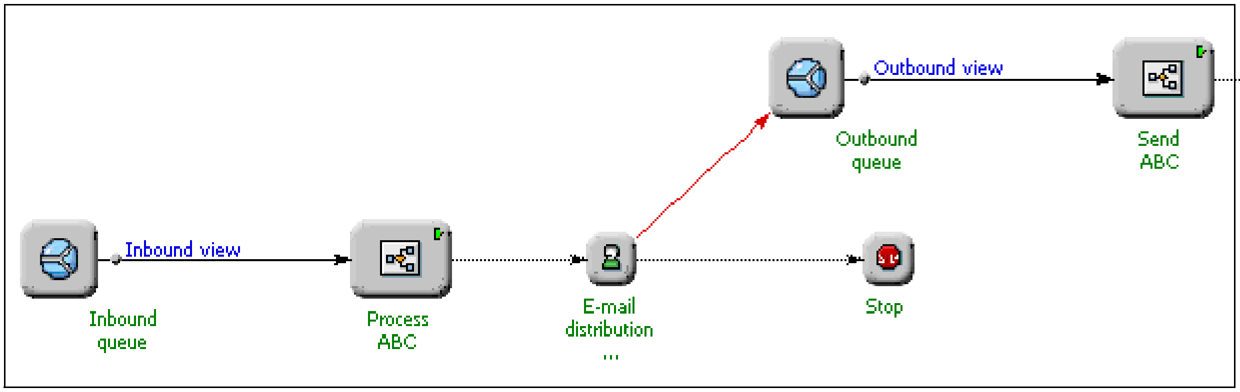

Figure 311: ABC Simple BP

The business scenario: Deliver inbound interactions to the appropriate agent and then send out the response created by that agent. The sample has no other functionality and can correctly process only new inbound customer interactions.

Processing Flow

Any e-mail received in the contact center is submitted by E-mail Server Java to the Inbound queue (see Figure 311 on page 356). Using Inbound view with no Conditions or Order By information (see page 261), interactions are extracted from the queue and passed to the routing strategy Process ABC.

Process ABC Routing Strategy

This routing strategy contains only an Entry object, a Route Interaction object, and an Exit object (see Figure 312).

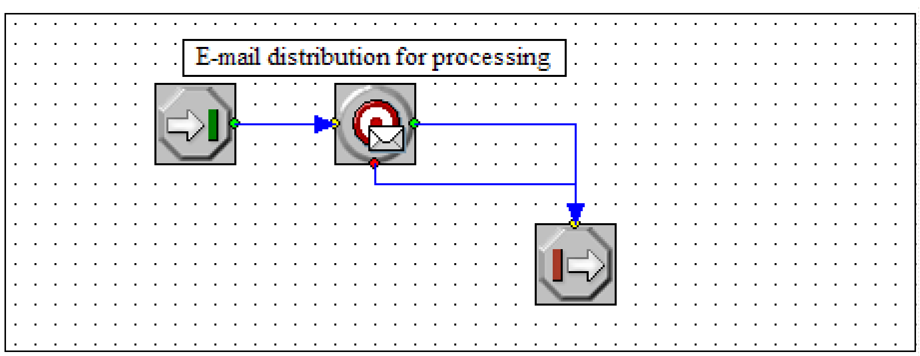

Figure 312: Process ABC Routing Strategy

Open the Route Interaction object Properties dialog box (see Figure 313).

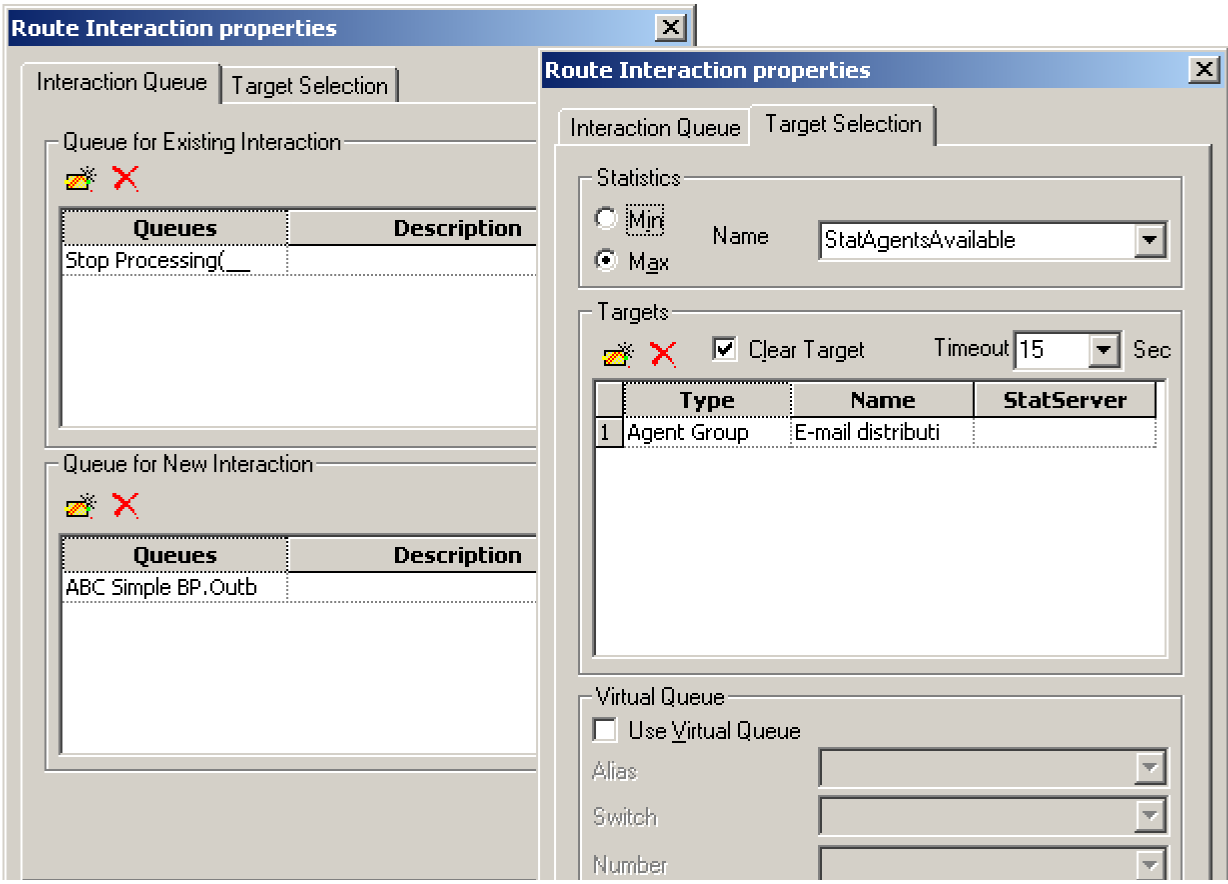

Figure 313: Process ABC Routing Strategy

You will see that the `Interaction Queue` tab specifies:

- The Genesys predefined queue `Stop Processing(_STOP_)` for the existing interaction (the customer's original e-mail for which processing is now ending). `Stop Processing(_STOP_)` is represented by the first Stop object in Figure 311 on page 356, which is a strategy-linked node (see page 34).
- The queue `Outbound queue` for the new interaction that will be created, which will ultimately be sent to the customer. This queue is the `Outbound queue` strategy-linked node in Figure 311 on page 356.

In the `Target Selection` tab in Figure 313 on page 357, you will see that the interaction is routed to a member of the Agent Group called `E-mail distribution`. This target is represented as the `E-mail distribution` person strategy-linked node (see page 34) in Figure 311 on page 356.

The agent generates a response and places it in the `Outbound Queue`. Interactions are extracted using the `Outbound view` (with no `Condition` or `Order By` information as shown in Figure 212 on page 261) and submitted to the routing strategy `Send ABC`.

Send ABC Routing Strategy

Figure 314 shows the `Send ABC` routing strategy.

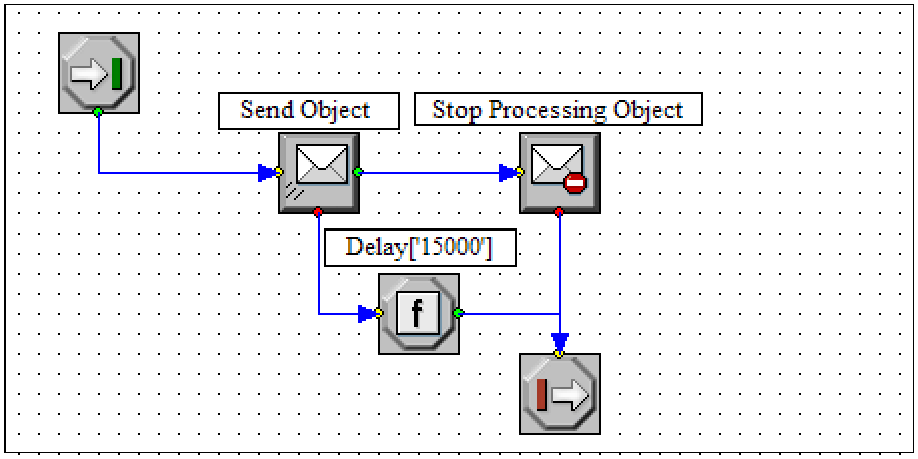

Figure 314: Send ABC Routing Strategy

Send Object

Open the properties dialog box for the Send E-mail object (see Figure 315).

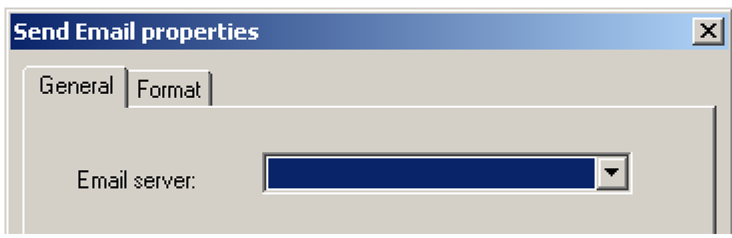

Figure 315: Send Object

- The Send object notifies E-mail Server Java through Interaction Server to send the e-mail to the customer. `E-mail server` is blank in Figure 315 because Interaction Server uses the E-mail Server Java named in its Connections list in Configuration Manager.
- The `Format` tab gives the option to edit the To, From, and Subject areas in the e-mail that will go to the customer (for details, see *Universal Routing 7.6 Reference Manual*).

Stop Interaction Object

Note the Stop Interaction object in the strategy in Figure 314. It tells Interaction Server that processing for this interaction has stopped. Open the properties dialog box for the Stop Interaction object (see Figure 316).

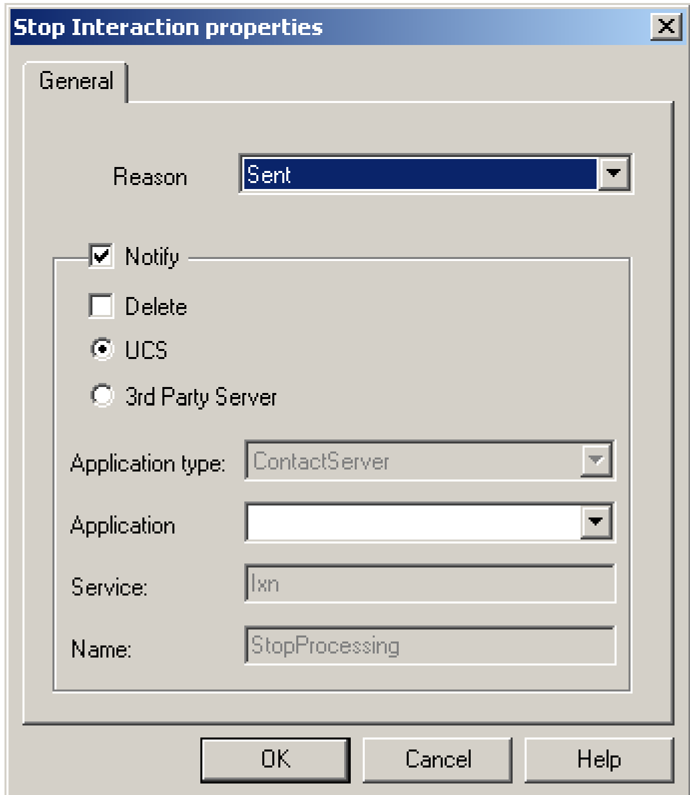

Figure 316: Stop Interaction Object

The Stop Interaction object specifies a Reason Code. Genesys predefines the `Sent` Reason Code in Configuration Manager. The Stop Interaction object also specifies that Universal Contact Server (UCS) should be notified that processing for this interaction (the new interaction) has stopped.

When a Stop Interaction object is used inside a strategy, it generates a Stop strategy linked node (see page 34). You can see this strategy-linked node as the second Stop node in Figure 311 on page 356.

Function Object

The `Send ABC` routing strategy shown in Figure 314 on page 358 also contains a Function object. If there is an error in sending, the interaction goes out the bottom port of the Send object to a Function object. Open the properties dialog box for the Function object (see Figure 317).

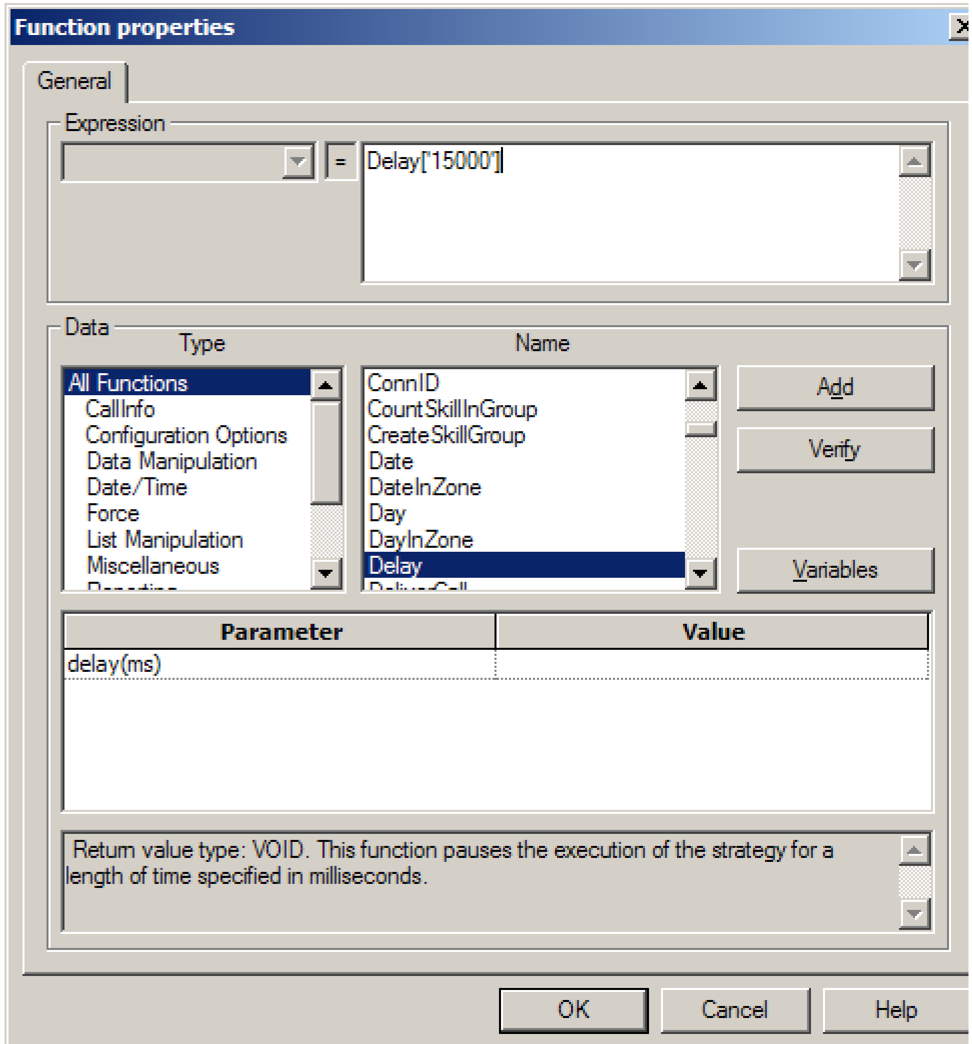

Figure 317: Function Object

Strategy execution is delayed for the specified number of milliseconds. After this number of milliseconds, the interaction is returned to the same queue for the next send attempt.

ABC Simple Chat BP

`ABC Simple Chat BP` is very similar to `ABC Simple BP` just described. The main difference is that `ABC Simple Chat BP` contains a strategy (`Chat strategy - create transcript e-mail`) that uses the Chat Transcript object to request E-mail Server Java to generate an e-mail with the customer's chat transcript attached. Figure 318 shows the business process.

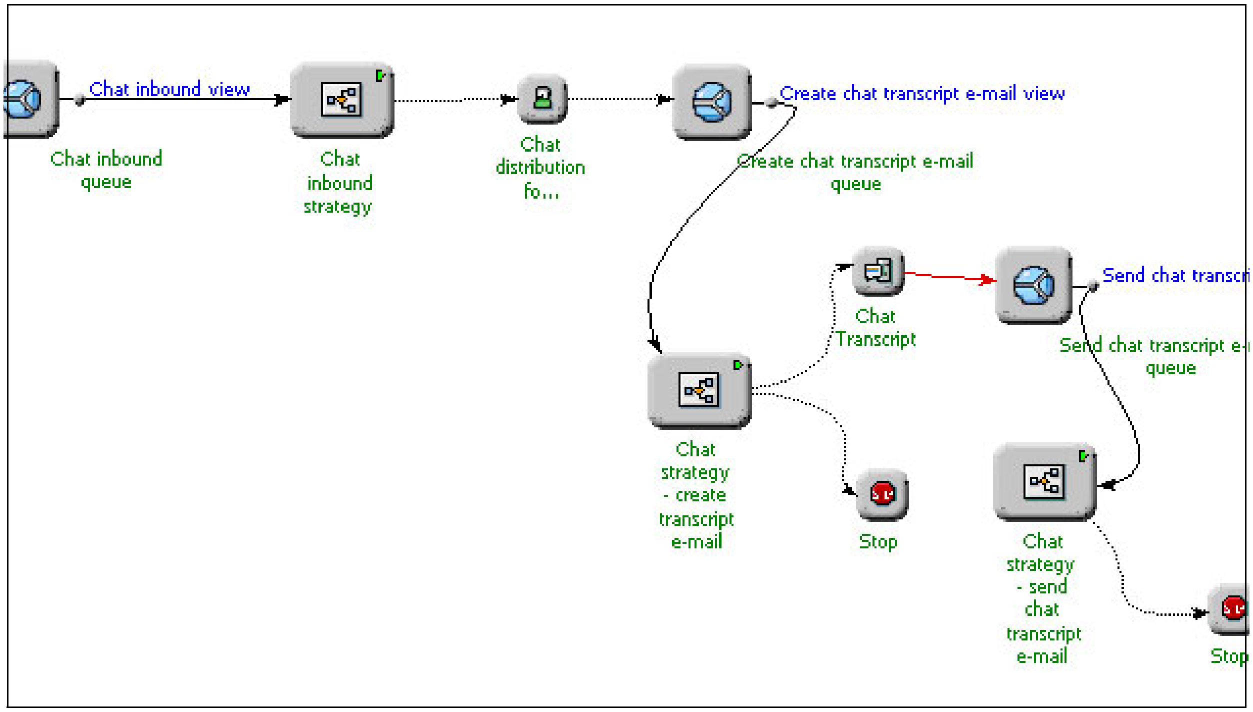

Figure 318: ABC Simple BP

Note: The objects within this business process have been repositioned so that all are visible on a page.

The business scenario: Determine whether an interaction should be processed immediately (such as a chat) or at a later time. If the interaction is the result of a chat session, request E-mail Server Java to generate an e-mail with the chat transcript attached and send to the customer.

Note: For more information on this business process, including its queues, views and strategies, see *Universal Routing 7.6 Strategy Samples*.

Default BP

`Default BP` is an example of a complex business process that encompasses the functional areas isolated in the step-numbered business processes (see Table 27 on page 363). It combines a large number of different tasks into single business process. Contrast this with the “Step-Numbered Business Processes” on page 363 where the tasks are divided into smaller business processes connected via queues (see page 197).

Figure 319 shows a high level view of the start of `Default BP`.

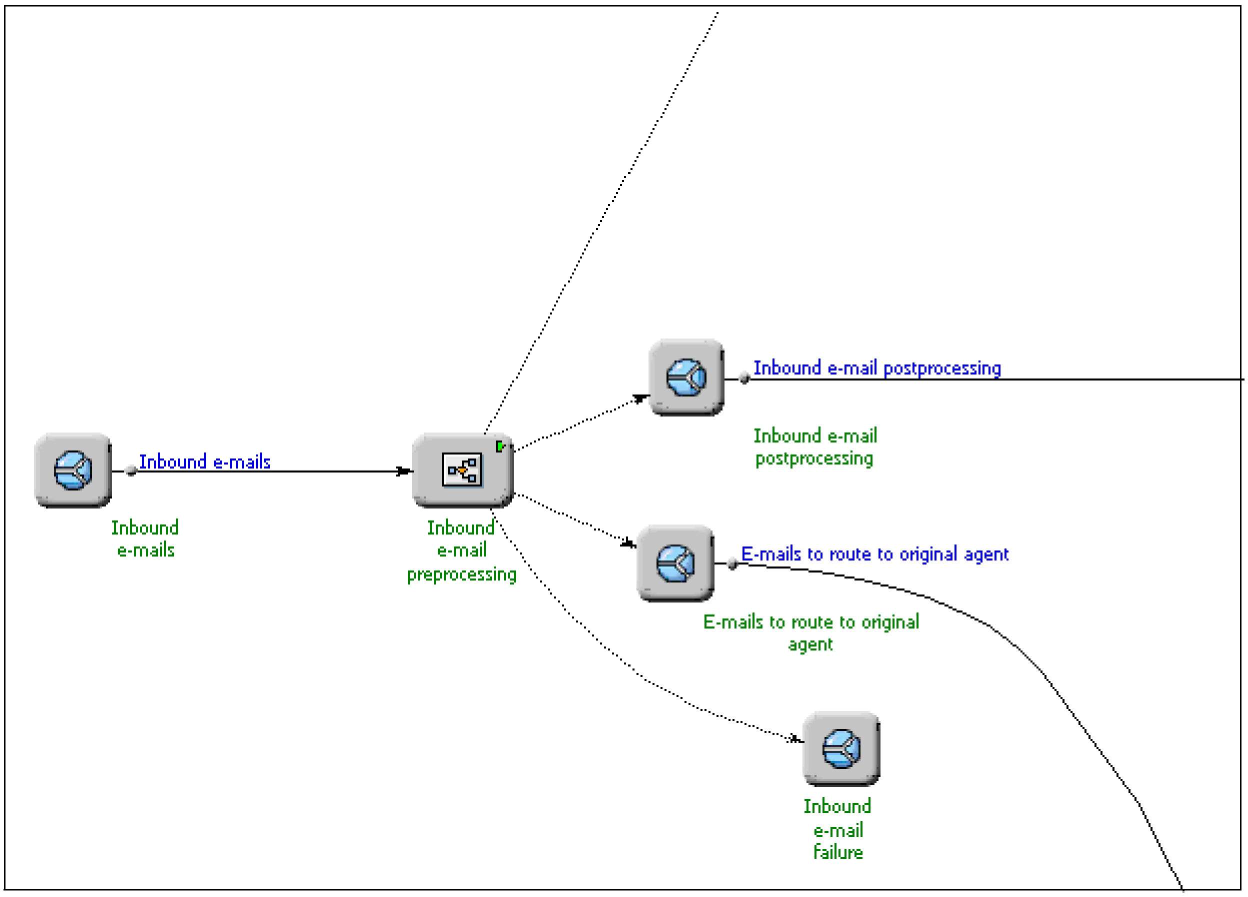

Figure 319: Default BP

Notes: Select `Zoom Out` from the context menu to view more of a large business process.

Figure 319 reflects the default arrangement of the icons in the viewer. You can always return to the default positioning at any time by selecting `Arrange Objects` from the business process menu.

Each functional area in `Default BP` is explained in the step-numbered business processes.

Step-Numbered Business Processes

The step-numbered business processes (connected via queues) isolate the various functionality found in `Default BP` (see page 362). Table 27 summarizes the functionality of each step-numbered business process.

Table 27: Step-Numbered Business Processes

BP and Functional Area(s)	Strategies and Objects Used	Queue(s)
Step 0: Common Components These components are shared by the remaining step-numbered business processes	Terminate Interaction st uses IRD objects Call Subroutine, Stop Interaction, Generic Segmentation, and Queue Interaction E-mail service failure analysis uses IRD objects Multi-Assign, Assign, Multi-Attach, Function, Generic Segmentation, and If	Termination failure
Step 1: Pre-Routing Pre-routing based on interaction sub-type Promoting an e-mail that failed pre-routing to the next process	Inbound e-mail preprocessing str uses IRD objects Generic Segmentation, Multi-Assign, and Queue Interaction Uses Interaction Subtype Business Attributes (see page 175 and page 313)	Inbound e-mails, Collaboration reply e-mails, E-mails to route to original agent, Inbound e-mail failure, Chat inbound queue, Inbound e-mail postprocessing
Step 2.1. NDR Handling Route Interactions to original agent	Route Interactions to original agent st uses IRD objects Multi-Assign, Assign, If, Queue Interaction, and Route Interaction	E-mails route to original agent, E-mails for QA review
Step 2.2. Inbound Collaboration Reply Agent collaboration Collaboration reply sending	Inbound collaboration reply processing st uses IRD objects Reply From External Resource, Stop Interaction, Call Subroutine, Generic Segmentation, and Queue Interaction Terminate Interaction st (see Step 0) and E-mail service failure analysis st (see Step 0)	E-mails for QA review, Termination failure, Collaboration reply e-mails, Collaboration reply failure

Table 27: Step-Numbered Business Processes (Continued)

BP and Functional Area(s)	Strategies and Objects Used	Queue(s)
Step 2.3 New Inbound E-mails Handling Screening of inbound e-mails Automatic treatment with an acknowledgement e-mail Autoresponse when applicable Assigning failure codes	Preliminary e-mail screening st strategy uses IRD objects Screen, Call Subroutine, Generic Segmentation, Function, If, Queue Interaction, Stop, Autoresponse, and Acknowledgement Terminate Interaction st (see Step 0) and E-mail service failure analysis st (see Step 0)	Inbound e-mail postprocessing, Redirect e-mail, Forward e-mails, Preprocessing failure, Termination failure, E-mails for processing by agents, Outbound e-mails
Step 3.1. Processing by Agents Routing to agents Processing by agents	E-mail distribution for processing st contains IRD object Queue Interaction	E-mails for processing by agents, E-mails for QA review, Forward e-mails
Step 3.2: Routing E-mails for QA Review Processing of attached data Skill-based review of agent response Re-processing e-mails that failed quality control Re-processing e-mails that failed sending	Outbound e-mail 65x QA st uses IRD objects Multi-Assign, Assign, Generic Segmentation, Route Interaction, Queue E-mail, If, and Function	E-mails for QA review, Quality Control, E-mails failed QA, Outbound e-mails
Step 3.3. Forwarding Stopping an e-mail with a reason code	Forward e-mail processing st uses IRD objects Forward E-mail, Stop Interaction, Call Subroutine, Generic Segmentation, and Function Terminate Interaction st (see Step 0) and E-mail service failure analysis st (see Step 0)	Forward e-mails, Termination failure, Forward e-mail failure, Outbound e-mails

Table 27: Step-Numbered Business Processes (Continued)

BP and Functional Area(s)	Strategies and Objects Used	Queue(s)
Step 3.4. Redirecting Redirecting an e-mail	Redirect e-mail processing st uses IRD objects Redirect E-mail, Stop Interaction, Function, Queue Interaction, Call Subroutine, and Generic Segmentation Terminate Interaction st (see Step 0) and E-mail service failure analysis st (see Step 0)	Redirect e-mail, Termination failure, Redirect e-mail failure, Outbound e-mails
Step 4. Outbound Sending Quality control for outbound e-mails based on screening Sending e-mail responses to customers	Quality Control st uses IRD objects Screen, If, Queue E-mail, Call Strategy, and Function Outbound e-mail sending st uses IRD objects Send E-mail, Stop Interaction, Call Subroutine, Generic Segmentation, Function, Queue Interaction Terminate Interaction st (see Step 0) and E-mail service failure analysis st (see Step 0)	Quality Control, Outbound e-mails, E-mail failure analysis, Termination failure, E-mails send error

This appendix now details each step-numbered business process. In addition to detailing interaction flow, the descriptions show how individual business processes can be connected via queues.

Note: After each step-numbered business process description, a graphic depicts the `Default BP` area that supplies the same functionality.

Step 1. Pre-Routing

The purpose of this business process is to determine if an inbound interaction is new or has previously been processed by Genesys and process the interaction accordingly. It does this through the existence (or non-existence) of an `Interaction Subtype` code.

Figure 320 on page 366 shows the `Step 1. Pre-Routing` business process.

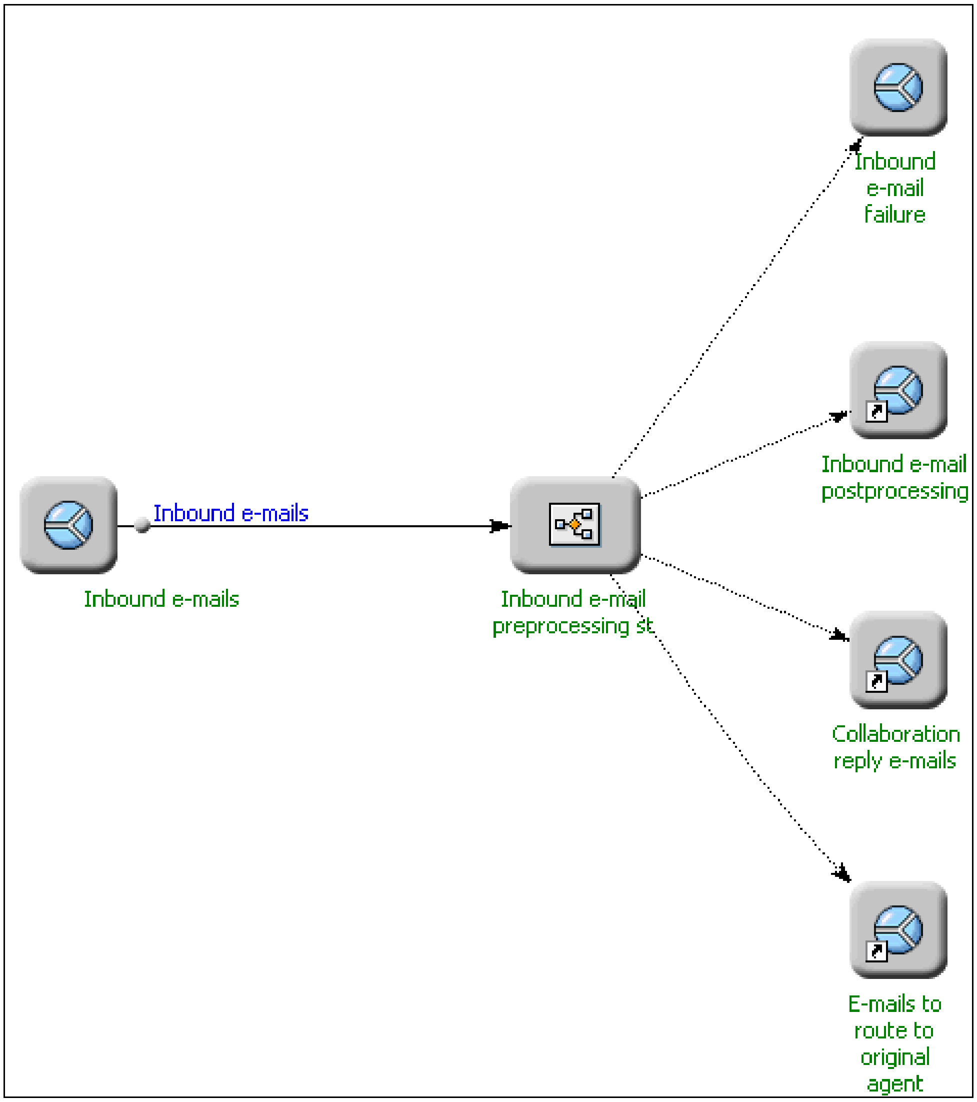

Figure 320: Step 1. Pre-Routing

Note: Note the up arrows located on the queue nodes in Figure 320. This indicates a queue that originated in another business process as described on page 30 and shown in Figure 8 on page 30.

Processing Objects

This section describes the various objects in Figure 320 on page 366.

A view (`Inbound e-mails`) with no `Conditions` (see Figure 212 on page 261) or `Order By` information (see Figure 214 on page 262) extracts e-mails from the `Inbound e-mails` queue (see Figure 2 on page 25) and submits them to the `Inbound e-mail preprocessing st` strategy. Incoming e-mails may be new ones from customers or they may be e-mails that have already gone through Genesys e-mail processing as indicated by the assignment of an `Interaction Subtype` (see Figure 157 on page 178).

The flow of an e-mail through the strategy is determined by the existence or non-existence of an `Interaction Subtype` (see page 313).

- If the e-mail has an `NDR Interaction Subtype`, it is sent to a queue for delivery to the original agent.
- If the e-mail has an `InboundCollaborationReply Interaction Subtype`, it is send to a queue handling collaboration replies from one agent to another.
- If the e-mail does not contain either of these `Interaction Subtypes`, the strategy looks for an inbound preprocessing failure flag. If found, the e-mail is sent to a queue for inbound e-mail failures. If not found, the e-mail is sent to a queue for new inbound e-mails.

To see the IRD objects used in the `Inbound e-mail preprocessing` strategy in Figure 320 on page 366, see *Universal Routing 7.6 Strategy Samples*.

Step 2.1. NDR Handling

The purpose of this business process is to continue the processing started in `Step 1. Pre-Routing`. It processes interactions with a Non Delivery Report (NDR) `Interaction Subtype` code by sending them to either the original agent or, if the agent name cannot be found, to a queue for QA review.

Figure 321 shows the `Step 2.1. NDR Handling` business process.

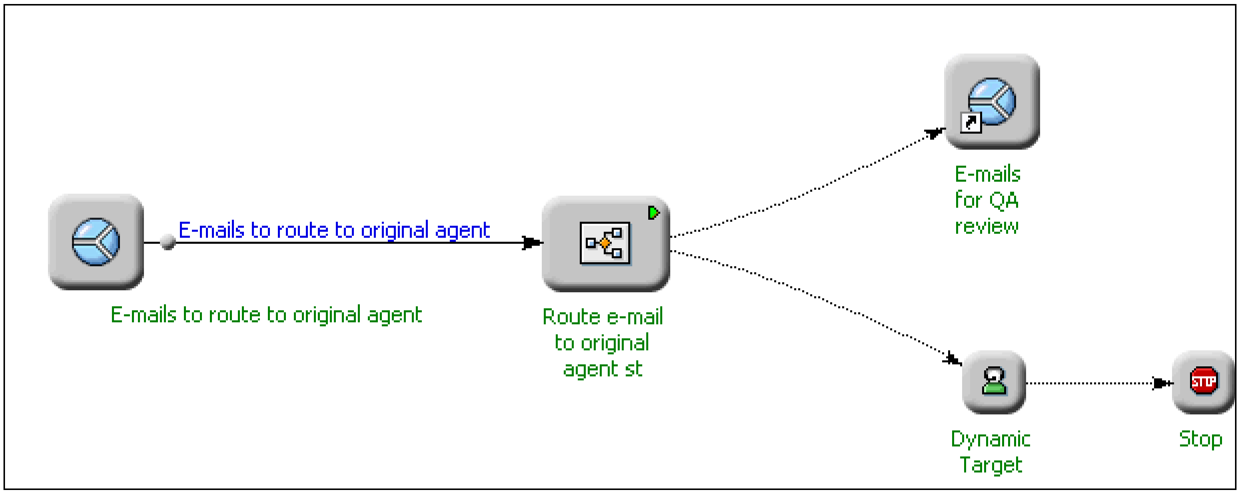

Figure 321: Step 2.1: Non-Delivery Report Handling

Processing Objects

This section describes the various objects in Figure 321.

The `E-mails to route to original agent` queue is the same queue shown in Step 1. Pre-Routing (see **Note** on page 366). A view with no `Conditions` (see Figure 212 on page 261) or `Order By` information (see Figure 214 on page 262) attached to the queue extracts e-mails. Interactions are submitted to the `Route e-mail to original agent st` strategy.

The `Route e-mail to original agent st` strategy demonstrates how to route a customer reply e-mail back to the agent that handled the original e-mail. It checks whether the original agent employee ID or QA reviewer employee ID is contained in the interaction attached data.

- If a variable contains the name of the original agent, the e-mail is routed to the original agent.
- If this same variable does not contain the name of the original agent, the e-mail is routed to a queue for QA review.

Note: To see the IRD objects used in the `Route Interaction to original agent st` strategy, see *Universal Routing 7.6 Strategy Samples.*

Step 2.2. Inbound Collaboration Reply

The purpose of this business process is to continue the processing started in `Step 1. Pre-Routing`. It processes interactions with an `Inbound Collaboration Reply Interaction Subtype` code indicating one resulting from two agents collaborating on a customer reply. Figure 322 shows the `Step 2.2 Inbound Collaboration Reply` business process.

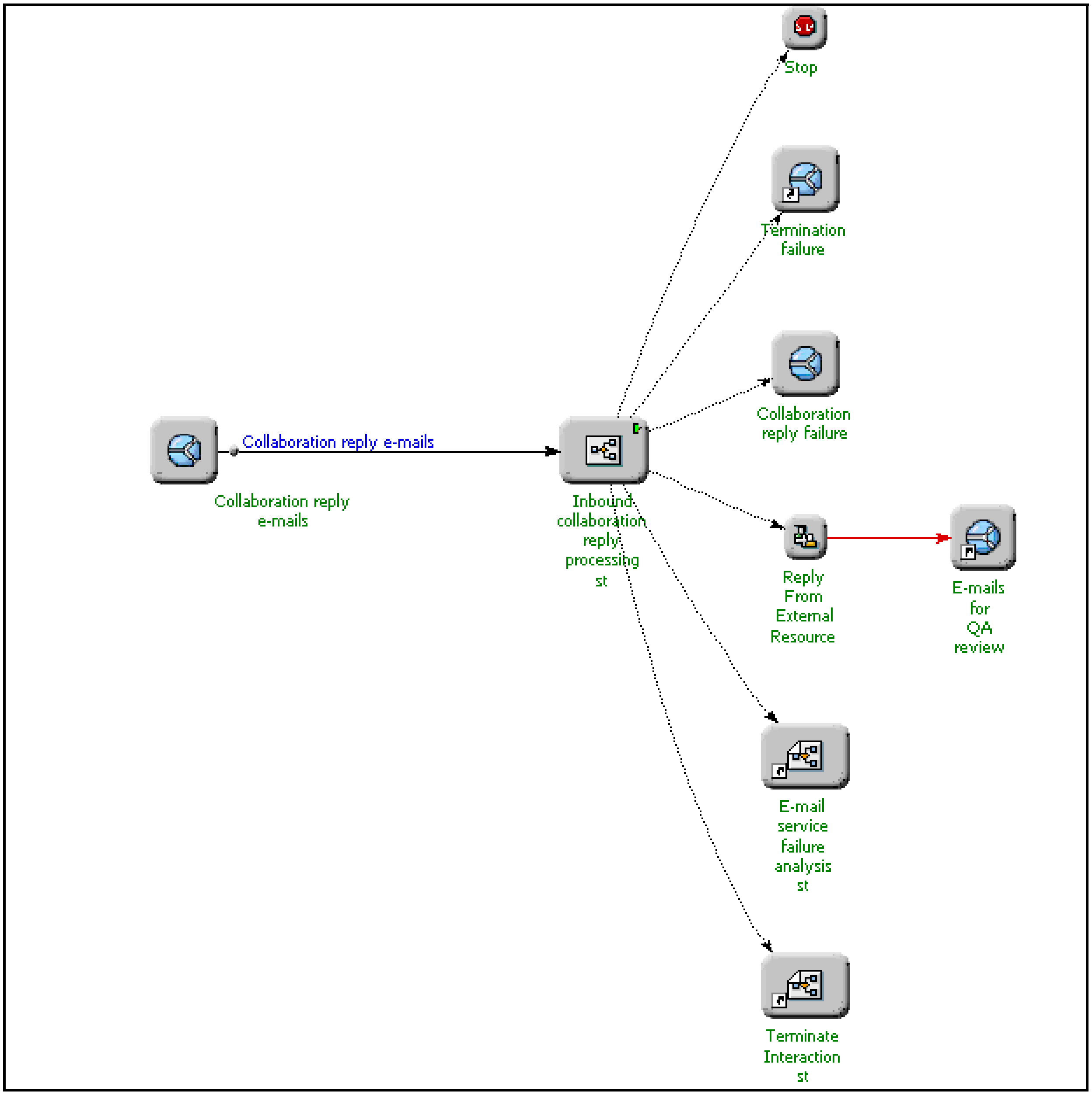

Figure 322: Step 2.2. Inbound Collaboration Reply

Collaboration replies are e-mails from *external resources*. An external resource is a name for any object outside the contact center. It may be an external agent or another contact center.

A collaboration reply inbound e-mail arrives as a result of the following actions:

- The parent e-mail is forwarded by an agent (via the Forward E-mail object) requesting collaboration with another agent.
- The collaborating agent constructs a response.
- The collaborating agent sends the reply back to the requesting agent creating a collaboration reply inbound e-mail.

Processing Objects

This section describes the various objects in Figure 322 on page 369.

The `Collaboration reply e-mails` queue is the same queue shown in Figure 320 on page 366 (see **Note** on page 366). In `Default BP`, this queue connects the `Step 1. Pre-routing business process` with the `Step 2.2 Inbound Collaboration Reply` business process.

A view with no `Conditions` (see Figure 212 on page 261) or `Order By` information (see Figure 214 on page 262) extracts e-mails from the queue.

A submitter submits them to the `Inbound collaboration reply processing st` strategy.

A Reply From External Resource (see page 202) object in the strategy takes the collaboration reply as input, extracts the reply text from it, creates a customer reply outbound e-mail with it, and places the e-mail in an interaction queue (`E-mails for QA review`).

A Stop Interaction object notifies Interaction Server that processing is finished.

Error Handling

The following objects in Figure 322 on page 369 are the result of error handling: `Collaboration reply failure` queue, `E-mail service failure analysis st` strategy, and `Terminate Interaction st` strategy.

Note: For details on strategy error handling, as well as the IRD objects used in the `Inbound collaboration reply processing` strategy, see *Universal Routing 7.6 Strategy Samples*.

Step 2.3. New Inbound E-mails

The purpose of this business process is to continue the processing started in `Step 1. Pre-Routing`. It processes interactions without an `Inbound Collaboration Reply or NDR Interaction Subtype` code (or preprocessing failure flag) indicating a new inbound interaction from a customer. Figure 323 shows the `Step 2.3. New Inbound E-mails` business process.

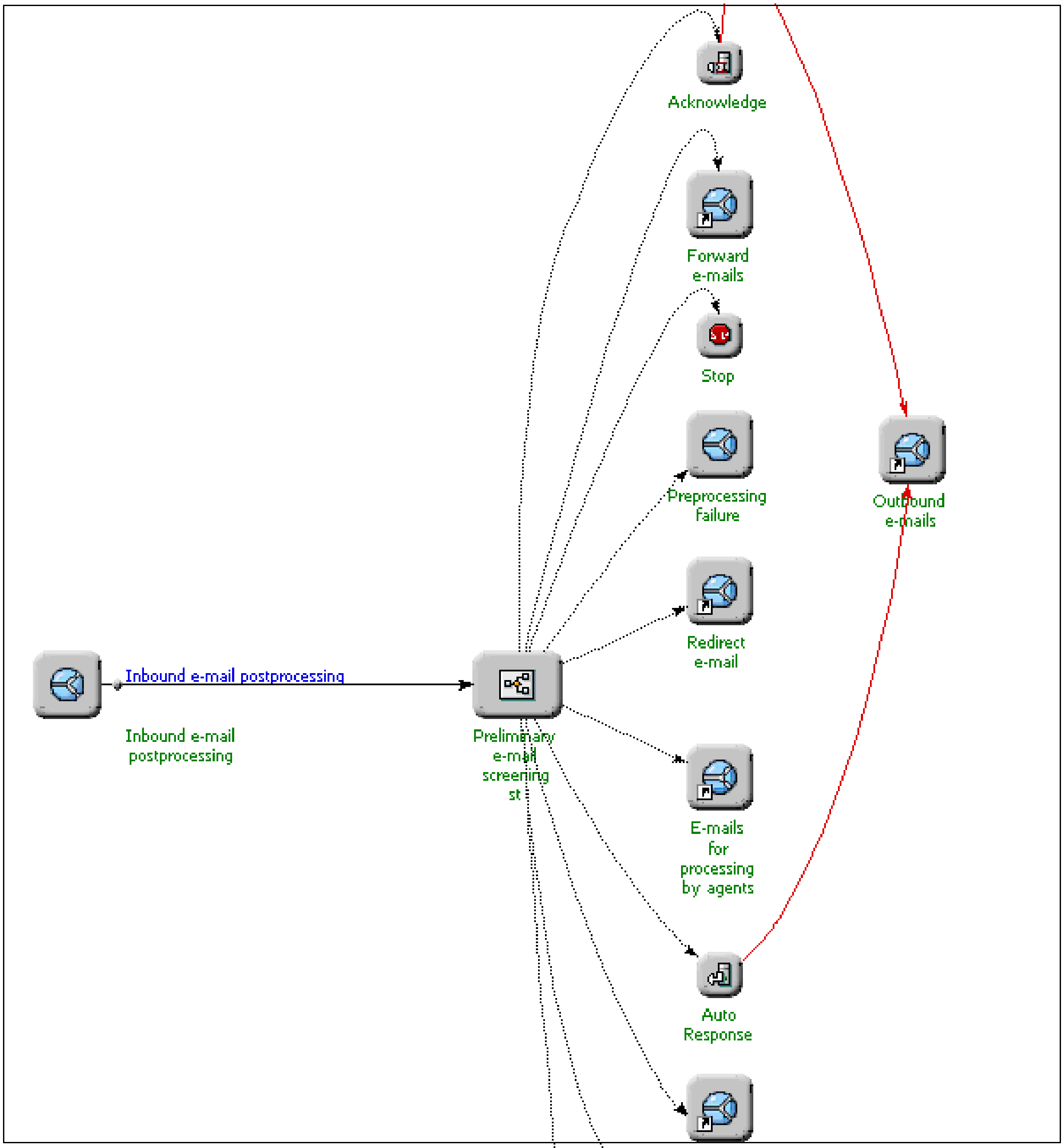

Figure 323: Step 2.3. New Inbound E-mails

Processing Objects

This section describes the various objects in Figure 323 on page 371.

This business process begins with the queue `Inbound e-mail postprocessing`, which is one of four output queues shown in Figure 320 on page 366. In `Default BP`, this queue connects the `Step 1. Pre-routing` business process with the `Step 2.3. New Inbound E-mails` business process (see **Note** on page 366).

A view with no `Conditions` (see Figure 212 on page 261) or `Order By` information (see Figure 214 on page 262) extracts e-mails from the queue.

A submitter submits them to the routing strategy `Preliminary e-mail screening st`.

This strategy screens e-mails using three Screening Rules (see page 164).

1. If the screening using the first rule (`Auto Response Available`) produces a match, an Autoresponse object (`Autoresponse` strategy-linked node in Figure 323 on page 371) attaches a Standard Response to the interaction and places the interaction in the queue `Outbound e-mails`.
2. If the first screening does not produce a match, a second screening occurs using a different rule (`Warranty Problem`). Results are written to a variable, which is subsequently used in an If expression. If the expression is true (Screening Rule match found), the interaction goes to the queue `Forward e-mails`. If the expression is false (no match), the interaction goes through a third screening.
3. If the second screening does not produce a match, a third screening occurs using a different Screening Rule (`Tech Support`). Results are again written to a variable, which is subsequently used in an If expression.

   If the expression is true, the interaction requires a technical support agent so it goes to the queue `Redirect e-mails`. A Stop object then notifies Interaction Server that processing has stopped since the Redirect object is used for e-mails do not require any further processing (see page 202).

   If the expression is false (no match), an Acknowledgement object (`Acknowledge` strategy-linked node in Figure 323 on page 371) attaches a Standard Response to the interaction and places it in the queue `E-mails for processing by agents`.

The following objects in Figure 323 on page 371 are the result of error handling:

`E-mail service failure analysis st` strategy

`Terminate Interaction st` strategy

`Preprocessing failure` queue

`Termination failure` queue

Note: For details on strategy error handling, see *Universal Routing 7.6 Strategy Samples.*

Step 3.1. Processing By Agents

The purpose of this business process is to continue the processing from `Step 2.3 New Inbound E-mails.` It processes interactions in the `E-mails for processing by agents` queue by sending them to members of an agent group. Once an agent is finished, the interaction is placed in a queue for quality assurance review.

Figure 324 shows the `Step 3.1. Processing By Agents` business process.

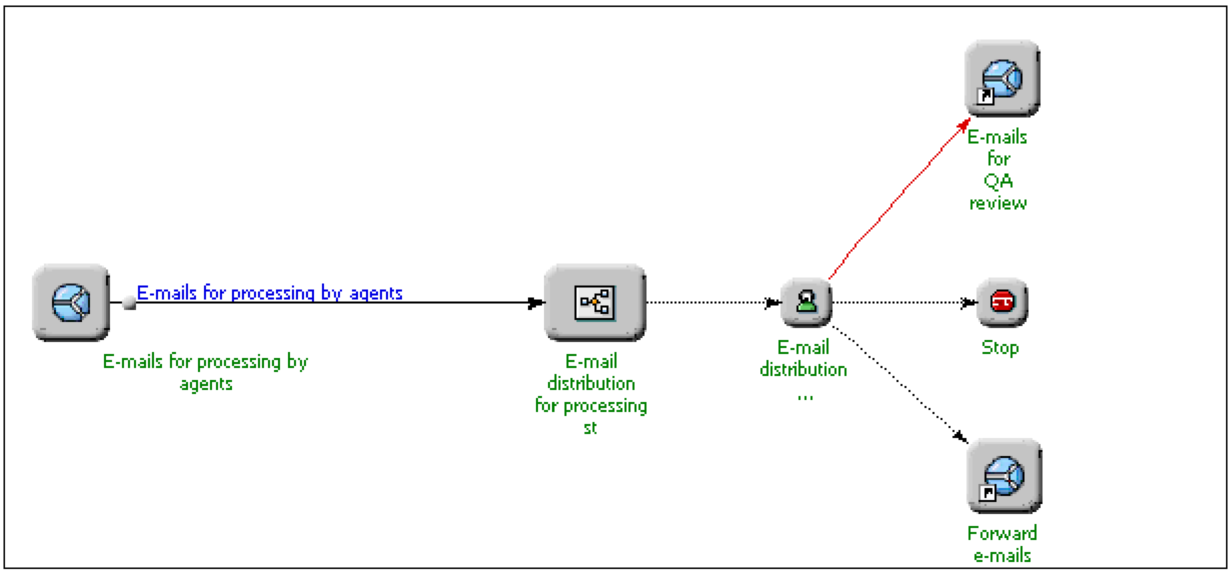

Figure 324: Step 3.1. Processing by Agents

Processing Objects

This section describes the various objects in Figure 324.

The `E-mails for processing by agents` queue is the same queue shown in Figure 323 on page 371 (see **Note** on page 366). In `Default BP`, this queue connects the `Step 2.3. New Inbound E-mails Handling` business process with the `Step 3.1. Processing By Agents` business process. This queue is used when a Standard Response cannot be used and the interaction does not require redirecting as described on page 372.

A view with no `Conditions` (see Figure 212 on page 261) or `Order By` information (see Figure 214 on page 262) extracts e-mails from the queue.

A submitter submits them to the `E-mail distribution for processing st` strategy.

This routing strategy contains only an Entry object, a Route Interaction object, and Exit object. Figure 325 on page 374 shows the `E-mail distribution for processing st` strategy.

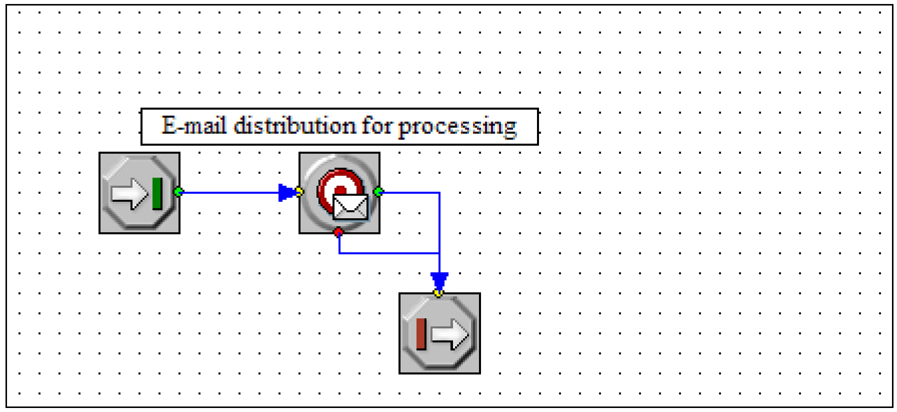

Figure 325: E-mail Distribution For Processing Strategy

The Route Interaction object routes to an `Agent Group` target type. The name of the Agent Group is `E-mail distribution for processing` (see Figure 326).

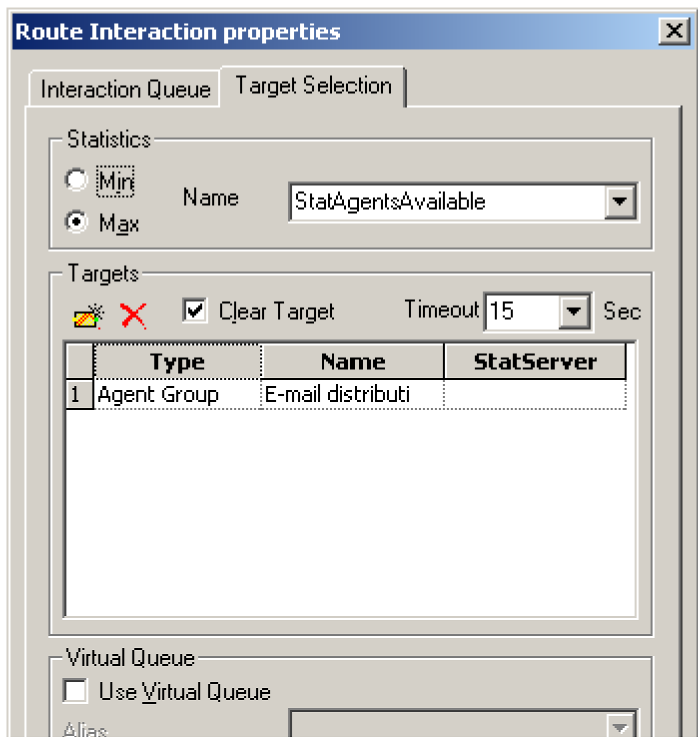

Figure 326: Route Interaction Properties Dialog Box

`StatAgentsAvailable` is specified under `Statistics, Max`. URS uses this statistic to select a routing target if more than one target is available. For more information on this statistic, see the *Universal Routing 7.6 Reference Manual*.

The Route Interaction object also has an `Interaction Queue` tab (see Figure 327).

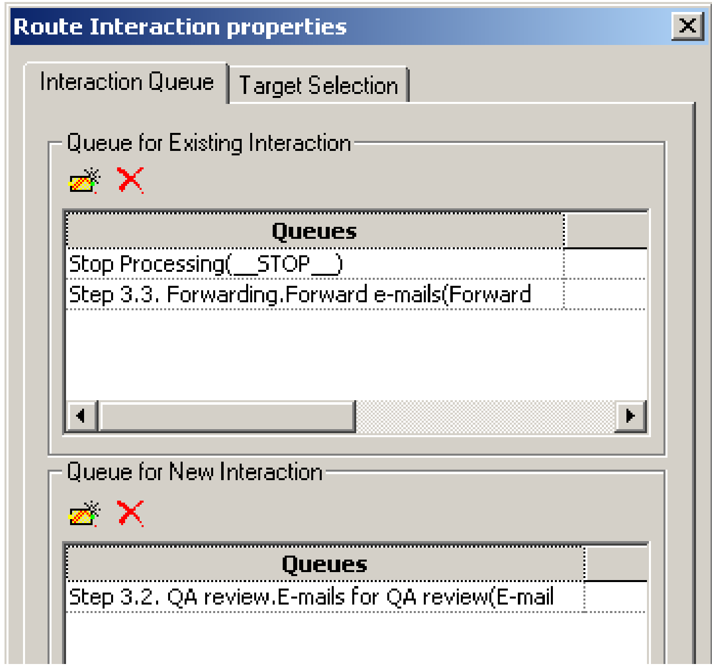

Figure 327: Route Interaction Properties Dialog Box, Interaction Queue Tab

The `Interaction Queue` tab gives the option of specifying two types of queues.

1. `Queue for existing interaction`. If the agent can't handle the e-mail and determines it should be forwarded to another agent, the `Description` field provides a desktop hint for the agent on the `Forward e-mails` queue. (The existing interaction is being forwarded, but will eventually come back to the forwarding agent.) This selection generates the `Forward e-mails` strategy-linked queue node (see page 34) in Figure 324 on page 373.

   Just as in Figure 313 on page 357, the Genesys predefined queue `Stop Processing(_STOP_)` indicates to Interaction Server that processing of the existing interaction has stopped for now (because the e-mail is being forwarded). This entry generates the `Stop` strategy-linked node in Figure 324 on page 373.

2. `Queue for new interaction`. If the agent creates a new interaction in the form of an e-mail response to the customer, the `Description` field is used by the desktop to provide a description for the agent on the purpose of the `E-mails for QA review` queue. This entry generates `E-mails for QA review` strategy-linked node in Figure 324 on page 373.

Step 3.2. QA Review

The purpose of this business process is to continue the processing from Step 3.1 Processing by Agents. It processes interactions in the E-mails for QA review queue by determining whether QA review is necessary and then taking the appropriate action.

Figure 328 on page 376 shows the Step 3.2. QA Review business process.

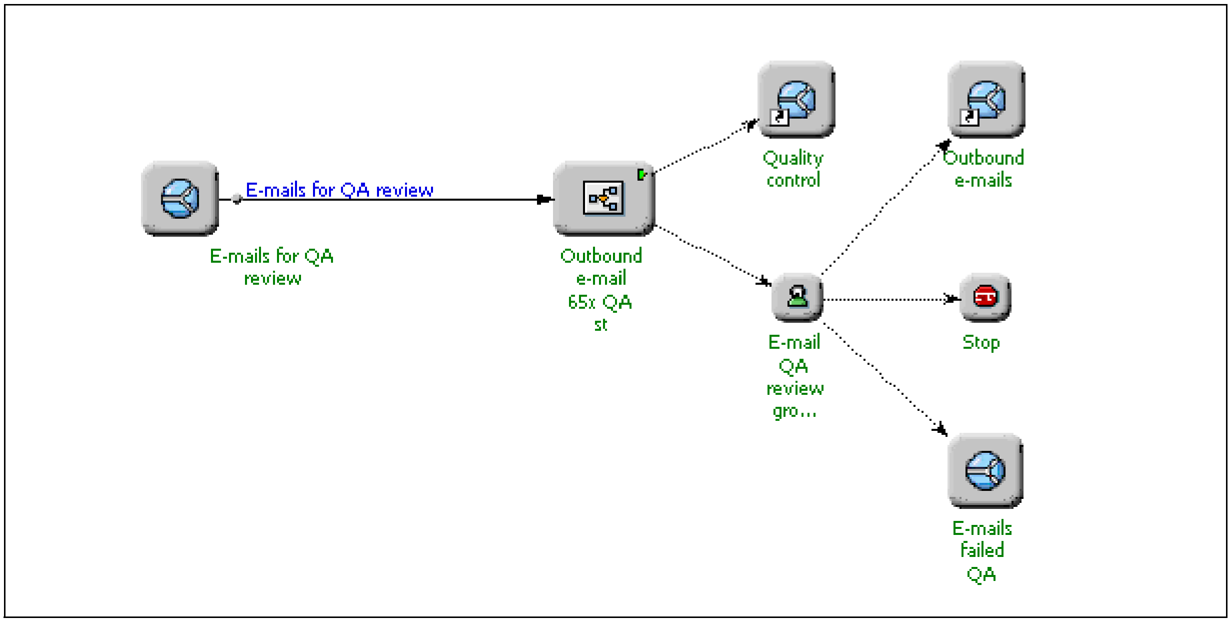

Figure 328: Step 3.2. QA Review

Processing Objects

This section describes the various objects in Figure 328.

The E-mails for QA review queue in Figure 328 is the same queue shown in Figure 324 on page 373 (see **Note** on page 366). In Default BP, this queue connects the Step 3.1. Processing by Agents business process with the Step 3.2. QA Review business process.

A view (E-mails for QA review) with no Conditions (see Figure 212 on page 261) or Order By information (see Figure 214 on page 262) extracts e-mails from the queue.

A submitter submits interactions to the Outbound e-mail 65x QA st strategy.

This strategy determines whether an agent's e-mail response has undergone QA review. If the existence of a flag in the interaction indicates that QA has already reviewed, the response goes to the queue Quality control. If QA has not reviewed, the strategy determines whether QA review is necessary based on the skill level of the handling agent.

- If the responding agent has the default skill level or higher, QA review is not necessary so the e-mail goes to a queue for sending to the customer (`Outbound e-mails`).
- If the responding agent does not have the default skill level or higher, the e-mail response is routed to QA for checking (`E-mail QA review` group). If QA review does not uncover any errors, the e-mail goes to the queue `Outbound e-mails`. If the review uncovers errors, the e-mail goes to the queue `E-mails failed QA`.

Note: For details on strategy error handling, as well as the IRD objects used in the `Outbound e-mail 65x QA` strategy, see *Universal Routing 7.6 Strategy Samples*.

Step 3.3. Forwarding

The purpose of this business process is to continue the processing started in `Step 2.3 New Inbound E-mails`. It forwards interactions in the `Forward e-mails` queue with the expectation of getting a response back. Figure 329 shows `Step 3.3. Forwarding` business process.

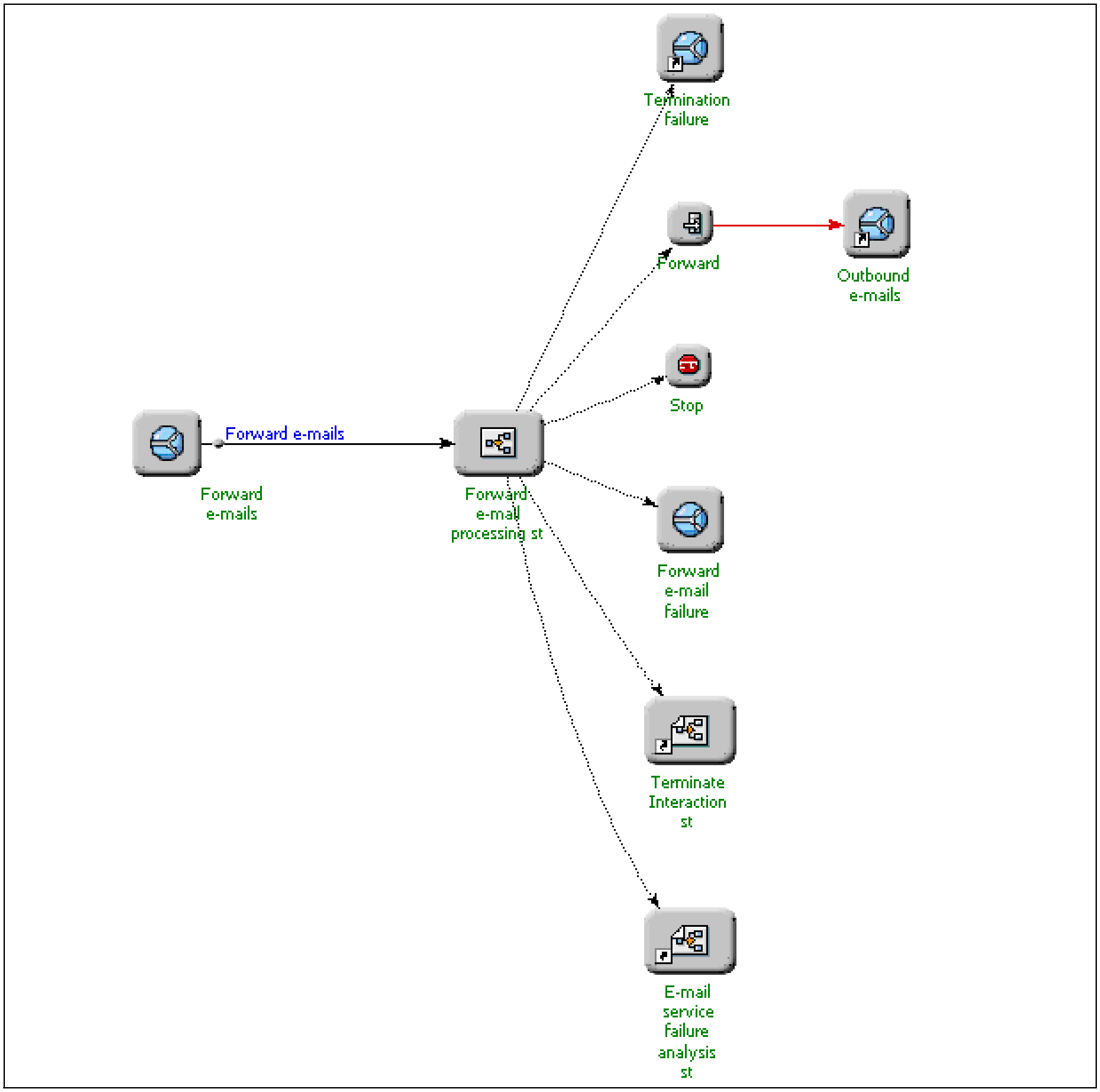

Figure 329: Step 3.3. Forwarding

Processing Objects

The `Forward e-mails` queue in Figure 329 is the same queue shown in Figure 324 on page 373 (see **Note** on page 366). In `Default BP`, this queue connects the `Step 3.1. Processing by Agents` business process with the `Step 3.3. Forwarding` business process.

A view (`Forward e-mails`) with no `Conditions` (see Figure 212 on page 261) or `Order By` information (see Figure 214 on page 262) extracts e-mails from the queue. A submitter submits interactions to the strategy `Forward e-mail processing st`.

The `Preliminary e-mail screening st` strategy in Figure 323 on page 371 previously determined that the e-mail matched the `Warranty support` Screening Rule (see page 372) and needs to be forwarded.

The `Forward e-mail processing st` strategy shown in Figure 329 on page 378 uses the Forward object to request E-mail Server Java (see page 51) to create an e-mail using the external address associated with the `E-mail Accounts` Business Attribute (see Figure 157 on page 178) called `Warranty support`. Once the e-mail is generated, it goes into the queue `Outbound e-mails`. A Stop object notifies Interaction Server that processing for this interaction is finished.

Error Handling

The following objects in Figure 329 on page 378 are the result of error handling:

`Forward e-mail failure` queue

`Termination failure` queue

`E-mail service failure analysis st` strategy

`Terminate interaction st` strategy

Note: For details on strategy error handling, see *Universal Routing 7.6 Strategy Samples*.

Step 3.4. Redirecting

The purpose of this business process is to continue the processing started in `Step 2.3 New Inbound E-mails`. It forwards interactions in the `Redirect e-mails` queue to an outbound queue for sending to other agents/experts without the expectation of getting a response back. Figure 330 shows the `Step 3.4. Redirecting` business process.

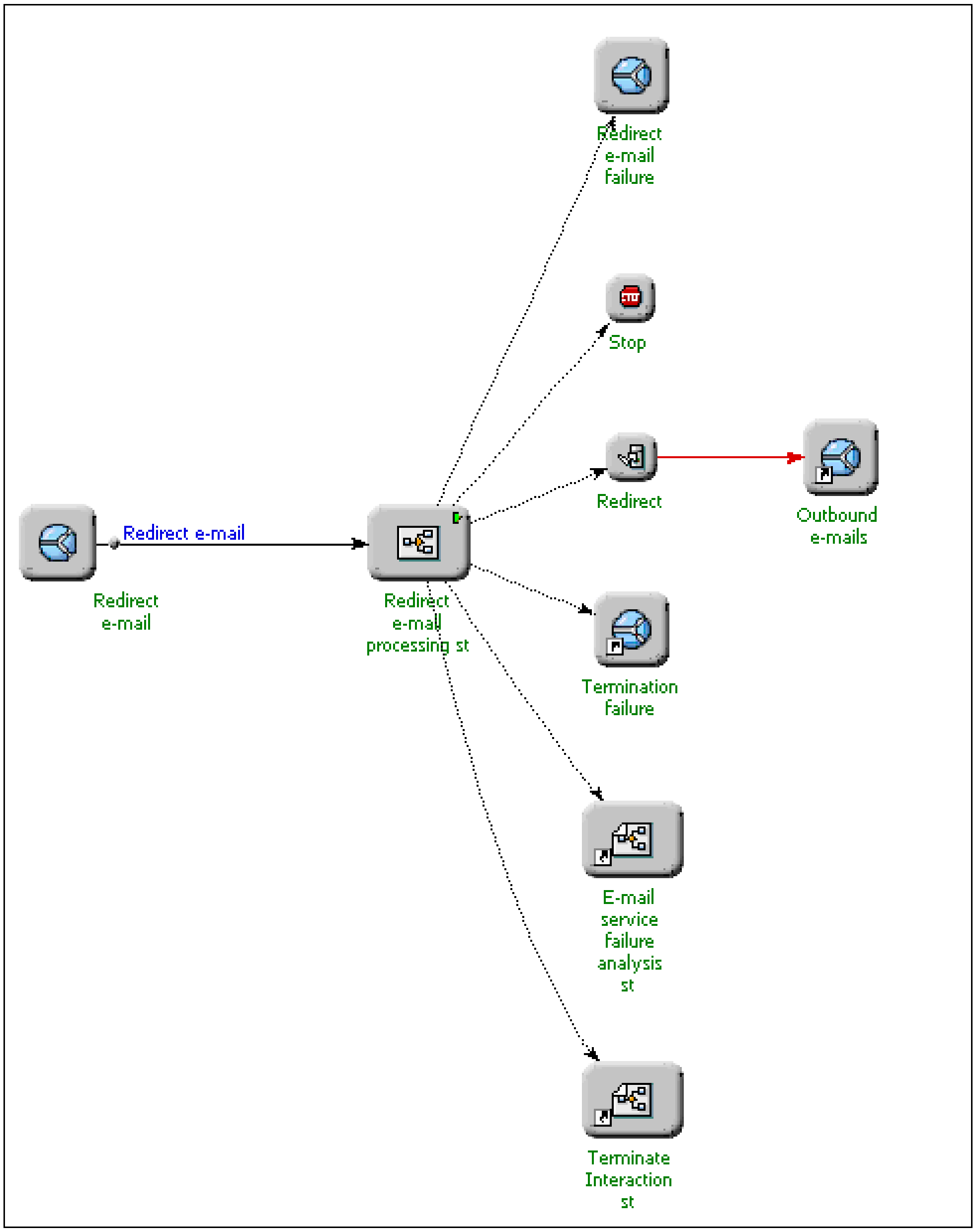

Figure 330: Step 3.4. Redirecting Business Process

Processing Objects

The `Redirect e-mail` queue in Figure 330 is the same queue shown in Figure 323 on page 371 (see **Note** on page 366). In `Default BP`, this queue connects the `Step 2.3. New Inbound E-mails` business process with the `Step 3.4. Redirecting` business process.

A view (`Redirect e-mail`) with no `Conditions` (see Figure 212 on page 261) or `Order By` information (see Figure 214 on page 262) extracts e-mails from the queue. A submitter submits interactions to the strategy `Redirect e-mail processing st`.

The `Preliminary e-mail screening st` strategy in Figure 323 on page 371 previously determined that the e-mail matched the `Tech support` Screening Rule (see page 372) and needs to be redirected.

The `Redirect e-mail processing st` strategy shown in Figure 330 uses the Redirect object to request E-mail Server Java (see page 51) to create an e-mail using to external address associated with the `E-mail Accounts` Business Attribute (see Figure 157 on page 178) called `Tech support`.

Once the e-mail is generated, it goes into the queue `Outbound e-mails`. A Stop object notifies Interaction Server that processing for this interaction is finished.

Error Handling

The following objects in Figure 329 on page 378 are the result of error handling: `Redirect e-mail failure` queue, `Termination failure` queue, `E-mail service failure analysis` strategy, `Terminate interaction` strategy

Note: For details on strategy error handling, see *Universal Routing 7.6 Strategy Samples*.

Step 4. Outbound Sending

The purpose of this business process is to perform quality control checking and, for interactions that pass, place interactions in an outbound queue for sending. It also performs failure analysis for interactions that cannot be sent. In `Default BP`, the `Outbound e-mails` queue can be found in the following business processes:

- `Step 3.2. QA Review`
- `Step 3.3. Forwarding`
- `Step 3.4. Redirecting`

Figure 331 shows the `Step 4. Outbound Sending` business process.

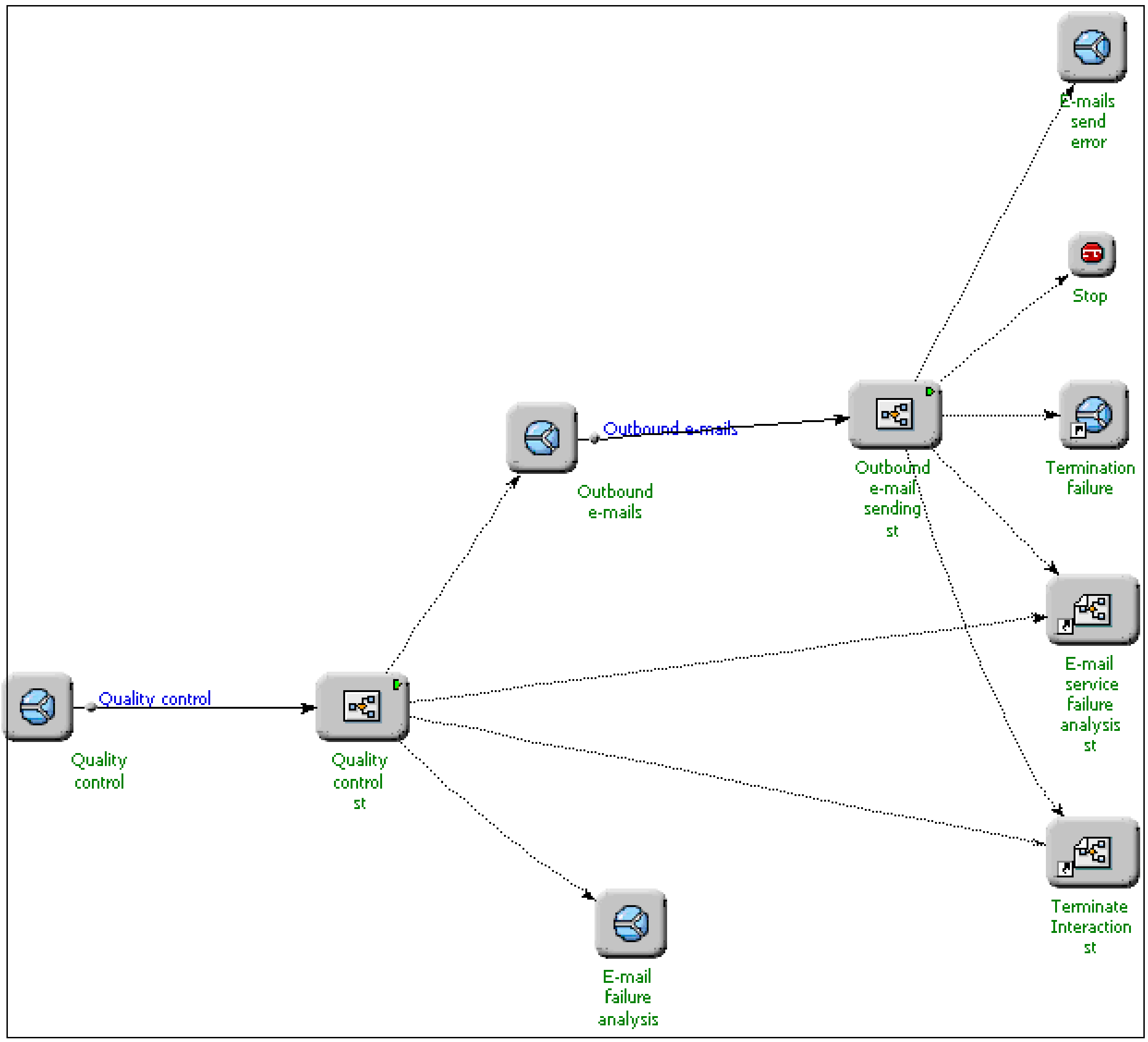

Figure 331: Step 4. Outbound Sending

Processing Objects

The `Quality control` queue in Figure 331 is the same one shown in Figure 328 on page 376 (see **Note** on page 366). This queue connects the `Step 3.2. QA Review` business process with the `Step 4. Outbound sending` business process.

A view (`Quality control`) with no `Conditions` (see Figure 212 on page 261) or `Order By` information (see Figure 214 on page 262) extracts interactions from the queue. A submitter submits interactions to the strategy `Quality control st`.

The `Quality control` strategy uses the Screen object to determine whether an agent's response needs failure analysis because the `Outbound e-mail 65x QA st` strategy (see Figure 328 on page 376) placed the interaction in a queue for quality control checking.

Screening results are written to a variable, which is subsequently used in an If expression.

- If the expression is true (Screening Rule match found), the interaction goes to the queue `E-mail failure analysis` queue.
- If the expression is false, the interaction does not need failure analysis and goes to the `Outbound e-mails` queue.

A view (`Outbound e-mails`) attached to this queue submits the interaction to the `Outbound e-mail sending` strategy

The purpose of this strategy is to send interactions that have undergone quality control to E-mail Server Java for sending to the customer. If the e-mail cannot be sent, the strategy performs error processing.

Error Handling

The following objects in Figure 331 on page 382 are the result of error handling:

`E-mail failure analysis` queue

`Termination failure` queue

`E-mails send error` queue

`E-mail service failure analysis` strategy

`Terminate interaction` strategy

Note: For details on strategy error handling, see *Universal Routing 7.6 Strategy Samples.*

In order to fully understand how `Default BP` and the step-numbered business processes implement the above functional areas, you must also study the routing strategies. *Universal Routing 7.6 Strategy Samples* shows the IRD objects used by many of the strategies in the step-numbered business processes. It also explains the processing flow.

How To: Business Processes

In addition to the step-numbered business processes just described, the Genesys-supplied samples also supply various "How to" business processes (see Figure 310 on page 354).

Table 28 lists and describes the "How to" business processes.

Table 28: How To: Business Process Functionality

Functional Area	Strategies and Subroutines Used	Output Queues/Workbins
Apply escalation procedure (move interactions overdue for processing from an agent workbin to a supervisor workbin)	Move overdue interactions	Workbins: Supervisors workbin, Workbin for Original Agent
Attach classification Categories and use Attach Categories object	Classify customer inquiry strategy att-cc Subroutines: E-mail service failure analysis, Terminate Interaction	Queues: New inbound interactions, E-mails for QA Review, Preprocessing failure Workbin: E-mail distribution
Attach classification Categories and use Multi-Screen object	Classify customer inquiry Subroutines: E-mail service failure analysis, Terminate Interaction	Queues: New inbound interactions, E-mails for QA Review, Preprocessing failure Workbin: E-mail distribution
Get credit card numbers	Screen e-mail for credit card numbers	Inbound e-mail queue, Non-credit card payment, Paid with credit card
Handle fax interactions	Preliminary fax screening	Processing by agents, Forward interaction, Redirect interaction, Queue for responses
Identify whether a contact is new or existing and create an interaction record for a new contact	Identify contact and create interaction	Interactions with new contacts Interactions with existing contacts

Table 28: How To: Business Process Functionality (Continued)

Functional Area	Strategies and Subroutines Used	Output Queues/Workbins
Place an interaction into a workbin	Place the interaction into the workbin	E-mails route to original agent, E-mails for QA review Workbin: Workbin for original agent
Screen multiple rules	Preliminary e-mail screening ms Subroutines: E-mail service failure analysis, Terminate interaction	E-mails for processing by agents, Forward e-mails, Inbound e-mail postprocessing, Redirect e-mails, Preprocessing failure, Outbound e-mails, Termination failure

The next sections describe each “How to” business process.

How To: Apply Escalation Procedure

This business process, listed in Figure 310 on page 354, demonstrates how to move interactions that are overdue for processing from an agent workbin to a supervisor workbin. Figure 332 shows the `How to: Apply Escalation Procedure` business process.

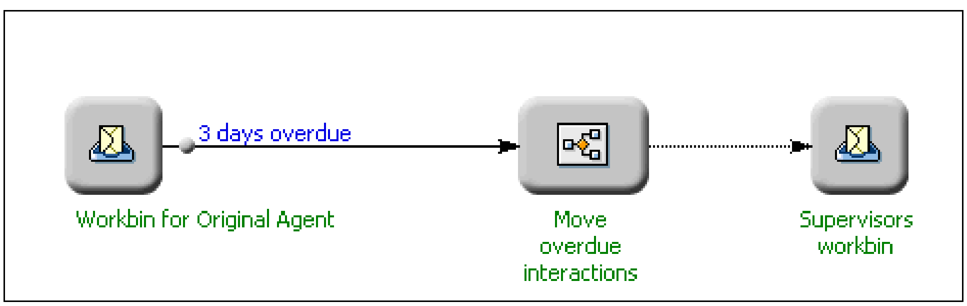

Figure 332: Apply Escalation Procedure Business Process

If you need a review of workbins, see “Workbin Object” on page 33.

Processing Objects

This section describes the various objects in Figure 332.

A view (`3 days overdue`) with a `Condition` that specifies interactions with a time in queue greater than 4,320 seconds (see Figure 213 on page 261) extracts interactions from the workbin (`Workbin for Original Agent`) and submits them to the `Move overdue interactions` strategy (see Figure 333).

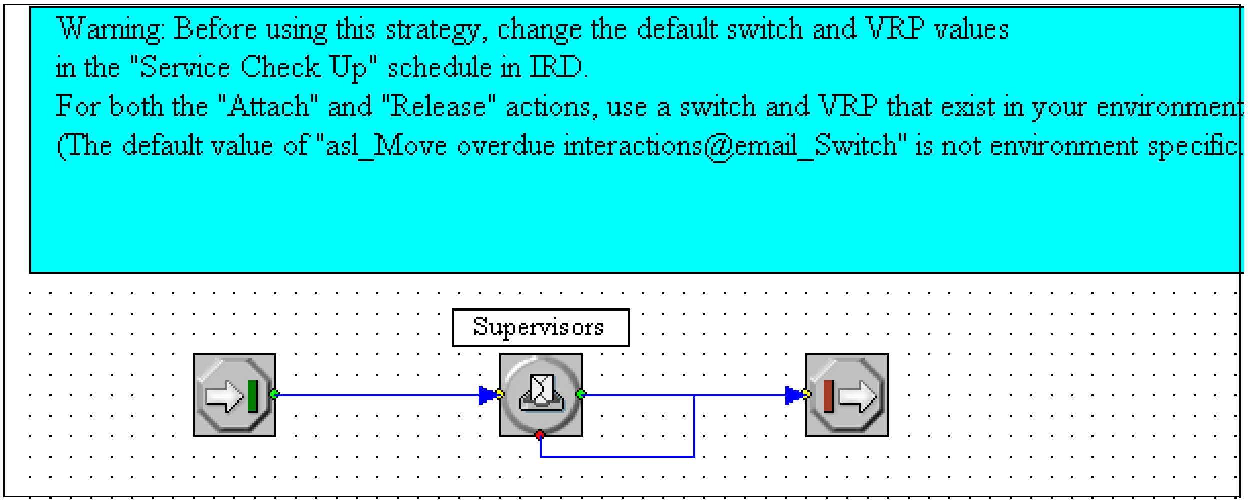

Figure 333: Move Overdue Interactions Strategy

Figure 334 shows the `General` and `Target Selection` tabs in the properties dialog box for the `Supervisors` Workbin object (the `Interaction Queue` tab is not used).

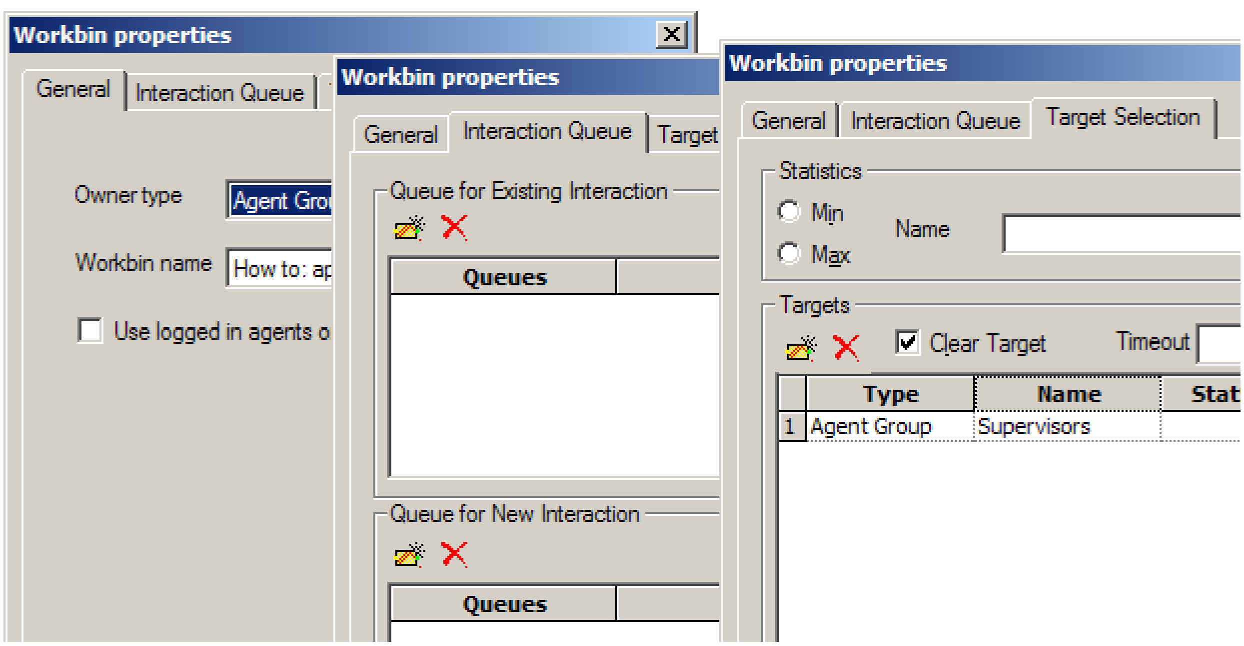

Figure 334: Workbin Properties Dialog Box

The `Target Selection` tab (see Figure 334) indicates the interaction is being sent to a workbin associated with an `Agent Group` named `Supervisors`. You can see this workbin represented as the `Supervisors workbin` strategy-linked node in the business process shown in Figure 332 on page 385.

How To: Attach Classification Categories and Use Attach Categories Object

This business process, listed in Figure 310 on page 354, demonstrates how to manually attach classification Categories to new inbound interactions for the purpose of segmenting those interactions in order to take different paths in the strategy. If you need to review information on classification Categories, see “Categories Tab” on page 156.

Figure 335 shows the `How to: Attach Classification Categories and use attach categories object` business process.

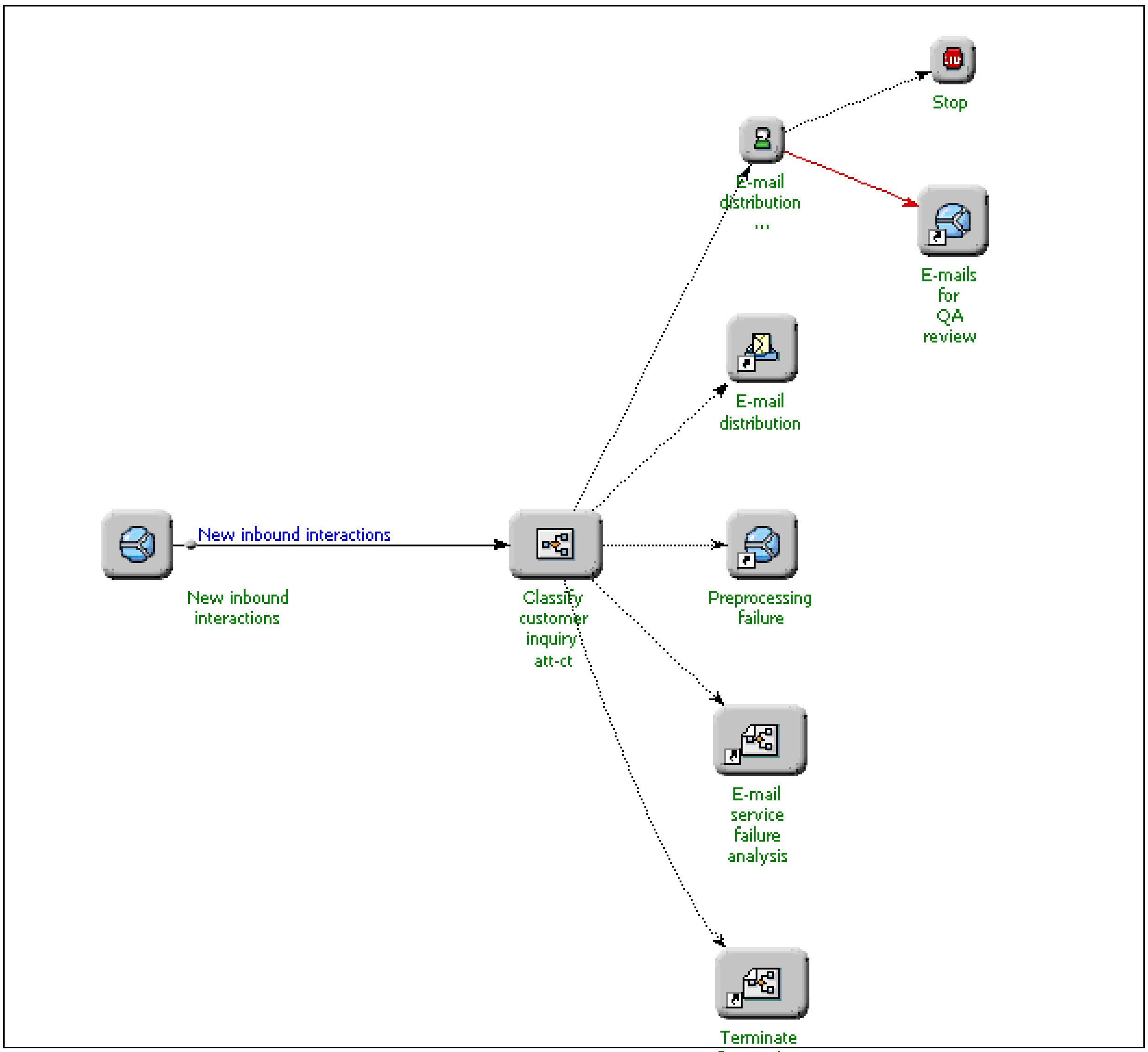

Figure 335: Attach Classification Categories and Use Attach Categories Business Process

Processing Objects

This section describes the various objects in Figure 335.

A view (`New inbound interactions`) attached to a queue (`New inbound interactions`), with no `Conditions` or `Order By` information, extracts interactions from the queue and sends them to the strategy `Classify customer inquiry att-ct` (see Figure 336).

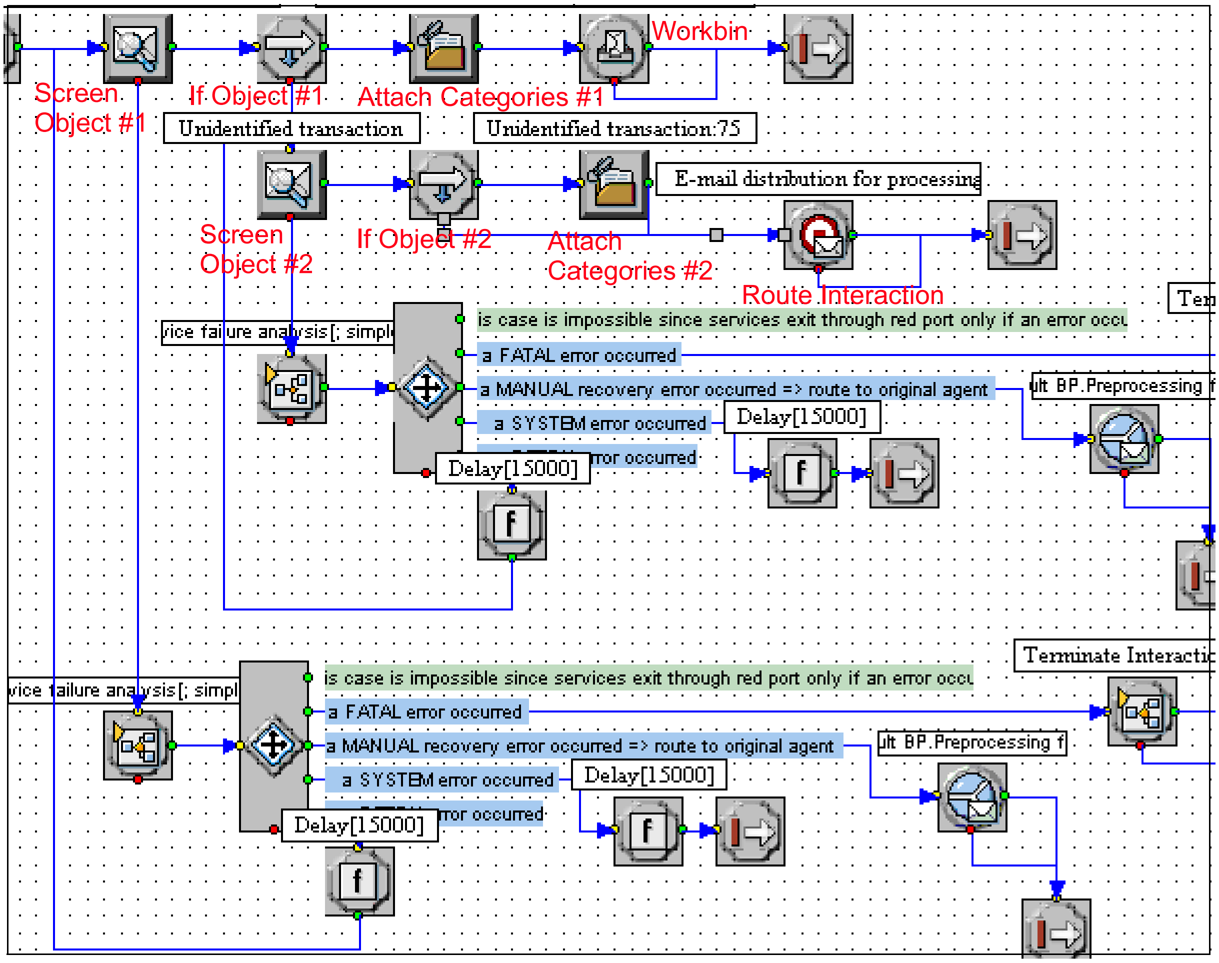

Figure 336: Classify Customer Inquiry ATT-CT Strategy

Screen Object

This strategy starts with a Screen object (#1) that screens for certain words or word patterns using a single Screening Rule (see “Screening Tab” on page 164 if you need a review) and returns the Category (or Categories) associated with the Screening Rule.

In the case of the `Classify customer inquiry att-ct` strategy shown in Figure 336, the object of the strategy is to:

- Screen for interactions that contain wrong transaction amounts and forward them to agent workbins for processing at a later time.

- Send unidentified interactions to agents for immediate processing.

You can see the Screening Rule and the instruction to return classification Categories when you open the properties dialog box for the top left Screen object in the strategy shown in Figure 336. Figure 337 shows the properties dialog box.

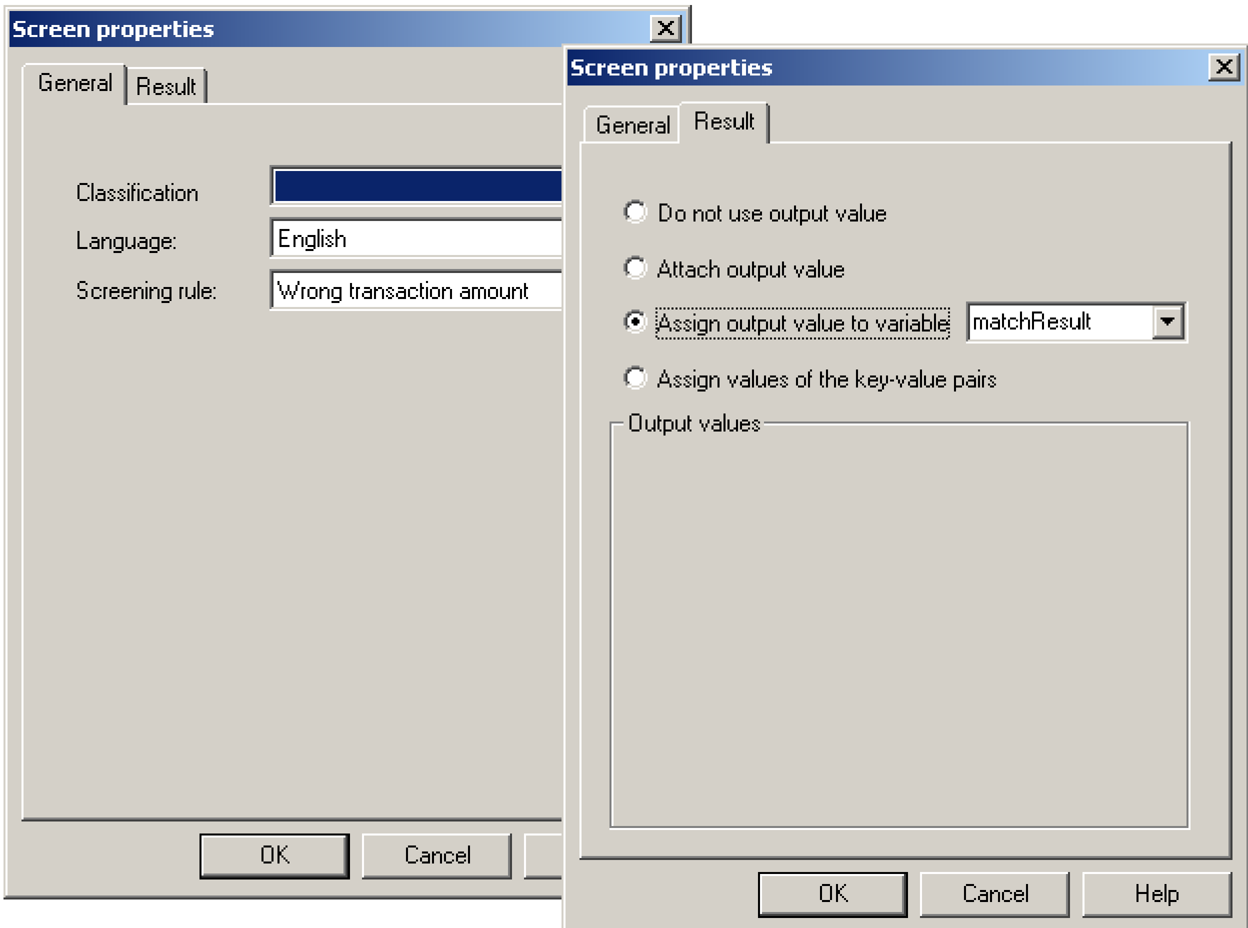

Figure 337: Screen Properties Dialog Box

The Screening Rule used in Screen object #1 is `Wrong transaction amount`. Note also that the `Result` tab in Figure 337 instructs to assign the screening result output value to a variable named `matchResult`.

- If a Screening Rule match in Screen object #1 occurs, the interaction goes out the side port to an If object (#1 in Figure 336 on page 388).
- If a match does not occur, the interaction goes out the bottom port to a Call Subroutine object that performs failure analysis (see Figure 336 on page 388).

If Object

Note the If object #1 in Figure 336 on page 388. Figure 338 shows the If object Properties dialog box.

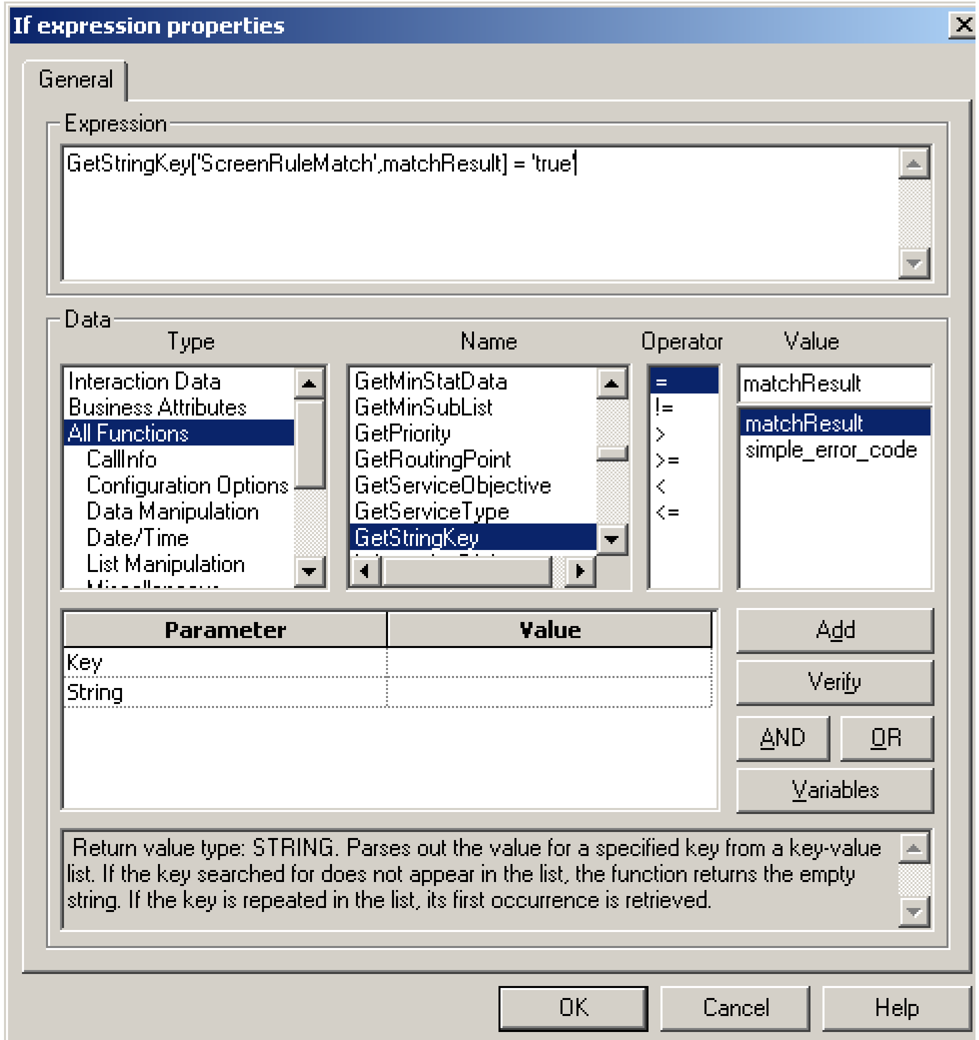

Figure 338: If Object Properties Dialog Box

The true/false value of the expression in Figure 338 determines whether the strategy sends the interaction to Attach Categories object #1 or whether the interaction is sent for further screening.

- If the expression in Figure 338 is true (if the variable `matchResult` contains `ScreenRuleMatch`), the interaction goes out the side port to Attach Categories object #1 (see Figure 336 on page 388). Continue with “Attach Categories Object” on page 391.
- If the expression in shown Figure 338 is false, the interaction goes out the bottom port to Screen object #2 that screens using a different Screening Rule, `Unidentified transaction`. The result is also written to the

matchResult variable. The interaction goes out the side port to If object #2, whose properties dialog box appears the same as in Figure 338. Again, if the expression in If object #2 is true, the interaction goes out the side port to the Attach Categories object #2 (see Figure 336 on page 388).

Attach Categories Object

Figure 339 shows the Properties dialog boxes for Attach Categories object #1 and #2 in the Classify customer inquiry att-ct strategy shown in Figure 336 on page 388.

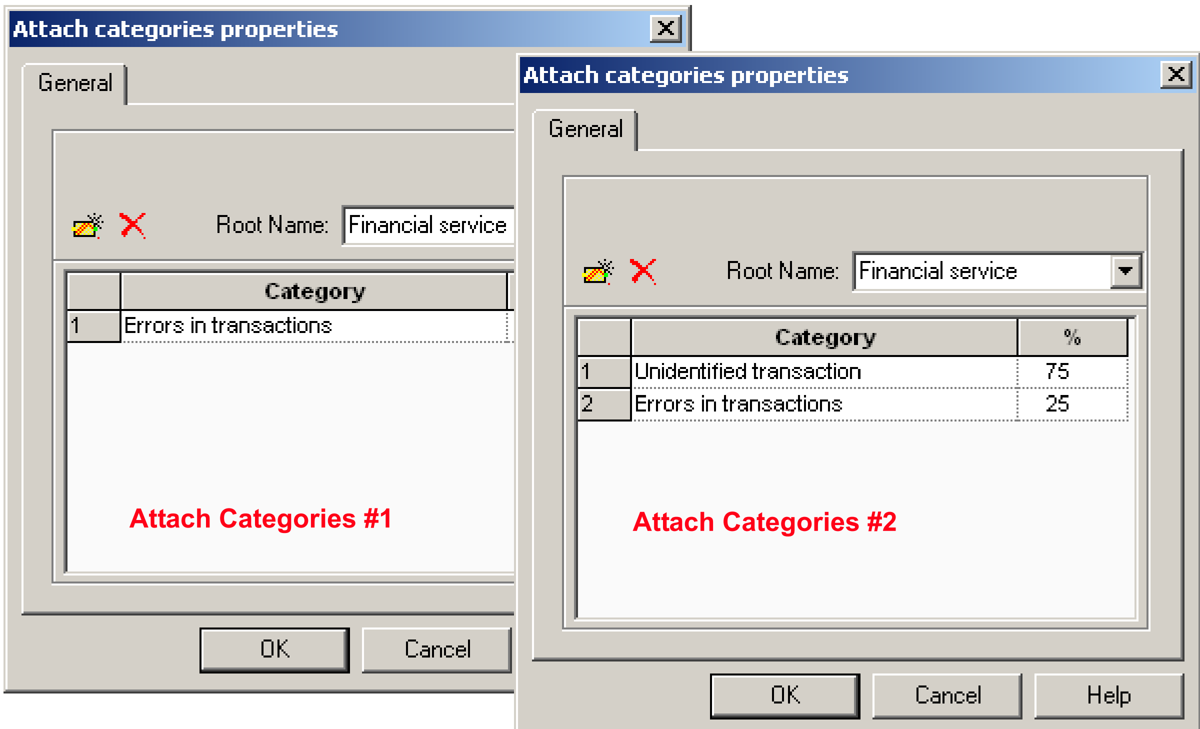

Figure 339: Attach Categories Properties Dialog Box

Attach Categories object #1 is used when initial screening indicates the transaction contains an error (Wrong transaction amount Screening Rule match). The Screening Rule identifier is attached to the interaction, which then goes out the side port to a Workbin object for handling by a member of an Agent Group (E-mail distribution in Figure 335 on page 387). Figure 340 shows the Workbin Properties dialog box.

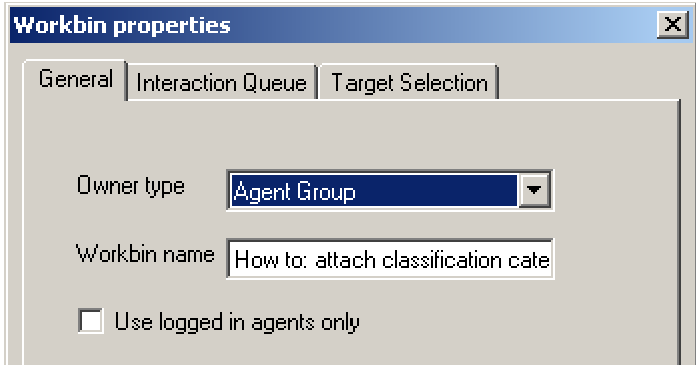

Figure 340: Workbin Properties Dialog Box

Attach Categories Properties object #2 in Figure 339 on page 391 is used when evaluation of the expression in If object #2 indicates the interaction is an unidentified one or contains an error. In this case, the interaction goes out the side port to a Route Interaction object (see Figure 336 on page 388). Figure 341 shows both tabs in the object properties dialog box for the Route Interaction object.

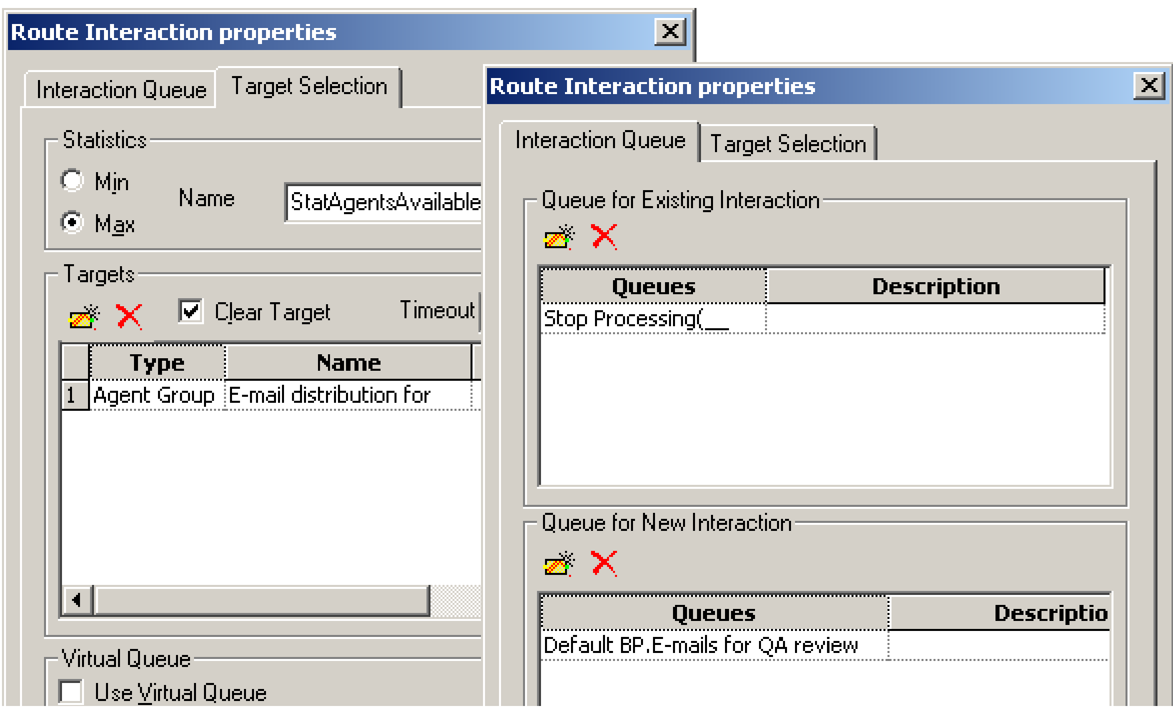

Figure 341: Route Interaction Properties Dialog Box

In the business process shown in Figure 335 on page 387, you can see the following objects: `E-mail distribution for processing`, `Stop`, and `E-mails for QA review`.

The following objects in Figure 335 on page 387 are the result of error handling:

`E-mail service failure analysis` subroutine

`Terminate interaction` subroutine

How To: Attach Classification Categories and Use Multi-Screen Object

This business process, listed in Figure 310 on page 354, demonstrates how to attach classification Categories to new inbound interactions for the purpose of segmenting those interactions to take different paths in the strategy. If you need additional information on classification Categories, “Categories Tab” on page 156. Figure 342 shows the `How to: Attach classification categories and use multi-screen object` business process.

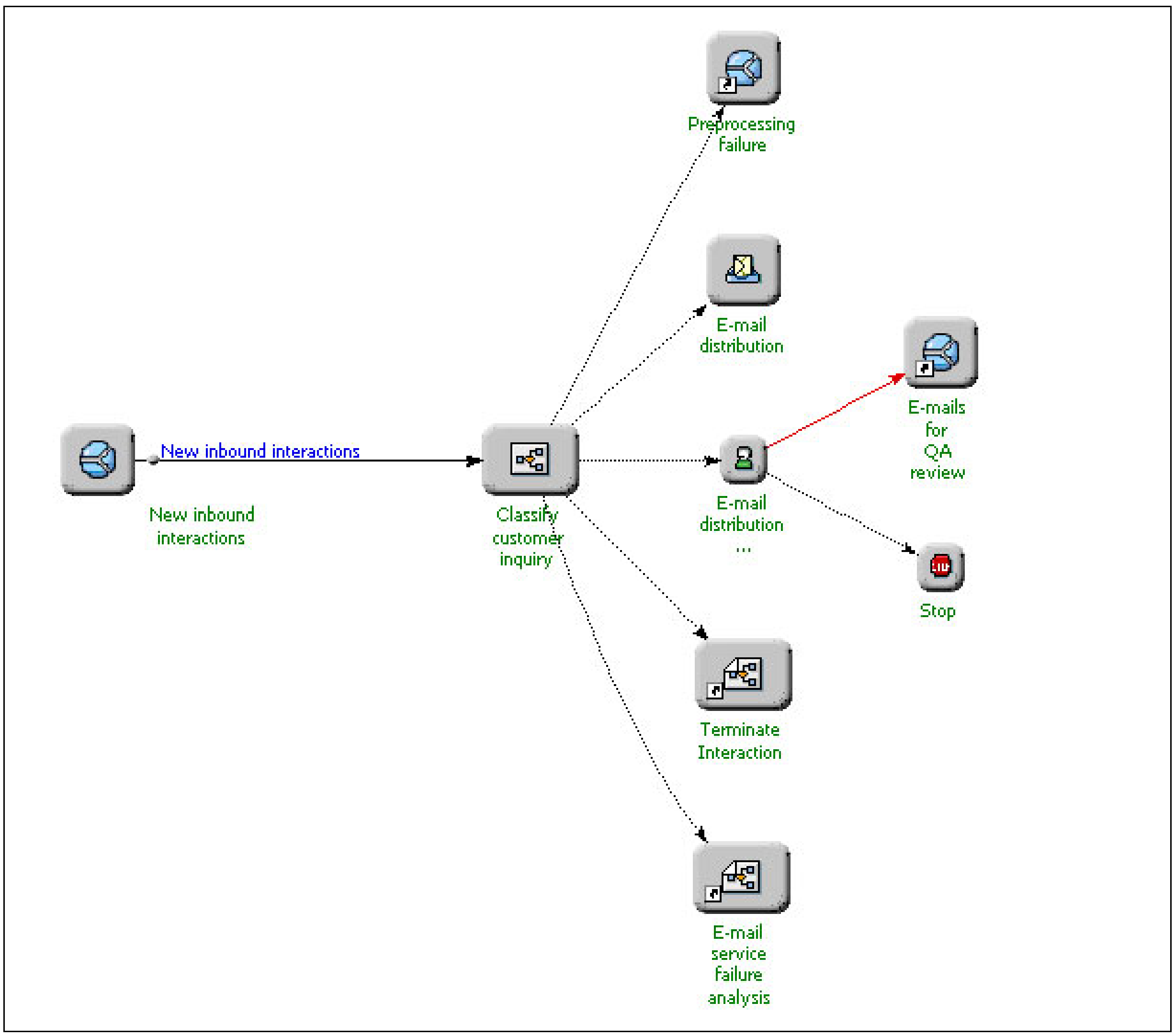

Figure 342: Attach Classification Categories and Use Multi-Screen Object Business Process

Processing Objects

This section describes the various objects in Figure 342 on page 393.

A view (`New inbound interactions`) attached to a queue (`New inbound interactions`), with no `Conditions` or `Order By` information, extracts interactions from the queue and sends them to the strategy `Classify customer inquiry` (see Figure 343).

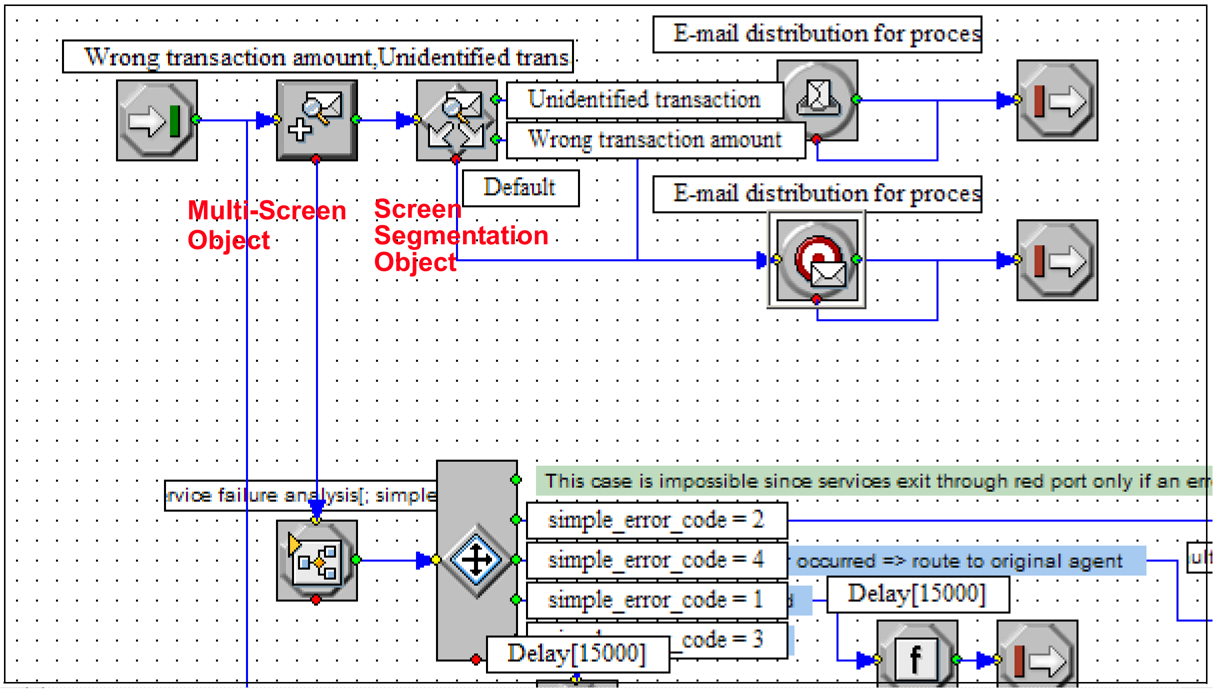

Figure 343: Classify Customer Inquiry Strategy

Multi-Screen Object

This strategy starts with Multi-Screen object that screens for certain words or word patterns using multiple Screening Rules and returns the Categories associated with the Screening Rule.

Note: Compare the strategy in Figure 343, which uses the Multi-Screen object, with the `Classify customer inquiry att-ct` strategy shown in Figure 336 on page 388, which uses the Screen object. Complexity and the amount of bytecode are reduced with the Multi-Screen object because Multi-Screen handles multiple rules and does not require a conditional test after each screening.

You can see the Screening Rules used and instruction to return classification Categories when you open the Multi-Screen object properties dialog box (see Figure 344).

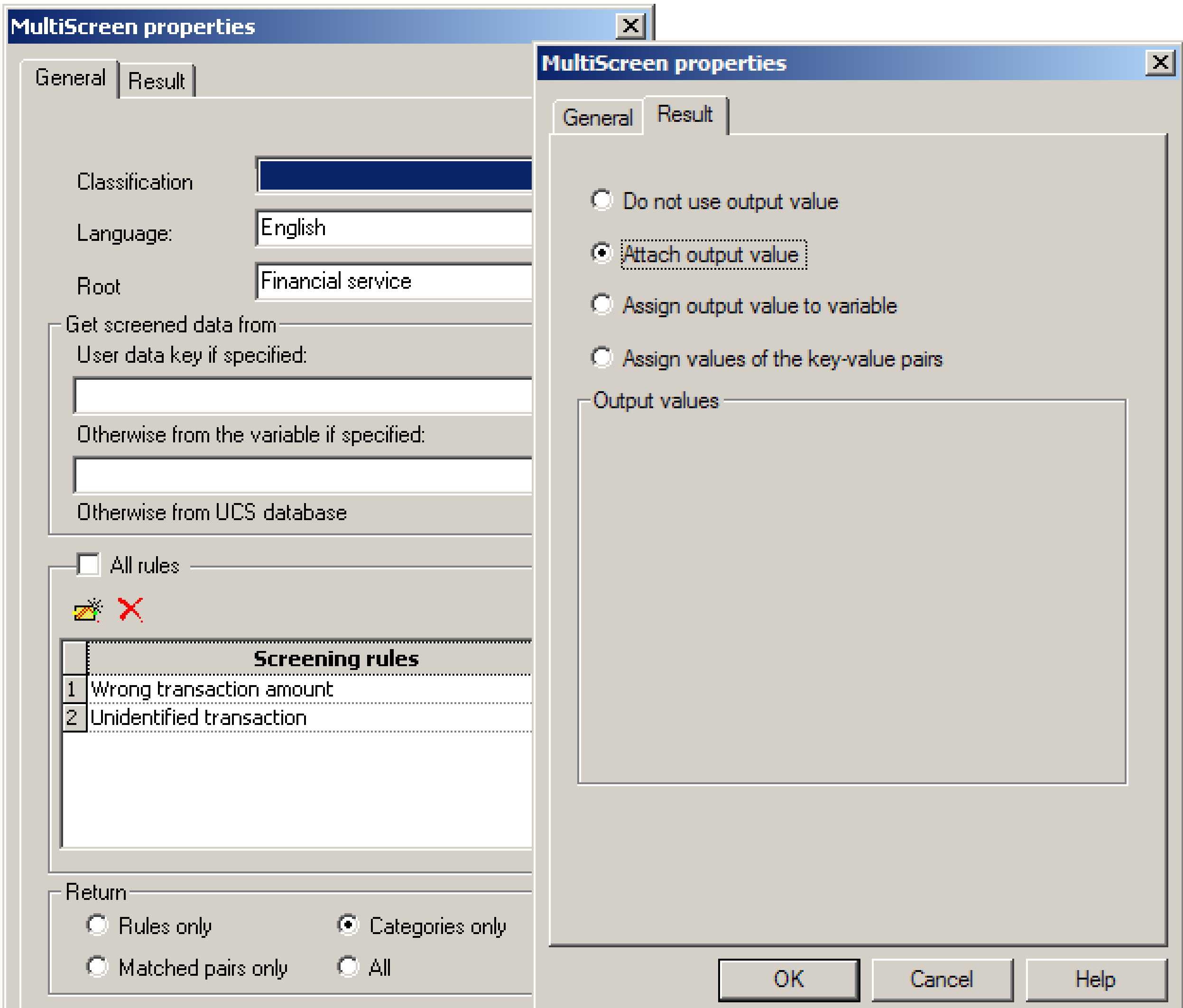

Figure 344: Multi-Screen Properties Dialog Box

The Screening Rules are `Wrong transaction amount` and `Unidentified transaction`. Under `Return`, note that `Categories only` is selected. Categories can be returned because Screening Rules can be associated with Categories in Knowledge Manager.

Note also that the `Result` tab in Figure 344 instructs to attach the Categories to the interaction.

Screen Segmentation Object

Note the Screen Segmentation object in Figure 343 on page 394. Interactions with Categories attached by the Multi-Screen object go to a Screen Segmentation object, which causes interactions to take different path in the strategy based on a Screening Rule match. Figure 345 shows its properties dialog box.

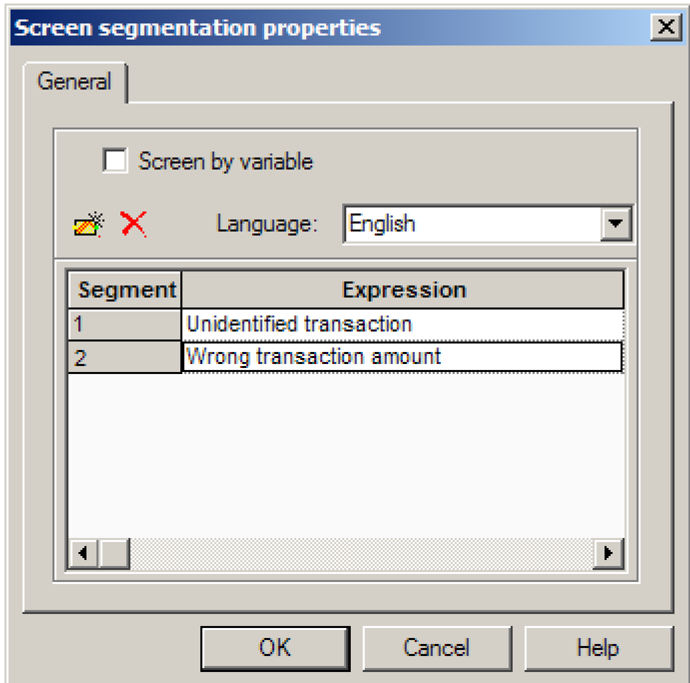

Figure 345: Screen Segmentation Properties Dialog Box

Each segment in the `Screen Segmentation` properties dialog box generates its own output port in the strategy in Figure 343 on page 394.

- Interactions screened as `Unidentified transaction` (needing an agent response instead of a Standard Response) go a Workbin object. This is represented as the `E-mail distribution` Workbin strategy-linked node in Figure 342 on page 393.

  Figure 346 on page 397 shows the various tabs in the `Workbin` properties dialog box.

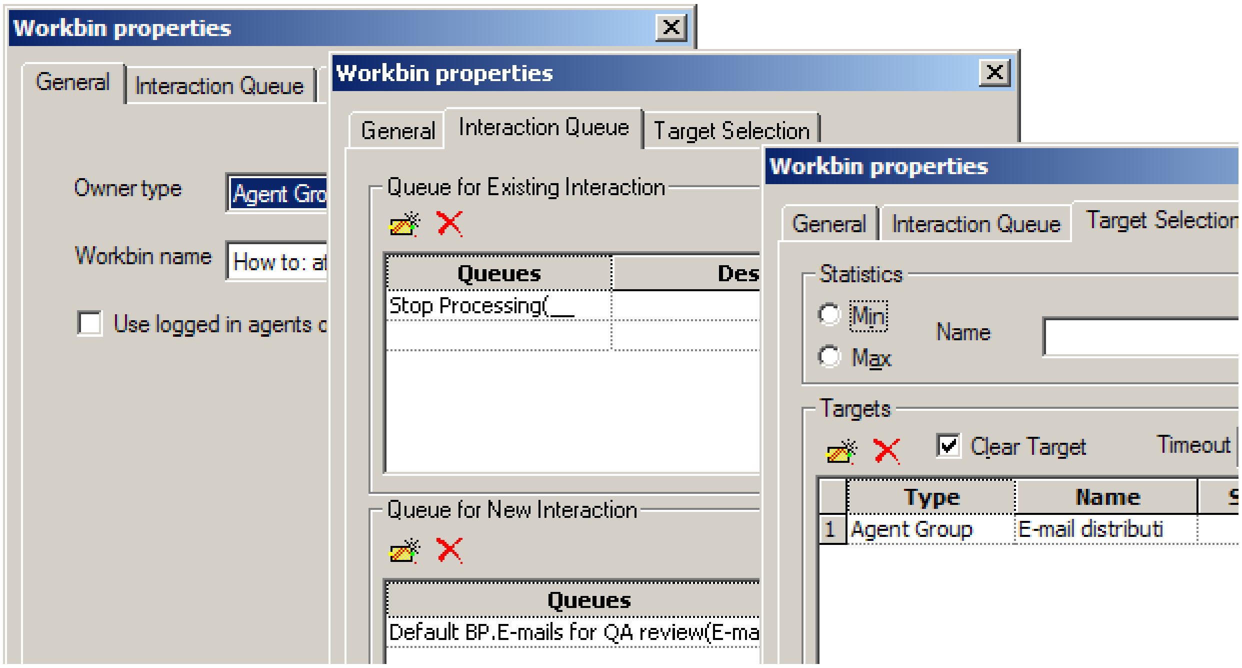

Figure 346: Workbin Properties Dialog Box

In the `Target Selection` tab, an `Agent Group` workbin named `E-mail Distribution` is selected. This is where the customer's e-mail will reside while a response is constructed.

In the `Interaction Queue` tab, under `Queue for New Interaction`, the selection is `E-mails for QA review` found in the `Default BP` business process. This is where the agent will place the new interaction (e-mail response to customer) so it can be checked by QA prior to sending. This is represented by the `E-mails failed QA` strategy-linked queue node in Figure 342 on page 393.

The Genesys predefined `Stop Processing(_STOP_)` queue is represented by the Stop strategy-linked node in Figure 342 on page 393. It indicates a notification to Interaction Server that processing of the existing interaction has stopped.

- Interactions screened as containing `Wrong transaction amount` go to a Route Interaction object.

Figure 347 shows its properties dialog box.

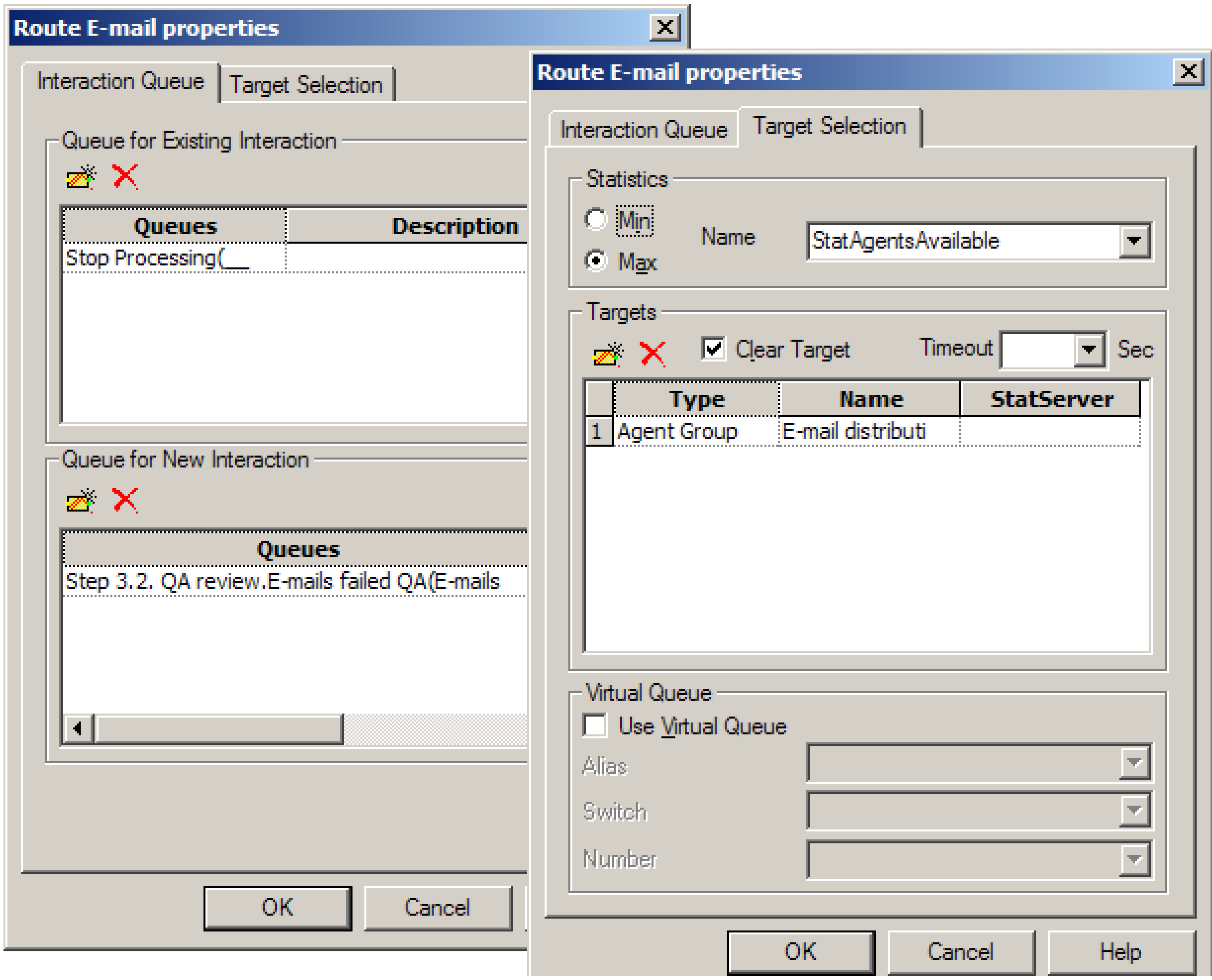

Figure 347: Route Interaction Properties Dialog Box

In the `Target Selection` tab, an `Agent Group` named `E-mail Distribution` is selected. This target is also represented as the `E-mail distribution` strategy-linked node in Figure 342 on page 393.

In the `Interaction Queue` tab, under `Queue for New Interaction`, the selection is `E-mails failed QA`. This is the same queue used by the Workbin object (see Figure 346 on page 397). This is where the agent will place a new interaction (e-mail response to customer) so it can be checked by QA prior to sending. This is also represented by the `E-mails failed QA` strategy-linked queue node in Figure 342 on page 393.

The Genesys predefined `Stop Processing(_STOP_)` queue is represented by the Stop strategy-linked node in Figure 342 on page 393. It indicates a notification to Interaction Server that processing of the existing interaction has stopped.

Error Handling

The following objects in Figure 342 on page 393 are the result of error handling:

`E-mail service failure analysis` subroutine

`Terminate interaction` subroutine

How To: Get Credit Card Number From the E-mail

This business process, listed in Figure 310 on page 354, demonstrates how to screen an interaction for credit card information.

- If the customer paid by credit card, the interaction is written to a queue for those types of interactions.
- If the customer did not pay by credit card, the interaction is written to a different queue.

Figure 332 shows the `How to: Get Credit Card Number From the E-mail` business process.

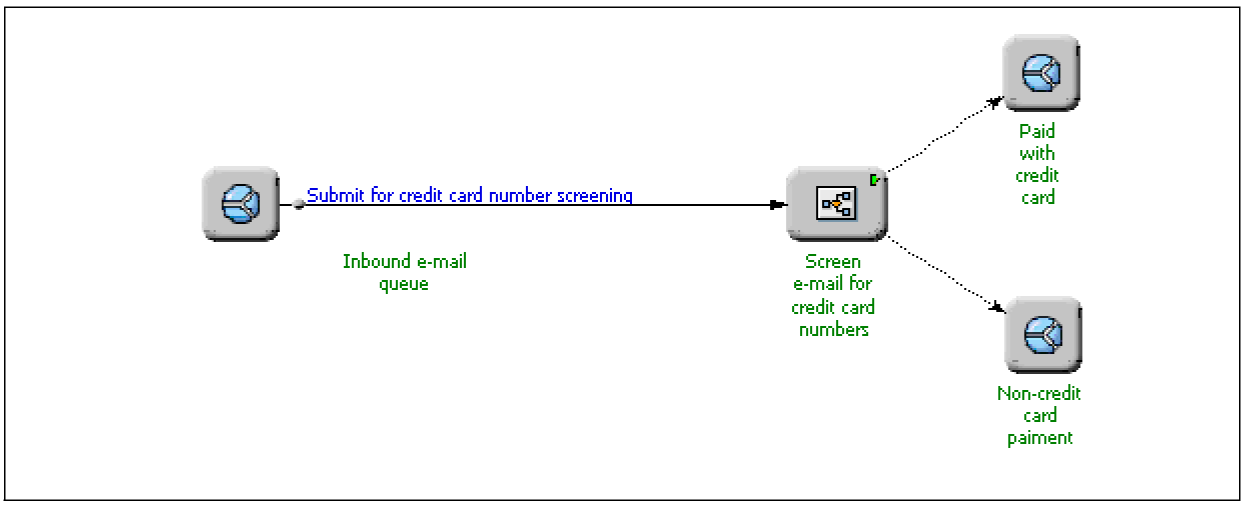

Figure 348: Get Credit Card Number From the E-mail Business Process

If you need a review of screening, see “Screening Tab” on page 164.

Processing Objects

This section describes the various objects in Figure 348.

A view (`Submit for credit card number for screening`) with no `Conditions` or `Order By` information (see Table 21 on page 261) extracts interactions from

`Inbound e-mail queue` and sends them to the strategy, `Screen e-mail for credit card numbers` (see Figure 349).

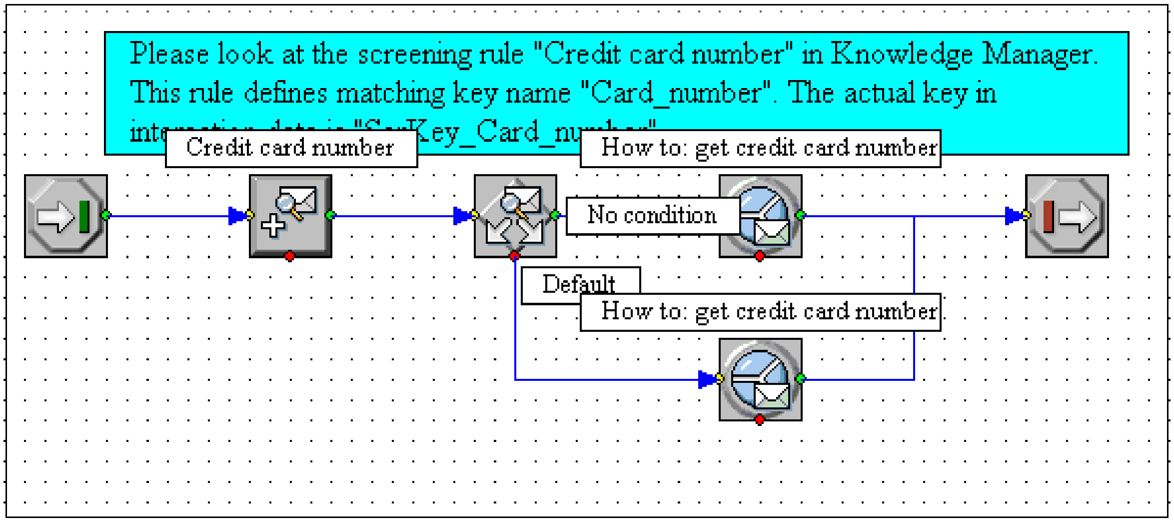

Figure 349: Screen E-mail for Credit Card Numbers Strategy

This strategy starts with the Multi-Screen object that screens for certain words or word patterns using multiple Screening Rules. It then returns the Categories (see page 156) associated with Screening Rules that matched.

Figure 350 shows the `General` and `Result` tab in the properties dialog box for the Multi-Screen object.

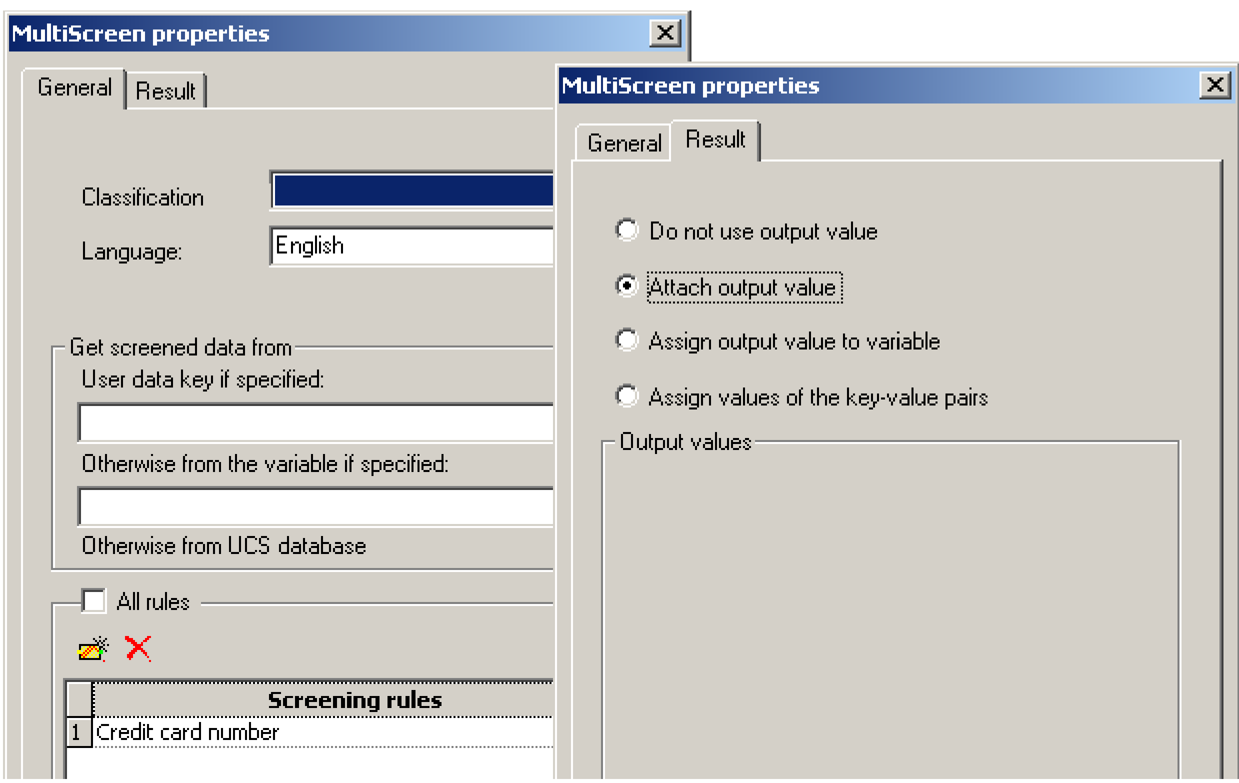

Figure 350: Multi-Screen Properties Dialog Box

The name of the Screening Rule is `Credit card number`. (If the Screening Rule does not display, see "Properties Dialog Boxes for Strategy Objects" on page 355.) Under `Return`, note that `Matched pairs only` is selected. This returns pairs consisting of a screening rule identifier and the specific string of words in the interaction that matches the screening rule. The `Result` tab in Figure 350 instructs to attach the Categories to the interaction.

Screen Segmentation Object

The next object in the strategy shown in Figure 349 on page 400 is a Screen Segmentation object. Interactions with Categories attached by the Multi-Screen object go to a Screen Segmentation object. It causes interactions to take different path in the strategy based on whether a Screening Rule match occurred. Figure 351 shows its properties dialog box.

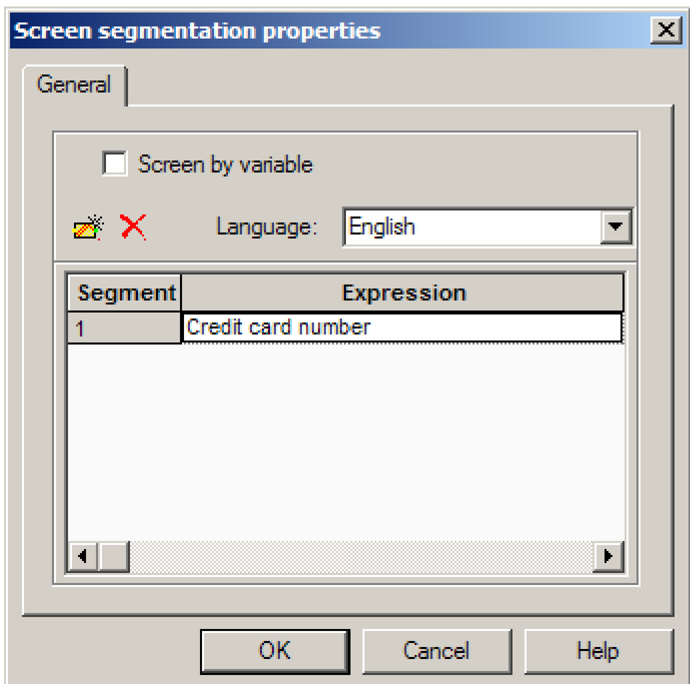

Figure 351: Screen Segmentation Properties Dialog Box

As shown in Figure 348 on page 399:

- Interactions matching the `Credit card number` Screening Rule go out the side port to a Queue Interaction object that specifies an interaction queue called `Paid with credit card`.
- Interactions that do not match the `Credit card number` Screening Rule go to another Queue Interaction object that specifies an interaction queue called `Non-credit card payment`.

Figure 352 shows the properties dialog box for each Queue Interaction object after clicking the down arrows to show all queues including the selected queues.

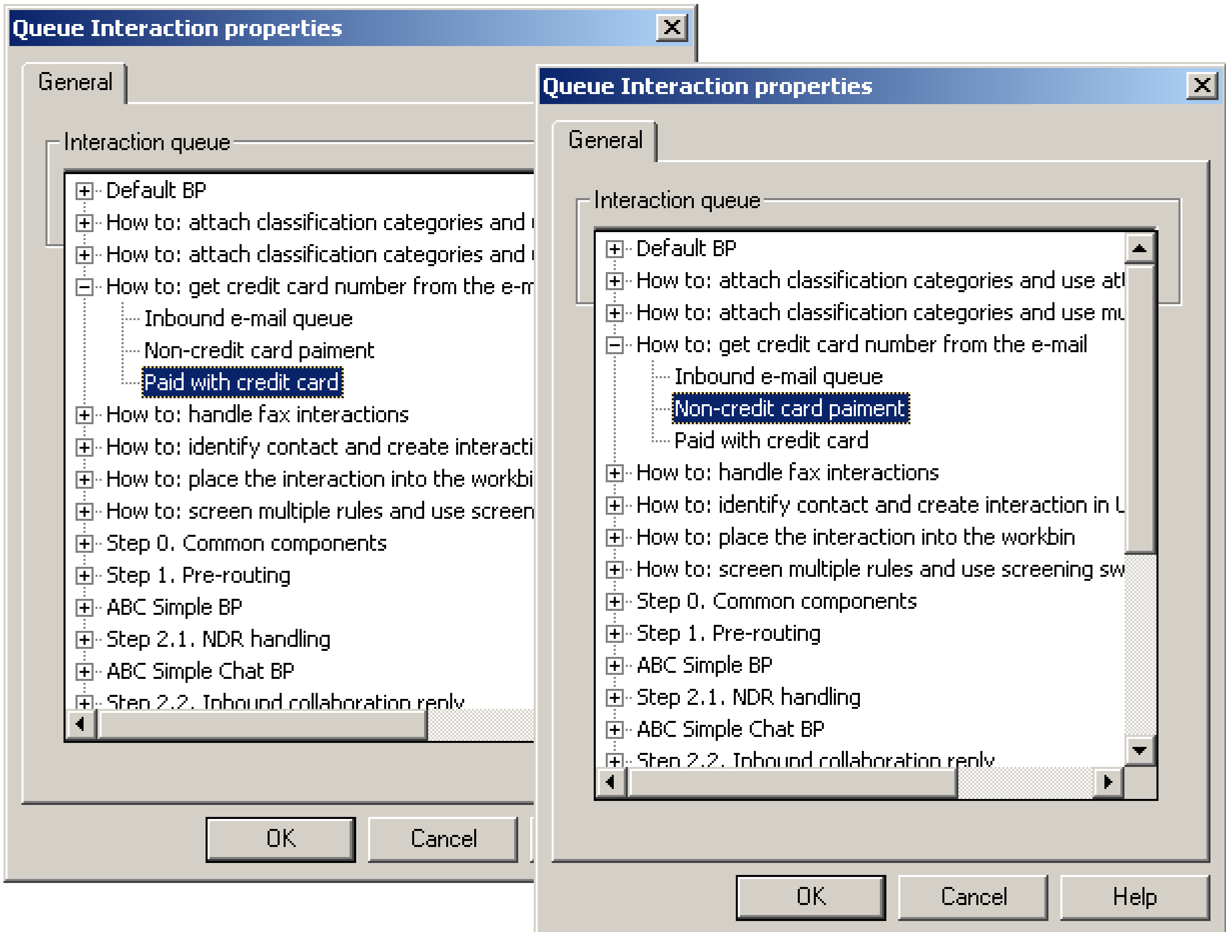

Figure 352: Queue Interaction Properties Dialog Boxes

The names of both interaction queues are reflected in the business process shown in Figure 348 on page 399.

How To: Handle Fax Interactions

This business process, listed in Figure 310 on page 354, demonstrates how screening can work with various medias, such as fax.

- Interactions that match a Screening Rule trigger an automatic response and/or redirecting or forwarding to other agents.
- If an interaction fails the screening, this means the interaction cannot be processed automatically and requires an agent's attention. An acknowledgement e-mail is generated and the interaction goes to a queue for further processing.

Figure 353 on page 403 shows the `How to: Handle Fax Interactions` business process.

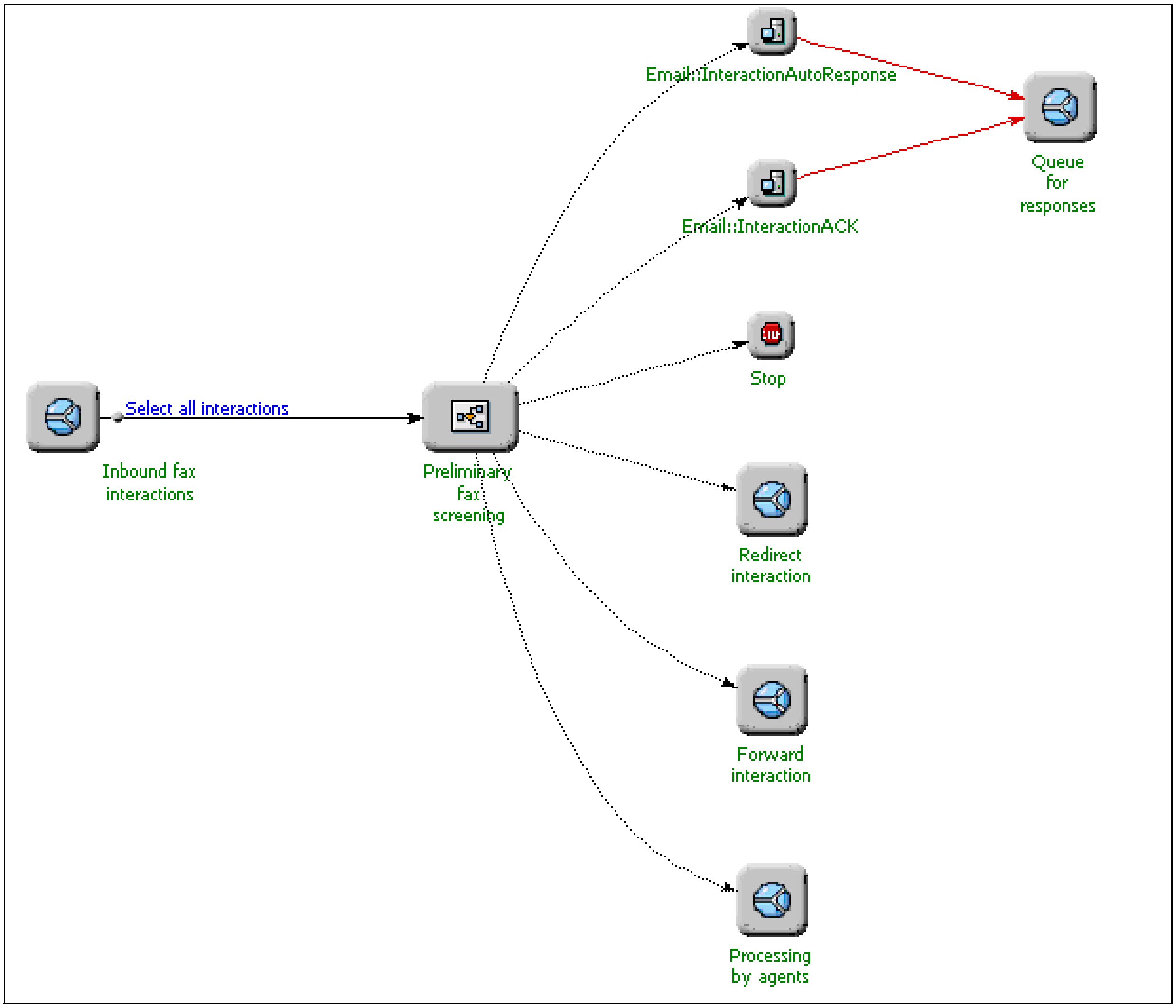

Figure 353: Handle Fax Interactions Business Process

Processing Objects

This section describes the various objects in Figure 353.

A view (`Select all interactions`) with no `Conditions` or `Order By` information (see Table 21 on page 261) extracts interactions from the `Inbound fax Interactions` queue and sends them to the strategy, `Preliminary fax screening` (see Figure 354).

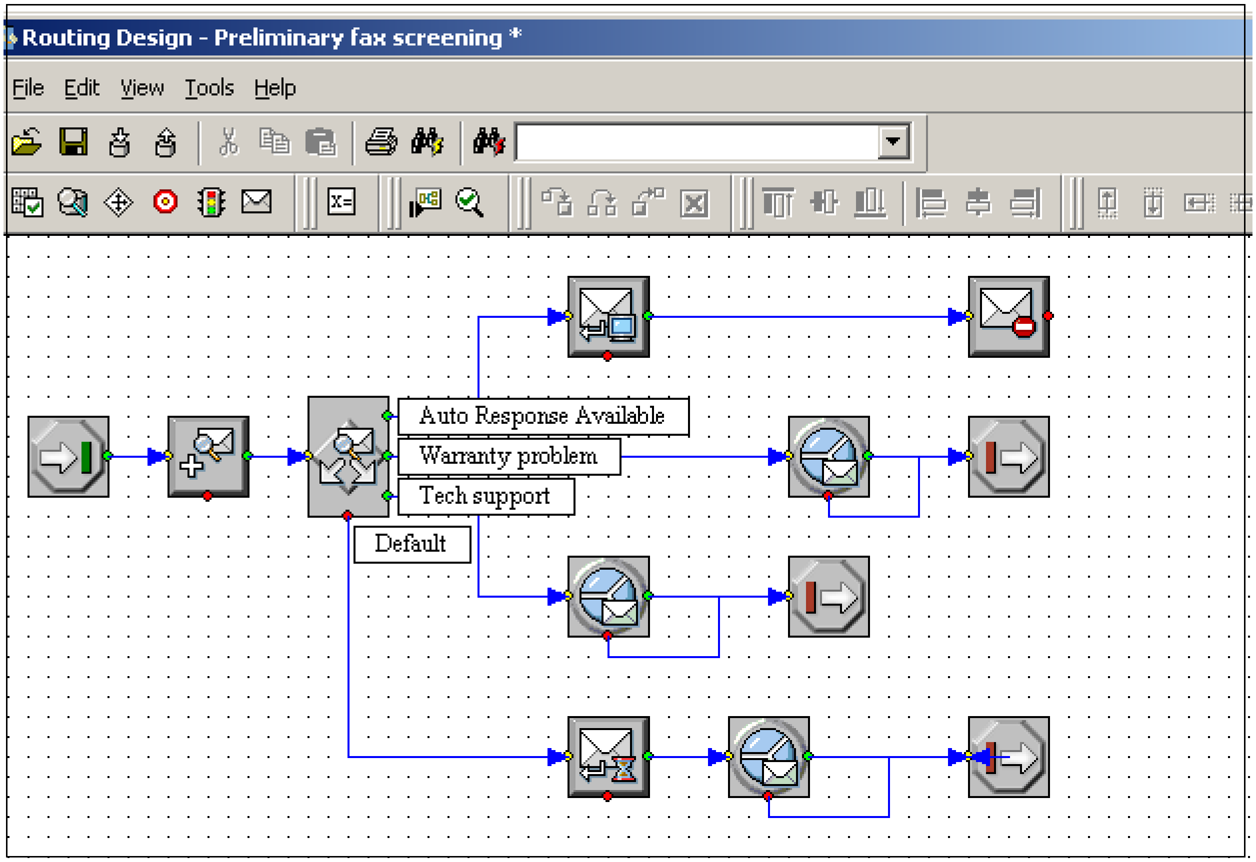

Figure 354: Preliminary Fax Screening Strategy

Multi-Screen Object

After the Entry object, a Multi-Screen object screens for certain words or word patterns using multiple Screening Rules. The properties dialog box for the Multi-Screen object is shown in Figure 355.

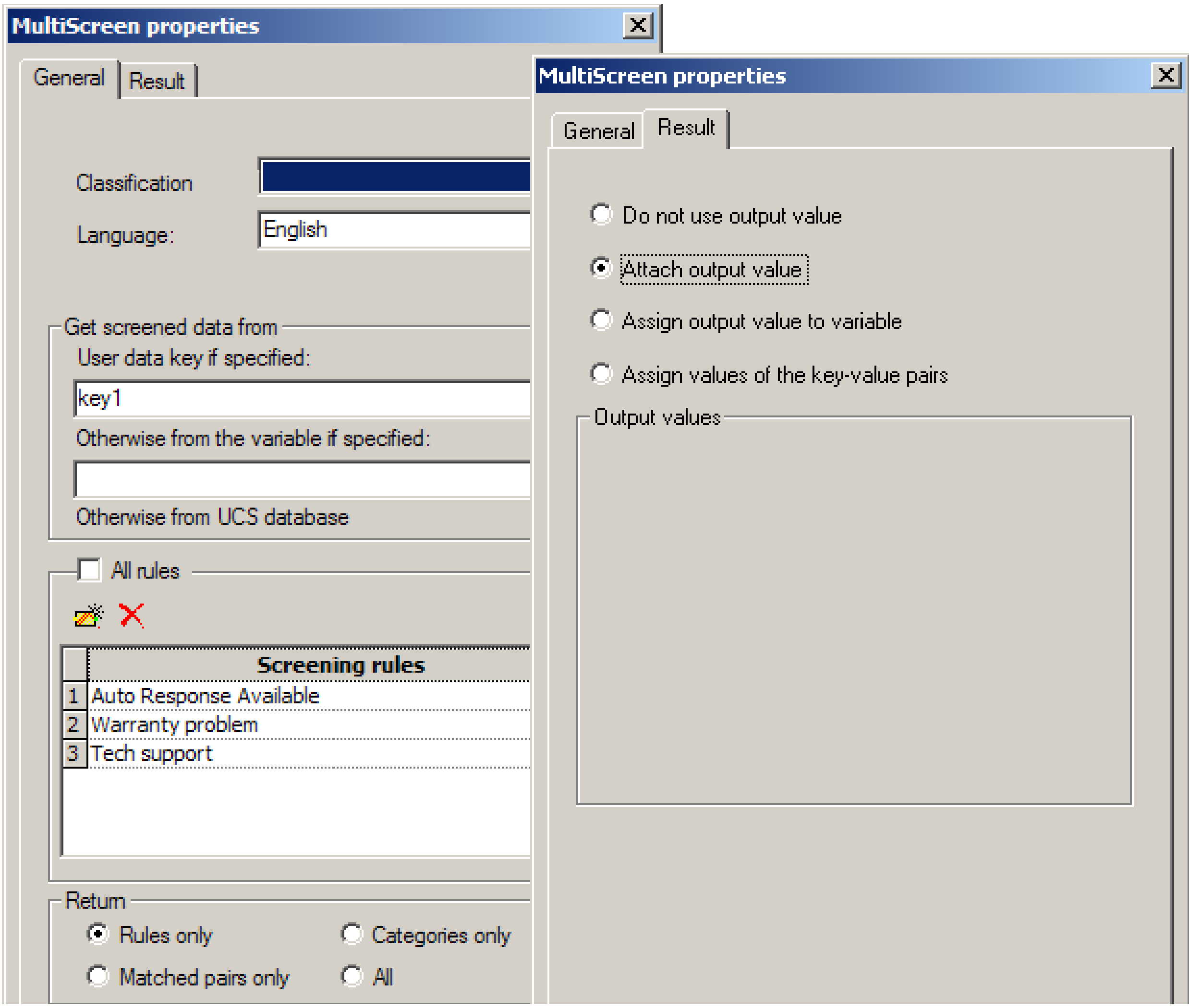

Figure 355: Multi-Screen Properties Dialog Box

The Screening Rules are `Auto Response Available`, `Warranty problem`, and `Tech support`.

Under `Return`, `Rules only` is selected, which returns only the Screening Rule identifier when a match is found.

The `Result` tab instructs to attach the Screening Rule identifier to the interaction.

Screen Segmentation Object

After the Multi-Screen object, the next object in the strategy shown in Figure 354 on page 404 is a Screen Segmentation object. Interactions take different paths in the strategy based on the Screening Rule that was matched. Figure 351 shows its properties dialog box.

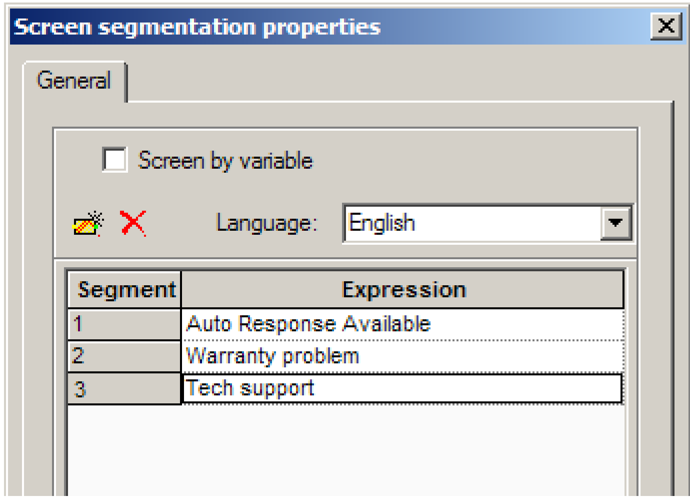

Figure 356: Screen Segmentation Properties Dialog Box

Each segment in the Screen Segmentation properties dialog box generates its own output port in the strategy (see Figure 354 on page 404).

Autoresponse Object

Interactions matching the Screen Rule `Auto Response Available` go an Autoresponse object that uses `Customer Support phone` text from a Standard Response Library to create an automatic response (see Figure 357).

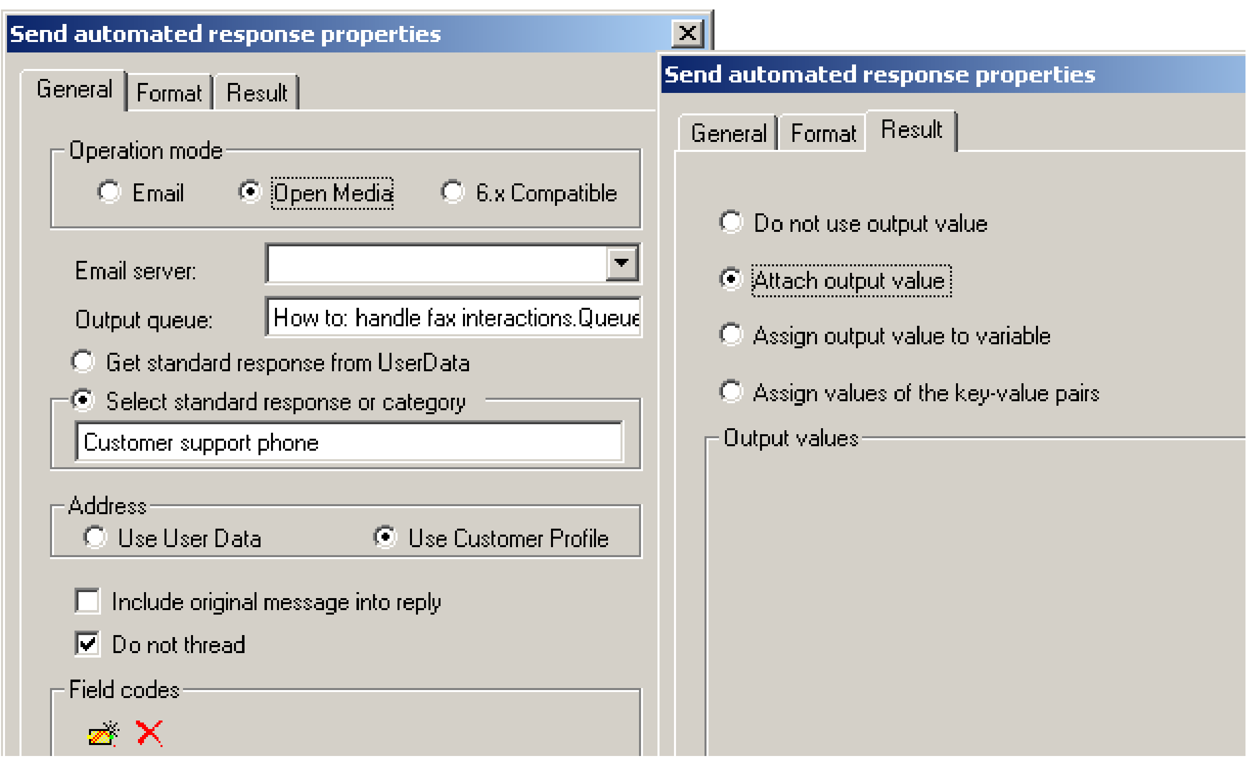

Figure 357: Send Automated Response Properties

Under `Operation Mode` in Figure 357 on page 406, `Open Media` is selected.

After the Autoresponse object in the strategy in Figure 354 on page 404, a Stop Interaction object notifies Interaction Server that processing for this particular interaction has stopped and supplies a reason code.

Warranty Problem Segment

Interactions in Figure 354 on page 404 with a screening result of `Warranty problem` go to an Queue Interaction object that specifies an interaction queue called `Forward interaction` (see Figure 358).

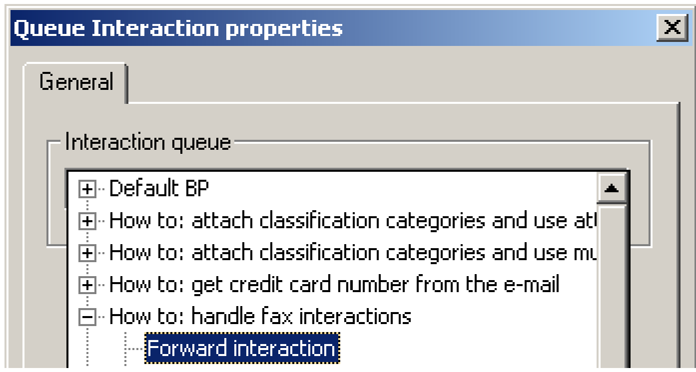

Figure 358: Queue Interaction Properties Dialog Box

Tech Support Segment

Interactions in Figure 354 on page 404 with a screening result of `Tech support` go to an Queue Interaction object that specifies an interaction queue called `Redirect Interaction` (see Figure 359).

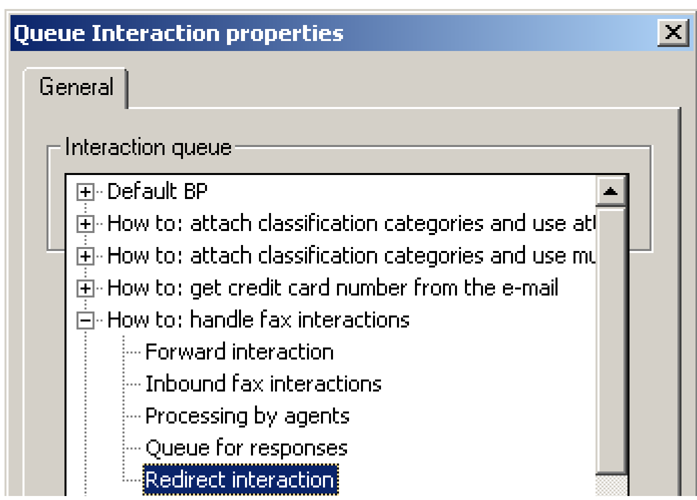

Figure 359: Queue Interaction Properties Dialog Boxes

All of the above interactions are faxes, which can be processed automatically.

Processing by Agents

Interactions not matching any of the previous Screening Rules cannot be processed automatically. These interactions go out the bottom port of the Multi-Screen object to an Acknowledgement object (see Figure 360).

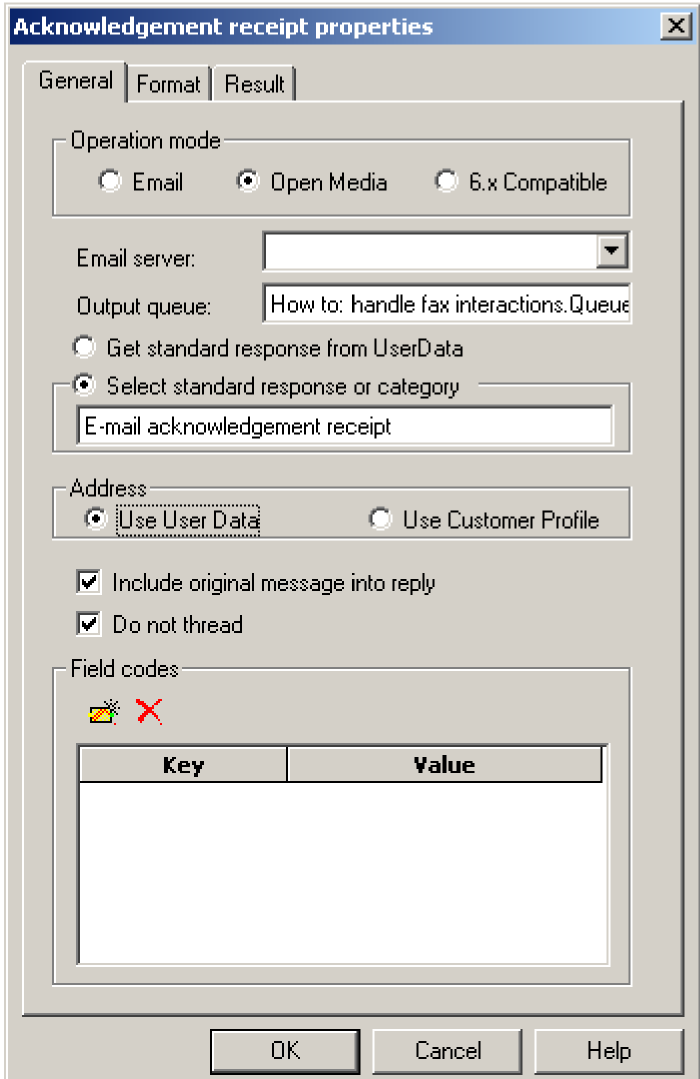

Figure 360: Acknowledgment Receipt Properties Dialog Box

After an acknowledgment e-mail is generated, the interaction is placed in a queue (`Processing by Agents`) for processing by agents (see Figure 361).

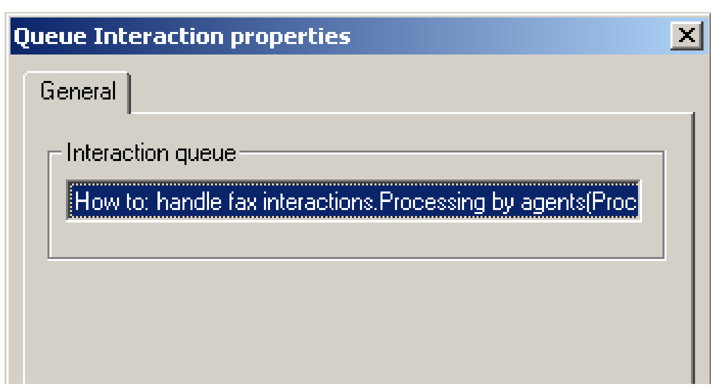

Figure 361: Queue Interaction Properties Dialog Box

How To: Identify Contact and Create Interaction in UCS

This business process, listed in Figure 310 on page 354, demonstrates how to process an inbound interactions queue based on whether a customer contact exists or does not exist in the Universal Contact Server (UCS) Database.

The strategy checks to see if this is an existing contact. If the contact exists, the strategy creates an interaction for that customer in the UCS Database. If the contact does not exist, processing continues without the creation of an interaction in the UCS Database. Figure 362 shows the business process.

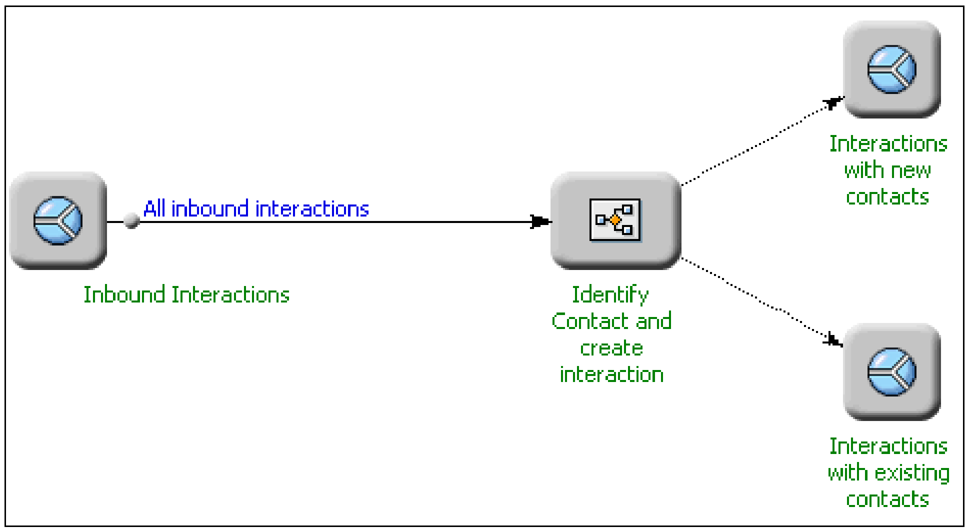

Figure 362: Identify Contact, Create Interaction in UCS Business Process

Processing Objects

This section describes the various objects in Figure 362.

A view (`All inbound interactions`), with no `Conditions` or `Order By` information, extracts interactions from an interaction queue called Inbound interactions and submits them to the `Identify Contact and create interaction` strategy (see Figure 363).

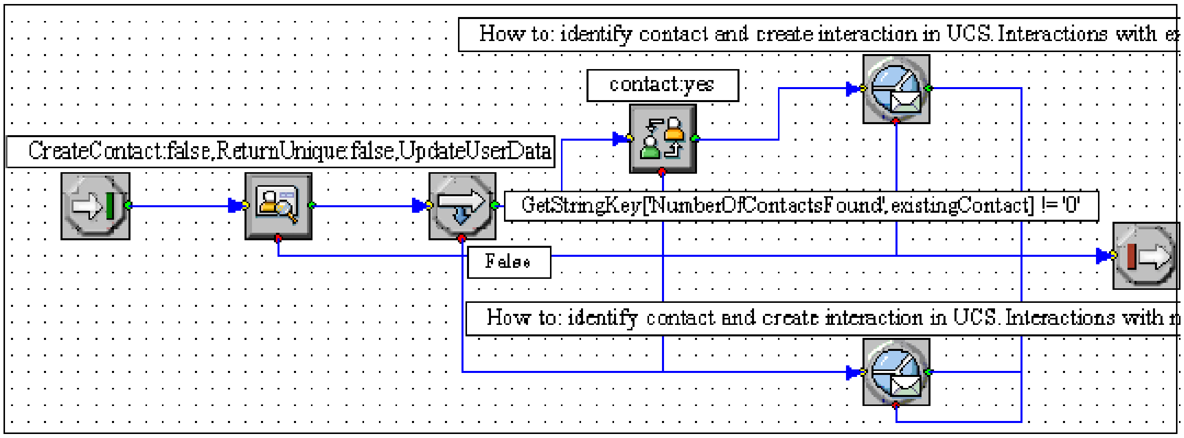

Figure 363: Identify Contact and Create Interaction Strategy

The second object in the strategy is Identify Contact (see page 201). Figure 364 shows both tabs of its properties dialog box.

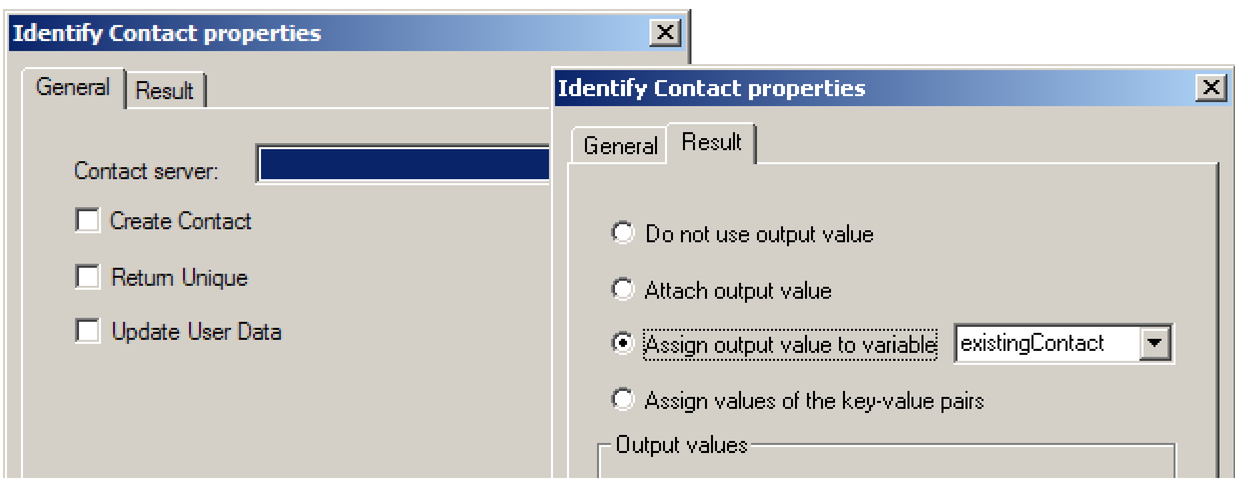

Figure 364: Identify Contact Properties Dialog Box

Note: The `Contact server` field in Figure 354 is blank. If you do not specify a Contact server, URS finds all available servers and selects based on load balancing.

The `Result` tab instructs to write the content of an `Interaction Data` field, `existingContact`, to a variable, also called `existingContact`.

- If there is no `existingContact` field or if it is empty, the interaction goes out the bottom port to the `default destination`, an option configured in the URS `Application` object.
- If the `existingContact` variable contains a value, the interaction goes out the side port to an If object (see Figure 365 on page 411), which is the third object in the strategy in Figure 363.

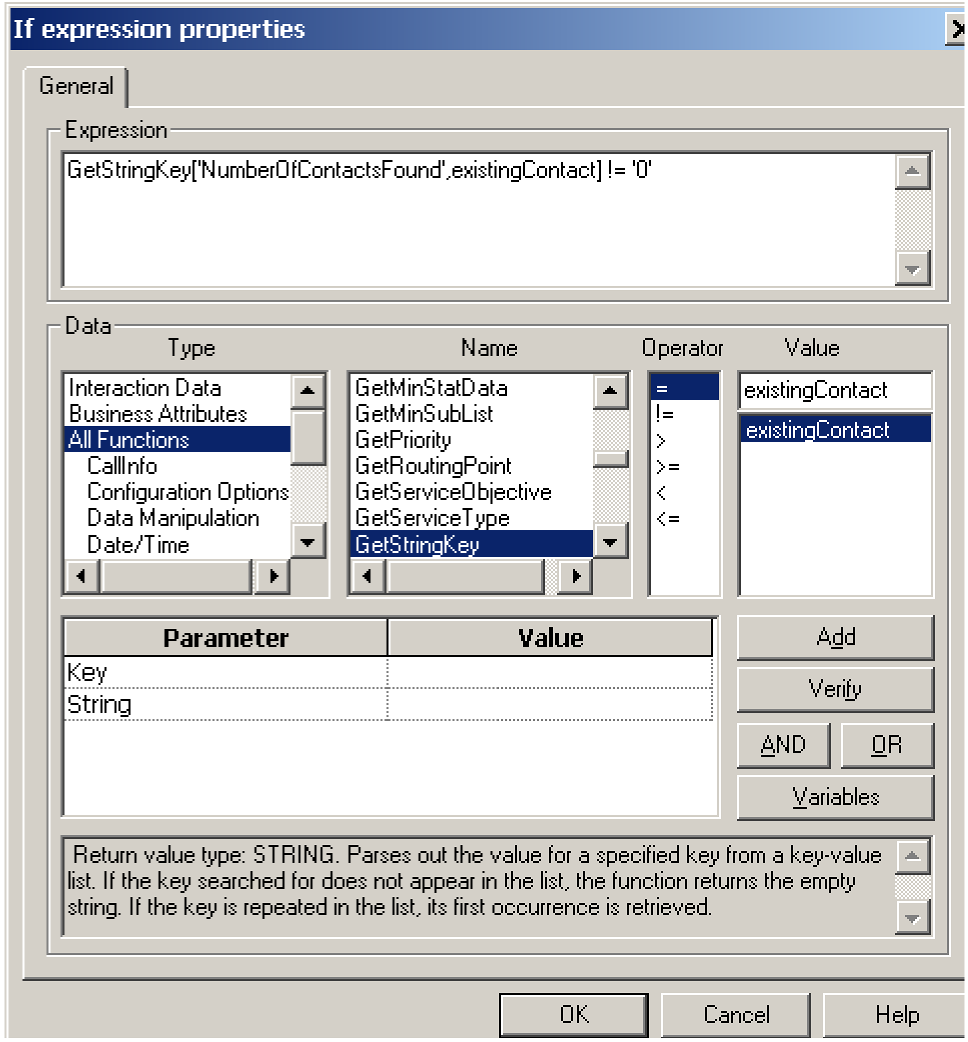

Figure 365: If Object Properties Dialog box

The If object calls a function called `GetStringKey`. This function parses out the value for a specified key. If the searched-for key does not appear in the list, the function returns an empty string.

The first parameter in the function call is the key, which is `NumberOfContactsFound`. The second parameter is the variable to contain the `Interaction Data`, which is `existingContact`.

- If the expression is false (`existingContact=0`), if the interaction is not from an existing contact, it goes out the bottom port to a Queue Interaction object specifying a queue for new contacts. Figure 366 shows the `Queue Interaction properties` dialog box after clicking the down arrow to show the selected queue.

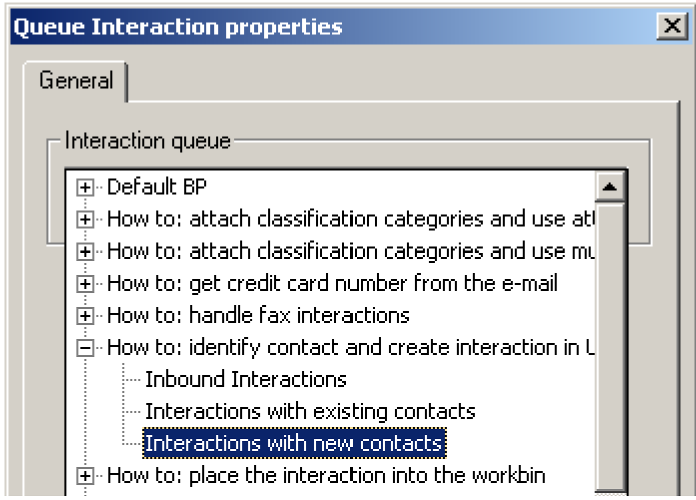

Figure 366: Queue Interaction Properties Dialog Box

- If the expression in Figure 365 on page 411 is true (`existingContact=1`), if the interaction is from an existing contact, it goes out the side port to a Create Interaction object, which is the fourth object in the strategy in Figure 363 on page 410. Figure 367 shows the properties dialog box.

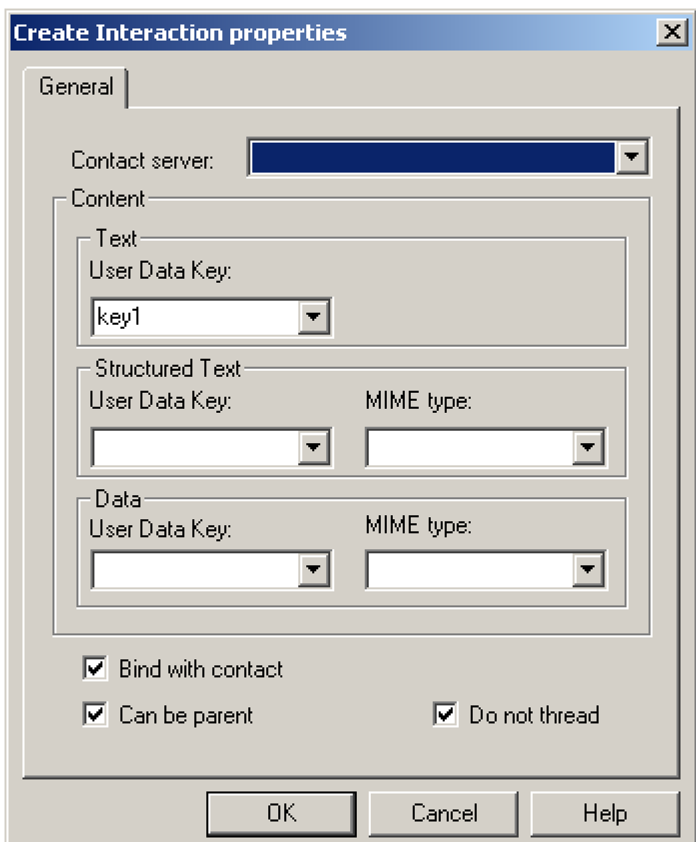

Figure 367: Create Interaction Properties Dialog Box

Again, the `Contact server` field in Figure 354 is blank. If you do not specify a Contact server, URS finds all available servers and selects based on load balancing.

- If record creation is successful; the interaction goes out the side port to a queue for interactions for existing contacts. Figure 368 shows the Queue Interaction Properties dialog box after clicking the down arrow to show the selected queue.

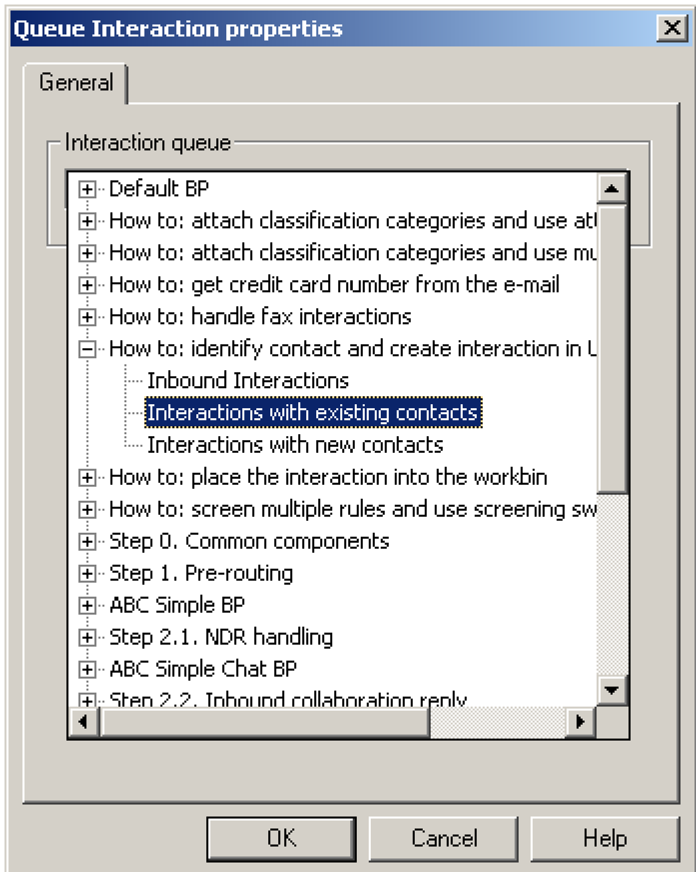

Figure 368: Queue Interaction Properties Dialog Box

- If record creation is unsuccessful, the interaction goes out the bottom port to the default destination.

How To: Place the Interaction Into the Workbin

This business process, listed in Figure 310 on page 354, demonstrates how to route an interaction to the agent that originally handled it. If the original agent is not immediately available, the strategy places the interaction in the original agent's workbin for later handling.

Note: If you need a review of workbins, see *Universal Routing 7.6 Business Process User's Guide*.

Figure 369 shows the `Place the Interaction Into the Workbin` business process.

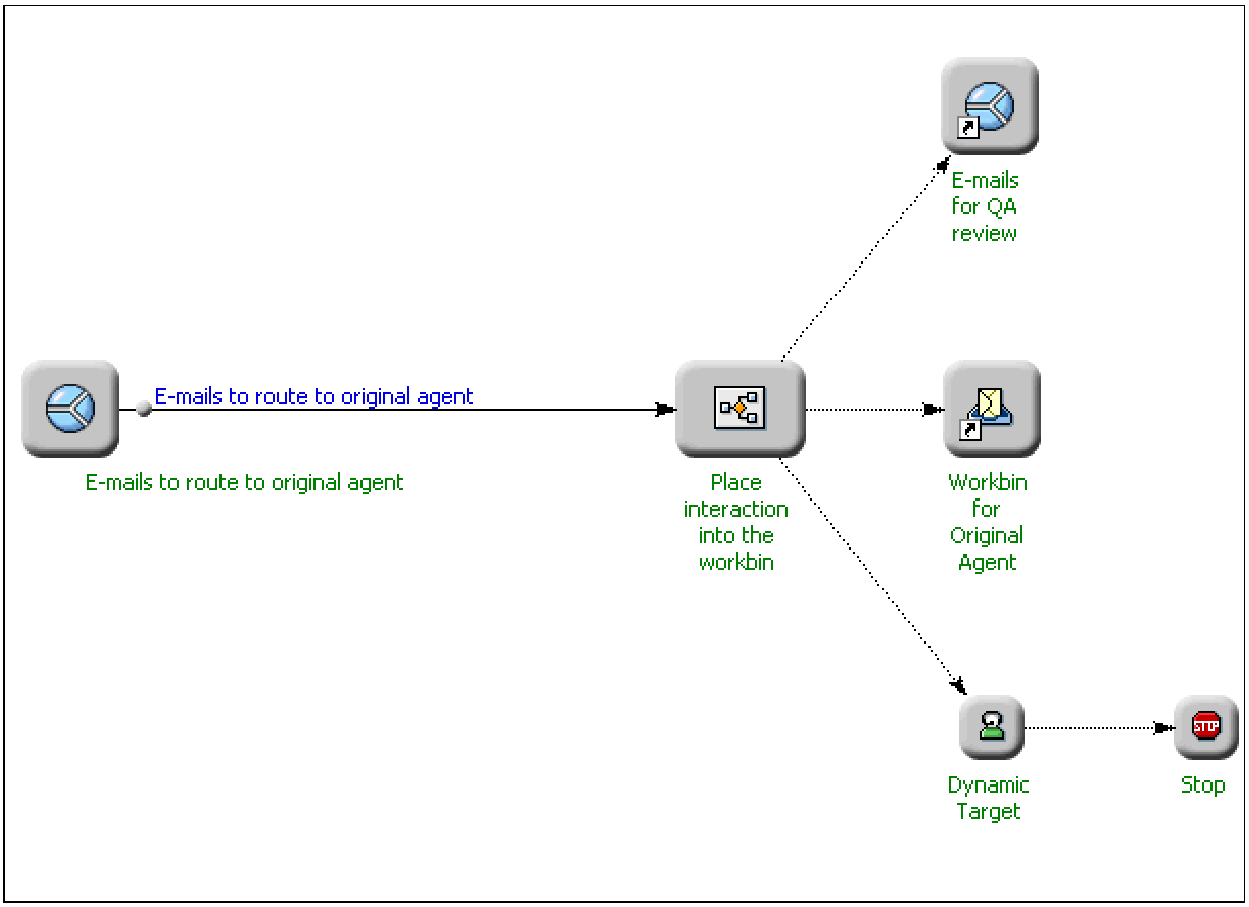

Figure 369: Place Interaction Into Workbin Business Process

Processing Objects

This section describes the various objects in Figure 369.

A view (`E-mails to route`) with no `Conditions` or `Order by` Information attached to a queue (`E-mails to route to original agent`) extracts interactions and sends them to the strategy `Place Interaction into the workbin` (see Figure 370).

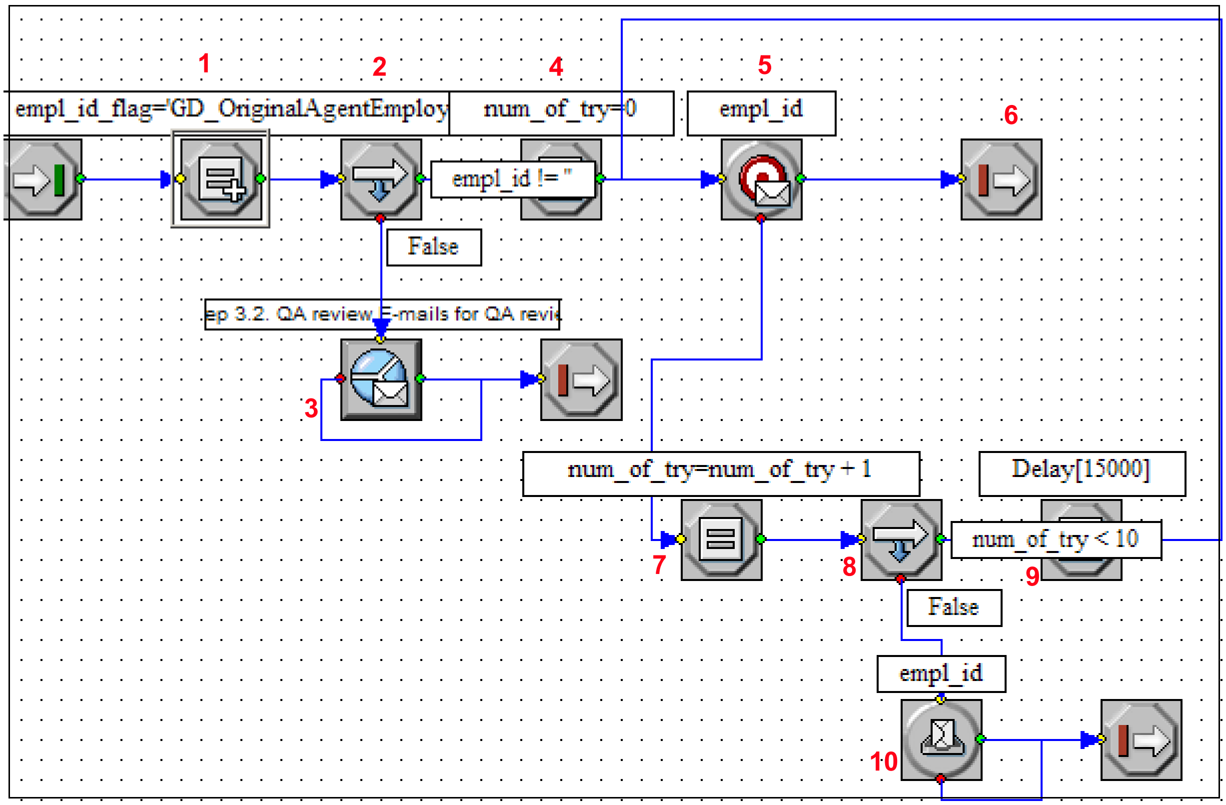

Figure 370: Place Interaction Into The Workbin Strategy

This strategy assumes the original agent employee ID is contained in the interaction attached data. It is very similar to the `Route Interaction to original agent` strategy documented in *Universal Routing 7.6 Strategy Samples*.

The general processing flow is as follows:

Note: The numbers in the IRD objects in Figure 370 are keyed to the numbers below.

1. A Multi-Assign object assigns interaction attributes to three predefined variables (see Table 29 on page 416).

Table 29: Place Interaction Into the Workbin Predefined Variables

Variable	Description
`empl_id.`	The Udata function attempts to get a value from the attached data key `empl_id_flag` and write it to this variable. If this key contains a value, it indicates there is an original agent for routing.
`empl_id_flag.`	The original agent employee ID number. `GD_OriginalAgentEmployeeID` is an attached data key that may contain the identifier.
`num_of_tries`	is initialized to `0`. It functions as a counter used to control the number of tries the strategy makes to route to the original agent.

2. After setting the variables, an If object initializes the `empl_id` variable so it does not contain a value.

3. If the expression in is true (if `empl_id` does not contain a value indicating there is no original agent), the e-mail, goes out the bottom port to a Queue E-mail object specifying the queue `E-mails for QA review` (strategy-linked node in Figure 369 on page 414. This is used for a collaboration reply e-mail from one agent to another.

4. If the expression is false (if there is an original agent), the e-mail goes out the side port of the If object to an Assign object, which sets a counter (variable `num_of_try`) to zero.

5. A Route Interaction object attempts to route the interaction to the original agent contained in the `empl_id` variable. This target is represented by the `Dynamic target` strategy-linked node in Figure 369 on page 414.

6. If the routing is successful, the strategy has achieved its goal and an Exit object is connected to the side port of the Route Interaction object.

7. If the agent cannot accept the interaction for some reason, the e-mail goes out the bottom port of the Route Interaction object to an Assign object, which increments the `num_of_try` counter.

8. The e-mail goes out the side port of the Assign object to an If object, which is used to decide whether the number of processing cycles to determine the original agent is 10 or less.

9. If the expression is true (number of tries to route to the original agent is less than `10),` the interaction goes out the side port of the If object to a Function object to delay strategy execution.

Once the delay is established, the e-mail goes out the side port of the Function object back to the Route Interaction object to attempt to route to the original agent.

10. If the expression is false (number of tries is `10` or greater), the e-mail goes out the bottom port of the If object to a Workbin object (`Workbin for original agent` strategy-linked node in Figure 369 on page 414). This workbin is associated with the agent contained in the `empl_id variable`.

How To: Screen Multiple Rules and Use Screening Switch

This business process, listed in Figure 310 on page 354, demonstrates how to screen incoming interactions using multiple Screening Rules by using the Multi-Screen object.

Note: Multi-Screen differs from Screen in that it supplies additional return options: Screening Rules only, classification Categories only, matched pairs only, or all three. It also does not require a conditional test to determine whether a match occurred.

The strategy also demonstrates how to segment interactions to take different paths based on Screening Rules.

Figure 371 shows the `Screen Multiple Rules and Use Screening Switch` business process.

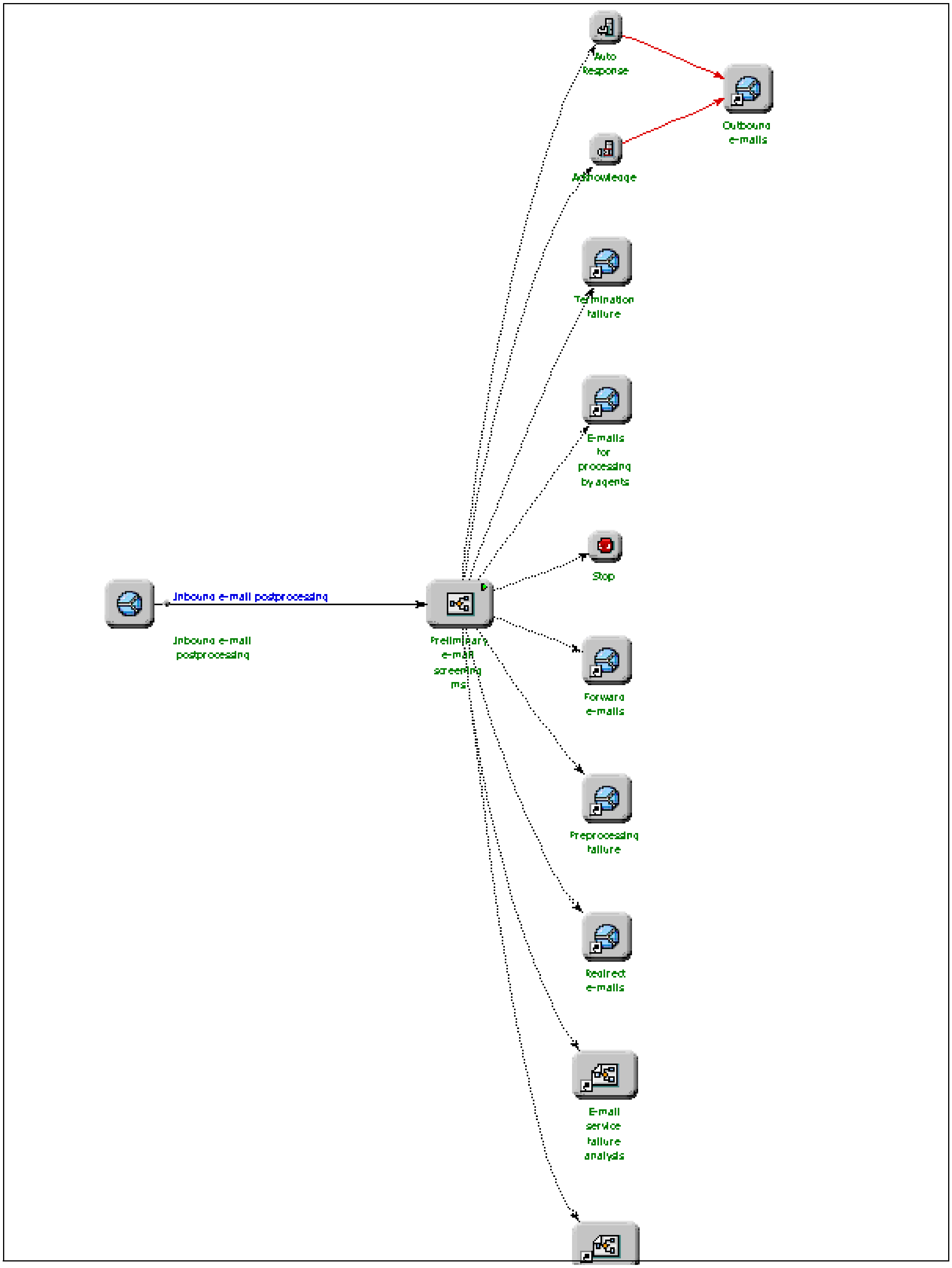

Figure 371: Screen Multiple Rules and Use Screening Switch BP

Processing Objects

This section describes the various objects in Figure 371.

A view (`Inbound e-mail postprocessing`) with no Conditions or Order by information attached to a queue (`Inbound e-mail postprocessing`) extracts interactions and sends them to the strategy `Preliminary e-mail screening ms`. Figure 372 shows the top part of the strategy.

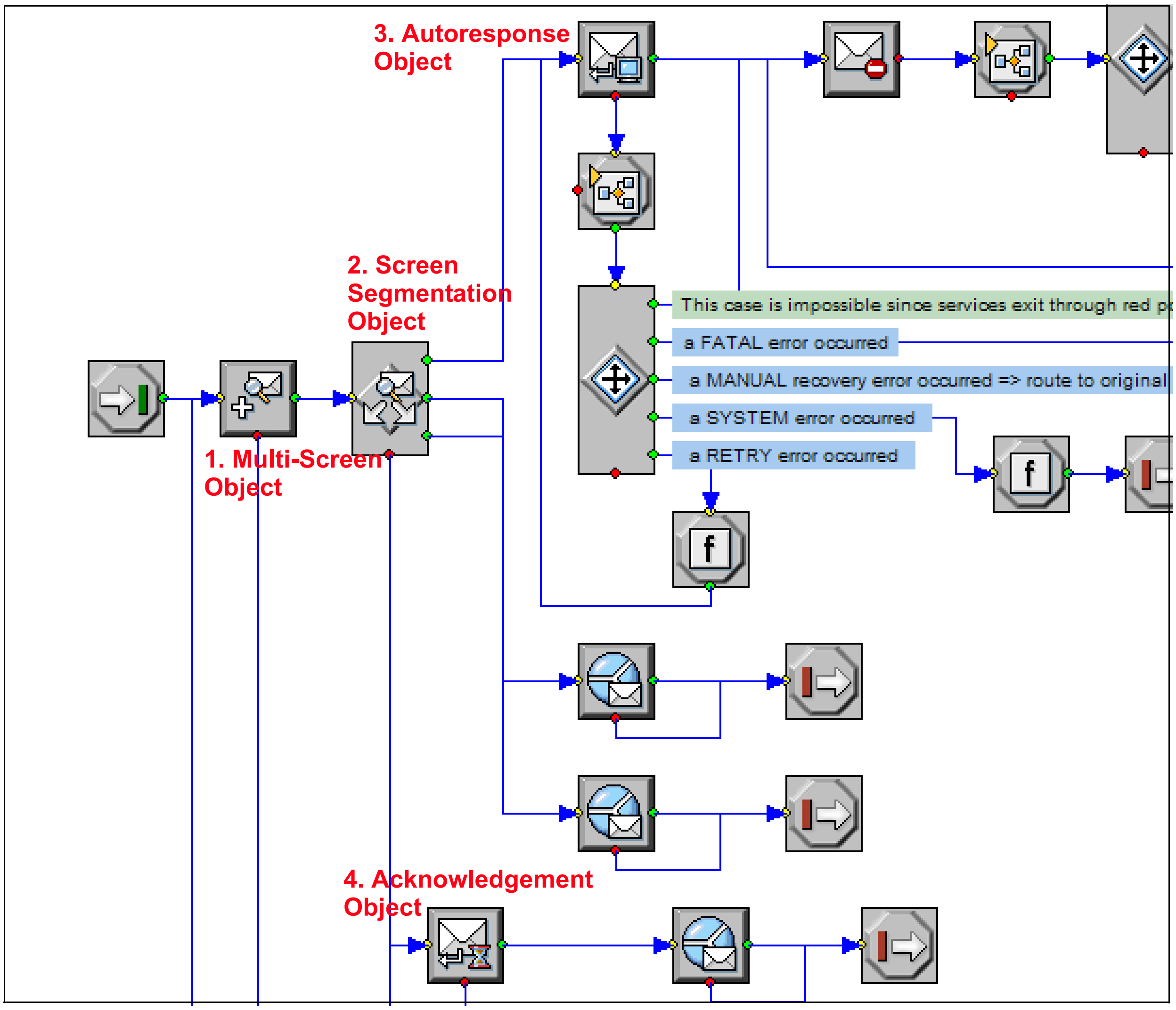

Figure 372: Preliminary E-mail Screening MS Strategy

Note: "MS" at the end of the strategy name stands for "Multi-Screen."

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1. This strategy uses the Multi-Screen object and three different Screening Rules (`Auto Response Available`, `Warranty Problem`, and `Tech Support`) to screen inbound interactions for words or word patterns.

2. A Screen Segmentation object connected to the green output port of the Multi-Screen object causes different screening results to take different paths in the strategy.

   The purpose of the initial screening is determine whether the e-mail can be responded to with a Standard Response.

3. If yes, an Autoresponse object generates a Standard Response (see the `Autoresponse` strategy-linked node in Figure 371 on page 418). A Stop object (see Figure 316 on page 359) notifies Interaction Server that processing of this interaction is finished (see `Stop` strategy-linked node in Figure 371 on page 418).

   If a Standard Response cannot be used, a second screening determines whether the e-mail contains text that indicating it is from a customer with a warranty problem and therefore should be placed in a queue for forwarding. If yes, the e-mail is placed in that queue (see the `Forward e-mails` queue in Figure 371 on page 418). A Stop object (see Figure 316 on page 359) notifies Interaction Server that processing of this interaction is finished (see `Stop` strategy-linked node in Figure 371 on page 418).

   If the second screening indicates a warranty problem is not involved, the e-mail goes through a third screening to determine if it contains text indicating it is from a customer with a technical support problem and therefore should be placed in a queue for redirecting. If yes, the e-mail is placed in a queue for redirecting (see the `Redirect e-mails` queue in Figure 371 on page 418). A Stop object notifies Interaction Server that processing of this interaction is finished (see `Stop` strategy-linked node in Figure 371 on page 418).

4. If the third screening does not produce results, an Acknowledgement object generates an acknowledgement Standard Response. The e-mail then goes to a queue for processing by agents (see the `E-mails for processing by agents` queue in Figure 371 on page 418).

Error Handling

The following objects in Figure 371 on page 418 are the result of error handling:

`Preprocessing failure` queue

`E-mail service failure analysis` subroutine

`Terminate interaction` subroutine

`Termination failure` queue

Multi-Screen Versus Screen

This strategy is the functional equivalent of the `Preliminary e-mail screening` strategy discussed in *Universal Routing 7.6 Strategy Samples*.

The difference between the two is as follows:

- `Preliminary e-mail screening` uses three separate Screen objects. After each screen object, the strategy uses an If object and performs a conditional test to determine whether a screening rule match occurred. This adds a level of complexity and generates additional code.

  Figure 373 shows the three Screen objects and If objects in the strategy.

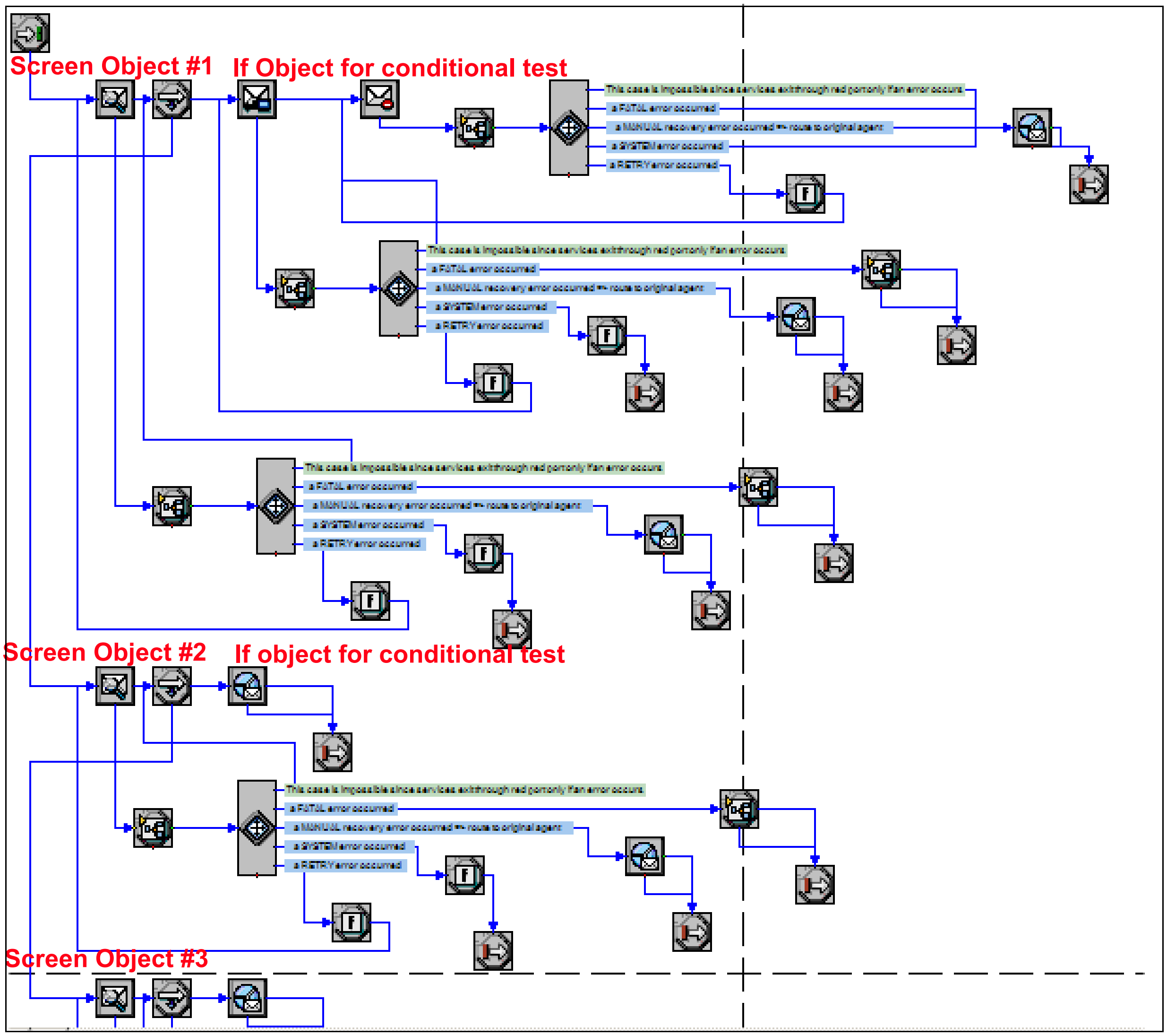

Figure 373: Multi-Screen Object Properties Dialog Box

- Compare the strategy in Figure 373 with the strategy `Preliminary e-mail screening ms,` shown in Figure 372 on page 419, which uses the Multi-Screen object. Complexity and the amount of bytecode are reduced because a single object handles multiple rules and does not require a conditional test after each screening. Figure 374 on page 422 shows the properties dialog box for the Multi-Screen object in `Preliminary e-mail screening ms`.

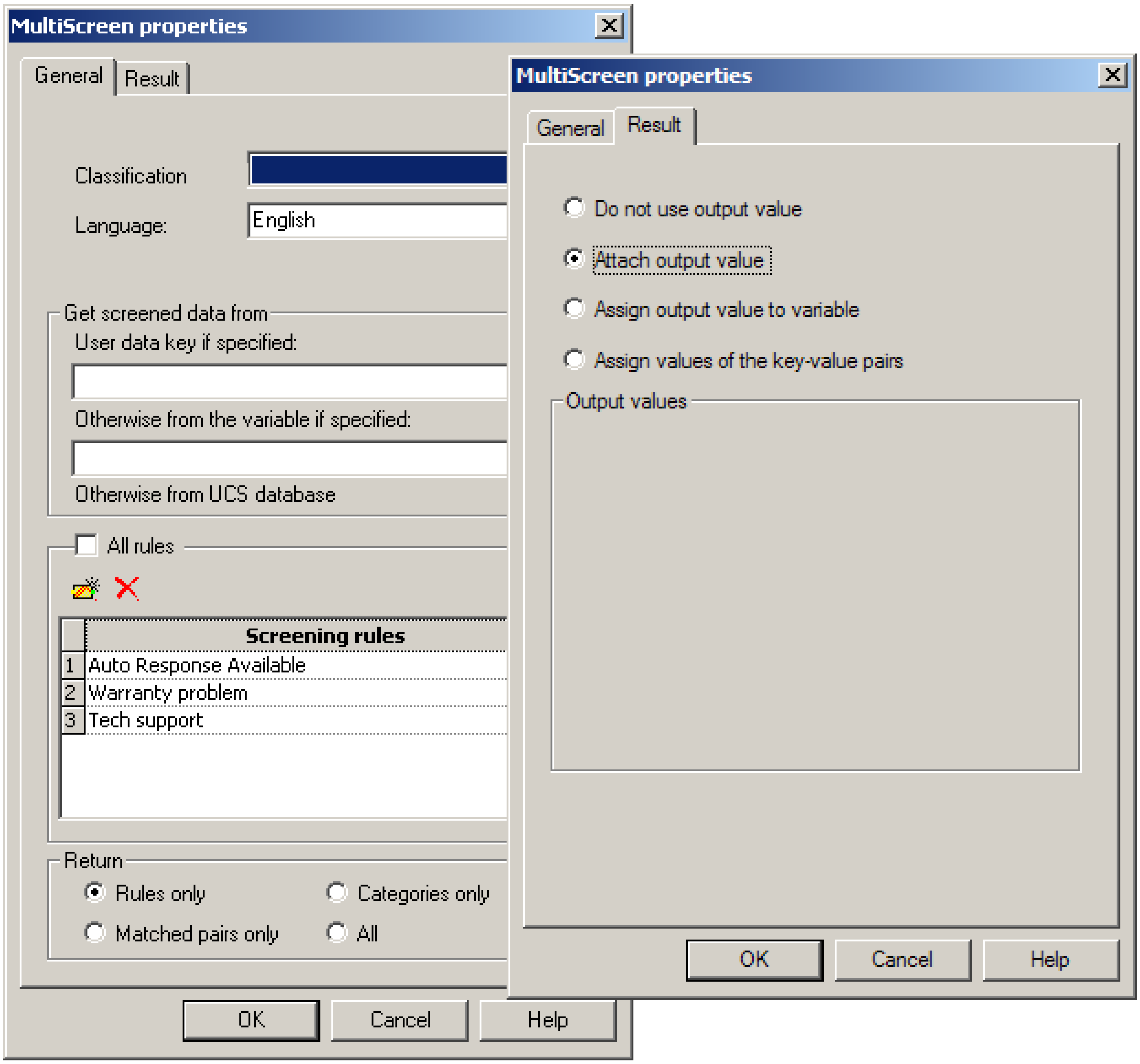

Figure 374: Screen Object Properties Dialog Box (Accepts One Rule)

Figure 375 shows the properties dialog box for the Screen Segmentation object attached to the Multi-Screen object.

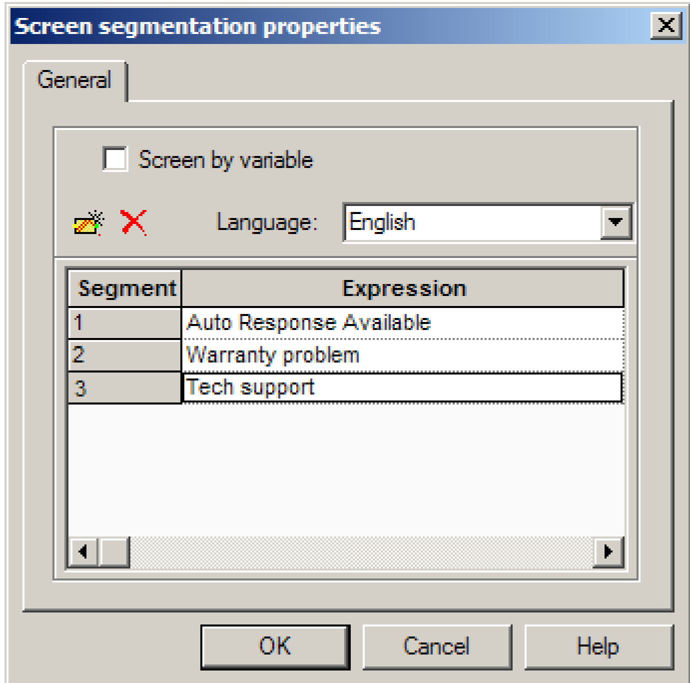

Figure 375: Screen Segmentation Properties Dialog Box

Each segment in Figure 375 generates its own output port (see the Screen Segmentation object in Figure 372 on page 419).

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