GENESYS™

SMART User Manual
SpeechMiner 8.5.5

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SMART Overview

Designed to help gather and deliver valuable intelligence that business users readily understand and use, the SMART User Interface can help reveal the information about cause/effect relationships that affect performance and business outcomes.

The SMART UI User Manual describes how to create a set of instructions that are used by SpeechMiner to recognize, extract, and analyze customer interaction data.

SMART, the SpeechMiner Administration Tool, is a component of SpeechMiner, Genesys award-winning product for Customer Intelligence.

SpeechMiner analyzes texts, email, chat, and recorded phone conversations between contact center agents and customers in accordance with a customizable set of instructions.

SMART defines the set of instructions that is used by SpeechMiner to perform recognition and analysis of customer data.

The set of instructions managed by SMART are made up of the following:

Topics: Boosts the recognition of a specific business issue by telling SpeechMiner what phrases to look for.

Programs: A set of instructions made up of topics that tell SpeechMiner what to recognize in recorded conversations between contact center agents and customers.

Categories: Group interactions with similar characteristics so that SpeechMiner users can find calls associated with a specific business issue.

As depicted in the following image, the combination of topics, programs and categories enables SpeechMiner users to find, analyze and play back interactions associated with a specific business issue:
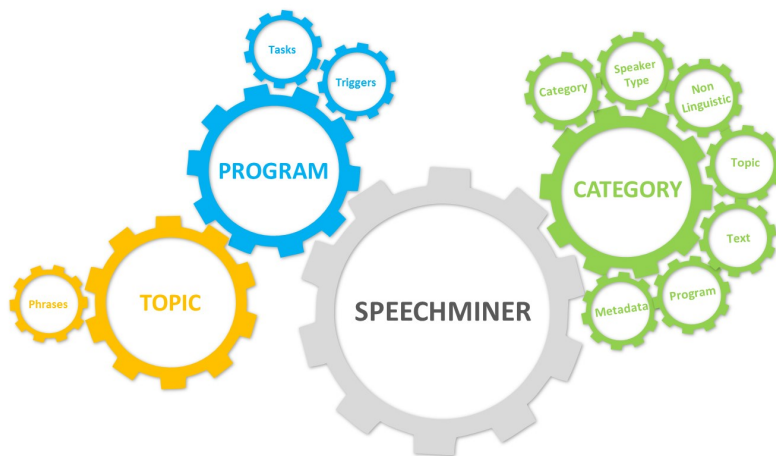
SpeechMiner and SMART are installed and configured by Genesys at the customer's site. For optimal

performance, Genesys researches the customer's business and subsequently defines the initial SMART instructions.

Typically, SpeechMiner implementations at customer sites include development and underlying SMART system by our Client Solutions team, but Advanced SpeechMiner users with SpeechMiner Administrator privileges can modify the SMART system themselves to further fine-tune interaction recognition and analysis for their company. The customer may want to make slight modifications to topics based on the accuracy of the results they are achieving, or the customer may want to define new programs for new interaction campaigns or procedures based on existing ones.

Advanced SpeechMiner users at the customers site can perform the following SMART tasks:

- Open and modify existing categories, topics and/or programs.

- Create new categories, topics and/or programs.

- Define the structure of a program.

- Test changes to categories, topics and/or programs.

- Apply SMART changes to SpeechMiner.

- Reprocess selected interactions through the SpeechMiner interface.

- Rollback to an earlier set of SMART instructions.

- Import SMART instructions.

- Export SMART instructions.

Introducing SpeechMiner

SpeechMiner® is the Genesys Telecommunications Laboratories's speech-analytics platform. It analyzes audio content and text-based interactions such as email, chat messages and so on. Speech-analytics leverages recorded customer interactions (from any recording system) and analyzes each interaction for critical business topics and events. The system analyzes interactions between customers and contact-center agents, precisely identifies the topics that were discussed, and categorizes the contents of each interaction.

SpeechMiner consists of a user interface (UI) and several back-end components that deliver key capabilities required for various products within the Genesys Workforce Optimization suite. These products include:

SpeechMiner UI:

The SpeechMiner UI is a component of the SpeechMiner package and provides a single User Interface (UI) for all Genesys Interaction Recording, Quality Management and Genesys Interaction Analytics functionality. Through the SpeechMiner UI users can perform search and playback for voice and screen recordings, perform traditional quality management tasks such as evaluation of interactions through form based scoring, or advanced speech and text analytics capabilities such as topic analysis or trending and exploration analysis of transcripts.

SpeechMiner UI is comprised of two software components:

- SpeechMiner browser-based interface'": Offers a variety of ways to access call audio and the results of the interaction analysis performed by the system (when Analytics mode is in use). Users of the speech-analytics system interface can do the following:
    - Find interactions that have specific characteristics or are about particular topics.
    - Identify and listen to the parts of calls that interest them.
    - Audit and fine-tune SpeechMiner's call processing.
    - Keep track of a range of system-metrics.
- SpeechMiner Administration Tool (SMART): Enables users of the speech-analytics system to configure it to search interactions for specific topics and other characteristics.

Genesys Interaction Recording (GIR):

Genesys Interaction Recording (GIR) provides cradle to grave dual channel voice recording and screen recording for customer-ivr and customer-agent conversations as they occur within the Genesys Contact Center. Through deep integration with Genesys SIP and the TLib event model, GIR is able to automatically stitch together call segments and capture all relevant call meta data to provide the information you need to fulfill important use cases within your business including Compliance, Dispute Resolution and Workforce Training and Coaching. GIR utilizes components of the core Genesys Contact Center stack such as SIP Server and Media Server, but brings along its own components to deliver the full set of features within GIR. Additionally, the GIR User Interace (UI) is provided by the SpeechMiner UI, which is the unified interface for recording, quality management and interaction analytics capabilities within the Genesys suite.

Quality Management (QM):

Quality Management (QM) enables you to monitor quality and evaluate agent performance on a periodic and

consistent basis while minimizing effort through automated interaction selection to improve customer experience and engage with your staff. QM includes a robust and feature rich form designer along with a number of evaluation schedule types to meet the SLAs required by your business in providing core use cases around Quality Management as well as input to Coaching and Training through form based scoring of interactions. Interactions can be sourced from GIR or third party recording platforms, depending on the deployment type selected. All QM functionality is provided through the SpeechMiner UI, which is the unified interface for recording, quality management and interaction analytics capabilities within the Genesys suite.

Genesys Interaction Analytics (GIA):

Genesys Interaction Analytics (GIA) provides automated speech and text analytics capabilities on 100% of interactions to provide deep insight into customer-agent conversations. For voice interaction, GIA provides automated transcription and employs Speech-to-Phrase grammar based recognition along with non-linguistic analysis of recordings to create meaning from otherwise unstructured data. Organizations can use this data to fulfill key use cases around Agent Performance Improvement (for example, decrease AHT, increase FCR, Sales Conversion, and so on.), Compliance and Customer Satisfaction (for example, NPS). Additionally, for both voice and text interactions, GIA employs advanced unsupervised machine learning algorithms to surface salient or unexpected terms to enable use cases around Uncovering Emerging Trends or Discovery of New Phrases and Intents. All analysis and discovery functionality is provided through the SpeechMiner UI, which is the unified interface for recording, quality management and interaction analytics capabilities within the Genesys suite.

Note: Each of these products are sold separately and in different combinations based on the specific requirements of your organization

SpeechMiner supports the following deployment modes:

- **Analytics and Recording UI:** Enables search, play back and analysis of interactions recorded using Genesys Interaction Recording. The QM module is also available is purchased.
- **Recording UI Only:** Enables search and play back of interactions recorded using Genesys Interaction Recording. The contents of the interactions are not processed by the interactions analytics system. The QM module is also available if purchased.
- **Analytics Only:** Imports interactions including their recorded call audio from any recording system using a UConnector. The UConnector is a Professional Services built ETL application that imports interactions and meta data from a third party recording system. After the interactions are imported, SpeechMiner processes the contents of each interaction for interaction analytics. The QM module is also available if purchased.
- **Analytics Only with PureConnect:** Imports interactions and their recorded call audio from a PureConnect deployment using the UConnector for PureConnect. This UConnector is a Professional Services built ETL application that imports interactions and meta data from PureConnect. After the interactions are imported, SpeechMiner processes the contents of each interaction for interaction analytics. The QM module is also available if purchased.

Introducing the SMART Interface

The SMART interface contains the following main components (see table below):

Number	Description
1	Quick access to: • **Refresh:** Updates the display to include all of the latest SMART changes. • **Apply:** Updates SpeechMiner with the latest SMART changes. • **Import:** Enables you to import SMART instructions. • **Export:** Enables you to export SMART instructions.
2	Quick access to managing categories, programs or topics.
3	Includes the options associated with the selected manager (that is, categories, topics or programs).

Number	Description
4	Contains icons for the options associated with the selected manager. If the left pane is not wide enough to display all the options, a drop-down menu appears.
5	Filters the tree according to the characters entered in the **Filter** field and the **Show** drop-down list (see item 7). Items in the tree that do not contain the characters in the Filter field will not appear in the tree.
6	Filters the tree according to the type of information you want to see" • **Show All:** Shows all the items in the tree. • **Show Active:** Shows all the active items. that is, categories and programs that can be applied to SpeechMiner. • **Show Inactive:** Shows all the inactive items. That is, categories and programs that cannot be applied to SpeechMiner. • **Show Updated since Apply:** Shows all the items that were changed since you last applied SMART changes to SpeechMiner. • **Show Locked by Me:** Shows all the items locked by the current user. • **Show Locked:** Shows all the locked items. • **Show Not** in **Program:** Shows all the topics that have not been assigned to a program.
7	A list of the existing topics, categories or programs. The list you see depends on the selected manager.
8	A list of sub-categories associated with the selected category in the **Category Manager** tree. This area is only available when Category Manager is selected.
9	Toggles between hiding ▣ and showing ▣ the left pane. When the left pane is hidden, hover over the left area of the screen to expose the left pane and click the **Show** icon to show the left pane.
10	Displays all the open items.

Logging into SMART

As soon as you log into SMART, the roles and groups that are assigned to your account are automatically verified. Roles notify the system about which SMART functions and features you are allowed to access. Only categories, programs and topics that you have permissions to view are displayed in your SMART account.

Before you Begin

- Verify that SMART is installed on your computer.
- Verify that your user privileges enable you to work with SMART. To work with SMART you must have a SpeechMiner, Windows or Genesys account.

Procedure

1. Double-click the SMART desktop icon . The SMART title screen appears and the **SMART Login** window opens.

2. Select a SpeechMiner user account.

3. Type your username and password in the **Username** and **Password** fields. If you selected Windows Authentication, the username is automatically entered into its respective field. The username is *domain\username*.

4. When first logging into SMART, or to change an existing database, click **DB Settings** to select the database that represents your Line of Business.
The SMART Login window expands.
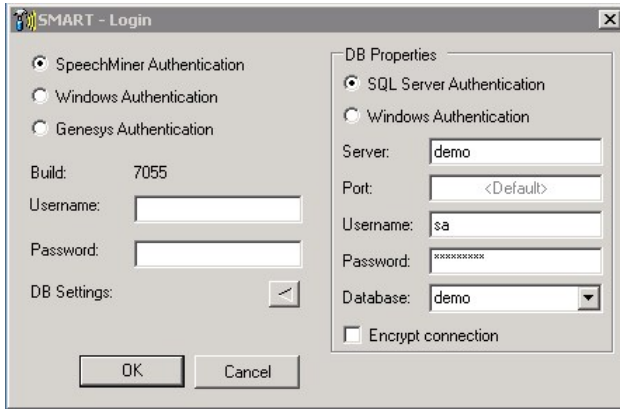
5. Use the following reference table to fill in the **DB Properties** fields:

Field	Description
SQL Server Authentication / Windows Authentication	The type of authentication required to connect to the SQL server.
Server	The name of the Database server.
Port	The port number used to connect to the database server.
Username	The username required to connect to the database server.
Password	The password required to connect to the database server.
Database	The name of the database server.
Encrypt Connection	Activates encryption. (optional)

6. Click **OK** to log into SMART. The SMART Main window opens.
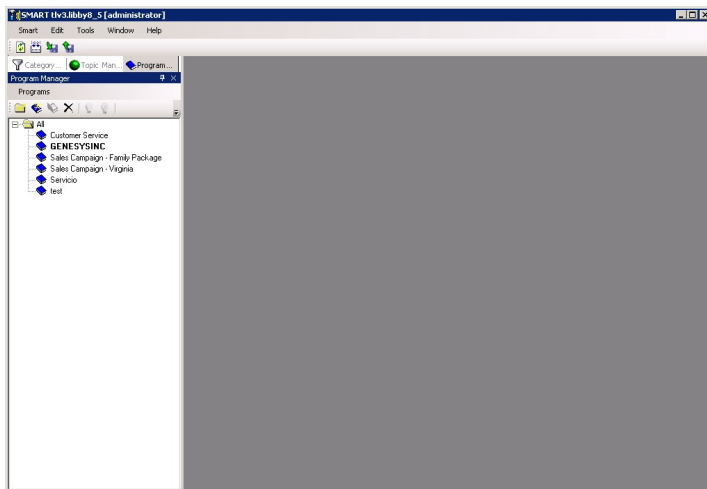
For additional information about your SpeechMiner user account and permissions, refer to the *SpeechMiner User Manual* or contact your SpeechMiner System Administrator.

SMART Hierarchy

SMART helps you to organize topics, programs and categories in a hierarchical manner. Topics and programs can be organized in folders and categories can include sub-categories.

For example, if your contact center is involved in sales campaigns and handles customer service interactions, you can create folders for each sales campaign and each type of customer-service issue.

The hierarchic organization of categories has an additional functional purpose. When a sub-category is assigned to an interaction by SpeechMiner, its parent category is automatically assigned to the same interaction. For example, if the Sales Campaign category has the sub-categories Spring Campaign and Summer Campaign, it will be assigned to an interaction whenever Spring Campaign is assigned to an interaction.

Using the tools provided you can:

- Create a Topic or Program Folder
- Create a Sub-Category
- Move a Folder or Sub-Category

Create a Topic or Program Folder

1. In the Topic or Program Tree list, select the folder to where you want to add a sub-folder.

2. Click the New folder icon 📁. A new folder is added under the selected folder.

3. Type a name for the new folder and press **Enter**.

Create a Sub-Category

1. In the Category Tree list, select the category to which you want to add a sub-category.

2. Click the New category icon 🔻. A new category is added under the selected category.

3. Type a name for the new category and press **Enter**.

    Note: If you add a subcategory to a category that includes conditions, the category becomes a parent category and its conditions are removed.

Move a Folder or Sub-Category

1. Click and drag the folder or sub-category to the target location.

Note: If you add a subcategory to a category that includes conditions, the category becomes a parent category and its conditions are removed.

SpeechMiner Database

SpeechMiner stores recorded interactions and content information about each interaction in a specific database.

When you log into SMART you can specify which database you want to use. If you do not select a specific database, SMART will automatically connect you to the last database you worked with as soon as you log in. SMART always saves the data associated with the last database.

The connection between SMART and the database can be encrypted to ensure that confidential data cannot be intercepted and viewed by unauthorized users. The encryption is configured by your System Administrator in the SQL Database Server.

The System Administrator can define and configure three encryption settings:

- Always use encryption
- Never use encryption
- Use encryption when the user requests it

The **Always use encryption** and **Never use encryption** settings cannot be changed when you log into SMART.

If **Use encryption when the user requests it** is defined, you can select an encrypted connection when you log into SMART.

Locking and Unlocking Topics, Programs and Categories

Categories, topics and programs are automatically locked when opened. Only the user who opened it can unlock it. This prevents a situation in which more than one user can make changes to the same category, topic and program at the same time.

Users can also manually lock a category, topic and program without opening it. In this case, the lock is not cancelled until the user manually unlocks the category, topic or program.

Only users with the required permissions can perform a lock and/or unlock task. For example, users with advanced permissions can unlock an item that was locked by a different user.

Note: If a category, topic or program is locked, its changes cannot be applied to SpeechMiner.

Lock

1. Select the category, topic or program you want to lock.

2. Right-click and select **Lock <item type>**. The item is locked.

Unlock

1. Select the category, topic or program you want to unlock.

2. Right-click and select **Unlock <item type>**. If you are not the user who originally locked the category, topic or program you are now trying to unlock, the following confirmation prompt appears:
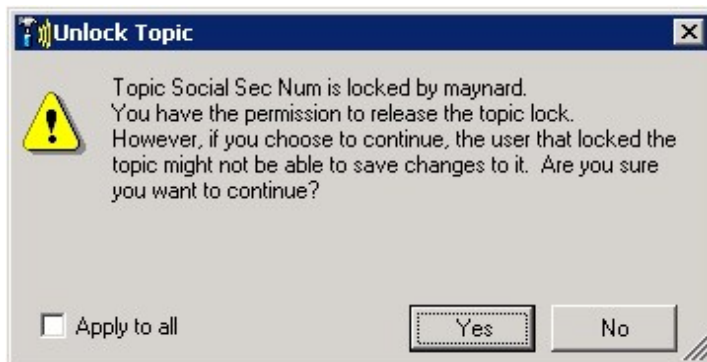
3. Click **Yes** to unlock. If you are unlocking more than one item, select **Apply to All** before you click **Yes**.

Language Support

SpeechMiner can process interactions in a variety of languages. Support for particular languages varies from organization to organization. Topic text may be typed in any supported language, but the SMART interface (menus, buttons, and labels) is only available in English.

Supported Languages

- Dutch - NL

- English - USA

- English - UK

- English - Australia

- English - South African

- English - Indian

- Russian - Russia

- Spanish - USA

- Spanish - Spain

- German - Germany

- Portuguese - Brazil

- Korean - Korea

- French - France

- Japanese - Japan

- Mandarin - China

- Italian - Italy

- Arabic - World Wide

- Turkish - Turkey

- Cantonese - Hong Kong

Please contact Genesys Client Solutions for information on available language packages.

Define Speakers

SMART receives metadata information from the SpeechMiner database about who spoke during each interaction.

The speaker information from the database is listed in the **Tools > Speakers** window.

To better recognize the speaker metadata and use the speaker data as a processing parameter, you should define a specific SMART speaker name for each speaker metadata name.

The names you provide should function as a description of the metadata speaker name.

To define speakers:

1. Click **Tools > Speakers**. The Speakers window is opened.
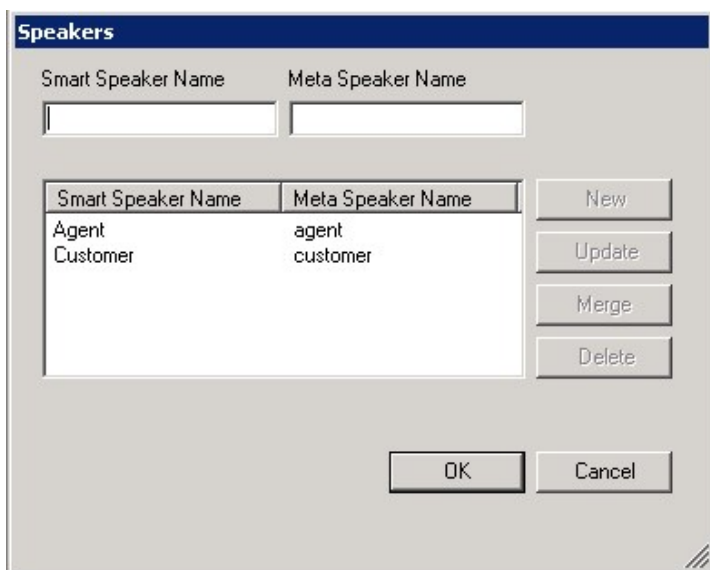
2. From the list provided, click the **Meta Speaker Name** for which you want to define a SMART name. The name appears in the Meta Speaker Name field.

3. Enter a SMART name in the **SMART Speaker Name** field and click **New.**

4. Repeat this process for every Meta Speaker Name you want to define.

5. Click **OK**.

 Note: You can change an existing SMART Speaker Name by selecting it form the list and clicking Update after you have changed the SMART Speaker Name.

Topics

A topic enables you to boost the recognition of a specific business issue by telling SpeechMiner what phrases to look for. For example, if you want to identify interactions in which the customer wishes to cancel an account, you could create a topic named Cancellation with the following phrases:

- "Close out my account"
- "I need to cancel"

Topics can also be used to improve the overall speech recognition of the system in two main ways:

- **Directly:** For example, the word "cinnamon" may appear frequently in calls when "cinema" was actually said. You could enter a number of phrases in the topic related to "cinema" in order to improve the transcription results. This assumes that you do not need to report on calls related to "cinema". That is, because the topic is a collection of mostly unrelated phrases, it is not very useful for reporting. In order to run reports on "cinema", it is recommended to place the phrases in a topic that has a common business meaning.

- **Indirectly:** Consider the scenario in which "account number" is a phrase that is important to capture, but its accuracy is low due to a number of false positives being generated because "phone number" is recognized as "account number". Adding the phrase "phone number" to the topic could potentially draw those false positives away from "account number". Placing "phone number" in a topic implies that it is not important to run reports on "phone number". For the incorrectly-recognized and undesired "cinnamon" appearing in transcripts, it is recommended to try to remove it (and therefore correctly recognize "cinema") by adding "cinnamon" into the topic with strictness set at 100. Various phrases with additional context (for example, "late night cinnamon") may work better than using the single-word phrase "cinnamon".

More specifically, topics are a collection of phrases defined globally for the SpeechMiner system, and included in one or more programs as required. When a topic is included in a program, SpeechMiner searches for all of the phrases included in the topic's definition, in all the interactions associated with the Program. When one of the phrases is found, SpeechMiner identifies it as a linguistic event and registers the topic as found at a specific time during the interaction.

Each linguistic event identified by SpeechMiner in an interaction has a start time, an end time, a name, and a type. For example, if a topic called "Loan Offer" is identified by the phrase "can offer you a loan," the start time is when the agent began saying "can," the end time is when the agent finished saying "loan," the name is "Loan Offer," and the type of event is "Topic."

Although a topic can contain one phrase, the more phrases you add the more useful the topic.

Once a topic is created, you can always make modifications based on the accuracy of the results that the topic is achieving.

Introducing the Topic Interface

The SMART Topic interface contains the following main components (see table below):
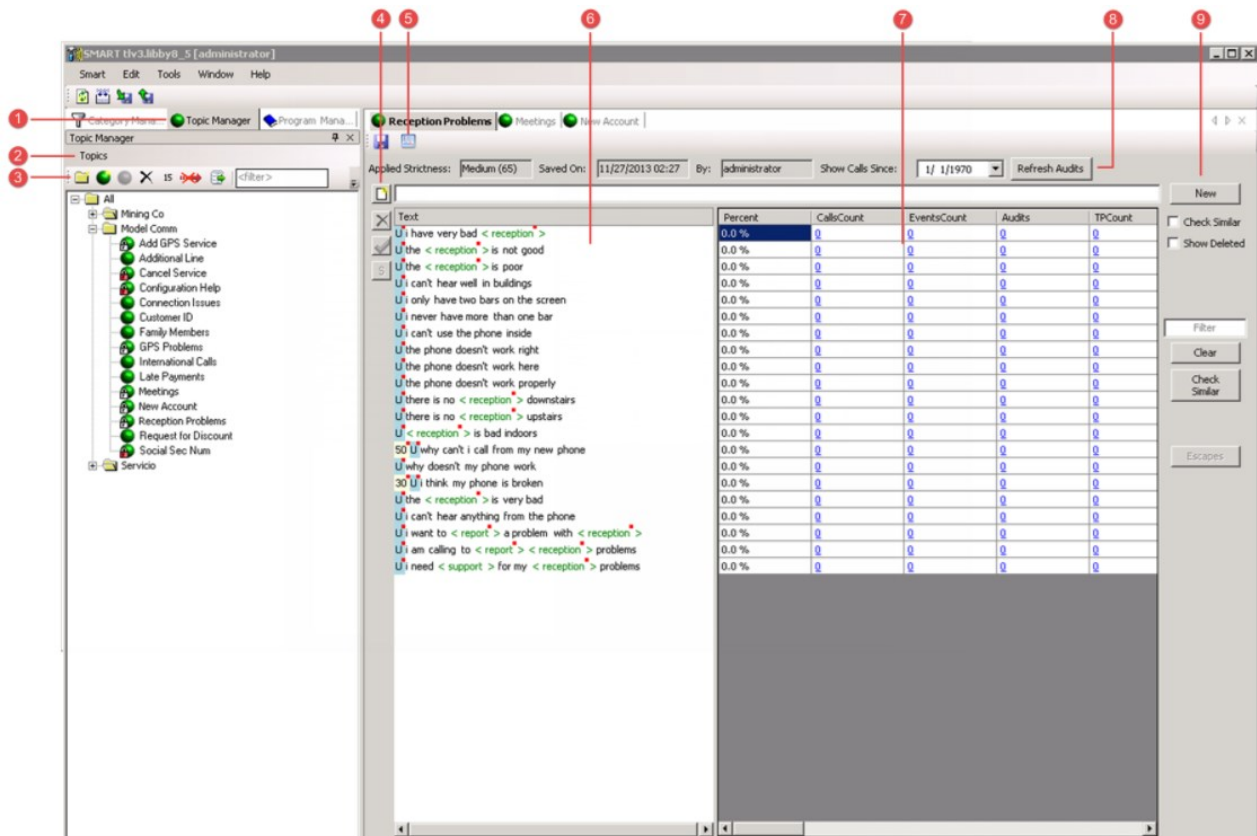
Number	Description
1	Displays the Topic Manager.
2	Includes Topic options.

Number	Description

3	Quick access to:
	
	 • Creates a new topic folder.
	
	 • Creates a new topic.
	
	 • Opens the selected topic.
	
	 • Deletes the selected topic.
	
	 • Exports the selected topic(s). You can export more than one topic at a time.
	
	 • `<filter>` Filters the tree according to the characters entered in the field.
	
	 • Show All Filters the tree according to the type of information you want to see.
	    ○ **Show All:** Shows all the items in the tree.
	
	    ○ **ShowUpdatedsinceApply:** Shows all the items that were changed since
	      you last applied SMART changes to SpeechMiner.
	
	    ○ **Show Locked by Me:** Shows all the items locked by the current user.
	
	    ○ **ShowNot inProgram:** Shows all the topics that have not been assigned to a program.
	
	 • 1 Adds the selected topic to the selected program in the right pane.
	
	 • 1 Indicates that a program is not selected and therefore you cannot add the topic.

Number	Description
4	Manage selected phrases: • 🗋 Adds the phrase(s) entered in the text field to the selected **Topic Test** list. • ✗ Deletes the selected topic text. • ☑ Enables you to restore a deleted phrase to the list. This feature is only possible when the **Show Deleted** check box is selected. • ⓢ Enables you to change the level of strictness for the selected phrase. The level of strictness defines how confident SpeechMiner must be to recognize a topic phrase.
5	Opens the Topic Analysis - Audits Report for the selected topic. The Audits report contains data about how often the selected topic was identified by SpeechMiner and how accurate.
6	Shows all of the phrases in the selected topic.
7	Contains Auditing data for each phrase in the list.

Number	Description
8	Information bar for the selected topic. Includes the following information: • **Applied Strictness:** Indicates the level of strictness applied to the entire topic. • **Saved On:** The last time the topic was saved. • **By:** The user who saved the topic. • **Saved Calls Since:** Select the date range of the data shown in the table. • **Refresh Audits:** Refreshes topic statistics at any time, to incorporate information about newly processed interactions and audited Events.
9	Phrase list controls: • **New/Update:** Adds new text to the list or updates a change to the existing text selected. • **Check Similar:** When this check box is selected, SpeechMiner automatically checks every new phrase that is added to the topic, to verify that it does not already exist. • **Show Deleted:** Activates Restore so you can restore a deleted phrase to the list. • **Filter:** Automatically filters the Text list according to the letter or word in the Filter field. • **Clear:** Clears the Filter field. • **Check Similar:** Verifies if there are duplicate phrases in the specific topic and whether or not the topic's phrases exist in additional SMART topics.

Using Wildcards

Topic phrases can include wildcards to represent specific phrases, characters, or words. Wildcards are symbols that represent the data you are looking for. For example, a zip code is represented by [zipcode].

SMART supports two types of wildcards.

- **Specific wildcard:** represents specific information (for example, zip code). When SpeechMiner identifies a specific wildcard such as [zipcode], it replaces the wildcard with the actual zip code. When using a specific wildcard you must add text before or after the wildcard. For example, [date] on its own is not valid.
- **General wildcard [*]:** represents general information. The General Wildcard cannot be entered at the end or at the start of a sentence, it must be entered between words. For example, "I want to speak with [*] please". In this case, the phrase will be recognized if the interaction included "I want to speak with your supervisor please", "I want to speak with an agent please", etc. When SpeechMiner identifies a general wildcard, it replaces the wildcard with "...".

Wildcards give you greater flexibility in defining phrases, because they allow you to include general types of content within a phrase.

The following wildcards are supported for the languages represented in the following 2 tables:

Wildcard	Description	English - USA	English - UK	English - Autralia	English - India	English - South Africa	Spanish - USA	Spanish - Spain	French - France	French - Canada	Cantonese- Hong Kong	Dutch- Netherlands
[*]	General Wildcard	x	X	x	x	x	x	x	x	x	Speech only	x
[abn]	Australian Business Number			x								
[alphanum]	Any alphanumeric string	x	X	x	x	x	x	x	Text only	Text only		Text only
[boolean]	Affirmation/Negation	X	X	x	x	x	x	x	x	x	Speech only	x
[ccexpdate]	Credit card expiry date	X	X	x	x		x	x	Text only	Text only		Text only
[citizenid]	Citizen ID											
[creditcard]	Type of credit card and credit card number (optional)	x	X	x	x		x	x	Text only	Text only		Text only
[crn]	Customer Reference Number			x								
[currency]	Type of Currency	X	X	x		x	x	x	Text only	Text only		Text only
[date]	Date	X	X	x	x	x	x	x	Text only	Text only		Text only
[digits]	Digits	X	X	x	x	x	x	x				x

[national_insurance]	National Insurance Number		x								
[number]	Any Number	X	X	x	x	x	x	x	Text only	Text only		Text only
[phone]	Phone Number	X	X	x	x		x	x	Text only	Text only		Text only
[postcode]	Postal Code Number		x						Text only	Text only		Text only
[socialsecurity]	Social Security Number	X							Text only	Text only		
[time]	Time	X	X	x	x	x	x	x	Text only	Text only		Text only
[zipcode]	Zip Code	X					x	x				

Wildcard	Description	German - Germany	Italian - Italy	Mandarin - China	Portuguese - Brazil	Turkish - Turkey	Korean - Koria	Japanese - Japan	Arabic - Wold Wide
[*]	General Wildcard	x	Speech only	Speech only	x	x	x	x	x
[abn]	Australian Business Number								
[alphanum]	Any alphanumeric string	Text only			Text only				Text only
[boolean]	Affirmation/Negation	Text only	Speech only	Speech only	Text only	x			Text only
[ccexpdate]	Credit card expiry date	Text only			Text only				
[citizenid]	Citizen ID								
[creditcard]	Type of credit card and credit card number (optional)	Text only			Text only				
[crn]	Customer Reference Number								
[currency]	Type of Currency	Text only			Text only				
[date]	Date	Text only			Text only				
[digits]	Digits	x			x	x	x	x	x
[national_insurance]	National Insurance Number								
[number]	Any Number	Text only			Text only				
[phone]	Phone Number	Text only			Text only				
[postcode]	Postal Code Number	Text only			Text only				
[socialsecurity]	Social Security Number								
[time]	Time	Text only			Text only				
[zipcode]	Zip Code								

Create a Topic

You can create topics that define the type of interactions you want to find and analyze, and subsequently focus your business on what your customers want and need.

To create a topic:

1. Analyze your Business Needs: Gather information about the business issue that you want the Topic to be about.

2. Create an Empty Topic: Set the topic properties and define its attributes (such as name, description, language, etc.), according to the related business issue.

3. Define Initial Phrases: Include as wide a range of alternative phrases as possible.

4. Add Topic Phrases: Based on your research, add phrases to the topic.

5. Save and Assign the Topic: Once you have added phrases, save the topic and assign it to a program so that SpeechMiner can start using it for analysis purposes.

Analyze your Business Needs

Before creating a topic, gather information about the business issue you want to investigate and track interactions that are generated by the specific issue.

To analyze your business needs:

1. What is your business goal?

2. Determine the type of interactions generated by the business issue by listening to existing interactions about the subject or similar subjects, reading e-mails that relate to them, and consulting agents who interact with customers. For example, for a customer service topic, the set of relevant interactions may only include incoming interactions about help and assistance.

3. Gather examples of employee scripts and typical phrases used in these interactions.

What to do next

Define Initial Phrases

Create an Empty Topic

Set the topic properties to easily identify the topic and define its attributes according to a specific business issue.

Note: When adding a Japanese phrase to a topic, the terms must have spaces between them (even between particles), even though terms in Japanese are written without spaces.

Before you begin

Analyze your Business Needs

To create an empty topic:

1.   In the topic tree, select the folder to which you want to add a new topic.

2.   Click **New Topic** . The **Topic Properties** window opens.
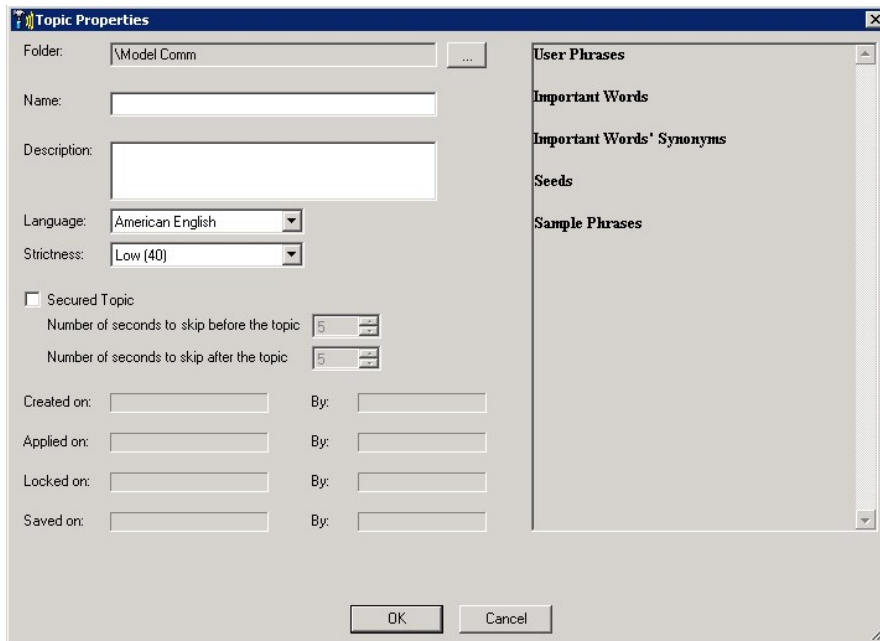
3.   Set the following parameters:

Number	Description
Folder	Displays the folder in which the new topic will be placed. Click the **Folder Browse** button ▢ to select a different location.

Number	Description
Name	Enter a unique name that is easy to correlate to the business issue.
Description	Enter a description of the topic (optional).
Language	Select the topic language.
Strictness	Select the required level of strictness for the topic. The level of strictness defines how confident SpeechMiner must be to recognize a topic phrase. For example, if you select Medium (65), the topic phrases must be identified with confidence levels of a least 65 to be identified by SpeechMiner. That is, if I have a phrase with a confidence of 60 and the topic was configured with a strictness of 70, it will be marked as not found. If the strictness is 50 it will be marked as found. The strictness given to a phrase overrides the topic's strictness. **Note:** SpeechMiner assigns a confidence level to each phrase it identifies during interaction processing. The confidence level indicates how closely the phrase defined in the topic matches the phrase that was discovered in the interaction.
Custom	Manually determine the required level of strictness from 1-100. **Note:** This field is only visible if you select **Custom** from the **Strictness** menu.
Secured Topic	Select this option to instruct the Media Player to disable playback of this topic for SpeechMiner users who do not have permission to hear confidential topics. For example, if the topic identifies the caller's credit card details, you can use this option to hide that information from users who are not authorized to hear it.
Number of seconds to skip before the topic	Specify the number of playback seconds before the topic should be skipped when the topic is not played back by the Media Player.

Number	Description
Number of seconds to skip after the topic	Specify the number of playback seconds after the topic should be skipped when the topic is not played back by the Media Player.

Tip: The remaining fields and areas in the **Topic Properties** window are automatically updated each time the topic is updated and saved.

4. Click **OK.** The new topic appears in the topic tree.

What to do next

Define Initial Phrases

Define Initial Phrases

To be effective a topic must be well-defined. That is, since people use a variety of different words to express the same idea, you should try to include as wide a range of alternative words as possible.

In many cases topics can benefit from fine-tuning after they have been applied to interactions and the call-auditing process takes place.

Before you begin

Create an Empty Topic

To define initial phrases:

1. Make a list of phrases that you believe represent your business issue.

2. Adhere to the following best practices during this process:

   ○ **Business Problem:** Before you begin listing phrases, define the data you want to collect in 3-4 sentences. Think about the intent that the phrases you are collecting should reflect, and be as specific as possible.

   ○ **Terms:** List as many common phrases as you can that are frequently used to express the intent. Include as many variations of the phrases as you can.

   ○ **Term Length:** Longer phrases are easier for SpeechMiner to identify than shorter phrases, so try to use phrases that include at least 4-6 words and at least 20 characters. Phrases can contain up to 100 characters. As a rule, the longer the phrase, the more accurately it will be identified by SpeechMiner. However, fewer events are found for longer phrases. Conversely, the shorter the phrase, the more events will be found, but the accuracy will be lower.

   ○ **Synonyms:** Try to think of synonyms for words that appear in the phrases, and list variations of the phrases by using the synonyms in place of the original word. For example, if you are looking for conversations in which closing an account is discussed, list all words with the verbs "cancel" and "close":

     ▪ "want to cancel my account"

     ▪ "want to close my account"

     ▪ "need to close my account"

     ▪ "need to cancel my account"

- ○ **Short Words:** Remove short words from the beginnings of phrases whenever possible. For example, instead of "I want to reduce the rate," use "want to reduce the rate."

What to do next

Add Topic Phrases

Add Topic Phrases

Topics are a collection of phrases defined globally for the SpeechMiner system, and included in one or more programs as required. When a topic is included in a program, SpeechMiner searches for all of the phrases included in the topic's definition in all the interactions associated with the program. When one of the phrase is found, SpeechMiner identifies it as a linguistic event and registers the topic as found at a specific time during the interaction.

When you create a topic, include a wide range of numerous phrases that can be associated with the same business issue.

Although a topic can contain one phrase, the more phrases you add the more useful the topic. Also, more than one topic can contain the same phrase.

Note:
* When adding a Mandarin phrase to a program, the terms must have spaces between them.
* Phrases defined in SMART must be part of a single sentence. Phrases cannot be a combination of multiple sentences separated by a period. The period can only appear once at the end of the phrase.

Before you begin

Define initial Phrases

To add topic phrases:

1. Right-click the topic to which you want to add or change a phrase(s) and select **Open Topic**. The **New Topic** dialog box appears.
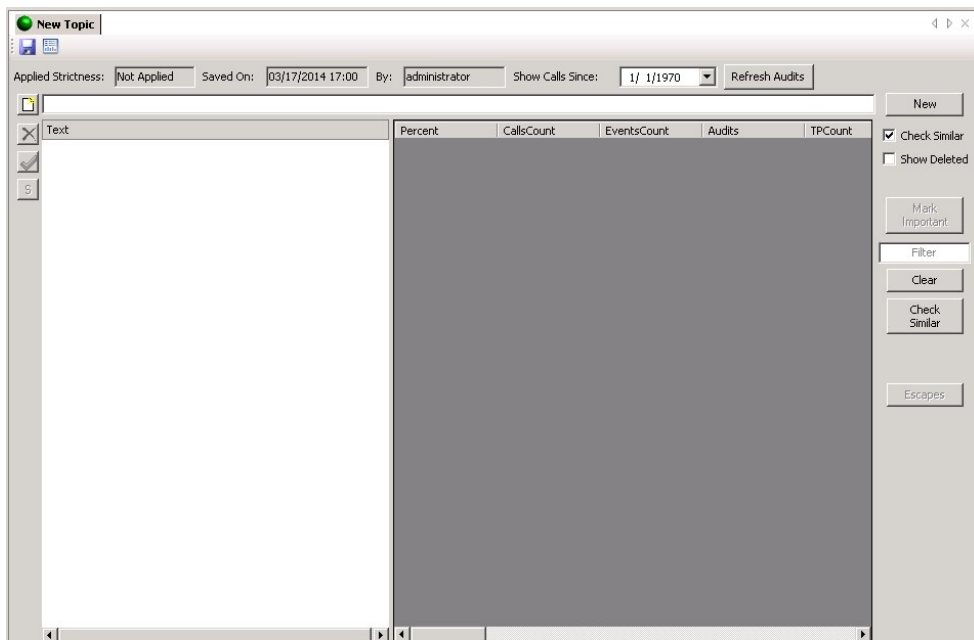
2. In the field above the **Text** list, type the phrase you want to add to the topic.

3. Click **New** to add the phrase to the Text list.

4. To add one or more phrases from an external file:

   a. Copy the phrases you want to add to the topic from the external file. Each phrase in the external file should be on a separate line.

   b. Right-click in the field above the **Text** list an click **Paste**. The last phrase in the list of phrases appears in the field.

   c. Click New. All the phrases are added to the **Text** list.

5. Modify a phrase that is too short:

   When a new phrase is added to a SMART topic, the system verifies whether or not the phrase is long enough to be accurately identified in the interaction. If the phrase is not long enough, a Too Short Terms warning message appears and a red icon () is added to the specific phrase in the Text list.

   a. Click the short phrase. Your selection appears in the field above the list and the **New** button becomes an **Update** button.

   b. Modify the phrase by adding additional words to it.

   c. Click **Update** to update the phrase in the list.

   Tip: Although you can leave the short phrase in the list as-is, the system may not recognize it in an interaction.

6. Verify whether or not the current topic or additional topics already contain the phrases you are adding by performing one or both of the following:

   ○ To automatically check every new phrase that is added to the topic, select the **Check Similar** check box.

   ○ To check whether or not the specific topic contains phrases that already exist in one or more additional SMART topics, click the **Check Similar** button.

   If the system finds a match, you can use the existing phrase instead of creating a new one, or modify your entry to create a new phrase. If a phrase is a duplicate of an existing phrase, a red M flag is inserted beside the phrase and the duplicate phrase is displayed with blue text as follows:

   For additional information, refer to the red M flag tool tip.

Tip: Genesys recommends to check all new phrases at once, since this verification process requires significant system resources.

7. Define a **Strictness** for the selected phrases:

By default, each topic phrase is assigned the same strictness value assigned to the topic itself. The strictness given to a phrase overrides the topic's strictness. When a phrase is given a strictness level, the level appears beside the phrase in the list ![30 U i think my < phone > is broken]

The level of strictness defines how confident SpeechMiner must be to recognize a topic phrase. For example, if you select Medium (65), the topic phrase must be identified with confidence levels of at least 65 in order to be identified by SpeechMiner. For example, if I have the phrase with a confidence of 60 and the topic was configured with a strictness of 70, it will be marked as not found. If the strictness is 50 it will be marked as found.

   a. Select the phrase for which you want to define a strictness level.

   b. Click the **Strictness** button ![s].

      The **Term Strictness** window opens.

   c. Select **Custom.**

   d. Determine the required strictness value.

   e. Click **OK** to set the strictness value.

Tip: Repeat any of the steps in this procedure until you have a collection of phrases that represent the business issue you are interested in.

What to do next

Save a Topic

Save a Topic

Once you add phrases you can save your topic. After a topic is saved you can always go back to modify it.

Before you begin

Add Topic Phrases

To save a topic:

1. Click Save ![save icon]. If this is the first time the topic is saved, the **Topic Express** window opens.
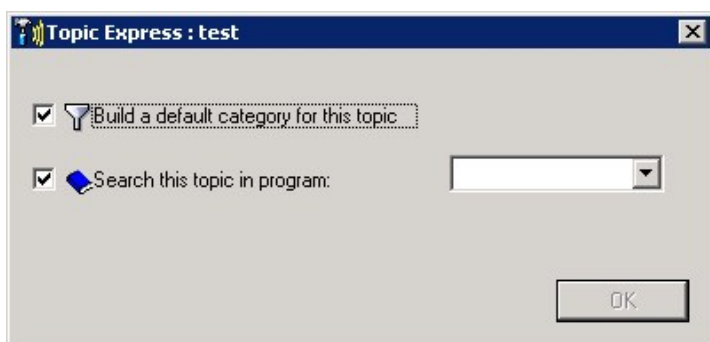
2. Select one or both of the following:

    ◦ **Build a default category for this topic:** enables you to create a category based on the specific topic definition. That is, the category is given the same name as the topic and is configured so that linguistic events in which the topic is recognized are included in the category. You can also manually define a new category for thetopic and include the topic in the properties of one or more existing categories at a later time. For additional information, see Categories.

    ◦ **Search this topic in program:** enables you to link the topic to an existing program. You can also manually link the topic to one or more programs at a later time. For additional information, see Programs.

    Note: If you try to save a topic that contains phrases that are too short to be effective, you will be prompted to choose how to handle them. For additional information, see Add Topic Phrases.

3. Click **OK** to save the topic.

Modify Topic Phrases

Once a topic is defined and saved you can always change the topic terms and phrases as follows:

- Modify a Phrase

- Modify a Term's Strictness

- Delete a Term

- Restore a Deleted Phrase

To modify a phrase:

1. Select the topic whose phrase(s) you want to change and click **Open Topic** .

2. In the list of terms and phrases, select the phrase you want to change.

3. Modify the phrase and click **Update.**

To modify a term's strictness:

1. Select the topic whose phrase(s) you want to change and click **Open Topic** .

2. In the list of terms and phrases, select the term whose strictness you want to change and click **Set Strictness** .

3. Set the default strictness value or configure a custom value.

4. Click **OK**.

To delete a term:

1. Select the topic whose phrase(s) you want to change and click **Open Topic** .

2. In the list of terms and phrases, select the term you want to delete and click **Delete** ✕.

To restore a deleted phrase:

1. Select the topic whose phrase(s) you want to change and click **Open Topic** 🟢.

2. Select the Show Deleted check box. A red icon 🟥 appears next to all of the phrases that were previously deleted.

3. Select the phrases you want to restore and click Restore ✅. The deleted phrase(s) is restored.

Manage a Topic

Once a topic is created you can always change its properties and phrases to suit your changing business needs.

When managing a topic you can:

- Manage Secured Topics

- Filter the Phrase List

- Move a Topic

- Delete a Topic

- Modify Topic Properties

Manage Secured Topics

When a topic is designated as a Secured Topic, the system instructs the Media Player to not enable playback of this topic for SMART users who do not have permission to hear confidential topics. For example, if the topic identifies the caller's credit card details, you can use this option to hide that information from users who are not authorized to hear it.

You can view a list of all the Secured Topics in the system and change their settings as necessary. When you remove the security settings from selected topics, the topic properties are also modified.

Tip: You can manually delete the security settings from a topic in the **Topic Properties** dialog box.

To manage secured topics:

1. Select **Tools > Secured Topics**. The Secured Topics window opens. The window contains a list of all the secured topics.
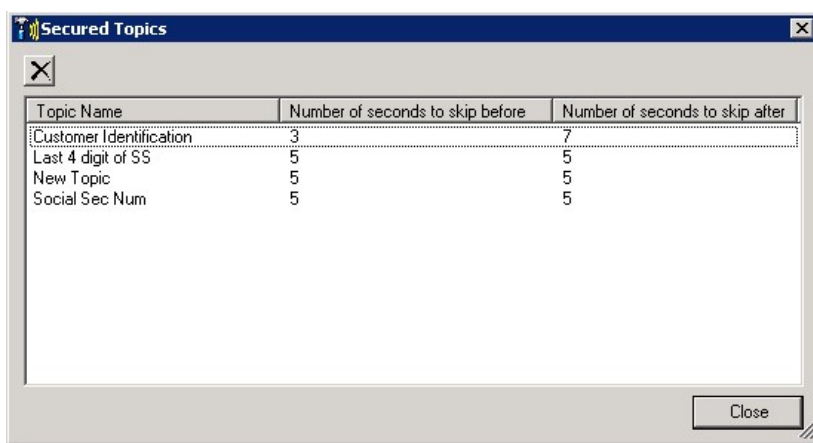
2. To delete a secured topic, select the topic and click the Delete ✗ button.

3. To change the secured topic settings, double click the topic name. The specific **Topic Properties** window is opened.
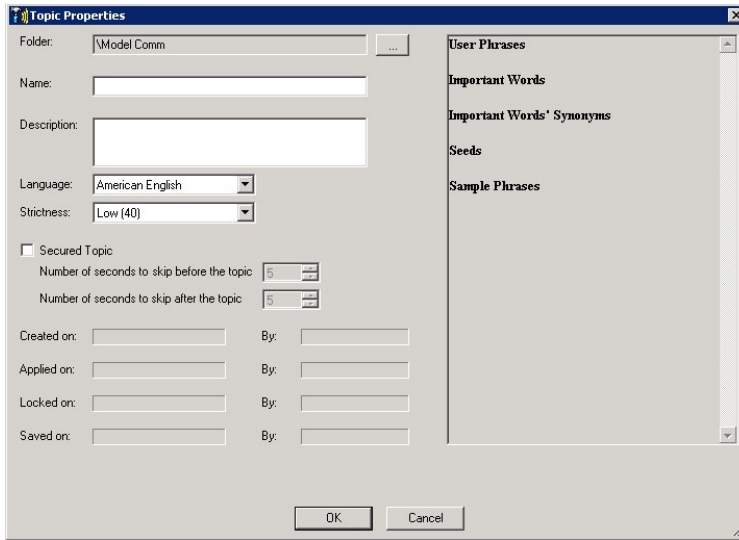
4. Change the Secured Topic settings and click **OK**.

Filter the Phrase List

You can filter the display of phrase so that only phrases that include a specified text string are visible in the list. For example, if you only want to see phrases that include the word "reduce" in any of its forms, you can limit the display of phrases that include the string "reduce." Phrases that include "reduce," "reduces," "reduced," and "reduction" will be displayed; all other phrases will be hidden from view.

To filter the phrase list:

1. Select the topic whose list you want to filter and click Open Topic ⬤.

2. Type the text string in the **Filter** field. The list is filtered as you type.

Tip: To clear the filter, click the **Clear** button.

Move a Topic

Once a topic is created, you can move it to a different folder at anytime.

To move a topic:

- Click and drag the topic to the folder you want to move it to.

- Change the topic location in the **Topic Properties** window.

Delete a Topic

A topic can be assigned to one or more programs. When you delete a topic it is removed from all programs it is linked to.

To delete a topic:

1. Click the **Topic Manager** tab.

2. Verify that the topic you want to delete is closed.

3. Select the topic you want to delete.

4. Click Delete ✖ about the topic tree. A Topic Deletion message appears. The message lists the programs to which the specific topic is linked.

5. Click Yes to delete the topic from the program(s) listed in the Topic Deletion message. The topic is deleted.

Tip: You cannot delete a topic linked to a category. To delete a topic linked to a category, you must remove it from the specific category's definition.

Modify Topic Properties

Once a topic is created you can always change its properties and phrases.

To modify topic properties:

1. Right-click the topic you want to modify and click **Open Topic Properties**. if the specific topic is linked to one or more programs, a **Topic Edit** message appears, prompting you to confirm that you want to open the topic properties.

2. Click **Yes** in the **Topic Edit** window and the **Topic Properties** window is opened.

3. Modify the properties as necessary and click **OK.**

Audit a Topic

As SpeechMiner processes interactions, you can create a Topic Analysis - Audits Report to check how well the phrases it contains represent the intent of the topic and how accurately SMART identifies the phrases in the interactions.

Review the following information to learn more about how to create and understand the Topic Analysis - Audits Report:

- Topic Analysis Audit Report: Use to view information about the precision with which topics and the phrases they contain, were identified by SpeechMiner.

- View Statistical Data: Use to view data about each topic phrase, including information about how often the phrase, was recognized by SpeechMiner and summary data of phrase audits.

- Create an Audit Report: Use to select and create a report for specific interactions.

- Precision Values: Use to rate an event. A precision value indicates the precision with which SpeechMiner was able to identify phrases.

Topic Analysis - Audits Report

The **Topic Analysis - Audits Report** shows the precision with which topics were identified by SpeechMiner. Precision values are given for one or more confidence levels, as specified in the report parameters, and are determined by the True Positive (TP), False Positive (FP) and Sense False Positive (SFP) selections made by the interaction auditor. You can drill down from any topic included in the report to see detailed information about each phrase in the topic.

The goal of auditing is to provide you with data about the precision with which SpeechMiner identifies topics. With this information, you can determine whether or not you need to redefine your topics and phrases.

For additional information about the Topic Analysis - Audits Report, refer to:

- Create an Audit Report

- Understanding the Audit Precision Values

Note: For detailed information about the SpeechMiner report template, report details, how to create a report and so on, refer to the *SpeechMiner User Manual*.

The following image is an example of a Topic Analysis - Audits Report:

Make Payment (14 Terms)

Payment Issues

Term ⇕	Percent of Calls ⇕	Calls ⇕	Strictness ⇕	Events ⇕	Audits ⇕	1	40	50	65	72	85
name on the check	4.5%	31	Very-Low (1)	34	0						
to do a one time payment	2.9%	20	Very-Low (1)	23	13	B	B	B	B	C	C
do you authorize almat energy to take a one	2.2%	15	Very-Low (1)	15	0						
is it a visa or a master card	2.0%	14	Very-Low (1)	14	14	C	B	B	D	D	
name of the bank	2.0%	14	Very-Low (1)	16	0						
is this a checking account	1.9%	13	Very-Low (1)	14	0						
and the expiration date	1.4%	10	Very-Low (1)	10	0						
expiration please	1.0%	7	Very-Low (1)	7	0						
i'll take your routing number first	0.6%	4	Very-Low (1)	4	0						
would you like to pay by check	0.6%	4	Very-Low (1)	4	0						
and how much are you paying	0.4%	3	Very-Low (1)	3	0						
and what is that bank account number	0.4%	3	Very-Low (1)	3	0						
how would you like to make that payment	0.3%	2	Very-Low (1)	2	0						
the zip code where you receive your card	0.1%	1	Very-Low (1)	1	0						
Summary	**14.8%**	**102**			**150**	**27**	C	B	B	C	C	C
					TP	17	14	13	7	6	2
					FP	8	5	4	4	4	1
					SFP	2	1	1	1	1	1
					PREC	68	74	77	64	60	67
Data Set Summary		**690**		**1829**	**233**						

* Summary of calls containing the selected Topic (defined in Items on Report section)

** Summary of all calls that meet the Data Set criteria (defined in Data Set Filters section)

SpeechMiner® by UTOPY

Topic Analysis - Audits executed 4/8/2011 3:35:39 AM by libby

Calls have the following constraints:

Language: American English

Create an Audit Report

When you run the **Topic Analysis - Audits Report**, you can select the interactions to include in the data set that will be used for the report. For example, you can select to see information only about specific topics from a specified time range, involving specific agents.

For an example of an audit report see the *SpeechMiner User Manual*.

To create an audit report:

1. Open SpeechMiner and select **Reports > Templates**.

2. Click the **Edit** link in the **Topic Analysis - Audits Report** line. The Topic Analysis - Audits Report template opens in the **Edit** tab.

3. Click **Run Report** [Run report] . The Audit Report is created.

Audit Report - Precision Values

When an event is rated by SpeechMiner it receives one of the following precision values:

- TP (True Positive)

- FP (False Positive)

- SFP (Sense False Positive)

TP(True Positive)

TP occurs when SpeechMiner accurately identifies the phrase it was asked to recognize. The recognition does not have to match the interaction verbatim. Matching the goal of the topic is sufficient. In addition, the phrase must be said in the right context. The right context is provided in the topic definition.

The following table contains example of topics and phrases associated with a TP audit result:

Topic Name	Text	Identified Interaction
Escalation (Spoken by customer)	Need to speak to a supervisor	Customer: "I want to speak to your supervisor."
Dissatisfaction (Spoken by customer)	Really frustrating	Customer: "This is so frustrating."

FP (False Positive)

FP occurs when SpeechMiner incorrectly identifies a phrase or topic.

The following table contains example of topics and phrases associated with a FP audit result:

Topic Name	Text	Identified Interaction
Escalation (Spoken by customer)	Need to speak to a supervisor	Agent: "you will need to close that visor."
Request to call back (Spoken by agent)	Can you call us back	Customer: "I called my son back yesterday."

SFP (Sense False Positive)

SFP occurs when SpeechMiner correctly identifies a phrase but the phrase was used in a manner that does not match the intent of the topic. To determine the accuracy of the phrase, review the phrase before and after the marked phrase.

The following table contains examples of topics and phrases associated with a SFP audit result:

Topic Name	Text	Identified Interaction
Escalation (Spoken by customer)	Need to speak to a supervisor	Agent: "you will need to close that visor."
Request to call back (Spoken by agent)	Can you call us back	Customer: "I called my son back yesterday."

Topic Statistics

Topic statistics provide detailed information about each topic phrase, including information about how often the phrase was recognized by SpeechMiner and summary data of phrase audits.

For a better understanding of Topic Statistics, review the following information:

- The Topic Statistics View

- Understanding Topic Statistics

- Working with Topic Statistics

- Understanding the Interaction Grid

- View Statistics for a Specific Date

The Topic Statistics View

The Topic Manager screen includes statistics about each phrase in the topic. As shown in the following image, topic statistics appear to the right of the phrase list.

The statistics are only visible to users with SpeechMiner Audit permissions. In addition, only SpeechMiner events that are recognized with a strictness equal to the topic's strictness (see Applied Strictness above the list of phrases) are included in the data.

Note: For detailed information about topic statistics, Interaction Grid, Event Grid, etc., refer to the SpeechMiner User Manual.

Understanding Topic Statistics

The data in the Topic Statistics table provides information about how often topic phrases were found in all the interactions and how accurately SpeechMiner identified them. The Topic Statistics table includes the following data for each phrase:

Column	Description
Percent	The percentage of all the interactions in the database where the phrase was found.
Calls Count	The number of interactions in the database where the phrase was found.
Events Count	The number of times the phrase was found in the database.
Audits	The number of times the phrase was audited for precision (that is, was rated TP, FP ro SFP)
TP Count	The number of times the phrase was rated TP during auditing.
FP Count	The number of times the phrase was rated FP during auditing.
SFP Count	The number of times the phrase was rated SFP during auditing.
Audits Precision	The percentage of TP rating among all the audits.

Click the data links to open interaction grids that list the interactions in each category. You can use the grids to listen to the topic events in the interactions and audit them for accuracy. This information can help you decide if certain phrases should be modified or removed from the topic, and if additional phrases should be added.

Note: For detailed information about topic statistics, Interaction Grid, Event Grid, etc., refer to the *SpeechMiner User Manual*.

Working with Topic Statistics

Every phrase recognized in an interaction can be audited.

When SpeechMiner recognizes a phrase, it is referred to as an event. In order to audit an event, the auditor (SpeechMiner user) must play the event using an Event Grid. After listening to the event, the auditor rates the accuracy of the event recognition by selecting a rating in the TP/FP column of the Event Grid.

The SpeechMiner user uses the following rating system:

- **TP (True Positive)**: The event was correctly identified by SpeechMiner.

- **FP (False Positive)**: The event was incorrectly identified by SpeechMiner.

- **SFP (Sense False Positive)**: The words were correctly identified by SpeechMiner, but they were used in a way that does not match the intent of the topic.

Based on the information about the phrases that were recognized by SpeechMiner in actual interactions, you can modify the words of a phrase, add new phrases, or delete existing phrases, as necessary. For example, if a phrase is not recognized consistently (has a large number of FP ratings), you can add more words to the phrase to make it easier for SpeechMiner to identify. Similarly, if the auditing data show that the phrase frequently does not match the intent of the topic (has a large number of SFP ratings), you can add more words to it in order to ensure it is only identified when it really does match the intent of the topic. On the other hand, if you think a phrase with a large number of FPs or SFPs cannot be improved, you might choose to delete it.

Note: For detailed information about Topic statistics, Interaction Grid, Event Grid, and so on, refer to the SpeechMiner User Manual.

Understanding the Interaction Grid

The Interaction Grid contains detailed information about each interaction (for example, an interaction, an email, etc). You can modify the display to suit your requirements by selecting which columns you want to include in the grid. If you want to listen to an interaction or view other types of interactions, you can select them in the grid and they will be opened above the grid.

You can open the Interaction Grid directly from the Topic Manager screen by clicking a topic statistic. Once the grid is open, you can use it to open the media player and play back interactions. If the grid contains an event list, you can audit the event recognition and add or modify the precision ratings of the events.

Column	Description
Calls Count	A grid that contains the interactions where the phrase was found.
Events Count	An event grid that contains the locations within each interaction where the phrase was found.
Audits	The locations within each interaction where the phrase was audited.
TP Count	The locations within each interaction where the phrase was audited and rated TP.
FP Count	The locations within each interaction where the phrase was audited and rated FP.
SFP Count	The locations within each interaction where the phrase was audited and rated SFP.

Note: For detailed information about topic statistics, Interaction Grid, Event Grid, and so on, refer to the *SpeechMiner User Manual*.

View Statistics for a Specific Date

You can view topic statistics from a specific date to the present.

To view topic statistics for a specific date:

1. Above the **Topic Statistics** list, in the **Show Calls Since** field, verify that the date in the field is relevant for the statistics you want to view or select the date from which you want to view data.

2. Click **Refresh Audits**. The data is refreshed and only data associated with interactions that originated from the selected date and on are included.

Note: For detailed information about topic statistics, Interaction Grid, Event Grid, and so on, refer to the *SpeechMiner User Manual*.

Programs

A program is a set of instructions that tell SpeechMiner what to recognize in recorded conversations between contact center agents and customers, in relation to a specific business issue.

More specifically, a program's instructions are made up of topic and non-linguistic recognition tasks that contain guidelines about what SpeechMiner should look for, when to look for it and where to look for it in the interaction.

Topics must be defined before you can add them to a program. However, you can change their contents after you add them to a program. The topic contents that are defined when the program is applied are the contents that will be sought by SpeechMiner in interactions associated with the program. For information about creating and modifying topics, see Topics.

When SpeechMiner identifies a recognition task it registers an event. For more information about events, refer to the *SpeechMiner User Manual*.

Note: Every interaction that enters the system is automatically assigned to a program.

A program consists of the following:

- Content Processing Methods
- Non-Linguistic Identification
- Structured Diagram
- Priority Level

Content Processing Methods

Each program instructs SpeechMiner to extract useful information from a recorded conversation using the following content processing methods:

- **Speech Recognition:** Identifies each word in its lexicon and transcribes it. Transcription enables users to search for phrases and facilitates certain types of reports that analyze the speech that is recognized for trends. In addition, a transcription enables you to see a variety of characteristics associated with the interaction and highlights phrases that can identify specific issues. For example, who said what, unsatisfied customers, etc.

- **Topic Recognition:** Identifies specific phrases associated with a defined topic. A topic represents a specific intent (for example, cancellation) and each program is associated with one or more topics. That is, topic recognition enables users to search for interactions containing a particular business issue, and facilitates reports that analyze the topic data. If Speech Recognition is not performed, topic recognition cannot be performed. That is, the topics included in the program define the linguistic data that SpeechMiner should look for in interactions that belong to the program.

Non-Linguistic Identification

Non-Linguistic Identification identifies the non-verbal parts of an interaction. For example, silence, busy signal, key

presses and caller agitation (tone).

Every program instructs SpeechMiner to automatically identify the following non-linguistic events:

- **Dial Tone:** A dial tone.

- **Ringback:** A signal used in PSTN (Public Switched Telephone Networks - standard "land lines") to indicate that the line is being called or an incoming interaction is present.

- **Silence:** Silence, usually indicating that the Mute button was held down on one of the handsets.

- **Busy Tone:** A busy signal.

- **Music and Noise:** Music or noise, generally indicating the interaction was on hold.

- **DTMF:** Key press on a touch-tone phone. 12 different keys can be identified using DTMF (Dual Tone Multi Frequency).

Note: Identification standards for Dial Tone, Ringback, Busy Tone and DTMF are based on USA standards. To learn how to use different identification standards refer to the *Configuring SpeechMiner > Additional Configurations > Tone Frequency Configuration* tab in the *Speech and Text Analytics Administration Guide*.

In addition, when you configure a program, you can choose whether SpeechMiner should also identify agitation (that is, non-verbal expressions of frustration and anger, such as deep sighs, grunts or rapid changes in pitch).

Each non-linguistic event that is identified by SpeechMiner has a start time, an end time, and a type. For example, if SpeechMiner identifies silence in an interaction, this is a non-linguistic event whose start time is the beginning of the silent period, whose end time is the end of the silent period, and whose type is "Silence."

Structured Diagram

Each program is organized as a structured diagram that links topics in a consecutive string to mimic the expected flow of the conversations associated with the specific topic. The diagram is used to tell SpeechMiner where in an interaction the content must be found in order to match the requirements. For example, a structured diagram could show a "Loan Offer" topic at the beginning of an interaction, followed by a "Disclaimer" topic, and, finally, a "Contact Information" topic.

You can fine tune the structure to increase the efficiency and accuracy of the recognition process using the following features:

- Modify the Program Structure: Specify the order in which the topics must appear in the interaction, and indicate where branches may occur and which topics are optional, by adding and removing arrows in the structure diagram.
- Create a Program Trigger: Set conditions for the links defined in the program's structure, including conditions that the topic must meet and metadata conditions that the interaction must meet (for example, the agent must be from a particular work group, or the interaction must have taken place after a certain date).
- Create a Program Recognition Task: Specify that the topic must have taken place at a specific time during the interaction.

Priority Level

Interactions are sent to SpeechMiner from the external recording system. When they are received, they are put into SpeechMiner's processing queue to await their turn for analysis by SpeechMiner. Because the processing of some interactions may be more important than the processing of others, SpeechMiner does not automatically process interactions in the order in which they were placed into the queue.

When you create a program, you assign it a priority level. SpeechMiner selects which interaction to process first based on the priority level of the program it is associated to. SpeechMiner processes the highest priority interactions in the queue first, and then proceeds to interactions with lower priorities, regardless of how long the interactions have been in the queue.

Introducing the Program Interface

The SMART Program interface contains the following main components (see table below):
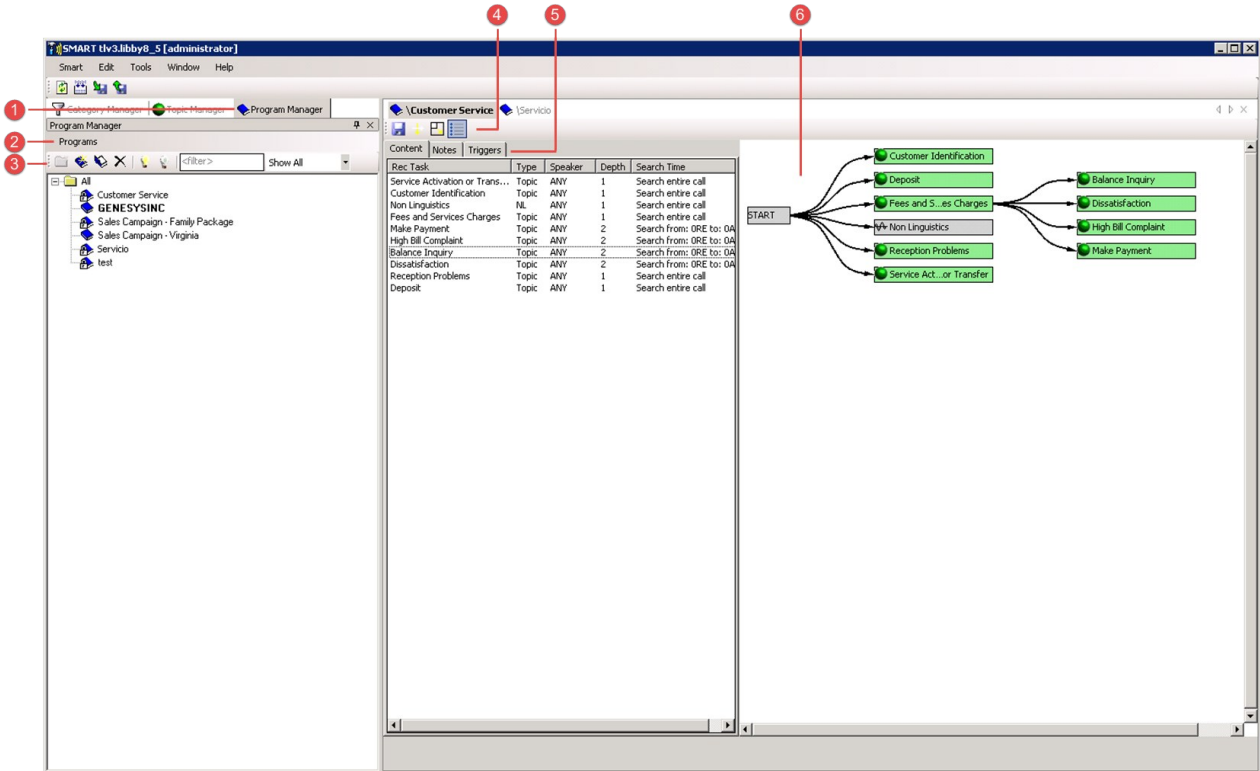
Number	Description
1	Displays the Program Manager.
2	Includes Program options.

Number	Description

3	Quick access to:
	
	• 📁 Creates a new program folder.
	
	• 📘 Creates a new program.
	
	• 📖 Opens the selected program.
	
	• ✖ Deletes the selected program.
	
	• ⬚`<filter>` Filters the tree according to the characters entered in the field.
	
	• `Show All ▾` Filters the tree according to the type of information you want to see.
	   ◦ **Show All:** Shows all the items in the tree.
	   ◦ **Show Active:** Shows all the active programs that can be applied to SpeechMiner.
	   ◦ **Show Inactive:** Shows all the inactive programs that can be applied to SpeechMiner.
	   ◦ **Show Updated since Apply:** Shows all the items that were changed since you last applied SMART changes to SpeechMiner.
	   ◦ **Show Locked by Me:** Shows all the items locked by the current user.
	   ◦ **Show Locked:** Shows all the locked programs.

4	Quick access to: • 💾 Saves the selected program details. • 🔽 Changes the direction of the selected program diagram. • 🗗 Shows / hides diagram details. • 📋 Shows / hides list pane.

Number	Description
5	Quick access to: • **Content:** Displays the list of topics and non-linguistic data associated with the specific program. • **Notes:** Contains your notes about the specific program. You can add notes to this tab. • **Triggers:** Displays the links included in the program's structure.
6	**Program Structure:** A diagram that displays the order in which the program's items should appear in the interaction. SpeechMiner searches for interaction content according to the program structure.

Program Structure

A program's structure defines the order in which SpeechMiner will search for recognition tasks (topics and non-linguistic data) in the interaction. That is, the Program's structure tells SpeechMiner what data to look for, when to look for it and where in the interaction to look for it.

Each recognition task in the program is represented by a rectangle in the program's flow chart. The order of the flowchart is determined by the arrows that connect the rectangles. An arrow is created when you create a dependent topic and it informs SpeechMiner what topic to search for and analyze next.

By default, a program's structure is defined such that all of the recognition tasks in the program are sought throughout each interaction. In the structure diagram, this is indicated by a Start item with separate branches to each program task.

Note: Program definitions are not used for text interaction recognition. A text interaction is recognized according to the topics associated with the Program definition.

The following images represent typical program structures:
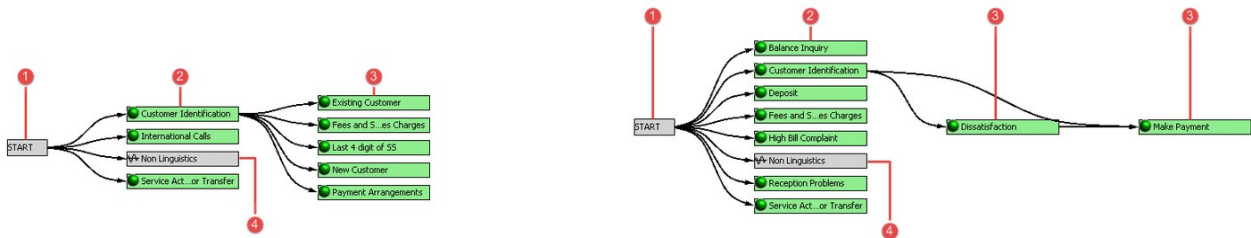
Number	Description

1	Represents the beginning of the interaction. **Start** is the point from which SpeechMiner begins to review and analyze the interactions content. SpeechMiner searches for all of the topics that originate from Start.
2	Represents all of the topics that SpeechMiner will first search for and analyze in the interaction.

Number	Description
3	Represents dependent topics. SpeechMiner searches for a dependent Topic only after it has found the previous corresponding topic. For example: • In the image on the left, SpeechMiner will search for all 5 dependent topics only after it finds the Customer Identification topic. • In the image on the right, SpeechMiner will search for the Make Payment topic twice. Once, after it finds the Customer Identification topic, and again in interactions after it finds the Customer Identification topic and its dependent Dissatisfaction topic. The program structure is not limited to one dependency. It is possible to have numerous topic dependencies.

Number	Description
4	Represents non-linguistic identification. Non-linguistic identification is a part of every program and cannot be removed.

Tip: Although you cannot create loops in a Program structure, SpeechMiner can recognize the same topic or non-linguistic data more than once in an interaction.

Program Triggers

Program Triggers define the circumstances under which SpeechMiner should search for a dependent topic. They are defined in the program structure and are represented by arrows that connect the topics.

Note: Program definitions are not used for text interaction recognition. A text interaction is recognized according to the topics associated with the Program definition.

The following expressions and conditions can be used when creating a Program Trigger:

- Logical Expressions

- Parentheses in Expressions

- Metadata Conditions

- Negative Condition

Logical Expressions

Configuring Triggers is performed by defining a logical expression for SpeechMiner to evaluate. If the logical expression is evaluated as True, the Trigger is activated and the child recognition task is run on the interaction. If the logical expression is evaluated as False, the Trigger is not activated, and the child recognition task is not run.

Logical expressions enable you to configure the relationship between the topic and its dependent topic. For example, you can specify that a topic must be recognized with a particular level of strictness or the topic must be found twice before SpeechMiner searches for its dependent topic.

Logical expressions can consist of one or more elements. Each element is a statement, such as Date Of Interaction>1/19/2010 or Found topic "Reduction" at least once with Low Strictness. If a logical expression contains one element, it is True whenever the condition defined in the element is true. For example, if a logical expression contains the element Date Of Interaction>1/19/2010, it is True for any interaction whose metadata indicates that it took place on or after 1/20/2010.

Logical expressions can also contain multiple elements. When they do, the elements must be related to one another by logical operators, such as AND or OR. For example, "Date Of Interaction>1/19/2010 AND Found topic "Reduction" at least once with Low Strictness" is a logical expression that indicates both conditions must be met (the topic must be found and the interaction must have taken place in the specified time period), in order for the expression to be evaluated as True and the recognition task to be implemented.

The following operators can be used in logical expressions:

Operator	Description

AND	Both conditions must be met in order for the expression to be evaluated as True.
OR	At least one of the conditions must be met in order for the expression to be evaluated as True.
NOT	The expression should be evaluated as True only when the condition is not met.
(	Opens a group of conditions that are evaluated as a unit.
)	Closes a group of conditions that are evaluated as a unit.

Logical expressions can be quite complex, containing a number of elements, various logical operators, and parentheses, if necessary. For example, the following logical expression means that the recognition task should be performed if the interaction took place between Jan. 1st and Jan. 30th and the topic "Reduction" was found, or if the interaction took place Jan. 31st or later and either the topic "Time Frame" or the topic "Payment Locations" was found:

(Date Of Interaction>1/1/2011 AND Date Of Interaction<1/30/2011 AND Found topic "Reduction" at least once with Low Strictness) OR (Date Of Interaction>1/31/2011 AND (Found topic "Time Frame" at least once with Low Strictness OR Found topic "Payment Locations" at least once with Medium Strictness))

Parentheses in Expressions

Parentheses can be inserted into an expression to group elements together for evaluation as a single unit. Complex expressions often require parentheses to break them into smaller expressions so that the relationships between the expressions are clear. For example, if a topic must be found in interactions that are handled by one of two agents, and you write the following expresssion, it is not be clear whether the topic must be found in interactions handled by both agents or only in interactions handled by agent b.

Workgroup\Agent=workgroup 1/agent a OR Workgroup\Agent=workgroup 1/agent b AND Found topic "Reduction" at least once with Low Strictness

If you add parentheses as follows, the topic should be found in interactions handled by either agent:

(Workgroup\Agent=workgroup 1/agent a OR Workgroup\Agent=workgroup 1/agent b) AND Found topic "Reduction" at least once with Low Strictness

If you write the following expression, the topic is only be required in interactions handled by agent b:

Workgroup\Agent=workgroup 1/agent a OR (Workgroup\Agent=workgroup 1/agent b AND Found topic "Reduction" at least once with Low Strictness)

Metadata Conditions

Metadata refers to the interaction data gathered by the external recording system and relayed to SpeechMiner along with the interaction. Each system receives different sets of information about the interactions that are passed to it for processing. For example, metadata could include the name of the agent for each interaction, the location of the customer, and the duration of the interaction.

Metadata Conditions enables you to instruct SpeechMiner to search for a specific dependent topic when the interaction being analyzed meets one or more metadata requirements. For example, you can specify that SpeechMiner should only search for a specific topic when the customer is in the state of Nevada, or if a particular agent handled the interaction.

You can define metadata conditions based on any of the metadata values available in your system. In addition, you can define different metadata conditions for each topic in a program. The conditions you define can be as simple as one metadata value or complex expressions that specify the relationships among a number of metadata types. Take, for example, a sales campaign that is undertaken in Wyoming and in Texas. Certain agents in each location target senior citizens, while others target families with teenage children. To process interactions to senior citizens differently from other interactions that belong to the program, you could define a condition that specifies either Agent1 or Agent2 if the customer is in Wyoming, and Agent3 if the customer is in Texas, and apply the condition to the topics that are specific to the senior-citizen campaign.

Negative Condition

A negative condition is a condition that must not be met if an expression is to be evaluated as True. For example, a condition that states that an interaction must not have taken place during the month of January is a negative condition. Negative conditions can be specified for a single element of an expression or a group of elements that are contained in parentheses.

Two methods are available for creating a negative condition for a single element:

- Insert a NOT operator before the element.

- Select the Not option in the element's conditions.

The following are two examples of the same negative condition written in two different ways. These conditions are True as long as the date is not on or before January 31st, 2011.

NOT Date Of Interaction<1/31/2011

- Or -

Not Date Of Interaction

An expression containing multiple elements can only be marked as a negative condition using the NOT operator. For example, in the following expression, the NOT operator is attached to a multi-element condition. The condition is True for all workgroups except workgroup 1 and workgroup 4.

NOT (Workgroup\Agent=/workgroup 1 OR Workgroup\Agent=/workgroup4)

Program Recognition Tasks

Program Recognition Tasks define at what point during the interaction SpeechMiner will search for the Program's Topic. In some systems, you can also specify that SpeechMiner search for a topic only when a specific speaker (caller, agent or both) took part in the interaction.

In addition, each program contains a Non-Linguistic Recognition Task that is performed on all interactions and on all parts of each interaction. Silence, busy tones, music and noise, dial tones, DTMF key presses, and ring-back tones are always detected. By default, non-verbal agitation is not sought.

Program Recognition Tasks are defined in two locations:

- Trigger Properties window: Position and Speaker parameters in the Trigger Properties window determine when SpeechMiner will search for the topic from which the Trigger originates. For example, in the following image Trigger Properties for the arrow pointing from Fees and Services Charges to Make Payment indicate when SpeechMiner will search for Fees and Services Charges topic.

- Recognition Task window: The Recognition Task defined for a topic determines when SpeechMiner will search for the specific topic. For example, in the following image the Recognition Task window parameters are intended for when SpeechMiner will search for the Balance Inquiry topic.

Note: Program Recognition Task parameters and Program Triggers are not used for text interaction recognition. A text interaction is recognized only according to the topics associated with the Program definition.
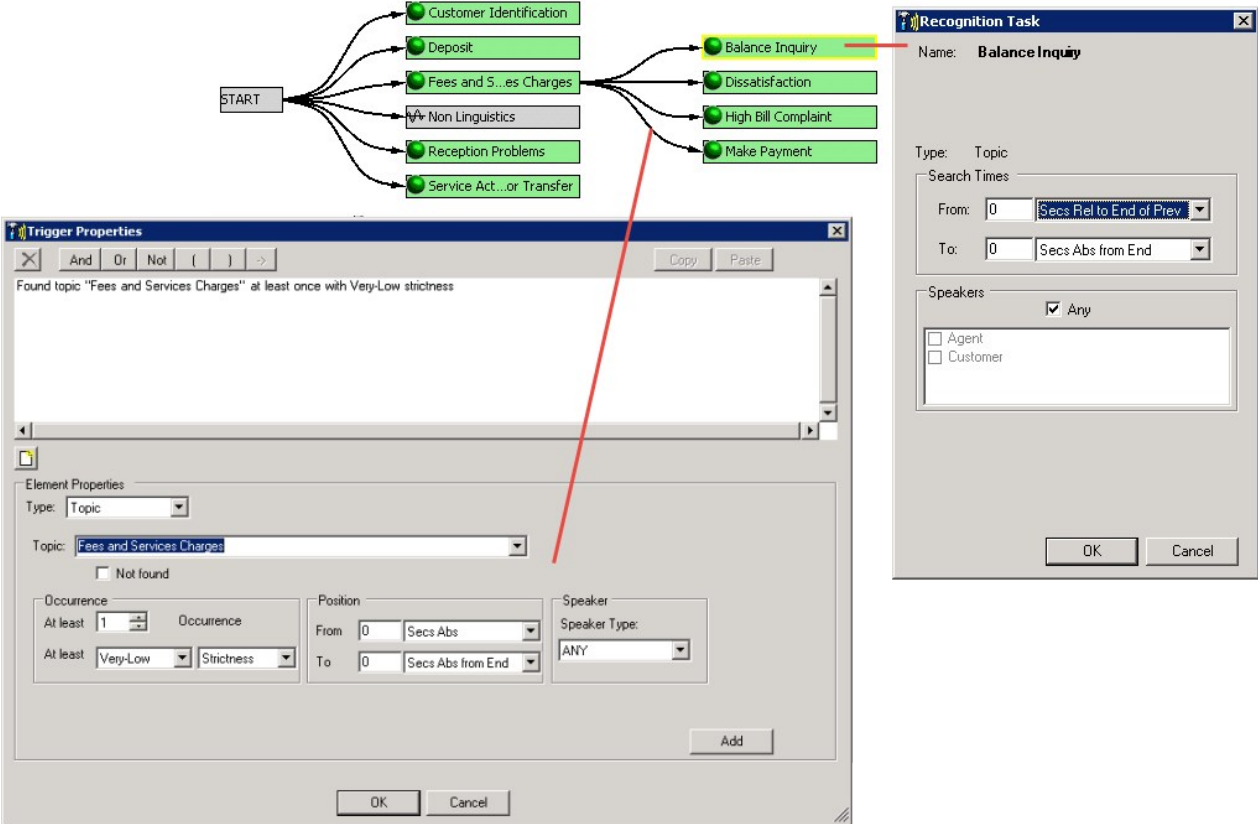
Create a Program

You can create programs that define the type of interaction structure you want to analyze.

To create a program:

1. Analyze your Business Needs: Gather information about the business issue you want the program to represent.

2. Create an Empty Program: Set the program properties and define its attributes (such as name, description, language, etc.), according to the related business issue.

3. Add/Remove Topics from a program: Based on your research, add topics and non-linguistic data to the Program. Define the order in which program items (topics and non-linguistic data) should appear in the interaction. That is, the items SpeechMiner should search for and where during an interaction.

4. Create a program Trigger: Set conditions for the links defined in the program's structure, including conditions that the parent item must meet and metadata conditions that the interaction must meet (for example, the agent must be from a particular work group, or the interaction must have taken place after a certain date).

5. Create a program Recognition Task: Specify the time in an interaction when the topic or non-linguistic data must be present.

6. Add Notes to a Program: Add notes for yourself and SpeechMiner users about the specific program (for example, the reason the program was created).

7. Save and Activate the Program: Once you have added topics and non-linguistic data and configured Triggers and Recognition tasks to the program, save the program.

Analyze your Business Needs

Before creating a program, gather information about the business issue you want to investigate.

To analyze your business needs:

1. What type of interactions do you want SpeechMiner to recognize?

2. Determine the type of interactions generated by the business issue by listening to existing interactions about the subject or similar subjects, reading e-mails that relate to them, and consult agents who interact with customers. For example, for a customer service topic, the set of relevant interactions might only include incoming interactions about help and assistance.

3. Gather examples of the types of interactions you are interested in, to determine the best way to structure the program.

What to do next

Create an Empty Program

Create an Empty Program

Set the program properties and define its attributes (such as name, description, language, etc.), according to the related business issue.

Before you begin

Analyze your Business Needs

To create an empty program:

1. In the Folder tree, select the folder to which you want to add a new program.

2. Click **New Program** . The Program Properties window opens.
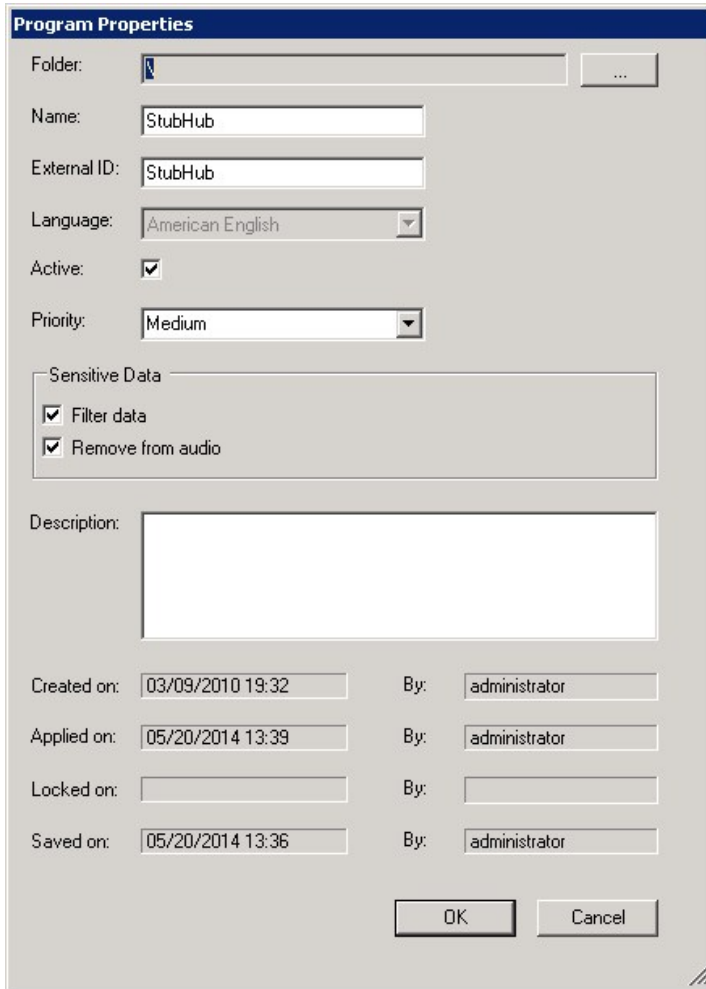
3. Set the following parameters:

Field	Description
Folder	Display the folder in which the new program will be placed. Click the **Folder Browse** button ... and select a different location.
Name	Enter a unique name that is easy to correlate to the business issue.
External ID	The program ID that will be used by the external recording system. For instance, each interaction is assigned a program ID, so that when SpeechMiner receives the interaction it will know which program to use to analyze the interaction. Every interaction that enters the system is automatically assigned to a program.

Language	Select the program language. When a system contains interactions that do not undergo Speech Recognition processing, the **No Speech Recognition** option appears in the **Language** list. Select this option if interactions associated with the program you are now creating should not undergo Speech Recognition processing. Topic recognition cannot be performed on interactions that do not undergo speech-recognition processing.
Active	Select this option to make the program automatically active when it is applied. That is, an active program can be used to analyze interactions.
Priority	The Priority level tells SpeechMiner the order in which it should process interactions that are in the processing queue. Since each interaction is associated with a program, each interaction receives the Priority level of the program it is associated with. Interactions with a higher priority are processed first. If two interactions in the queue have the same priority level, the processing order follows the process order set in SpeechMiner (either older or newer interactions first). There are five priority levels (Very High, High, Medium, Low and Very Low). The default priority level is Medium. You can change a program's priority level using the options available in the menu that appears when you right-click a program in the program tree (Increase Program Priority ⬆, Decrease Program Priority ⬇).
Sensitive Data	**Filter data:** Removes sensitive information (for example, credit card number, ID number, and so on), from text interactions or transcripts of audio interactions. **Remove from audio:** Removes sensitive information from the audio associated with screen or video recordings.
Description	Enter a free text description of the program. (optional)

4. Click **OK**. The new program appears in the program tree.

Note: By default every program instructs SpeechMiner to identify non-linguistic events in the interaction (for example, paper ruffling).

What to do next

Add / Remove Topics from a Program

Add / Remove Topics from a Program

A program is essentially a list of recognition tasks (topics and non-linguistic data) that SpeechMiner is instructed to identify and analyze.

With SMART you can:

- Add a Topic

- Add a Dependent Topic

- Remove a Dependent Topic

Note: SpeechMiner always tries to identify non-linguistic interaction data, but it only tries to identify topic data in interactions processed with Speech Recognition.

Add a Topic

Before you begin

Create an Empty Program

To add a topic to a program:

1. Select the **Program Manager** tab.

2. In the **Program** tree, open the program to which you want to add a topic(s). The left pane of the screen shows the specific program details.

3. Select the **Topic Manager** tab. The right pane of the SMART screen shows the list of all available topics.

4. In the **Topic** tree, select the topic that you want to add to a program. To select multiple Topics, use the **Ctrl** or **Shift** keyboard keys. You can also select a topic folder to add all the topics in the specific folder. The number to the left of the green arrow indicates the amount of topics you are adding to the selected program.

5. Click **Add to Program** ₁ ⟹ . The specific topics are added to the program's **Content** tab.

Tip: To delete a topic, select the specific topic in the specific program's **Contents** tab and click **Delete.**

What to do next

Create a Program Trigger

Add a Dependent Topic

A dependent topic indicates that the specific topic should only be searched for in an interaction after the previous topic is found. For example, in the image below, SpeechMiner will search for the Customer ID topic (the dependent topic) only after it has found the Family Membership topic (see image).

Note: Since recognition runs separately on each segment and on each channel, the system only searches for the dependent topic in the same segment and channel in which the corresponding previous topic was found.
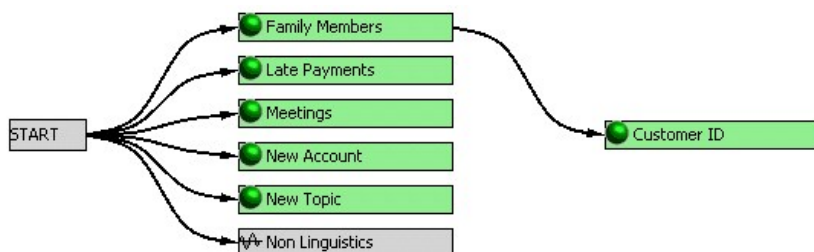
The following procedure explains how to change the program structure so that SpeechMiner searches for the Meetings topic after it has searched for the Late Accounts topic.

Before you begin

Create an Empty Program

To add a topic to a program:

1. Click on the **Late Payments** rectangle and drag your mouse to the **Meetings** rectangle. A thin black line is displayed to indicate the dependency between the two topics.

2. Release the mouse to create the connection. As shown in the following image, the program structure changes so that the Meetings topic is dependent on the Late Accounts topic. SpeechMiner will not search for the Meetings topic if it does not find the Late Accounts topic.
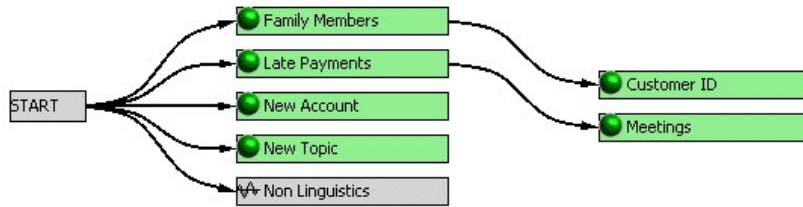
3. Repeat steps 1 and 2 to create additional dependencies between topics. There is no limit to the amount of dependent topics.

Note: When you create a dependent topic you are automatically creating a program trigger.

What to do next

Create a Program Trigger

Remove a Dependent Topic

All dependent topics can be removed and returned to their original locations in the program flowchart.

Before you begin

Create an Empty Program

To add a topic to a program:

1. In the program structure, right-click the arrow pointing to the dependent topic you want to remove. The arrow turns yellow and a menu appears (see image below).
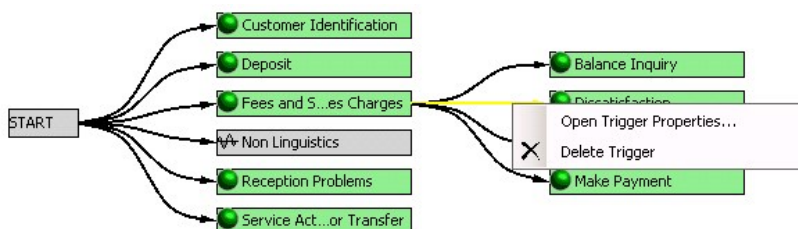
2. Click **Delete Trigger**. The dependency is removed and the topic is no longer a dependent topic.

What to do next

Create a Program Trigger

Create a Program Trigger

Program Triggers define the circumstances under which SpeechMiner should search for a dependent topic. They are defined in the program structure and are represented by arrows that connect the topics.

Note: If a condition is defined for a trigger, it is displayed in the **Exp** tab in the **Triggers** tab. In addition, Program definitions are not used for text interaction recognition. A text interaction is recognized according to the topics associated with the Program definition.

Before you begin

Add / Remove Topics from a Program

To create a program trigger:

1. From the Program Manager tree, open the program to which you want to add a trigger.

2. Select the **Trigger** tab. A list of all the triggers defined for the specific program is displayed. **From** represents the topic from which the trigger originates and **To** represents the topic SpeechMiner will search for and analyze if the trigger's conditions are met.

3. Double-click the topic for which you want to define a trigger. The **Triggers Properties** window opens. If a trigger was already defined, its logical expression will appear in the Text field.

4. Add a metadata condition:

   a. Click **Clear Properties** 🗋 if you want to clear existing logical expressions.

   b. From the **Type** list, select **Metadata.** The fields required to configure the metadata values are added to the **Trigger Properties** window below the **Type** parameter.

   c. In the first field (from left), select an existing metadata type from the drop-down list or manually enter the metadata type.

      For example,

      - Select **Workgroup/Agent** from the drop-down list if you want to define a condition based on the work group or agent that handled the interaction.

- Type interaction direction if you want to define a condition associated with the direction of an interaction.

d. In the remaining fields, select or enter the relevant conditions. The remaining fields change according to the selected metadata type.

e. Select **Not** if you want the trigger to notify SpeechMiner about interactions that do not match the condition.

f. Click **Add**.

   Note: Click Update if you are modifying existing Trigger Properties.

g. If the condition is not the first condition, select the correct condition in the Text field and click the operator that should precede it (**And**, **Or**, or **Not**).

5. Add a topic condition.

   a. From the **Type** list, select **Topic**. The window changes and displays the topic parameters.

   b. Modify the following as necessary:

Condition	Description
Topic	Select the topic that you want to turn into a dependent topic. The selected topic will be a dependent of the topic associated with the current Trigger Properties.
Not found	Select this option if you want the trigger to include all interactions that do not match the conditions specified in the Trigger Properties. That is, speechMiner will only search for the dependent topic when it does not find the preceding topic.
Occurrence	- The number of occurrences indicates the minimum number of times a topic must be found in the interaction before SpeechMiner can search for its dependent topic. If the minimum is not met, SpeechMiner proceeds as if the topic was not found. - The Strictness level indicates the minimum strictness level required for SpeechMiner to recognize the topic. If the minimum strictness level is not found, SpeechMiner proceeds as if the topic was not found. - The Confidence level (a range from 1 to 100), indicates the minimum level of confidence for the recognition of the phrase. If the SpeechMiner Confidence level does not meet this minimum, SpeechMiner proceeds as if the phrase was not found.

Position	**From:** Define the earliest position (in seconds) in the interaction at which the preceding topic should be found and then select one of the following: • **Secs Abs:** The number of seconds from the beginning of the interaction. • **Secs Abs from End:** The number of seconds from the end of the interaction. • **Secs Rel to Start of Prev:** The number of seconds from the beginning of the preceding topic. • **Secs Rel to End of Prev:** The number of seconds from the end of the preceding topic. • **To:** Define the latest position (in seconds) in the interaction at which the preceding topic should be found and then select one of the available options.
Speaker	Select a speaker type to instruct SpeechMiner to find and analyze topics where only the Agent, Customer or both speak.

   c. Click **Add.**

     Note: Click **Update** if you are modifying existing Trigger Properties.

6. Add parentheses to group conditions.

   a. In the Text field, click the first condition that you want to include in the parentheses.

   b. Click **(.**

   c. Click the condition or operator after the last condition that you want to include in the parentheses.

   d. Click **).**

7. Click **OK.**

The condition appears in the **Triggers** tab under **Exp.**

In the trigger contains metadata conditions, the Trigger arrow is orange.

What to do next

Create a Program Recognition Task

Create a Program Recognition Task

Program Recognition Tasks define at what point during the interaction SpeechMiner will search for the program's topic. A time range is defined for the Recognition Task, where the start time and end time of the range can be defined relative to either the start or end time of the interaction. If you define a Recognition Task for a dependent topic, you can also define the start time and end time relative to the start or end time of the previous topic.

In addition, you can configure SpeechMiner to perform a recognition task only when specific conditions are met. For example, if a topic is about a specific agent, you can indicate that the specific topic should only be analyzed when it is part of an interaction with that agent.

Note: Program definitions are not used for text interaction recognition. A text interaction is recognized according to the topics associated with the Program definition.

Before you begin

Create a Program Trigger

To create a program recognition task:

1. From the Program Manager tree, open the program to which you want to add a recognition task.

2. Select the **Content** tab. A list of all the recognition tasks defined for the specific program are displayed. The **Rec Task** list represents the recognition tasks for all the topics added to the program structure.

3. Double-click the topic (that is, Rec Task) for which you want to configure the recognition task. The **Recognition Tasks** window opens.

4. In the **Form** field, define the earliest position (in seconds) in the interaction at which the topic should be found.

5. In the **To** field, define the latest position (in seconds) in the interaction at which the topic should be found.

6. Select one of the following options for both **From** and **To**:
    - **Secs Abs:** The number of seconds from the beginning of the interaction.
    - **Secs Abs from End:** The number of seconds from the end of the interaction.
    - **Secs Rel to Start of Prev:** The number of seconds from the beginning of the preceding topic.
    - **Secs Rel to End of Prev:** The number of seconds from the end of the preceding topic.

7. Under **Speakers**, select one or more of the available speaker options.

8. Select **Any** to instruct SpeechMiner to search for the topic phrases when spoken by both the customer and/or agent.

9. Click **OK** to save the Recognition Task settings.

Note: When configuring Recognition Tasks you can also instruct SpeechMiner to identify agitation (non-verbal expressions of frustration and anger, such as deep sighs, grunts or rapid changes in pitch). To instruct SpeechMiner to identify agitation, double click the Non Linguistics topic and select Agitated.

What to do next

Add Notes to a Program

Add Notes to a Program

You can add notes to a program to explain the reason for the specific program. Notes enable you to provide SpeechMiner users with information about the program that they may not discover on their own.

Before you begin

Create a Program Recognition Task

To add a note to a program:

1. From the Program Manager tree, open the program to which you want to add notes.

2. Select the **Notes** tab.

3. Add or change existing notes.

What to do next

Save a Program

Save a Program

You can add notes to a program to explain the reason for the specific program. Notes enable you to provide SpeechMiner users with information about the program that they may not discover on their own.

Before you begin

Add Notes to a Program

To save a program:

1. Verify that the program you want to save is selected.

2. Click **Save** .

Activate / Deactivate a Program

When a program is active, SpeechMiner operates according to the specific program's Recognition Tasks and Triggers. When an inactive program is applied, it is saved in SpeechMiner but cannot be used to process interactions.

When you deactivate a program that was previously applied to SpeechMiner, you must save and apply the change in order to deactivate it in SpeechMiner.

To activate / deactivate a program:

1. Verify that the program you want to activate or deactivate is selected.

2. Click **Activate Program** / **Deactivate Program** .

Delete a Program

You can only delete a program that is not linked to a category and is not associated with interactions. To delete a program linked to a category you must first remove the specific program from the category definition.

To delete a program:

1. Close the program you want to delete.

2. In the program tree, select the program you want to delete.

3. Click **Delete Program** ✕. A message appears and you are asked to verify whether or not you want to delete the specific program.

4. Click **Yes**.

Categories

SpeechMiner extracts interaction content to categorize interactions, so you can better understand why customers are calling. That is, categorization provides quantitative information (such as an increase in customer complaints or repeat interactions), as well as qualitative information (such as customers stating that they want to switch vendors because of better prices) and subsequently, the intelligence you need to build more effective business strategies.

Each category is created with a specific business issue in mind. For example, a category can be created to look for interactions in which the customer displayed signs of agitation and the contact center supervisor was called in to deal with the customer. The combination of customer agitation and supervisor involvement may be used to characterize a category about service complaints.

A category is defined globally for the entire SpeechMiner implementation, and interactions are automatically assigned to it during processing. When changes are made to a category's definition, the entire database of interactions is re-categorized to ensure that the category assignment of each interaction matches the new definitions.

Categories also enable SpeechMiner to:

- Find interactions with particular characteristics so that you can analyze and compare them. For example, you may wish to compare how different agents handled customer agitation during a particular sales campaign.

- Perform statistical analysis on interactions. For example, SpeechMiner can check the percentage of interactions in September in which customers exhibited agitation.

Once a category is created, all interactions in the database are scanned, and any interaction that meets the category definition is automatically assigned to it. An interaction can be assigned to one, several or no categories.

With information derived from categorization, you can enhance self-service operations, leverage new revenue opportunities, increase process efficiency, enhance customer loyalty and improve first contact resolution. Categories help identify how employees and customers express themselves in specific interactions.

Four types of categories exist in SpeechMiner:

- **Regular Categories:** Categories that have conditions defined in the form of a logical expression. When SpeechMiner processes an interaction, the interaction is automatically assigned to this type of category if it matches the requirements that are defined in the condition. These categories can be independent (on the top level of the category hierarchy) or they can be sub-categories of other, parent categories.

- **Parent Categories:** Categories that contain other categories. These categories have a name and description, but do not include a logical expression. Interactions are assigned to them when they are assigned to any of their sub-categories. Any category can be converted into a parent category by adding sub-categories to it. When a regular category is converted into a parent category, the logical expression that defined the category is deleted.

- **Subcategories:** A category can contain one or more subcategories in a multi-tiered category structure. The parent-category is defined as a container of its subcategory. When SpeechMiner identifies an interaction as belonging to a subcategory, it automatically identifies it as belonging to the parent-category as well. For

example, a 5-60 seconds Interaction Duration category contains three subcategories 10 seconds category, 20 seconds category and 50 seconds category. Any interaction associated with the 10 Minute category is also associated with the Hour Interaction Duration category. In this case, you receive data about all the interactions that were between 5 to 60 seconds and specific data about interactions that were specifically 10, 20 and 50 seconds long.

- **Manual Categories:** Categories that include a collection of interactions that do not fit into a predefined category. This type of category is referred to as a Manual category. A Manual category has no criteria. Instead, it is a category to which you can manually add any (and as many) interactions as you like without preconditions. For example, a Manual category could be used as placeholder for interactions the SpeechMiner user would like to review during routine weekly staff meetings.

Introducing the Category Interface

The SMART Program interface contains the following main components (see table below):
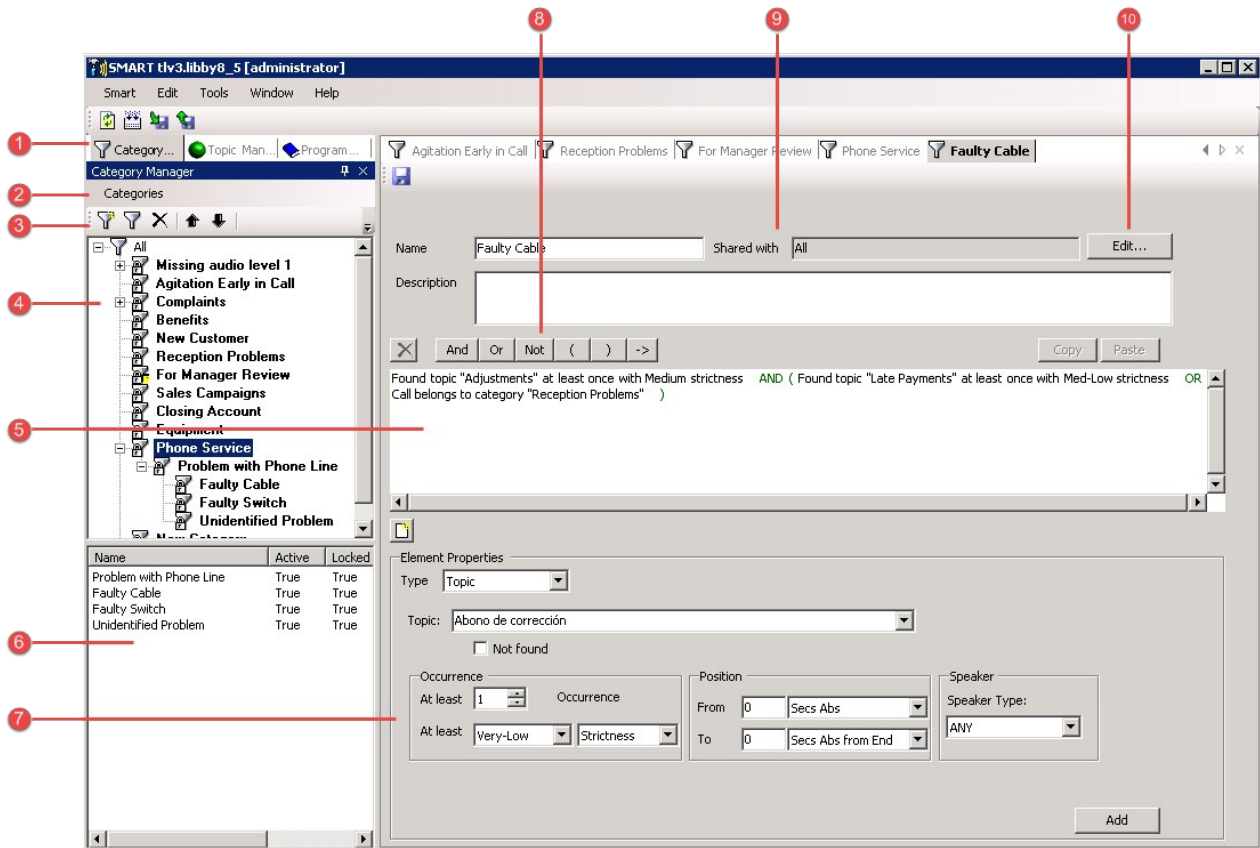
Number	Description
1	Displays the Category Manager.
2	Includes Category options.

Number	Description

3	Quick access to:
	
	 • ![icon] Creates a new category.
	 • ![icon] Opens the selected category.
	 • ![icon] Deletes the selected category.
	 • ![icon] Moves the selected category up one level in the category tree.
	 • ![icon] Moves the selected category down one level in the category tree.
	 • `<filter>` Filters the tree according to the characters entered in the field.
	 • `Show All` Filters the tree according to the type of information you want to see.
	    ○ **Show All:** Shows all the items in the tree.
	    ○ **Show Active:** Shows all the active categories that can be applied to SpeechMiner.
	    ○ **Show Inactive:** Shows all the inactive categories that can be applied to SpeechMiner.
	    ○ **Show Updated since Apply:** Shows all the items that were changed since you last applied SMART changes to SpeechMiner.
	    ○ **Show Locked by Me:** Shows all the items locked by the current user.
	    ○ **Show Locked**: Shows all the locked categories.

4	A list of all the categories.
5	Contains the logical expression that defines the conditions in which an interaction should be associated with the specific category.
6	Displays a list of the subcategories associated with the selected category and includes information about the status and definition of each one. All levels of subcategories are included in this list. **Note:** If the **Definition** column width is too small to view all the text, place your cursor over the definition column for a tool tip that includes the complete definition.
7	Contains fields associated with the element you want to define and add to the specific category.
8	Enables you to insert an operator into the logical expression; the operator is inserted immediately before the selected statement or, if no statements are selected, at the end of the expression.
9	Displays the current category Share settings.

Number	Description
10	Enables you to edit the specific category Share properties. The sharing properties of a category define which users will see it in the SpeechMiner interface. Users with whom a category is shared will see the category in the category lists available for selection in the Call Explorer and in Category filters. The ability to share settings is intended to remove "clutter" by hiding categories that are not relevant to particular users. For example, if a particular work group only deals with interactions that relate to maintenance issues, you can choose not to share Sales categories with that group. In this way, members of that work group will not have to encounter large numbers of categories that do not concern them. In addition, if you are creating a new category, you may not want to share it with anyone else until you have fully tested it. Once the testing process is complete, you can change the sharing settings and apply the change to SpeechMiner. Category sharing does not affect which interactions a user can see or play back.

Category Conditions

An interaction is assigned to a regular category if it meets the conditions that are defined for inclusion in that category. Conditions can include a wide variety of interaction characteristics:

- The program to which the interaction belongs.

- Recognized topics.

- Non-linguistic events.

- Interaction metadata properties.

- Categories to which the specific category belongs.

The following expressions and operators can be used to determine the conditions associated with a category:

- Logical Expressions

- Operators

- Parentheses in Expressions

- Negative Condition

Logical Expressions

Configuring Triggers is performed by defining a logical expression for SpeechMiner to evaluate. If the logical expression is evaluated as True, the Trigger is activated and the child recognition task is run on the interaction. If the logical expression is evaluated as False, the Trigger is not activated, and the child recognition task is not run.

Logical expressions enable you to configure the relationship between the topic and its dependent topic. For example, you can specify that a topic must be recognized with a particular level of strictness or the topic must be found twice before SpeechMiner searches for its dependent topic.

Logical expressions can consist of one or more elements. Each element is a statement, such as Date Of Interaction>1/19/2010 or Found topic "Reduction" at least once with Low Strictness. If a logical expression contains one element, it is True whenever the condition defined in the element is true. For example, if a logical expression contains the element Date Of Interaction>1/19/2010, it is True for any interaction whose metadata indicates that it

took place on or after 1/20/2010.

Logical expressions can also contain multiple elements. When they do, the elements must be related to one another by logical operators, such as AND or OR. For example, Date Of Interaction>1/19/2010 AND Found topic "Reduction" at least once with Low Strictness is a logical expression that indicates both conditions must be met (the topic must be found and the interaction must have taken place in the specified time period), in order for the expression to be evaluated as True and the recognition task to be implemented.

The following operators can be used in logical expressions:

Operator	Description
AND	Both conditions must be met in order for the expression to be evaluated as True.
OR	Al least one of the conditions must be met in order for the expression to be evaluated as True.
NOT	The expression should be evaluated as True only when the condition is not met.
(	Opens a group of conditions that are evaluated as a unit.
)	Closes a group of conditions that are evaluated as a unit.
->	Conditional AND: Both conditions must be met, but the second condition is dependent in some way on the first (for example, the second must occur within 30 seconds after the end of the first); this operator is used in conjunction with the **Secs Rel to Start of Prev** or the **Secs Rel to End of Prev** position setting.

Logical expressions can be quite complex, containing a number of elements, various logical operators, and parentheses, if necessary. For example, the following logical expression means the interaction should be assigned to the category if the interaction took place between Jan. 1st and Jan. 30th and the Reduction topic was found, or if the interaction took place Jan. 31st or later, and either the Time Frame topic or the Payment Locations topic was found:

(Date Of Interaction>1/1/2011 AND Date Of Interaction<1/30/2011 AND Found topic "Payment Locations" at least once with Low Strictness) OR (Date Of Interaction>1/31/2011 AND (Found topic "Time Frame" at least once with Low Strictness OR Found topic "Payment Locations" at least once with Medium Strictness))

Note: The logical expressions that are used as category conditions are configured by incorporating elements and logical operators to create the conditional statement.

Operators

You can add logical operators to the expression as necessary, to define the relationships between the elements of the expression.

AND, OR, NOT, and Conditional AND (->) define the relationship between two consecutive elements in an expression. You can add these operators to an expression as required.

Parentheses in Expressions

Parentheses can be inserted into an expression to group elements together for evaluation as a single unit. Complex expressions often require parentheses to break them into smaller expressions, so that the relationships between the expressions are clear. For example, if a topic must be found in interactions handled by one of two agents, and you write the following expression, it is clear whether the Topic must be found in interactions handled by both agents or only in interactions handled by agent b.

Workgroup\Agent=workgroup 1/agent a OR Workgroup\Agent=workgroup 1/agent b AND Found topic "New Account" at least once with Low Strictness

If you add parentheses as follows, the topic should be be found in interactions handled by one of the agents.:

(Workgroup\Agent=workgroup 1/agent a OR Workgroup\Agent=workgroup 1/agent b) AND Found topic "New Account" at least once with Low Strictness

If you write the following, the topic is only be required in interactions handled by agent b.

Workgroup\Agent=workgroup 1/agent a OR (Workgroup\Agent=workgroup 1/agent b AND Found topic "New Account" at least once with Low Strictness)

Negative Condition

A negative condition is a condition that must not be met if an expression is to be evaluated as True. For example, a condition that states that an interaction must not have taken place during the month of January is a negative condition. Negative conditions can be specified for a single element of an expression or a group of elements that are contained in parentheses.

Two methods are available for creating a negative condition for a single element:

- Insert a NOT operator before the element.

- Select the Not option in the element's conditions.

The following are two examples of the same negative condition written in two different ways. These conditions are True as long as the date is not on or before January 31st, 2011.

NOT Date Of Interaction<1/31/2011

- Or -

Not Date Of Interaction

An expression containing multiple elements can only be marked as a negative condition using the **NOT** operator. For example, in the following expression, the NOT operator is attached to a multi-element condition. The condition is True for all workgroups except workgroup 1 and workgroup 4.

NOT (Workgroup\Agent=/workgroup 1 OR Workgroup\Agent=/workgroup4)

Interaction Classification: Categories

During interaction classification, events and metadata are used to assign one or more categories to a interaction. Interaction classification takes place after an interaction is analyzed and events are identified. Category classification enables SpeechMiner to find interactions with specific characteristics when users request them, and to perform statistical analysis on groups of interactions based on their characteristics.

Categories are defined and managed in SMART using a variety of criteria:

- **Events:** Information about the types of topics and/or programs found in an interaction during analysis.

- **Call content:** Text found in interaction transcripts that are generated by SpeechMiner during interaction processing.

- **Metadata:** Information about an interaction that was received from the recording system (for example, the agent name or contact center).

- **Program information:** The name and type of program that was used to analyze the interaction.

- **Other categories:** Information about different categories that are already assigned to the interaction.

Create a Category

You can create a category for each type of business issue you want to analyze.

To create a category:

1. Analyze your Business Needs: Gather information about the business issue that you want the category to represent.

2. Create an Empty Category: Set the category properties and define its attributes (such as name, description, sharing properties, and so on), according to the related business issue.

3. Configure Category Conditions: Define the conditions that must be met for an interaction to be connected to the category.

4. Save and Activate the Category: Once you have configured the category to represent your business issue, save the category.

Analyze your Business Needs

Before creating a category, gather information about the business issue you want to investigate.

To analyze your business needs:

1. What type of interactions do you want SpeechMiner to recognize?

2. Determine the type of interactions generated by the business issue by listening to existing interactions about the subject or similar subjects, reading e-mails that relate to them, and consulting agents who interact with customers. For example, for a customer service topic, the set of relevant interactions might include only incoming interactions about help and assistance.

3. Verify the possible reasons for the interactions (for example, a specific campaign, customer service, sales opportunities, and so on).

4. Gather examples of the types of interactions you are interested in, to determine the best way to structure the category.

What to do next

Create an Empty Category

Create an Empty Category

Before creating a category, gather information about the business issue you want to investigate.

Before you begin

Analyze your Business Needs

To create an empty category:

1. Select **Category Manager**.

2. In the Category list, select **All** to create a new independent category or select an existing category to create a new subcategory.

3. Click **New Category** ⛀ or right-click **All** and click **New Manual Category** ⛀. The blank new **Category Properties** window opens.
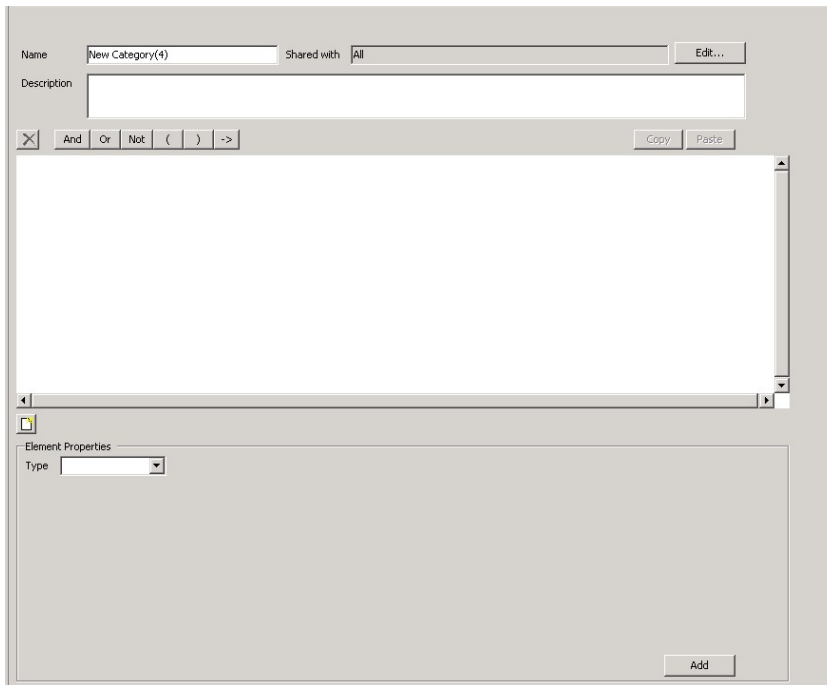
4. In the **Name** field, enter a category name.

    Note: When creating a **Turkish Text** category, you must use lowercase letters. A Turkis Text category cannot include uppercase letters.

5. To limit the types of SpeechMiner users that have access to this category (optional):

    a. Click **Edit**. The **Category Sharing** dialog box opens.

        By default, Categories are shared with all SpeechMiner users. You can change this by specifying groups, work groups, roles, and/or specific users with whom a category should be shared. Category sharing does not affect which interactions a user can see or play back.
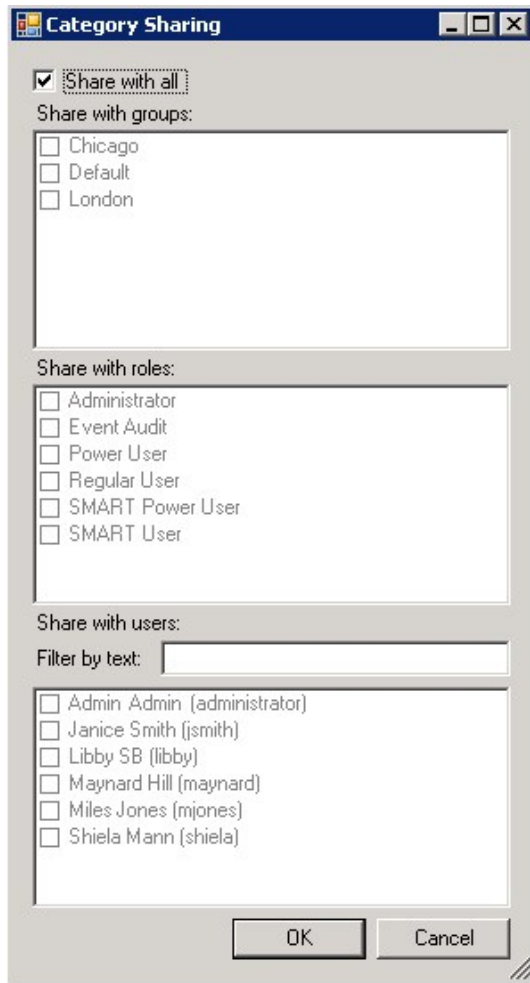
    b. Select the groups, roles, and/or users with which the category should be shared.

    c. Click **OK**.

6. Under **Description,** enter a description of the category (optional).

    Note: When creating a **Turkish Text** category, you must use lowercase letters. A Turkis Text category cannot include uppercase letters.

7. Click **Save**.

Note: If the new category is a regular category, you can configure its conditions, as explained under Configure Category Conditions, before you save it. If the category is a parent category or a manual category, it does not require any additional configuration and must be saved at this point.

What to do next

Configure Category Conditions

Configure Category Conditions

Define your category by including conditions that will recognize interaction characteristics associated with the specific category's business issue.

Before you begin

Create an Empty Category

To configure category conditions:

1. Click **Clear Properties** if you want to clear existing logical expressions.

2. Configure one or more of the following:

3. Click **Add**.

What to do next

Save and Activate the Category

Metadata

Metadata is information about an interaction that is gathered by the external recording systems and relayed to SpeechMiner together with the interaction's data. For example, interaction metadata can include the Agent's name, the customer's location, the interaction duration, and so on.

Metadata category conditions are based on the metadata values available in your system. The conditions you define can be as simple as one metadata value or they can be complex expressions that specify the relationships among a number of types of metadata. Consider, for example, a sales campaign that is undertaken in Wyoming and in Texas. Certain agents in each location target senior citizens, while others target families with teenage children. To assign senior-citizen interactions to a Category, you could define a condition that specifies either Agent1 or Agent2 if the customer is in Wyoming, and Agent3 if the customer is in Texas.

To define a metadata element:

1. From the **Type** list, select **Meta Data.** The fields required to configure the element appear below the Type parameter.

   In the first field on the left, specify the type of metadata in one of two ways:

   - If the type you want appears in the drop-down list, select it. For example, select Workgroup/Agent if you want to define a condition based on the workgroup or agent that handled the interaction.

   - Manually enter the type in the field. For example, if your system gathers data about an interaction's direction under the name interactiondirection, enter interactiondirection.

2. In the remaining fields, specify the condition. In some cases, you can select an operator (<, >, or =) in the second field and specify a value in the third. In other cases, you can only specify a value (and the = operator is assumed). You can specify a value by selecting it from the list or by typing it manually into the text field on the right.

   Some of the value options may be arranged hierarchically. For example, if you select Workgroup\Agent, a list of workgroups is displayed. You can select a workgroup, or click the + beside the name of a workgroup to expand the list and display the names of the agents in the specific workgroup. If you select a workgroup, all members of the workgroup are included in the condition; if you expand a workgroup and select an agent, only that agent is included.

3. If you want the condition to include all interactions except those that match the condition, select **NOT.**

Non-Linguistic

Non-linguistic events include various sounds that SpeechMiner detects in an interaction, such as busy tones, key presses, and music or noise. Depending on the program settings of the interaction, non-verbal indications of agitation may also be detected. In addition, the non-linguistic event called Cross Talk is identified when two speakers are talking at the same time. This type of event can only be identified in systems in which dual-channel recording is employed.

In some cases, an element can include more than one type of related event. For example, you can select Silence, Busy Tone, and Dial Tone together. When you select multiple types of non-linguistic events, if any of those events is found in the interaction, it meets the condition.

Each non-linguistic event that is identified by SpeechMiner has a start time, an end time, and a type. For example, if SpeechMiner identifies silence in an interaction, this is a non-linguistic event whose start time is the beginning of the silent period, whose end time is the end of the silent period, and whose type is "Silence."

You cannot select Agitation along with other types of events.

To define a non-linguistic element:

1. From the **Type** list, select **Non Linguistic.**

2. Select one or more of the following types of non-linguistic events:

   Note: Types of non-linguistic events that cannot be selected along with the selected type will become inactive.

   - **Dial Tone:** A dial tone.

   - **Ringback:** A signal used in PSTN (Public Switched Telephone Networks - standard "land lines") to indicate that the line is being called or an incoming interaction is present.

   - **Silence:** Generally indicates that the Mute button was held down on one of the handsets.

   - **Busy Tone:** A busy signal.

   - **Music and Noise:** Generally indicates that the interaction was on hold.

   - **DTMF:** Key press on a touch-tone phone. 12 different keys can be identified using DTMF (Dual Tone Multi Frequency). Select **any** to accept any key press.

   - **Agitation:** Non-verbal expressions of frustration and anger, such as deep sighs, grunts or rapid changes in pitch.

     Tip: Identification standards for Dial Tone, Ringback, Busy Tone and DTMF are based on USA

standards. To learn how to use different identification standards, refer to the *Deploying SpeechMiner > Configuring SpeechMiner > Additional Configurations > Tone Frequency* tab in the *Speech and Text Administration Guide*.

3. If you selected Silence, Busy Tone, Music/Noise, Dial Tone, Ring Back Tone, or Cross Talk, define the amount of time that the selected types of non-linguistic events must occupy in the interaction total, as follows:

Field	Description
From / To	The range of time that the selected types of non-linguistic events must occupy, in the total interaction time, in one of the following ways: ○ **Seconds:** The minimum and maximum number of seconds from the beginning of the interaction to the moment when an event type starts and from the moment that the event type ends to the end of the interaction. ○ **Percentage:** The minimum and maximum proportion of the interaction (percentage), at which the event type must start and end. (Insert the % character after the value to indicate it is a percentage.)
Accumulated Amount	The values in the From and To fields refer to the total amount of time in the interaction in which the selected types of events were found, even if the total consists of more than one distinct event.
Continuous	The values in the From and To fields refer to individual events in the interaction. That is, an event only meets the condition if it lasted at least as long as the value in the From field and not longer than the value in the To field.

4. Configure the following **Position** settings:

Field	Description
Not found	Define this option if you want the condition to include all interactions except those in which the selected types of non-linguistic events were found.

Field	Description
From	Define the earliest position in the interaction at which the non-linguistic event can be found, and select one of the following types of reference points: ○ **Secs Abs:** The number of seconds from the beginning of the interaction. ○ **Secs Abs from End:** The number of seconds from the end of the interaction. That is, the event must be found no earlier in the interaction than this number of seconds from the end of the interaction. ○ **Secs Rel to Start of Prev:** The number of seconds relative to the beginning of the previous item in the expression. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Secs Abs. ○ **Secs Rel to End of Prev:** The number of seconds relative to the end of the preceding item. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Secs Abs from End.

Field	Description
To	Define the latest position in the interaction at which the non-linguistic may be found.

Program

A Program element specifies which interactions belong to the program so that each interaction can be assigned to a specific category.

To define a program element:

1. From the **Type** list, select **Program.**

2. Select the program to which the interactions should belong.

    Note: If you want to include the interactions that do not belong to the specific program, also select **Not**.

Topic

A topic element specifies that a topic must be found (or not found) in an interaction by SpeechMiner for the interaction to be assigned to a specific category.

A program element specifies which interactions must belong to the program, for the interaction to be assigned to a specific category.

To define a topic element:

1. From the **Type** list, select **Topic.**

2. Select the topic to which the interactions should belong.

3. Configure the following settings as necessary:

Condition	Description
Not found	Select this option if you want the condition to include all interactions except those in which the specific topic was found.
Occurrence	○ The number of occurrences indicates the minimum number of times a topic must be found for the condition to be met. If the minimum is not met, SpeechMiner proceeds as if the Topic was not found. ○ The Strictness level indicates the minimum strictness level required for SpeechMiner to recognize the Topic. If the minimum Strictness level is not found, SpeechMiner proceeds as if the topic was not found. ○ The Confidence level (a range from 1 to 100), indicates the minimum level of confidence for the recognition of the phrase. If the SpeechMiner Confidence Level does not meet this minimum, SpeechMiner proceeds as if the phrase was not found.

Continuous	Select the **Secs** options to match audio interactions; select the Words options should be selected to match text interactions. If you define 0 seconds from the start of the interaction and 0 seconds from the end of the interaction, the entire (audio or text) interaction will be analyzed. ○ **From:** Define the earliest position in the interaction at which the topic should be found and then select one of the following. ■ **Secs Abs:** The number of seconds from the beginning of the interaction. ■ **Secs Abs from End:** The number of seconds from the end of the interaction. That is, the event must be found no earlier in the interaction than this number of seconds from the end of the interaction. ■ **Secs Rel to Start of Prev:** The number of seconds relative to the beginning of the previous item in the expression. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Secs Abs. ■ **Secs Rel to End of Prev:** The number of seconds relative to the end of the preceding item. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Secs Abs from End. ■ **Words Abs:** The number of words from the beginning of the interaction. ■ **Words Abs from End:** The number of words from the end of the interaction. That is, the event must be found no earlier in the interaction than this number of words from the end of the interaction. ■ **Words Rel to Start of Prev:** The number of words relative to the beginning of the previous item in the expression. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Words Abs. ■ **Words Rel to End of Prev:** The number of words relative to the end of the preceding item. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Words Abs from End. ○ **To:** Define the latest position in the interaction at which the preceding topic should be found and then select one of the available options.
Speaker	Select a speaker type to instruct SpeechMiner to find and analyze topics where only the agent, customer or both speak.

Note: The **Position > Words** options are only available when Text Analytics is enabled.

Category

A Category element specifies that an interaction must (or must not) belong to another category for the interaction to be assigned to the category that is currently being configured.

Although you can create circular Category references, the Categories in which they appear cannot be applied to SpeechMiner. For example, if Category A is an element of the expression that defines Category B, Category B cannot also be an element of the expression that defines Category A. If they are, the circular references are indicated in the Apply dialog box, in the Message column of each Category. For additional information about applying changes to SpeechMiner, see Applying Changes.

Note: Including a Category element in the expression that defines a category is not the same as changing a category into a sub-Category of the other. For additional information about sub-Categories, see Categories.

To define a category element:

1. From the **Type** list, select **Category.**

2. From the **Category** list, select the category the interaction must belong to.
    If you want the condition to include all interactions except those that belong to the specific category, select **NOT**.

Speaker Type

A topic element specifies that a topic must be found (or must not be found) by SpeechMiner in an interaction for the interaction to be assigned to the specific category.

A program element specifies which interactions belong to the program for the interaction to be assigned to the specific category.

To define a speaker type element:

1. From the **Type** list, select **Speaker Type.**

2. From the **Speaker Type** list, select the type of speaker for which SpeechMiner should search, in association with the specific category.

   If you want the condition to include all interactions except those that belong to the specific category, select **NOT**.

3. Configure the following settings as necessary:

   - **From:** Define the earliest position in the interaction at which the speaker should be found and then select one of the following:
     - **Secs Abs:** The number of seconds from the beginning of the interaction.
     - **Secs Abs from End:** The number of seconds from the end of the interaction. That is, the event must be found no earlier in the interaction than this number of seconds from the end of the interaction.
     - **Secs Rel to Start of Prev:** The number of seconds relative to the beginning of the previous item in the expression. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Secs Abs.
     - **Secs Rel to End of Prev:** The number of seconds relative to the end of the preceding item. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Secs Abs from End.
   - **To:** Define the latest position in the interaction at which the preceding Topic should be found and then select one of the available options.

Text

A Text element for interactions specifies that a phrase containing a sequence of one or more whole words must be found by SpeechMiner within the transcript of an interaction, for the interaction to be assigned to the category. Also, the words must be separated by single spaces and additional symbols and punctuation must not be included in the phrase. A Text element for text interactions (such as, email, chat, and so on), can contain additional symbols.

To meet the category condition, the phrase must be found exactly as it is entered in the Text element definition (not case-sensitive). For example, "i want to repay my loan" and "I want to Repay My loan" are treated as identical phrases..

To define a text element:

1. From the **Type** list, select **Text.**

2. In the **Text** field, enter the phrase.

   The phrase should be a sequence of one or more whole words. The words should be separated by single spaces. No punctuation or additional symbols should be included in the sequence.

Condition	Description
Not found	Select this option if you want the condition to include all interactions except those that include the phrase.
Occurrence	○ The number of occurrences indicates the minimum number of times the phrase must be found, for the condition to be me. ○ The Strictness level indicates the minimum strictness level required for SpeechMiner to recognize the phrase.. ○ The Confidence level (a range from 1 to 100), indicates the minimum level of confidence for the recognition of the phrase. If the SpeechMiner Confidence Level does not meet this minimum, SpeechMiner proceeds as if the phrase was not found.

Position	Select the **Secs** options to match audio interactions; select the **Words** options to match text interactions. If you define 0 seconds from the start of the interaction, and 0 seconds from the end of the interaction, the entire (audio or text) interaction will be analyzed.
	
	○ **From:** Define the earliest position in the interaction at which the topic should be found and then select one of the following.
	
	   ■ **Secs Abs:** The number of seconds from the beginning of the interaction.
	
	   ■ **Secs Abs from End:** The number of seconds from the end of the interaction. That is, the event must be found no earlier in the interaction than this number of seconds from the end of the interaction.
	
	   ■ **Secs Rel to Start of Prev:** The number of seconds relative to the beginning of the previous item in the expression. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Secs Abs.
	
	   ■ **Secs Rel to End of Prev:** The number of seconds relative to the end of the preceding item. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Secs Abs from End.
	
	   ■ **Words Abs:** The number of words from the beginning of the interaction.
	
	   ■ **Words Abs from End:** The number of words from the end of the interaction. That is, the event must be found no earlier in the interaction than this number of words from the end of the interaction.
	
	   ■ **Words Rel to Start of Prev:** The number of words relative to the beginning of the previous item in the expression. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Words Abs.
	
	   ■ **Words Rel to End of Prev:** The number of words relative to the end of the preceding item. This option will work only if the operator connecting the two elements is Conditional AND (->). Otherwise, selecting this is the same as selecting Words Abs from End.
	
	○ **To:** Define the latest position in the interaction at which the preceding topic should be found and then select one of the available options.

Speaker	Select a speaker type to instruct SpeechMiner to find and analyze topics where only the agent, customer or both speak.

Note: The **Position > Words** options are only available when Text Analytics is enabled.

Save and Activate the Category

When you create an empty category, it is saved automatically.

When you modify a category (name, description, conditional expression, and so on), you must save the category manually, for the changes to be implemented in SMART.

SpeechMiner will search only for interactions associated with Active categories.

A saved category can be active or inactive. When an active category is applied to SpeechMiner, interactions can be assigned to it. When an inactive category is applied, it is saved in SpeechMiner but interactions cannot be assigned to it. This feature allows you to temporarily stop using a Category when you want to modify it.

Activating or deactivating a category allows you to temporarily stop using a category when it is not relevant. When SpeechMiner processes an interaction, it checks every active category to see if it should be assigned to the interaction. To make processing faster and more efficient, Genesys recommends that you deactivate categories that are not required.

Activating or deactivating a parent category causes all of its subcategories to be activated or deactivated along with it.

Before you apply a new category to SpeechMiner, make sure it is active. Active Categories appear in the tree list in bold type.

Before you begin
Configure Category Conditions

To save and activate or deactivate a category:

1. Open the category and click **Save** . The category is saved.

2. To activate/deactivate the category, right-click the category and click Activate / Deactivate .

Move a Category

The list of categories appears in SpeechMiner in the same order and with the same structure as it does in SMART. It is therefore recommended to organize the list in a way that is convenient for SpeechMiner users. You can do this by moving categories up or down in the Category Manager tree list.

To move a category:

1. Select the Category Manager tab.

2. Select the category you want to move.

3. Click Move Up Move ⬆ or Move Down Move ⬇ as many times as necessary to move the category to the desired location in the tree list.

Delete a Category

When you delete a category and apply the changes to SpeechMiner, the SpeechMiner database category assignments are redone. For more information, see Save and Apply Changes.

To delete a category:

1. Select **Category Manager.**

2. Close and select the category you want to delete.

3. Click **Delete** ✖. A **Category Deletion** message appears.

4. Click **Yes** to delete the category. The selected category is deleted.

Managing SMART

The purpose of SMART is to define a set of instructions (that is, item definitions) to be used by SpeechMiner to perform recognition and analysis of customer data.

Once you have completed defining topics, programs and categories you can:

- Save and apply changes to SMART: implement SpeechMiner changes.

- Manage SMART versions: backup and restore SMART instructions.

- Export or import SMART instructions: backup and/or transfer SMART instructions.

Save and Apply Changes to SMART

The purpose of SMART is to define a set of instructions (that is, item definitions) to be used by SpeechMiner to perform recognition and analysis of customer data. When you save program, topic or category changes in SMART, the changes are not automatically made in SpeechMiner. To implement your changes in SpeechMiner, you must apply them in SMART. Once the changes are applied to SpeechMiner, all the new interactions in the database are processed according to the new set of SMART instructions and all the existing interactions in the system are recategorized according to the new category set.

Interactions can also be reprocessed following changes to SMART using the SpeechMiner browser-based interface. For additional information, see the SpeechMiner User Manual.

Note: Applying changes to categories does not affect manual categories. Any items assigned to a manual category remain assigned to it even after changes to categories are applied.

When you choose to apply SMART changes to SpeechMiner, SMART checks the SMART database for possible changes, and lists all of the changes that were made since the last time changes were applied. From this list, you can select which change you want to apply. In addition, SMART verifies that each change is ready to be applied, and marks all problematic items. For example, if SMART discovers programs that contain locked topics, it indicates which programs they are and which topics are locked.

You cannot apply items that are locked by other users unless you have the permissions to do so and explicitly choose to override the lock. For additional information, see Locking and Unlocking Items.

In most systems, you can save a backup of the existing SMART definitions in SpeechMiner before applying changes. At a later time, you can choose to roll back the definition set to an older set. For additional information, see Version History.

Note: To save and apply SMART changes using the command line, refer to the *Configuring Command Line Availability for SMART* in the *Speech and Text Analytics Administration Guide*.

To save and apply changes to SMART:

1. Save and close all open topics, programs and categories.

2. Click **Apply** 📅. The **Apply Changes to System** window opens.

   SMART begins to review all of the changes that were made to the system since it was last applied. During this validation process, the message
   Loading definitions to apply. Please wait... appears at the bottom of the dialog box. The process may take a few minutes.
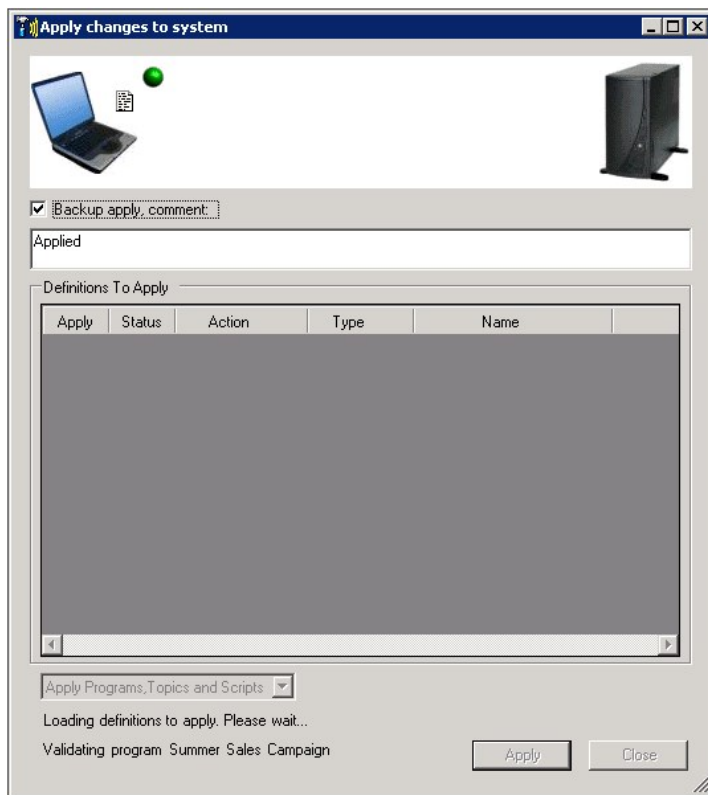
When SMART completes validating the definitions, it displays a list of all the changes it found. One of the following statuses applies to every definition:

- ○ ✓ marks the definitions that can be applied to SpeechMiner.

- ○ ⚠ marks problematic definitions that may require your attention, but can be applied if you choose to apply them.

- ○ ✖ marks definitions that cannot be applied to SpeechMiner.
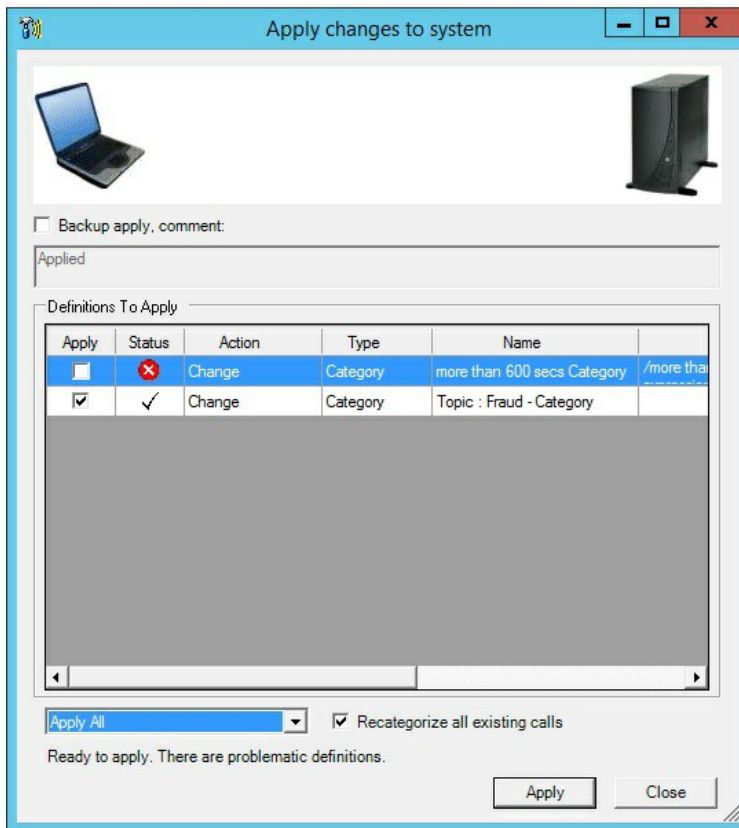
> **Note:** Before continuing with step 3, close the **Apply Changes to System** window to correct problematic definitions.

3. Select the **Backup apply, comment** check box to save a copy of the existing set of definitions in SpeechMiner before the new set is applied and enter a comment in the text field. The comment will be attached to the backup file.

4. Select the type of changes to apply:

    ○ **Apply All**: Applies all changes to programs, topics, and categories in SpeechMiner.

    ○ **Apply Programs and Topics**: Applies all changes to programs and topics in SpeechMiner.

    ○ **Apply Categories**: Applies all changes to categories, and re-categorizes the interactions using the new definitions.

    ○ **Recategorize calls only**: Does not apply the SMART changes to SpeechMiner, but reprocesses the interactions in SpeechMiner using the latest set of category definitions that was already applied.

    > **Note:** If you select **Apply All** or **Apply Categories**, the **Recategorize all existing calls** checkbox will appear .

By default this checkbox is selected. Clear the checkbox if you do not want to categorize interactions that were already categorized with new category definitions.

5. Click **Apply.**

6. Click **Yes** to confirm the definition changes. The process begins and may take a few minutes to complete.

7. Click **OK.**

The SMART definition changes are applied to SpeechMiner and all relevant interactions are re-indexed.

Manage Version History

The Version Management system is used to back up and restore single topic, program and/or category definitions or a complete set of SMART definitions.

Note: We recommend that you create a backup of your latest definition set before you apply your changes. A backup will enable you to easily roll back to the previous definition set.

When managing your version history, you can perform the following processes:

- Create Tags

- Restore a Tagged Definition

- Change a Tag Comment

- Delete a Tag

- Rollback to Previous SMART Definitions

- Change a Definition Set Comment

- Delete a Definition Set

To create a tag:

Each Item Tag includes the current definition of the topic, program or category, the date and time the tag was created, your user name, and a comment.

A Tag is created when you:

- Manually add a tag. When you manually create a tag, Genesys recommends that you add a comment to explain the changes. The comment is attached to every definition tag in the system. When SMART generates tags automatically before it closes, the tags have blank comment fields.

- Close SMART. That is, the system automatically creates a tag for each definition that was changed and not applied.

- Apply changes to SpeechMiner and choose to create a back up. The tag contains the definition as it appears in SMART when the changes are applied.

1. Select the category, topic or program you want to tag.

2. Right-click and select **Tag <item type>**.
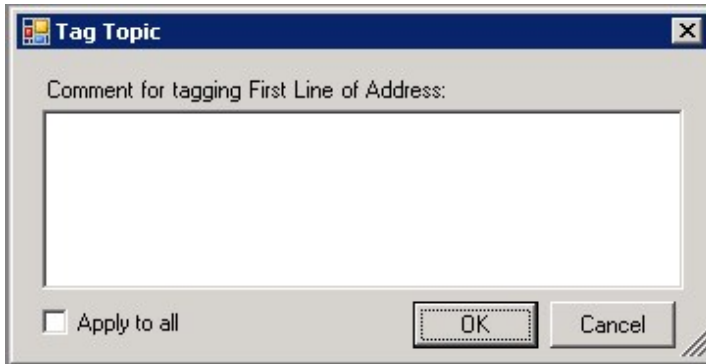
3. Enter a comment to attach to the tag.

4. Select **Apply to all** if you chose to tag multiple items. The **Apply to all** option does not appear if you selected only one item.

5. Click **OK.** The tag(s) are created.

To restore a tagged definition:

A category, topic or program definition that is tagged can be restored to SMART by rolling back the definition to the selected tag. The rollback process only restores category, topic or program definitions within SMART. If you want to restore the definitions to SpeechMiner, you must apply them after they are restored in SMART.

1. Verify that the category, topic or program whose tagged definition you want to restore is not open or locked.

2. Right-click the category, topic or program whose definition you want to restore and select **History.** The **History** window opens and displays a list of all the tagged definitions associated with the selected category, topic or program.
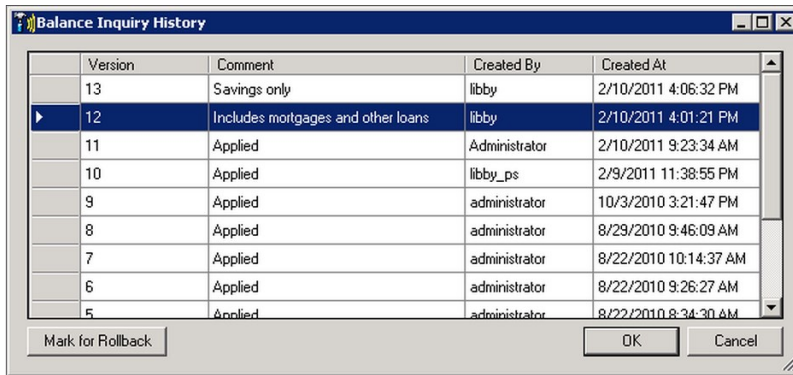
3. Click **Mark for Rollback**. A rollback message appars at the bottom of the window. The message indicates that the definition will be restored in accordance with the selected tag.

4. Click **OK.** The tagged definition is restored.

To change a tag comment:

You can change a comment that you entered or a comment associated with a tag for which you have permissions to modify.

Note: Tags that were generated as a set during an **Apply** process cannot be modified or deleted individually.

1. Right- click the category, topic or program whose comment you want to modify and select **History.** The **History** window opens and displays a list of all the tagged definitions associated with the selected category, topic or program.
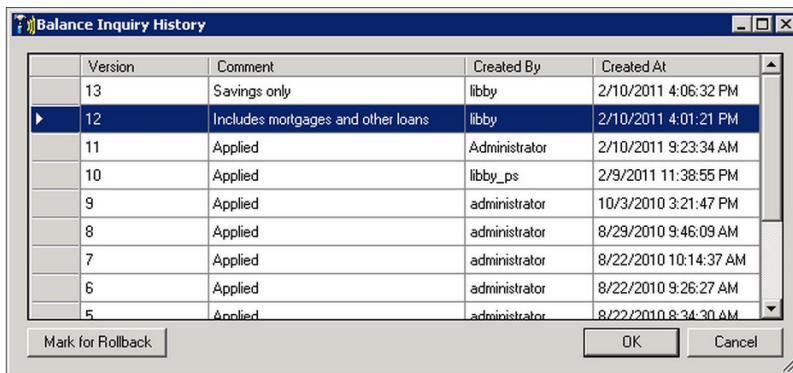
2. Click the relevant comment field.

3. Modify the text as necessary and click outside the text field to close it.

4. Click **OK.** The comment change is saved.

To delete a tag:

You can delete a tag you entered or a tag for which you have permissions to modify.

Note: Tags that were generated as a set during an **Apply** process cannot be modified or deleted individually.

1. Right- click the category, topic or program whose comment you want to delete and select **History.** The **History** window opens and displays a list of all the tagged definitions associated with the selected category, topic or program.
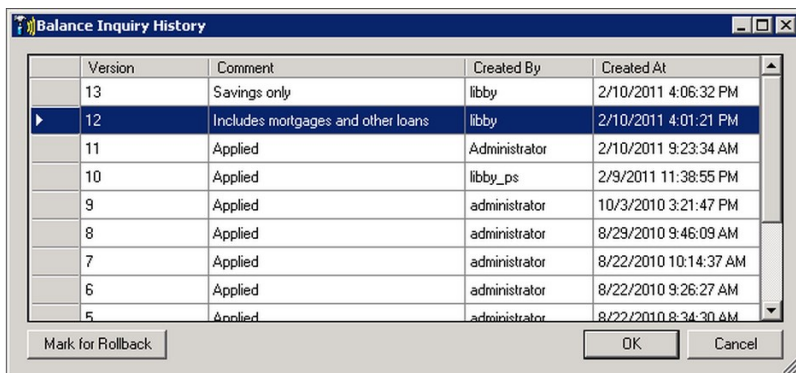

2. Select the tags you want to delete.

3. Press the **Delete** button on your keyboard. The selected tags are deleted from the list.

4. Click **OK.** The tags are deleted from the database.

To rollback to a backup of SMART definitions:

If you selected to create a backup of your SMART definitions when you applied your changes to SpeechMiner, the entire definition set can be restored.

When SMART definitions are restored, they are automatically applied to SpeechMiner and the interactions in the database are reprocessed and re-categorized.

1. Verify that the category, topic or program whose tagged definition you want to rollback to is not open or locked.

2. Select the SMART menu and click **Apply History.** The **Apply History** window opens and displays a list of all the available definition sets.

3. Select the definition you want to restore.

4. Click **Mark for Rollback**. A rollback message appears at the bottom of the dialog box indicating that the definition set will be restored in accordance with the selected set.

5. Click **OK**. A confirmation message appears.
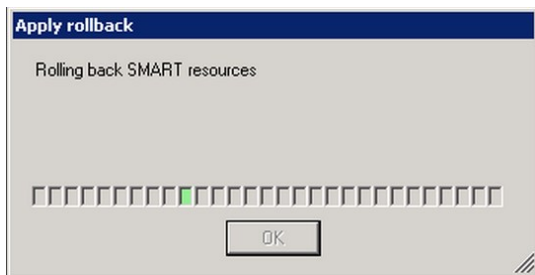
6. Click **OK**.

To change a definition set comment:

You can change a comment that you entered in a definition set you created, or for which you have permissions to modify.

1. Select the SMART menu and click **Apply History.** The **Apply History** window opens and displays a list of all the available definition sets.
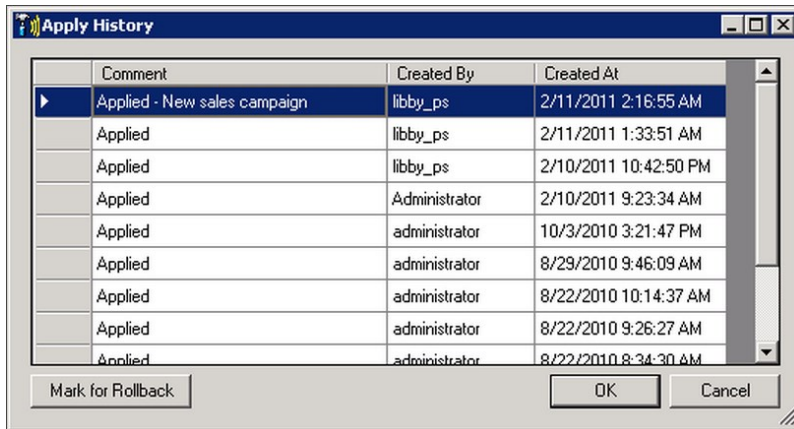
2. Click the relevant comment field.

3. Modify the text as necessary and click outside the text field to close it.

4. Click **OK.** The change is saved.

To delete a definition set:

You can delete a definition set you created or for which you have permissions to modify.

1. Select the SMART menu and click **Apply History.** The **Apply History** window opens and displays a list of all the available definition sets.
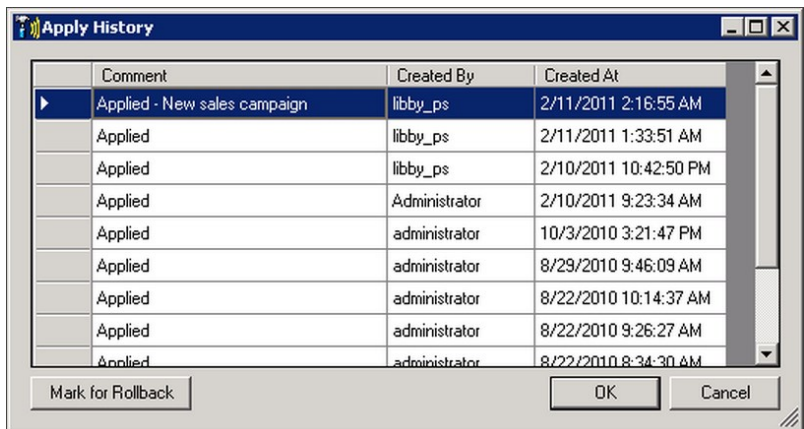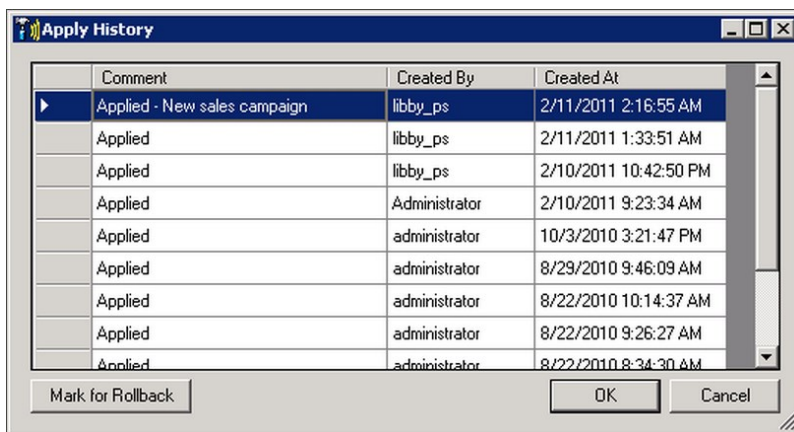

2. Select the definition set you want to delete.

3. Press the **Delete** button on your keyboard. The selected definition set is deleted from the list.

4. Click **OK.** The definition set is deleted from the database.

Export and Import SMART Instructions

An exported SMART definition can be used for a number of purposes:

- To create a backup copy of the set of instructions.

- To transfer definitions from a test environment to the real system used by your company.

- To send the output to another location within your company for importing into a different SMART implementation.

- To send the output to Genesys staff for testing or when you are having a problem with the system.

Note: SMART export files have an .upf extension.

To learn more about importing and exporting SMART definitions, refer to the following sections:

- Export SMART Definitions

- Import SMART Definitions

Export SMART Definitions

When exporting SMART topic, program and/or category definitions remember the following:

- If you select a folder, all of the items in the folder are selected and exported.

- If you select **All** in the tree list, all of the definitions of the selected type are selected and exported.

- If you do not make a selection, all items in the currently displayed Manager are included in the export file. For example, if the Topic Manager tab is open, but no topics are selected, all of the topic definitions are included in the export file.

- When you export a program, all topics included in the program are exported along with the program. When you export a Parent Category, all of its sub-Categories are included in the export file.

- When exporting a category, its sharing settings are not exported with it. If you import the category at a later time, it will contain the **All** sharing settings. By default, categories are shared with all SpeechMiner users. You can change this by specifying groups, work groups, roles, and/or specific users with whom a category should be shared. Category sharing does not affect which interactions a user can see or play back.

To export SMART definitions:

1. Verify that the topics, programs and/or categories you want to export are not open or locked.

2. Select the topics, programs, categories or folders you want to export.

3. Click **Export** . The **Export** list dialog box opens.
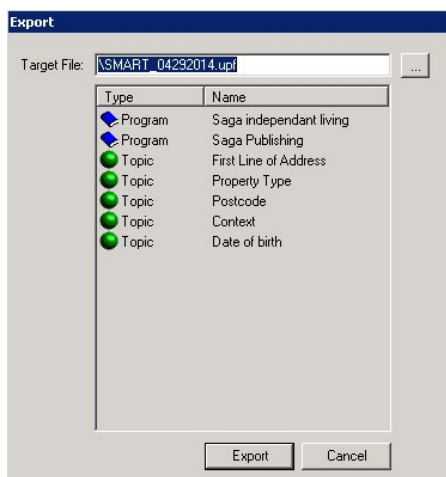
4. Click **Browse** to select the location of the export file.

5. Click **Export.** The export file is created. When the process is complete, a confirmation message appears.

6. Click **OK** to complete the export process.

Import SMART Definitions

When you import a .upf file you can select which items to import.

Tip: When you import a category, its Sharing setting is normally set to All. However, if a Category with the same name already exists in SMART when the import process is initiated, the sharing settings of the existing category are applied.

To import SMART definitions:

1. Click **Import** ![icon]. The **Import** dialog box opens.

2. Click **Browse** ![icon] to select the location of the file you are importing.

3. Select the file and click **OK.**

4. Verify that the items you want to import are selected. if there are items in the list that you do not want to import, clear their check boxes.

5. Click **Import.** The import process begins. If you are importing items that already exist in SMART, you are prompted to confirm that you want to replace the existing items with the items in the file you are importing. When the process is complete, a confirmation message appears.

6. Click **OK** to complete the import process.

SMART Best Practices

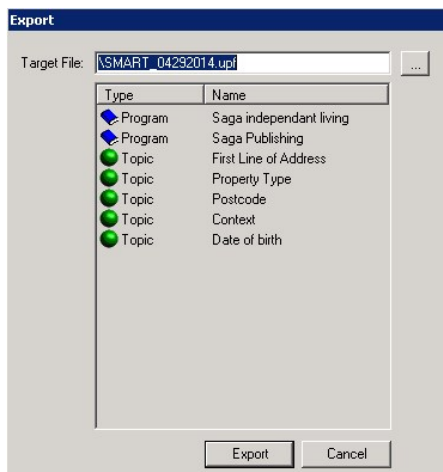When you are working with SMART, we recommend that you refer to a number of best practices. These methods and techniques will help you achieve better results.

- Topics Best Practices

- Categories Best Practices

Topic Best Practices

A topic enables you to boost the recognition of a specific business issue (that is, a single concept) by telling SpeechMiner what phrases to look for.

A successful topic captures the interactions that most accurately define the topic's business issue. Assigning the right phrases and properties are critical to its success.

Use the following best practice tips to fine-tune your topic definition:

- Analyze your business needs

- Define the topic

- Build effective phrases

- Populate the topic with phrases

- Check your phrases

- Topic size

Analyze your business needs:

Before creating a topic, gather information about the business issue you want to investigate and track interactions that are generated by that specific issue.

Invest the time in assigning the right phrases that will capture the interactions that most accurately define the business issue.

Define the topic:

Give the topic a simple name that is concise and unambiguous. For example, if you want to quantify occurrences when customers express satisfaction, you would name the topic "Customer Satisfaction".

Build effective phrases:

An effective phrase should match one topic definition, so that it is associated with one real-world event. For example, except for "Can I have your", the following are effective phrases for the Collect Payment topic:

- Card information please

- Can I have your
- Security code on the back
- May I have your credit card

"Can I have your" is not an appropriate phrase because it can be associated with agents saying "can I have your name," "can I have your date of birth," "can I have your phone number," or a customer saying "can I have your extension number?".

An effective phrase should not be made up of one or two words. For example, except for "Understand", the following are effective phrases for the Empathy topic:

- Completely understand your position
- Understand
- Understand your situation
- Understand what you are going through

"Understand" is not an appropriate phrase because it can be associated with agents saying "I can't understand you", "do you understand what I mean?", "I don't understand these changes".

In addition, when a phrase is short, it can be easily confused with similar-sounding words or phrases. For example, "understand" can be confused with "unplanned charges".

When creating a phrase, consider the following:

- The way people actually talk as opposed to what is grammatically correct. For example, do not hesitate to use "gonna" or "ain't".
- Different dialects.
- Different variations in grammatical forms and structures. For example, "Make a payment", "Making a payment", "Payment to be made".
- Remove articles or pronouns especially at the beginning of a phrase. For example, "completely understand your" instead of "I completely understand your" or, "have tried calling" instead of "I have tried calling".
- Multi-syllabic words are well recognized since they are phonetically unique (that is, they do not sound like/rhyme with lots of other words).

Populate the topic with phrases:

When adding phrases to a topic, avoid the use of short connecting words that are less likely to be recognized. Instead of "charge the account", use "charge account".

Review interactions with the topic definition in mind and collect relevant phrases.

Focus on the issue; not the root cause. To avoid creating a list of topics with a bias, focus on the phrases that surface the issue and not the root cause.

For example, if you design a topic related to customer dissatisfaction

- Scenario: You want to create a topic that finds interactions in which customers have expressed dissatisfaction.
- Strategy:

- Include words that indicate dissatisfaction (such as not happy, frustrated, ridiculous, very upset, unhappy and so on).
- Do not include words that may imply dissatisfaction (such as broke, spoke twice, too expensive, etc).
- Create independent topics for issues that are related to customer dissatisfaction (for example, High Cost, Technical Issues, etc), so that you can also identify and monitor the correlation between these independent topics and the levels of customer dissatisfaction.

Build concise and accurate topics that can be easily monitored and can provide business value. That is, if you are interested in finding interactions with a negative outcome (for example, complaints, dissatisfaction, escalation, etc.), do not put all the relevant phrases for these issues into one topic. Instead, create a topic for each issue.

Check your phrases:

Sort the topic phrases in alphabetical order to ensure that the topic does not include duplicate phrases.

Run Check Similar to ensure that the new topic phrases do not overlap with existing phrases.

Topic size:

Regardless of how many interactions a topic finds, the most effective topics will contain 10-30 phrases, though successful topics can be built with fewer or more phrases. A topic should never include more than 80 phrases. Too many phrases is evidence of redundant or conflicting phrases. Review phrases regularly to ensure all phrases are crucial to their topic's success.

Category Best Practices

Category classification is a logical grouping of calls based on linguistic information (topics) and/or non-linguistic information about those calls.

Classification takes place after the interaction is analyzed. During the classification, events and metadata are used to assign one or more categories to interactions. Category classification enables SpeechMiner® to find interactions with specific characteristics and to perform statistical analysis on groups of interactions based on those characteristics.

Use the following best practice tips to fine-tune your category definition::

- Analyze your business needs

- Define the category

- Set category expressions

- Organize categories

- Validate a category

Analyze your business needs:

Before creating a category, gather information about the business issue that you want to investigate (for example, ask yourself what type of interactions do you want SpeechMiner to

recognize?).

Determine the type of interactions generated by the business issue by listening to existing interactions about the subject or similar subjects, reading e-mails that relate to them, and consult agents who interact with customers. For example, for a customer service topic, the set of relevant interactions might include only incoming interactions about help and assistance.

Verify the possible reasons for the interactions (for example, a specific campaign, customer service, sales opportunities, and so on).

Gather examples of the types of interactions in which you are interested, to determine the best way to structure the Program.

Define the category:

Give the category a simple name that is concise and unambiguous. For example, if you want to categorize interactions in which agents verify a customer with DOB during the first 30 seconds of call, the name should be "Verify DOB (first

30 seconds of call)". If you want to categorize interactions that signify customers that are contemplating leaving the company, the name of the category should be "At Risk".

Set category expressions:

Use expressions to set the conditions that an interaction must meet to be assigned to the category.

For example:

- To categorize interactions in which agents verify a customer with DOB during the first 30 seconds of call, add the following expression:
  Found topic "Verify DOB" in the first 30 seconds of the call.

- To categorize calls that may be considered "At Risk", add the following expression:
  Found topic "Escalation" OR Found topic "Lawyer" OR Found topic "Report to Media.

Organize categories:

Create a hierarchy of categories in which parent and sub-categories correspond to business objectives.

Remember that when a regular category is converted into a parent category, the logical expression that defined the category is deleted.

Validate a category:

The goal of validating the category is to ensure precision of >80% at the lowest confidence possible.

Distribute the category to support members and keep track of their progress as shown in the following table. Adjust the expression where needed:

Category Name	Expression	Member Name	Date	Total Number of Interactions	Validated Interactions	Notes
Agent Skills: Empathy	Found Topic 'Empathy'	Steve	12/3/2014	80	20	>80% precision

Validate the category once a month to ensure that the category continues to classify information that results in meaningful reports. If, after 3 months of regular validation, a category remains stable in its precision, it can be validated every 6 months instead.

To validate a category:

1. Read the category expression and verify that you understand it. Consult the Lead if you do not understand the expression or the definition.

2. In SpeechMiner, select **Search > Content Browser**.

3.   Click **Details** ⓘ to review and understand the expression.

4.   Click the category name to upload the interactions associated with the specific category.

5.   Open and review 10-20 interactions per category and verify that the expression is correctly categorizing interactions.

The number of interactions to be validated should be calculated based on the total number of interactions per category. For example, validating 5 interactions out of 300 interactions would not suffice to determine the precision of that category. For example, if the category expression is "Found topic "Dissatisfaction" at least once with Very-Low strictness", the interactions should include at least one "Dissatisfaction" TP event.

6.   Report all your progress to the lead. If FP events or expressions are failing, take detailed notes about why the category is failing. It may be necessary to adjust a phrase's strictness level, delete a phrase, or audit more events to determine what the best course of action will be.

Appendix A - Errors and Warnings

The following is a list of the error and warning messages generated by SMART. The list includes a a summary of the possible cause and resolution for each error and warning:

- You do not have permissions to update SMART configuration file.

- Apply - Failed to delete old statistics file 'path'.

- Apply fails- Access to the path 'dictionary' is denied.

- Apply - Rollback failed

- Could not load the SMART configuration file.

- Error after logging into SMART, SMConfig or SMUpgrade.

- FAILED The specified network name is no longer available.

- Failed to delete old package (folder) 'path'.

- SMART Windows authentication- Login failed.

- There are SYSTEM locks. Would you like to unlock the following items before the apply?

- Grammar missing package files.

- Top-level grammar '.P0_PSUT_topic name_term number' is defined more than once.

You do not have permissions to update SMART configuration file.

Problem

The following error appears when you log into SMART:

You do not have permissions to update SMART configuration file. Updating the configuration file is required for the login process, please make sure that you have the right permissions to update the configuration file.

Possible Cause

Incorrect permissions for accessing SMART.

The SMART configuration file was encrypted by a different machine.

Resolution

1. Run SMART as Administrator.
2. Use clean the smart.exe.config file that has not been encrypted. The file (EncryptedData) can be obtained from installation.

Applies to

Version 7.0 and higher.

Apply - Failed to delete old statistics file 'path'.

Problem

The following message appears when you apply SMART or when the platform starts.

Possible Cause

The file is being held by an external process.

The user running the external process does not have the required permissions to do so.

Resolution

Delete the file manually, or wait until it is deleted at a later time.

Applies To

All versions.

Apply fails- Access to the path 'dictionary' is denied.

Problem

The following message appears when you apply SMART:

'Apply fails- Access to the path 'dictionary' is denied'.

Possible Cause

The user does not have full access rights to all the files under the grammar package folder(s).

Not enough disk space was allotted to the Package folder(s).

Resolution

1. Verify where the Package folder(s) are located for the system in SMConfig.
2. Verify the user's permission for the Package folder(s) and all its sub-folders.
3. If the disc space is the problem, delete backup files that are no longer needed to clear up disk space, or upgrade to a bigger hard drive.

Applies To

All versions.

Apply - Rollback failed

Problem

Applying a SMART rollback fails.

Possible Cause

The version you are attempting to rollback to is corrupt.

Resolution

1. In the log, search for the message "Apply rollback failed".
2. Review the details of the message.
3. Perform Rollback again or at a later time.

Applies To

All versions.

Could not load the SMART configuration file.

Problem

SMART fails to start and the following error message appears:

Could not load the SMART configuration file.

Possible Cause

The smart.exe.config file is missing, or corrupt.

Resolution

1. Copy the smart.exe.config file from another installation.

   If you are copying from another computer, replace the <connectionStrings> section from the file with the following: <connectionStrings> <add name="web_con_str" connectionString="" />

   </connectionStrings>

Applies To

All versions.

Error after logging into SMART, SMConfig or SMUpgrade.

Problem

The following message appears when you log into SMART or SMConfig:

'An error occurred executing the configuration section handler for --', or it may say 'Unable to save config to file --'.

Possible Cause

The user does not have the correct permissions to encrypt or write the file.

The computer contains old encryption keys.

Resolution

If the user does not have sufficient permissions, the administrator must run the following to enable a regular user that can encrypt the "{domain}{user}" credentials :

aspnet_regiis -pa "NetFrameworkConfigurationKey" "{domain}\{user}"

When old encryption keys are in use delete everything from C:\Documents and Settings\All Users\Application Data\Microsoft\Crypto\RSA.

Applies To

All versions.

FAILED The specified network name is no longer available.

Problem

The following error appears when applying SMART:

FAILED The specified network name is no longer available.

Possible Cause

The **Grammars** folder is unavailable. It does not exist or the platform does not have permission to access it.

Resolution

Verify that the **Grammars** folder path (specified in SMConfig)exista.

Verify that the UPlatform has access permissions to the **Grammars** folder.

Applies To

All versions.

Failed to delete old package (folder) 'path'.

Problem

The following warning appears after applying SMART succeeds:

Failed to delete old package (folder) 'path'.

Possible Cause

The old package folder or zip file is in use, and as a result it is not possible to delete it.

Resolution

Apply will delete the old package folder or file, if it is released.

Applies To

All versions.

SMART Windows authentication- Login failed.

Problem

The following message appears when you log into SMART and Windows Authentication fails:

SMART Windows authentication- Login failed.

Possible Cause

The user is not active.

The user was not added to the SpeechMiner application.

Resolution

1. Add the user to the SpeechMiner application.
2. Verify the user is added to the **Tools > Administer Users** page in the web application
3. Verify that the user's profile is active.

Applies To

Version 8.0 and above.

Illegal Chacters - No Text Analytics License

Problem

The following error appears when adding a new term without a Text Analytics license:

A term cannot contain characters that are not supported by the language.

Invalid term: <invalid term>

Possible Cause

The term cannot contain characters that are not supported by the language when there is no Text Analytics license.

Resolution

Avoid characters that are not supported by the language without a Text Analytics license.

Applies To

8.5.506

There are SYSTEM locks. Would you like to unlock the following items before the apply?

Problem

When you are applying SMART, the following error message appears:

There are SYSTEM locks. Would you like to unlock the following items before the apply?

Possible Cause

SMART apply is performed from a different SMART instance, and therefore a different process is running at the same time.

Resolution

1. Verify that all SMART processes are complete before applying SMART.
2. Refresh your SMART instance and apply again.

Applies To

All versions.

Grammar missing package files

Problem

SMART apply fails and the following message appears:

FAILED 20130211165159184| 8956| 0||| ** WARNING **| -11| UNKERR| unknown error| SWItrcConfigureFromEnvironment() | couldn't open R:\Vtrc.log as print stream 2013021116524328(nerd) 8956|| PRELOAD_SESSION| MyApp| ** WARNING **| 7422| SBINET_ERROR| Unable to get file 'stat' information| swi:SBinet | File="\\itai\data\packages Could not find file \\XXX\data\packages\utopy_AMERICA_ENGLISH_dictionary_const.xml'.

Possible Cause

Grammar files are missing.

Resolution

1. Copy the grammar files for the current version and build from:
   X:\software\verX\internal_build_XXXX\Internal\Source\rec\grammar.
2. Add the grammer files to the Packages folder.

Applies To

All versions.

Top-level grammar '.P0_PSUT_topic name_term number' is defined more than once.

Problem

SMART Apply fails and the following message appears: 'Top-level grammar ".P0_PSUT_"topic name"_"term number" is defined more than once. This is not permitted'.

Possible Cause

Two phrases in the same topic have the same ordinal number.

Resolution

1. Open the specified topic.
2. Verify that the topic phrases do not have the same ordinal number.
3. Delete the phrase with the same ordinal number and create it again manually.

Applies To

All versions.

Frequently Asked Questions

The following is a list of topics that provide answers to a few of the most frequently asked questions:

- Quality Management (QM)

Quality Management (QM)

Q: Can the name of a Quality Management form be changed once the form is active?

A: A form cannot be changed once it is activated and added to an evaluation. If the form is active but it was not added to an evaluation, you can deactivate the form, change it and activate it again.

Q: Can inactive Quality Management forms be archived?

A: Inactive forms cannot be archived.

Q: Can a group of questions have a 0 weight value?

A: A group can have a 0 weight value as long as there are additional question groups that are assigned a weight. The rule is that the sum of all the group weights must be 100.

Q: What is the best option when you want to create a form with Introduction questions that do not have a weight value?

A: It is best to use Free Form questions as Introduction questions since they are not assigned a weight value.

Q: What does the Expire status mean in the Evaluation Manager?

A: An Expire status means that the due date for the specific session has passed. An expired evaluation session appears in the evaluator's Session grid, but it can not be filled by the evaluator. Expired sessions will appear in reports that display all sessions (for example, Evaluation Summary).

Q: When is a Calibration session removed from the Session grid?

A: Currently, a session Archive option is not available.

Q: What is the Derivation (that is, Variance) value in the Calibration Score report?

A: Derivation is the difference between a specific score and the average score.

Q: Does the Evaluator report provide a value for derivation over time?

A: No.

Q: What is the purpose of the Average Quality Score in the Calibration report?

A: When you create a Calibration evaluation for a specific call, you can determine what the correct score and/or answers should be. You can then compare the evaluators response (score and answer) to what you determined was the correct score and answer.

For additional information, see Quality Management.