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UPTIVITY SPEECH ANALYTICS ADMINISTRATION GUIDE

March 2017

UPTIVITY SPEECH ANALYTICS ADMINISTRATION GUIDE

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Contact:	Send suggestions or corrections regarding this guide to documentationrequests@incontact.com.

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Introduction

Introduction

Audience

This document is written for system administrators, managers, supervisors, analysts, and others who will use Uptivity Speech Analytics. Readers should have a basic level of familiarity with general networking, usage of a PC and its peripherals, the Windows operating system, NICE Uptivity, and speech analytics theory.

Goals

The goal of this document is to provide knowledge, reference, and procedural information necessary to configure and use Uptivity Speech Analytics.

This document is NOT intended as a specific system or network design document, nor does it provide guidance or best practices for implementing speech analytics. The *Developing an Analytics Program* guide is available in online help.

Assumptions

This document assumes that NICE Uptivity has already been installed and configured, and calls are being recorded correctly in your environment.

Need-to-Knows

Uptivity Speech Analytics uses the NICE Uptivity database and **Web Portal**. For more information, search online help for keywords *uptivity data*, *web portal*, or both.

NICE Uptivity allows administrators to customize field names and terminology in the **Web Portal** to fit your unique environment. Therefore, screen examples and field names used in this manual may differ from those seen in your implementation.

Some NICE Uptivity features use menus and other windows that may be considered "pop-ups" by some browsers. inContact recommends that you configure your browser to allow pop-ups for the **Web Portal**.

NICE Uptivity supports standard Windows methods for selecting multiple items in a list: press and hold the Shift key while clicking to select consecutive items or press and hold the CTRL key while clicking to select non-consecutive items.

In some cases, NICE Uptivity provides more than one way to accomplish a task or access a feature. The procedures in this manual explain the primary method, but also note the **Alternative** where applicable.

Uptivity Speech Analytics Overview

Uptivity Speech Analytics is a phonetics-based speech analytics solution that identifies phonemes (that is, the smallest unit of sound) in call recordings. United States English speech consists of 40 phonemes. United Kingdom English speech consists of 44 phonemes. The five phonemes "g r ei d ei" sound like "Grade A" or "Grey Day". Speech analytics compares the phonemes to search key words and phrases and generates reports based on the search results.

These diagrams illustrate the product's components and their interactions. The table following the diagram provides additional detail on each component. Speech analytics must be installed on a dedicated server separate from call recording and the **Web Portal**. This diagram shows it installed on a single server.

This diagram shows two dedicated Speech Analytics servers performing specific tasks: creating index files from audio and searching for tags in index files. A server can also be dedicated to call classification. Dedicating servers to specific tasks may improve performance for organizations that use the feature heavily.

Component	Function
NICE Uptivity Server	Records the audio and creates the raw call audio files. Manages the writing of files to storage. Creates call record files in the database. In this scenario, the NICE Uptivity **Transcoder** service creates two call audio WAV files from the raw files. One file is used for QM and reporting; the other file is used for Uptivity Speech Analytics.
NICE Uptivity Database	Stores call records associated with call audio WAV files. Tracks which call audio files are ready for processing by Uptivity Speech Analytics and which have already been processed. Stores phrase records created by Speech Analytics and associated with a call record. Phrase records contain: • Call recording ID • Tag ID • Phrase matched • Confidence of match • Start time of phrase in call record • End time of phrase in call record • Whether call audio file search/indexing has been started or completed
File Server	Location of call audio WAV files with content that is analyzed. WAV files can be copied to the Speech Analytics server for indexing. This approach improves performance and reduces issues that may occur when reading large audio files over the network. Index files can be stored on the file server or on the Speech Analytics server. If they are stored with the call audio on the file server, an archive action can be created to archive or delete them. If they are located on the Speech Analytics server, a configuration setting controls how long they are retained.

Component	Function
Uptivity Speech Analytics Server(s)	Polls the database for new call audio files for processing. Selects new call audio files to be indexed. Calls are checked only once to determine if they should be indexed. If the call selection criteria changes, older calls that were already checked will not be rechecked. The call selection, indexing, and searching processes are continuous. During periods of heavier call traffic, there will be more audio files waiting to be indexed and searched, and they will be processed during periods of lower call traffic. Manages workloads of speech search engines. If a process is shut down or interrupted, Speech Analytics will do the following upon restart: query jobs that were queued prior to the interruption, clear any incomplete tags, and then start processing calls in its queue.
Aurix Speech Search Engine	Indexes (that is, translates) call audio WAV files' speech into phonemes and writes the phonemes to an index file. One index file is created for each audio file per language. For example, if calls include both US English and Mexican Spanish, the engine can be configured to generate an index file for each language. Searches index files for analytic phrase tags and creates phrase records in the database. Call audio files are translated and indexed only once. If the phrase analytic tags are changed after the first search, the search engine searches the index files, not the call audio files. If the indexing/searching process is interrupted, the engine starts over on the audio file on which it was working when the interruption occurred.
Web Portal	Speech Analytics is administered via the Uptivity **Web Portal**. The portal is also used for analytics reporting, for viewing speech tags while playing calls and for administering Speech Analytics. Call recordings can be filtered using Tag Cloud Quick Filter. Tags, confidence levels, and phrases appear with call recordings when they are replayed.

Supported Languages

The appropriate language packs and audio models are installed during the installation process. Valid language codes are:

- 1033 – U.S. English
- 2057 – U.K. English
- 2058 – Mexico Spanish
- 3084 – Canadian French

Index files using US English are named as *audiofilename*.idx. All other index files are named as *audiofilename.countrycode*.idx.

Archiving and Purging

An index file is a phonemic transcript of the call audio and is approximately one-third the size of the original WAV file. inContact recommends archiving index files so that they can be searched again whenever new tag phrases are added. If desired, the WAV files created for Uptivity Speech Analytics can be purged after the index files are created.

The Speech Analytics index files (and optionally, the WAV files) can be archived using the **Archiver** service in NICE Uptivity. If index files are archived and moved, they will not be analyzed for speech tag phrases because the search engine will no longer have access to them. If you have concerns about archiving policies and your speech analytics program, see your supervisor or NICE Uptivity administrator.

Encryption

Speech Analytics stereo WAV and index files are encrypted along with other NICE Uptivity files if there is an active encryption key. Encryption for stereo WAV files can be turned off. For more information, contact NICE Uptivity Support.

Blackouts

If your organization uses blackouts to protect sensitive data, these blackouts are also applied to the stereo WAV files created for Speech Analytics and audio in blacked-out periods is not analyzed. For more information on blackouts, search online help for keyword *blackouts* or talk to your administrator.

User Permission Settings

Many of the tasks related to Uptivity Speech Analytics are limited by permissions. Depending on the tasks they will perform, NICE Uptivity users must be granted these permissions:

- **Allow Analytics View —** Allows the user to view Speech Analytics data for calls played from the **Web Portal**
- **Allow Analytics Management —** Allows the user to manage Speech Analytics configuration
- **Allow Viewing Analytics Reports —** Allows the user to run and view reports on Speech Analytics

If you need to perform a task and are unable to do so, see your supervisor or NICE Uptivity administrator.

Auditing

Auditing is managed through the NICE Uptivity **Web Portal**. For more information, search online help for keyword *audit log*.

Stereo Audio Recordings

Stereo audio recordings greatly improve the performance of Uptivity Speech Analytics, as crosstalk (parties talking at the same time) can be isolated. Within a stereo audio recording, the caller's audio is recorded on one discreet channel for the audio file, and the PBX audio is stored on the other channel. This allows Speech Analytics to separate the crosstalk.

Stereo recordings are available on all NICE Uptivity recording integrations with the exception of:

- Avaya DMCC including Single Step Conference, Multiple Registration, and Service Observe
- ShoreTel TAPI WAV
- eOn Service Observe
- Any recording method using a service observe code via T1
- inContact PBX/ACD

Exception Reporting

Speech Analytics can identify what is said and, through exception reports, what is not said. Exception reporting can generate a lot of data depending on the number of speech tags and phrases used and whether agents do or do not use the tags. An accurate estimate of the potential size of the data collected is impossible. Therefore, exception reporting is not enabled by default and should be enabled only after consulting with an Uptivity Sales Engineer.

This scenario illustrates the difference in data collected. A customer has 1,000 calls per day. The customer uses 30 tags.

- 3 tags are found in each call

- 27 tags are not found in any calls

- Without exception reporting 3,000 tag records are created. With exception reporting an additional 27,000 tag records are created for exceptions.

Requirements

Hardware

Hardware requirements vary depending on the number of calls processed and data storage and retention needs. Hardware specifications are determined by the NICE Uptivity Sales Engineering team during the sales process. General hardware guidelines include:

- Speech Analytics *must* be installed on its own server. This requirement is due to the CPU usage required to index and analyze.

- A separate file server is usually needed for storing the call audio files and index files

- NICE Uptivity is installed on a different server; the database, Web Portal, reporting, and other services are installed and operate from that server

- For optimal data transfer rates, Speech Analytics should be placed on the same network switch where the NICE Uptivity audio files are stored

Software

Uptivity Speech Analytics requires the following software:

- Windows Server 2008/2008 R2. This requirement is only for the Speech Analytics server. NICE Uptivity can run in the same environment on a Windows 2012 R2 server.

- Microsoft SQL Server 2008 with SQL Server Reporting Services. R2 requires SP1. Microsoft SQL Server 2012 SP1. Speech Analytics does not support SQL Express.

- Languages require the appropriate language pack and audio models to be installed as part of the installation process

License

A Speech Analytics license must be purchased in addition to the NICE Uptivity license to enable the product features. Licensing is per user. Licensing is the same for deployments using one server to perform all analytics work and deployments using multiple servers with tasks distributed to specific servers.

Indexing and Searching Configuration

The indexing and search settings in Speech Analytics control which calls are analyzed, as well as the words and phrases for which the speech engine searches. All of these tasks are performed in the Uptivity Web Portal.

Analytics Criteria Overview

The speech search engine uses analytic criteria expressions to identify call audio files for indexing and searching. The list criteria are compared against call records in the NICE Uptivity database, and the audio files associated with the selected records are translated and indexed. Call records are checked to be indexed only once. All calls will be indexed and analyzed if no criteria are specified.

Ineffective call selection criteria can fail to identify all calls that should be analyzed or analyze calls that are not relevant to your effort. This situation can cause:

- Inaccurate (too low or too high) numbers reported for compliance, process improvement, and agent assessment
- Missed opportunities for improvement or discovery
- Unnecessarily slow indexing and searching of calls and generation of reports

Call selection criteria and naming can be based on:

- Language
- Client (if your organization has multiple internal or external clients, some may want information tracked or monitored while others do not)
- Purpose or function such as compliance, security, or quality training

Call selection criteria and the number of criteria expressions depends on how agents are organized and how calls are directed over your telephony network. For example, all Mexican Spanish calls may be received via one queue or telephone number, or calls for a client that requires a script may be directed to specific agents.

One criteria expression can be created and the expression's text edited to select all needed call audio files. This approach can avoid the problem of having to check multiple expressions to see if the correct calls are being analyzed. Some users find it easier to manage multiple expressions based on language, client, or purpose. The number of expressions is one of many factors that affect indexing speed; there is no simple way to determine what effect the number may have on processing.

Create an Analytic Criteria Expression

To create an analytic criteria expression:

1. Click **Administration** > **Add-Ons** > **Analytics** > **Analytic Criterion List**.

2. Click **Add**.

3. Enter a meaningful **Name** for the expression.

4. Select a **Language** code from the drop-down list. This field is required.

5. Using the available fields, enter your criteria **Expression** and then click **Save**.

Edit or Delete Analytic Criteria Expressions

Once created, expressions appear on the **Analytics Criteria** list. List items can be edited or deleted as needed, and the changes are applied to the call selection process after the change is made. Calls that were already checked for selection are not rechecked using the new criteria.

To edit or delete an analytic criteria item or criteria expression:

1. Click **Administration** > **Add-Ons** > **Analytics** > **Analytic Criterion List**.

2. To edit, click the **Edit** icon for the expression and make the necessary changes, then click **Save** or

3. To delete, click the **Delete** icon and then click **OK**.

Available Fields

The fields available to you can vary depending on the data your telephony service passes to NICE Uptivity when calls are recorded. The following fields are supported for use as identifiers in analytic criterion and criteria expressions:

- **Recordid** — Identifier that represents the call record in the NICE Uptivity database

- **Agentid** — Identifier that represents the agent in the NICE Uptivity database

- **Agentingroup —** Identifier based on Uptivity Groups. You must use the ID number assigned to the group by NICE Uptivity (for example, agentnotingroup(50)), which can be seen on the **Groups** page or obtained from your NICE Uptivity administrator.

- **Agentnotingroup —** Identifier based on Uptivity Groups. You must use the ID number assigned to the group by NICE Uptivity (for example, agentnotingroup(50)), which can be seen on the **Groups** page or obtained from your NICE Uptivity administrator.

- **DeviceID —** "Hardware" identifier in your ACD/PBX (for example, Position ID, Phone Port, DN, or Extension)

- **Devicealias —** Agent-associated identifier in your ACD/PBX (for example, extension, agentID, and so forth)

- **ANI —** Number of the calling party as provided from the telecommunications carrier (also known as CallerID). Available for inbound calls only.

- **DNIS —** For inbound calls, the number the caller dialed to reach you. For outbound calls, the number your agent dialed.

- **Sgroup —** Group setting in your ACD/PBX (for example, Hunt Group, Skill Group, or Labor Group)

- **Gate —** Call gate or queue setting in your ACD/PBX (for example, Application, Split, Gate, and so forth)

- **User1-User15 —** User-defined fields available in the **Web Portal**. Values specified on that page do not appear in the identifiers list, so you must know what terms match which user#. For example, if your system is configured to include a customer number in User8, and you want to build an analytic criteria expression that uses that customer number, you would include "User8" in your expression.

When ANI or DNIS are used, the numerical value must be in quotes to make it a string comparison (**dnis=="6207")** instead of an integer comparison (**dnis==6207**). Otherwise, if the DNIS is too long, Uptivity Speech Analytics may stall and generate errors while trying to store the integer.

Conditional Operators Reference

Conditional operators can be used to combine multiple identifiers in analytic criteria expressions. For example, `deviceid!=0` would index all audio files. Similarly, `gate==1` would index all audio files for calls that came through Gate 1. An expression can be no more than 255 characters.

The following table identifies the operators supported in Uptivity Speech Analytics.

Conditional Operators		Boolean Operators	
==	Equal to	&&	Boolean AND operator
!=	Not equal to	||	Boolean OR operator
>	Greater than	( )	Parenthesis used for grouping and precedence
<	Less than		
>=	Greater than or equal to		
<=	Less than or equal to		
' or **"**	Both single and double quotes can be used to signify strings in expressions.		

Analytic Tag Groups Overview

The **Speech Category Summary** and **Speech Category Trending** reports use analytic tag groups to search for and organize data. Other reports use analytic tag groups to organize how tags appear on reports. Tag groups are managed from the **Analytic Tag Groups** list.

Manage Analytic Tag Groups

1. Click **Administration** > **Add-Ons** > **Analytics** > **Analytic Tag Groups**.

To create a tag group:

2. Click **Add**.

3. Enter a **Name** for the new group.

4. Click **Save**.

To edit an existing tag group:

2. Click the **Edit** ✏ icon for the group.

3. Edit the group **Name**.

4. Click **Save**.

To delete an existing tag group:

2. Click the **Delete** 🗙 icon for the group.

Deleting a group does not delete or otherwise affect the individual tags in that group. However, if a report is based on a group, then that report will no longer get data.

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Analytic Tags Overview

Analytic tags specify the words and phrases the speech search engine will search for in index files. The search process is continuous as long as new calls and index files are created. Once created, analytic tags can be enabled/disabled and copied.

The total number of tag phrases is one factor that can affect the speed at which the speech engine processes and searches calls. Customers with 3,000 or more phrases have reported slower processing speeds. Speech engine performance depends primarily on the number of call audio hours processed and the Speech Analytics server's CPU.

Analytic tags appear in the **Tag Cloud** quick filter in the **Call List** and **Recorded Interactions** list. If you create a large number of call tags, or one particular tag occurs very frequently, the **Tag Cloud** may not display correctly. As a best practice, inContact recommends nightly indexing of the SQL tag data tables.

The **Analytics Tags** list allows you to see information about tags in your system and perform a number of routine tag management tasks. In the **Enabled** column, enabled tags display a green check mark; disabled tags (when displayed) show a gray check mark. You can use the drop-down lists at the top right to filter the list by:

- **Criteria —** *Any Criteria* is the default value

- **Tag Group —** *Any Group* is the default calue

- **Status** — *Show Enabled*, *Show Disabled*, or *Show All*. *Show Enabled* is the default view.

Create an Analytic Tag

1. Click **Administration** > **Add-Ons** > **> Analytic Tag List**.

2. Click **Add**.

3. Configure the Analytic Tag Settings.

4. Click **Save**.

Enable/Disable an Analytic Tag

1. Click **Administration** > **Add-Ons** > **Analytics** > **Analytic Tag List**.

2. Change the **Status** filter if necessary to see the tag you want to configure.

3. In the **Enabled** column, click the check mark for the tag to enable it, or clear the check mark to disable it.

Copy an Analytic Tag

Copying enables you to refine tags by changing the confidence level, match position, and phrases. You can retain both the original and the new tag to compare search effectiveness. If one is no longer needed, it can be disabled or deleted. You can also copy tags to apply them to different criteria expressions.

When you copy a tag, NICE Uptivity opens the **Add Analytics Tags** page with most settings pre-populated to match the original tag. **Effective Start Date** is set to the current date, **Effective End Date** is blank, and tag **Status** is set to *Enabled*. You can change these settings as needed.

1. Click **Administration** > **Add-Ons** > **Analytics** > **Analytic Tag List**.

2. Change the **Status** filter if necessary to see the tag.

3. Click the **Copy** icon.

4. **Optional**: Configure Analytic Tag Settings.

5. Click **Save**.

Delete an Analytic Tag

inContact recommends you do **_not_** delete tags in most cases. Deleting a tag deletes from the database all the phrase records generated using that tag. This action can drastically affect reporting. Reports that depend on historic information and comparisons will be unreliable. Generally, tags should be disabled rather than deleted.

If the tag is needed sometimes but not always, it should be enabled/disabled. If a tag must be deleted, best practice is to disable the tag, wait one day and then delete that tag. The wait will allow the tag to clear the system and not be attributed during the delete process causing a reporting error.

Tag deletion can cause performance issues for both reporting and speech analytics. If the engine is deleting tags, it is not indexing or searching. The number of tags that can be deleted at one time varies depending on the number of tag records generated for reports. If a tag was found 10,000 times, deleting it causes that number of records to be deleted from the database. As a precaution, delete tags when Uptivity Speech Analytics is not processing as many audio files, such as the early morning.

1. Click **Administration** > **Add-Ons** > **Analytics** > **Analytic Tag List**.

2. Click the **Delete** icon for the tag.

3. Click **OK**.

Analytic Tag Settings

The following settings must be configured for each analytic tag:

- **Name —** Names should reflect the search words or the purpose of the search

- **Effective Start/End Dates —** Enter effective start and end dates to have the engine search index files for phrases in calls that occurred during an interval of time. For example, a client may have a timed promotion and wants calls for that promotion analyzed. **Start Date** can be prior to the current date. It should not be earlier than the oldest retained index file. For example, if today is July 31 and index files are retained for 30 days, then **Start Date** should be no earlier than July 1. If no **Start Date** is specified, the engine tries to search all index files ever created even if they have been deleted. This behavior can cause delays of days or weeks in indexing and searching. If no **End Date** is specified, the engine searches future calls for the tags. If you do not know how long your index files are retained, contact NICE Uptivity Support.

- **Enabled —** As an alternative to setting start and end dates, you can select a status from this drop-down list. There is no limit to the number of times a tag can be disabled/enabled as long as no **End Date** is entered.

- **Target Confidence —** Confidence level is a numeric percentage that represents the likelihood the phrase identified actually matches the searched-for phrase. The speech search engine assigns a confidence level to every phrase it finds. If a phrase's confidence level is below the target, it is not included in the results. You can type a number in the field or drag the slider bar.

- **Criteria —** Optional. If no criteria expression is specified from the drop-down list, the tag will be applied to all calls analyzed. For more information, see Analytics Criteria Overview.

- **Group —** Optional. Select from the available tag groups to associate this tag with other tags. If no group is specified, the tag will not appear on some reports. For more information, see Analytic Tag Groups Overview.

- **Match Position —** Optional. Allows you to specify the part of the call in which a phrase occurs. From a drop-down list, you can select *Any part of the call*, *Seconds from the beginning*, or *Seconds from the end*. When you select either of the latter two, a field appears in which you can type a number of seconds.

- **Phrases —** Enter a search phrase. Click **Add** to type phrases or click the **X** to delete a phrase. This field, including all phrases and spaces, is limited to 255 characters. In the following image, there are five phrases with a total of 98 characters (including spaces) that count toward the 255-character field limit. If you need additional phrases, you must create additional tags. You may want to first type your phrases in Microsoft Word, and then use its word count functionality to identify the number of characters.

Analytic Classification Rules Overview

Analytic classification rules add speech tags to user fields in call recording records. Users can then search for these call records in the Uptivity Web Portal.

For example, rules can be used to classify calls by:

- Product or service
- Marketing campaign or promotion
- Resolution or non-resolution
- Poor service
- Compliance or non-compliance

Classification rules:

- Can only be applied to new calls; calls that existed prior to a rule's creation cannot be classified

- Do not indicate when a tag occurred in a call

- Do not affect **Tag Cloud** quick filter

- Are not used in pre-built reports. Tags placed in user fields can be used in ad hoc call recording reports.

You can use analytic classification rules to insert, replace, or append data to any of the user data fields, the **ACD Group** field, or the **ACD Gate** field. Consider the following when deciding what action your rule should take:

- User data fields have varying size limits. For example, the **User1** field is limited to 20 characters. When you create the rule, NICE Uptivity will warn you if your data exceeds the field limit. However, if the rule could append data that would exceed the limit, NICE Uptivity will not append that new data.

- User data fields can also be updated by other means, such as NICE Uptivity Desktop Analytics, NICE Uptivity On-Demand, an API call to another application, or manually in the **Web Portal**. The **ACD Gate** and **ACD Group** fields are typically populated via your telephony integration. Be sure that the field used in your rule is not already being used for another purpose, especially if you choose to replace existing data.

Create an Analytic Classification Rule

1. Click **Administration** > **Add-Ons** > **Analytics** > **Analytic Rules**.
2. Click **Add**.
3. Configure the Analytic Classification Rule Settings.
4. Click **Save**.

Edit/Delete an Analytic Classification Rule

1. Click **Administration** > **Add-Ons** > **Analytics**> **Analytic Rules**.

To edit the rule:

2. Click the **Edit** ✏ icon for the rule.

3. Configure the settings.

4. Click **Save**.

To delete the rule:

5. Click the **Delete** 🗙 icon for the rule.
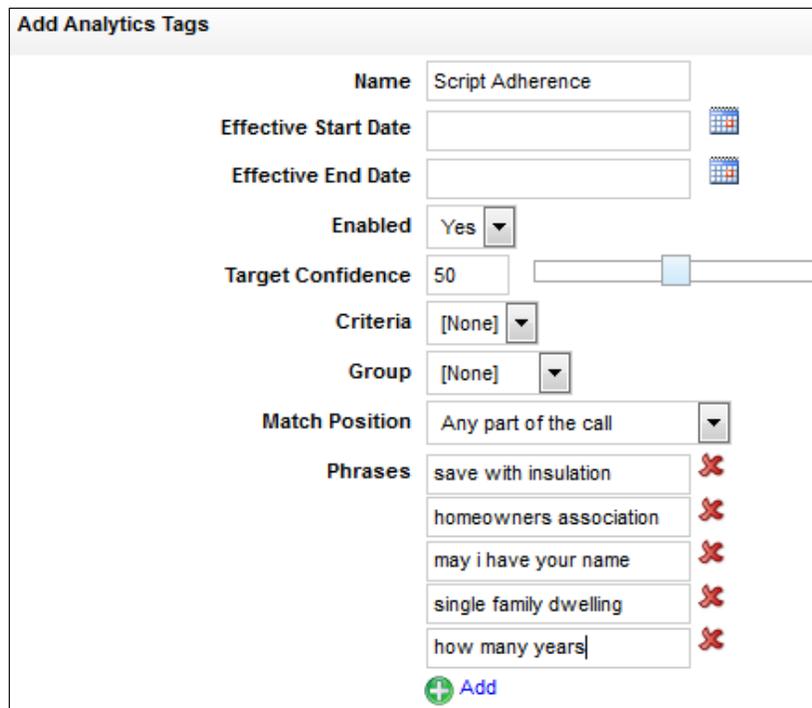
6. Click **OK**.

Analytic Classification Rule Settings

The following settings must be configured for analytic classification rules.

- **Name** — Names should be unique and relevant to the classification

- **Enabled** — Select whether the rule is *Enabled* or *Disabled* from a drop-down list.

- **Target Confidence** — Confidence level is a numeric percentage that represents the likelihood the phrase identified actually matches the phrase in the rule. The speech search engine assigns a confidence level to every phrase it finds. If a phrase's confidence level is below the target, it is not included in the results. You can enter a number in the field or drag the slider bar.

- **Criteria** — Select an existing criteria item from the drop-down list. For more information, see Analytics Criteria Overview.

- **Recording Field** — From the drop-down list, select the field that should be affected by this classification rule. You can choose from any of the user data fields, **ACD Gate**, or **ACD Group**. For related information, see Available Fields.

- **Recording Value** — Enter the value that NICE Uptivity will populate into the selected recording field if the conditions of the rule are met.

- **Existing Data Mode** — This setting tells NICE Uptivity what to do if there is already data in the selected recording field. From the drop-down list, select one of these options: *Leave Unchanged*, *Append*, or *Replace*. If you choose *Append*, and appending the data would exceed the field length, no part of the data will be appended.

Indexing and Searching Configuration

- **Match Position** — Optional. Allows you to fine-tune matches by specifying the part of the call in which they must occur. From a drop-down list, you can select *Any part of the call*, *Seconds from the beginning*, or *Seconds from the end*. When you select either of the latter two, a field appears in which you can enter a number of seconds.

- **Phrases** — Enter a search phrase. Click **Add** to type phrases or click the red X to delete a phrase. As with analytic tags, this field, including all phrases and spaces, is limited to 255 characters. In the following image, there are five phrases with a total of 98 characters (including spaces) that count toward the 255-character field limit. If you need additional phrases, you must create additional tags. You may want to first type your phrases in Microsoft Word, and then use its word count functionality to identify the number of characters.
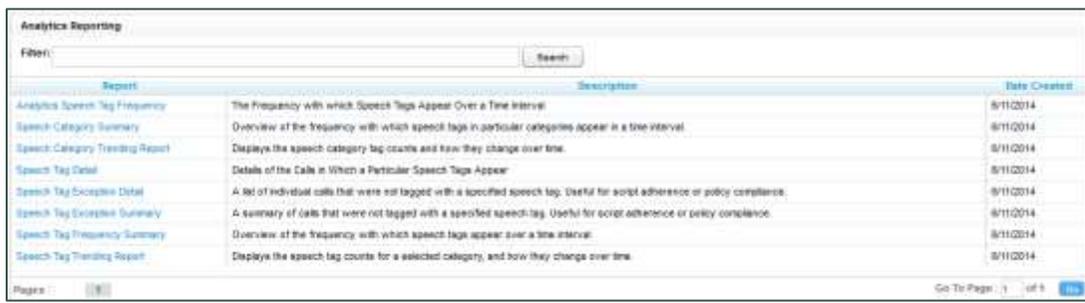
Speech Analytics Reporting

Uptivity Speech Analytics includes a number of pre-built reports, called Printable Reports. You can also use ad hoc reporting functionality to build reports using analytics data. You must have appropriate permissions for reporting. For more information on permissions, talk to your NICE Uptivity application administrator or search online help for keyword *permissions*.

Reporting functionality, including how to generate printable reports and create ad hoc reports, is covered in online help for NICE Uptivity (select **Reporting** from the top-level menu). This section provides a reference to the reports specific to Uptivity Speech Analytics.

The **Survey Reporting** screen lists the available Printable Reports. The **Date Created** column shows the date that the template for the report type was created in the system.

Analytics Speech Tag Frequency Report

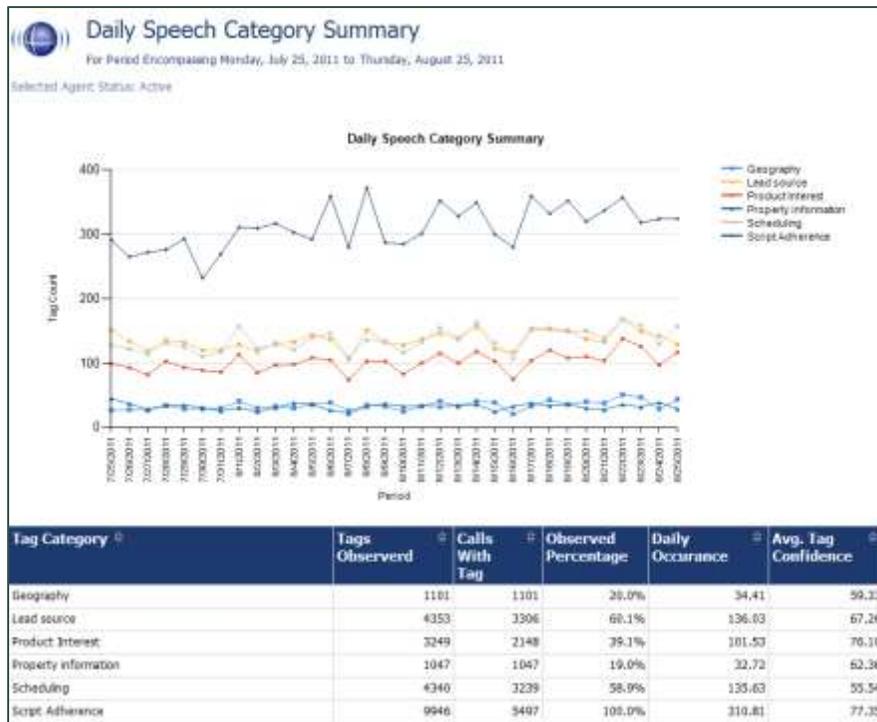This report shows the frequency that speech tag phrases/text occur over a time interval.

- **Tag Count —** Number of times a tag text/phrase was identified. The tag count may be greater than number of calls because a tag may occur multiple times in a call.

- **# Calls —** Number of calls in which a tag phrase occurred at least once

- **Observed Percentage —** Percentage of calls during the specified time frame in which the tag phrase occurred

- **Daily Occurrence —** Average number of times a tag phrase occurred per day in the specified time frame

- **Average Confidence —** Uptivity Speech Analytics records a confidence level for each tag it identifies. This number averages the confidence for each tag record.

Analytics Speech Tag Frequency
For Monday, July 25, 2011 to Thursday, August 25, 2011

Tag Name	Tag Text	Tag Count	# Calls	Observed Percentage	Daily Occurance	Avg. Confidence
Script Adherence	homeowners association	5497	5497	100.0%	171.78	78.96
Script Adherence	single family dwelling	3349	3349	60.9%	104.66	78.01
Lead source	service magic	2205	2205	40.1%	68.91	80.01
Scheduling	weekend	2192	2192	39.9%	68.50	59.06
Scheduling	morning	1101	1101	20.0%	34.41	53.62
Lead source	coupon	1101	1101	20.0%	34.41	56.83
Product Interest	free insulation upgrade	1101	1101	20.0%	34.41	50.34
Product Interest	save some money	1101	1101	20.0%	34.41	78.70
Geography	pompano beach	1101	1101	20.0%	34.41	59.33
Script Adherence	thank you for calling	1100	1100	20.0%	34.38	67.48
Property information	total square footage	1047	1047	19.0%	32.72	62.36
Scheduling	Saturday	1047	1047	19.0%	32.72	50.29
Lead source	online form	1047	1047	19.0%	32.72	51.29
Product Interest	injection foam	1047	1047	19.0%	32.72	100.00

Speech Category Summary Report

This report shows an overview of the frequency with which a speech tag group or category's speech tags appear in a time interval.

- **Tag Category —** Tag group

- **Tags Observe —** Number of times a tag was identified. Tag count may be greater than number of calls because a tag may occur multiple times in a call. In the sample report shown, the Script Adherence tag occurred 9946 times. In the **Analytics Speech Tag Frequency** sample report, the Script Adherence tag phrases occurred 5497 ("homeowners association"), 3349 ("single family dwelling"), and 1100 ("thank you for calling") for a total of 9946 occurrences.

- **Calls with Tags —** Number of calls in which a tag phrase occurred at least once

- **Observed Percentage —** Percentage of total calls selected for indexing during the specified time frame in which the tag occurred

- **Daily Occurrence —** Average number of times a tag occurred per day in the specified time frame

- **Average Confidence —** Uptivity Speech Analytics records a confidence level for each tag it identifies. This number averages the confidence for each tag record.

Tag Category	Tags Observerd	Calls With Tag	Observed Percentage	Daily Occurance	Avg. Tag Confidence
Geography	1101	1101	20.0%	34.41	59.33
Lead source	4353	3306	60.1%	136.03	67.26
Product Interest	3249	2148	39.1%	101.53	76.10
Property information	1047	1047	19.0%	32.72	62.36
Scheduling	4340	3239	58.9%	135.63	55.54
Script Adherence	9946	5497	100.0%	310.81	77.35

Speech Category Trending Report

This report shows, by category and by time period, the frequency with which speech tags occur.

- **Period —** A day, week, month or other period

- **Tag Count —** Number of times a speech tag occurred in analyzed calls for that period

- **Total Calls Tagged —** Number of calls selected for speech analytics indexing for a time period

- **Observed Percentage —** Percentage of total calls selected for indexing during the specified time frame in which the tag occurred

Weekly Speech Category Trending Report

For Period Encompassing Monday, July 25, 2011 to Thursday, August 25, 2011

Weekly Speech Category Summary

Tag Category: Geography			
Period ⇕	Tag Count ⇕	Total Calls Tagged ⇕	Observed Percentage ⇕
10/10/2011	293	1275	23.0%
10/10/2011	253	1267	20.0%
10/10/2011	226	1204	18.8%
10/10/2011	239	1184	20.2%
10/10/2011	203	1068	19.0%
	1214	**5998**	**20.2%**

Tag Category: Lead source			
Period ⇕	Tag Count ⇕	Total Calls Tagged ⇕	Observed Percentage ⇕
10/10/2011	768	1275	60.2%
10/10/2011	759	1267	59.9%
10/10/2011	711	1204	59.1%
10/10/2011	698	1184	59.0%
10/10/2011	669	1068	62.6%
	3605	**5998**	**60.1%**

Speech Tag Detail Report

This report shows details of the calls in which particular speech tags appear.

Speech Tag Exception Detail Report

This report shows a list of calls in which specific speech tags did **not** occur, and can be useful for script adherence or policy compliance.

Speech Tag Exception Summary Report

This report summarizes the number of calls that did and did not have specified speech tags. This report is useful with other exception reports for tracking script adherence or policy compliance. Bars are color-coded as follows:

- Blue represents the number of calls with the speech tag

- Amber represents the number of call without the speech tag

- Red represents the percentage of calls with the speech tag

Speech Tag Name ⇕	Number of Calls ⇕ Tagged	Number of Calls ⇕ Untagged	Percent of Calls ⇕ Tagged
Geography	1101	4396.00	20.0%
Lead source	3306	2191.00	60.1%
Product Interest	2148	3349.00	39.1%
Property information	1047	4450.00	19.0%
Scheduling	3239	2258.00	58.9%
Script Adherence	5497	0.00	100.0%

Speech Tag Frequency Summary Report

This report shows the frequency with which speech tags appear over a time interval.

- **Tag Category —** Tag group

- **Speech Tag —** Speech tag

- **Tags Observed —** Number of times a tag was identified. Tag count may be greater than number of calls because a tag may occur multiple times in a call.

- **Calls with Tag —** Number of calls in which a tag phrase occurred at least once.

- **Observed Percentage —** Percentage of total calls selected for indexing during the specified time frame in which the tag occurred

- **Daily Occurrence —** Average number of times a tag occurred per day in the specified time frame

- **Average Confidence —** Uptivity Speech Analytics records a confidence level for each tag it identifies. This number averages the confidence for each tag record.

Daily Speech Tag Frequency Summary

For Period Encompassing Monday, July 25, 2011 to Thursday, August 25, 2011

Selected Agent Status: Active
Selected Tag Status: Active

Daily Speech Tag Frequency Summary

Tag Category	Speech Tag	Tags Observed	Calls with Tag	Observed Percentage	Daily Occurance	Avg. Tag Confidence
Geography	Geography	1101	1101	20.0%	34.41	59.33
Lead source	Lead source	4353	4353	79.2%	136.03	62.70
Product Interest	Product Interest	3249	3249	59.1%	101.53	76.35
Property information	Property information	1047	1047	19.0%	32.72	62.36
Scheduling	Scheduling	4340	4340	79.0%	135.63	54.32
Script Adherence	Script Adherence	9946	9946	180.9%	310.81	74.80
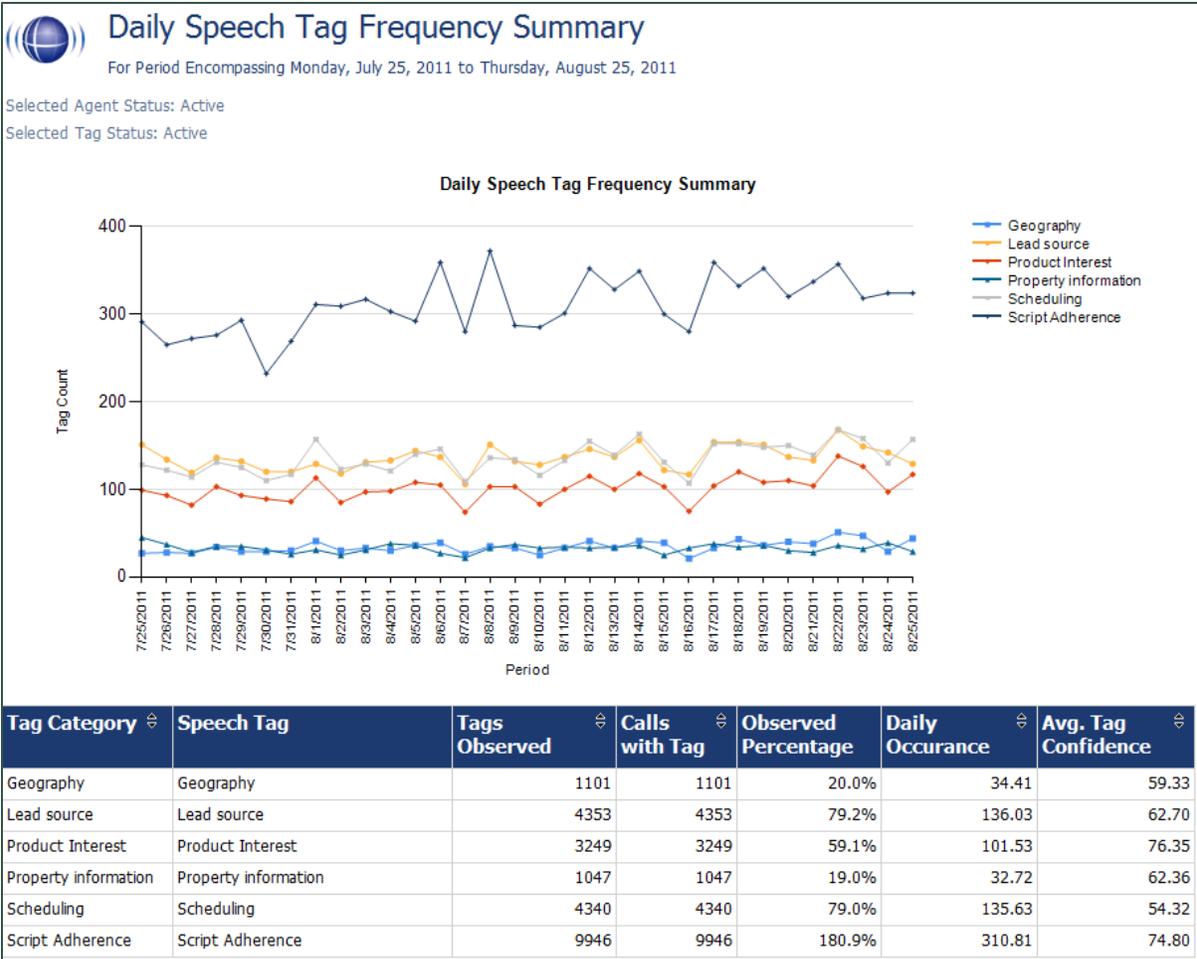
Speech Tag Trending Report

This report shows the speech tag counts for a selected category and how they change over a time interval.

- **Period —** A day, week, month time period
- **Tag Text —** Text/phrases specified for a tag
- **Calls Tagged —** Number of calls with the specified speech tag phrase/text
- **Total Calls —** Number of calls selected for speech analytics
- **Observed Percentage —** Number of calls tagged/total calls

Weekly Speech Tag Trending Report

For Period Encompassing Monday, July 25, 2011 to Thursday, August 25, 2011

Category:	Geography				
Tag Name:	**Geography**				
Period	**Tag Text**		**Calls Tagged**	**Total Calls**	**Observed Percentage**
Test	Geography		55	283	19.4%
Test	Geography		51	291	17.5%
Test	Geography		59	301	19.6%
Test	Geography		55	299	18.4%
Test	Geography		68	323	21.1%
		Total:	**288**	**1497**	**19.2%**

Category:	Lead source				
Tag Name:	**Lead source**				
Period	**Tag Text**		**Calls Tagged**	**Total Calls**	**Observed Percentage**
Test	Lead source		167	283	59.0%
Test	Lead source		168	291	57.7%

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Document Revision History

Revision	Change Description	Effective Date
0	Initial release for NICE Uptivity	2017-03-31