

# Applications

## V-Spark 4.4.0-1

**Medallia** Voci

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# Applications

V-Spark applications enable robust analysis of ASR transcribed audio interactions. Use applications to

- Classify audio by a particular application or category score, or by metadata value.
- Find and further analyze particular types of calls like service cancellations or renewals.
- Score and organize audio by call center performance metrics and other considerations, like first call resolution, agent performance, policy compliance, call driver analysis.

V-Spark applications are defined by categories, phrases, and filters that examine transcribed speaker phrases or audio metadata values.

V-Spark uses applications to analyze transcripts in terms of specific speech phrases and conversation patterns. This analysis is highly configurable.

Data points from transcript-application analysis are called scores. There are two types of score: coverage, and hit-or-miss.

Applications are linked to folders. Folders receive and transcribe audio. A folder analyzes all of its transcription data with every linked application.

In addition to analyzing incoming audio, applications can reprocess and rescore all of the audio in a folder. If an application is modified, application scores do not change until the application reprocesses the transcripts.

V-Spark application scores may be aggregated and reviewed with daily and monthly charts in the V-Spark UI, or reviewed in other analysis tools with exported CSV reports.

There are several ways to work with V-Spark applications and scores:

- Create, delete, or change the settings for an application with the Settings page.
- Create and manage categories and phrase filters with the Application Editor.
- Download and upload application definition JSON files with the UI or API.

- Link folders and applications to automatically process audio sent to a folder.
- Reprocess audio to obtain new application scores.

# Administration

Click **Settings** > **Applications** to display a list of defined applications. In the **Applications** list, you can create and delete applications, monitor the application queue, modify application settings, access the application configuration editor, and reprocess an application as in the following example:

	Name	Folders	Organization	Template	Created	
3	Agent Scorecard	1 folder	Demos (Technologies)	Agent Scorecard	2017-06-23	4
5	Agent Adherence	2 folders	Demos (Technologies)	Custom	2017-06-23	6
	Customer Experience	1 folder	Demos (Technologies)	Customer Experience	2017-06-23	7

1. View application jobs queue
2. Create a new application
3. Edit application settings
4. Edit application categories and phrases
5. View application on dashboard
6. Reprocess an application
7. ✘ **Delete** an application. You will be prompted to confirm the deletion.

## Create or modify an application

Create a new application by pressing the blue + button. The **Create New Application** dialog displays:

### Create New Application ✕

**1 Organization**  
Technologies ▾ / Demos ▾

**2 Application Name**  
  
Can only contain A-Z 0-9

**3 Default Score Type**  
 Hit/Miss  Coverage

**4 Template Options**  

**5 Templates**  

Please be aware that applications with **custom metadata filters** may result in scores of 0 if linked folders do not share the custom metadata fields used.

**6 Link to Folders**

1. **Organization** – Dropdown list of companies and organizations to which the application belongs.
2. **Application Name** – The application name, which is limited to numbers, uppercase letters, and lowercase letters.
3. **Default Score Type** – Choose the default score type to be *displayed* on graphs. **Hit/Miss** is selected by default. See the **V-Spark Application Development Guide** for a detailed explanation of scoring.
4. **Template Options** – Offers three options for template generation:
  - **Build from scratch** – create a custom application
  - **Use preset template** – use a defined template, if any have been provided with V-Spark
  - **Copy from existing organization** – enables users to create a new application based on any existing application
5. **Templates** – Depending on the template option selected, this is a list of either preset templates or existing applications from other organizations to copy.
6. **Link to Folders** – The name(s) of the folder(s) this application will score.

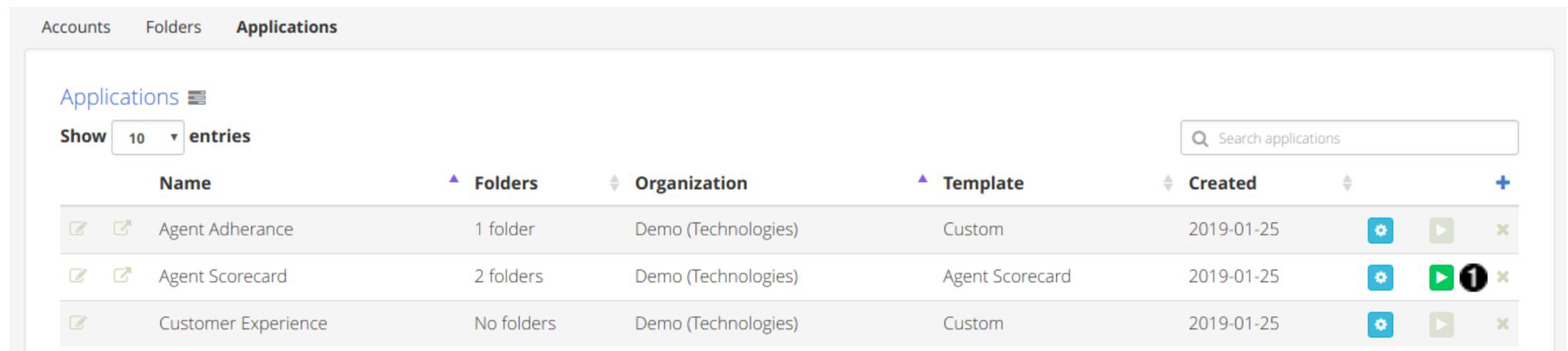
## Modify an application

Modify an application by selecting the **Edit** icon to the left of the application in the **Settings, Applications** section. The fields in the dialog display that results are the same as the **Create New Application** window.

## Reprocess applications

Reprocessing an application consists of scoring a folder's *existing transcripts* against an application configuration. Reprocessing an application is necessary when a folder that already contains transcribed audio is linked to a new application, or when the application's configuration is modified.

Applications can be reprocessed from the **Applications** page found in the **Settings** menu. A reprocess button is available for every application listed in the **Applications** table. The reprocess button appears **active** (green) when the application has been modified, even if changes do not result in new scores.



Name	Folders	Organization	Template	Created	
  Agent Adherence	1 folder	Demo (Technologies)	Custom	2019-01-25	  
  Agent Scorecard	2 folders	Demo (Technologies)	Agent Scorecard	2019-01-25	   
 Customer Experience	No folders	Demo (Technologies)	Custom	2019-01-25	  

1. Locate the application in the **Applications** table and select the green **Reprocess Application** button on the right-hand side of the table to view the "Reprocess Agent Scorecard" dialog.

Reprocess Agent Scorecard AutoTests (AutoTests) ✕

**Select folders** to update their application score data based on the latest application config:

SearchData ▾ ①

⑤  Update scores in file JSON?

**Choose Date Range**

2019-03-29 to 2019-04-23 📅 ③

Or

④  Process all data

**Note:** ②  
Only folders that need to be re-processed are listed above. [Click here](#) to list all folders.

⑥ Queue

Use the dialog to choose which folder and transcripts should be rescored using the current application configuration.

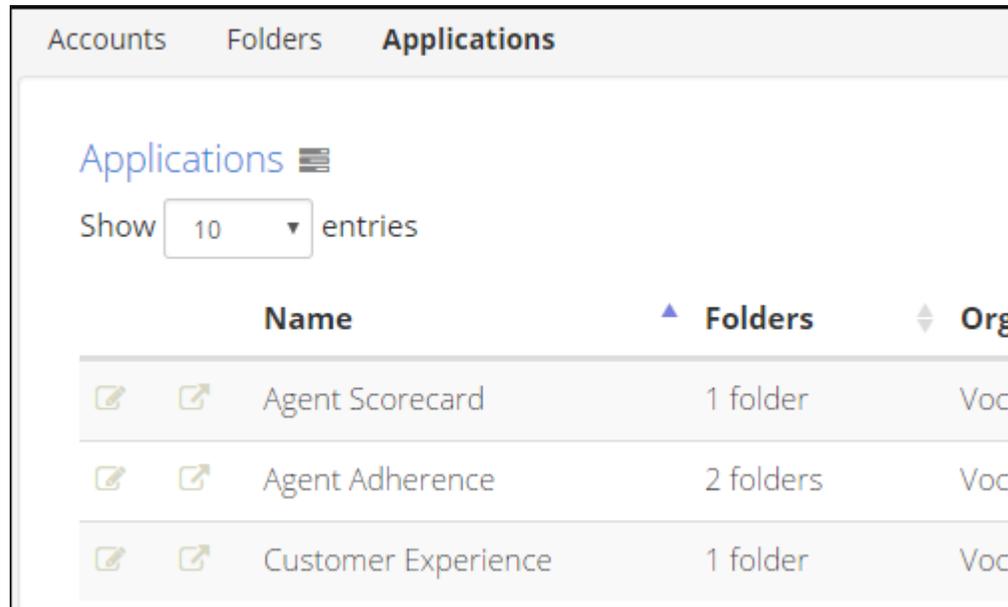
1. **Select folders** for reprocessing. By default, this drop-down will only list folders with transcripts that have not been scored against the application's current configuration.
2. **List all folders** that are linked to the selected application in the folder selection drop-down.

3. **Choose Date Range** for transcripts to be reprocessed. This action will rescore all transcripts starting from the chosen start date through the chosen end date.
4. Select to **process all data** in the selected folders
5. Select to **update scores** in JSON transcript files. This option will slow reprocessing and should only be used if you use the bulk download feature or APIs to extract JSON transcripts for analysis.
6. **Queue** application reprocessing for the selected date range

Once application reprocessing jobs have been queued, the progress of scoring can be monitored by viewing the Application Jobs Queue.

## Monitor jobs

The Application Jobs Queue enables you to monitor the progress of various jobs including application reprocessing and folder application score deletion. It will display automatically after submitting a reprocessing or delete request, or can be displayed using the queue button found at the top of the Application Settings page.



The screenshot shows a web interface with a navigation bar containing 'Accounts', 'Folders', and 'Applications'. Below the navigation bar, there is a section titled 'Applications' with a menu icon. A 'Show' dropdown menu is set to '10' entries. Below this is a table with the following columns: 'Name', 'Folders', and 'Org'. The table contains three rows of data:

Name	Folders	Org
Agent Scorecard	1 folder	Voci
Agent Adherence	2 folders	Voci
Customer Experience	1 folder	Voci

The queue displays **Application**, **Folder**, and **Organization** names as well as the **Type** of job (Reprocess, Summarize, or Delete), the **Date range** that was selected for reprocessing, **Queue Start**, and the **Status** of each job. **Queue Start** is a timestamp of when a job starts reprocessing after that job has been added to the queue.

All reprocessing jobs remain in the application queue for 30 minutes. The **Status** column indicates the status of the job.

- **Waiting...** — In the queue to be reprocessed.

Waiting jobs will also have a **stop** button visible. Use the stop reprocessing function to remove this waiting job from the queue.

- **Percent Completed** – Reprocessing has started, and is partially complete.

Reprocessing jobs will also have a **stop** button visible. Applications that are reprocessing cannot be edited in the application editor. Use the stop reprocessing function if you need to make an application configuration change for improved scoring. A reprocessing job that is stopped early may have incomplete or inaccurate file scores which may or may not be displayed on the dashboard.

- **Completed** – Processed successfully.
- **WARNING** – Processed, but difficulties were encountered.
- **ERROR** – Not processed successfully.

If there is a warning or error, contact your system administrator for more information.

Application Jobs Queue							✕
Application	Folder	Organization	Type	Date range	Queue Start	Status	
AppStatsGold	StatsGold	AutoTests- AutoTests	Reprocess	2017-09-03 to 2017-09-09	15:13:56	Waiting...	
AppStatsGold	SearchData	AutoTests- AutoTests	Summarize	2017-09-03 to 2017-09-09	15:13:56	Completed	
AppStatsGold	SearchData	AutoTests- AutoTests	Reprocess	2017-09-03 to 2017-09-09	15:13:56	Completed	
Agent Scorecard	SearchData	AutoTests- AutoTests	Reprocess	2016-08-30 to 2016-09-02	15:12:57	0%	

# Development

## Before you build

Before you begin creating an application, you must start with a well-defined and well-understood problem and an idea of how this use case can be measured.

For example, you may have a goal to improve Agent adherence to a script specifically designed for customer churn interactions. In this case, you may want to 1) identify interactions where customers called to cancel an account and 2) score how well the responding Agent followed the appropriate script. A well-structured application can readily surface both poor and well-performing Agents and measure their improvements after targeted-training.

You can use the following questions to help refine your own application criteria:

- What problem am I trying to solve?
- Is constant analysis required to understand this problem?
- What types of calls do I need to identify?
- What speaker phrases or metadata can be used to surface this problem?
- What data can be used for measuring meaningful differences in performance?
- Is it sufficient to know *that* a call falls into a defined category or do I need to know *how closely* that call matches the category?

Once you have defined your criteria, you can begin thinking about how to structure your application. You will identify any logical groupings that can be used to define application categories, and then begin to use the accumulating data to populate your categories. Application categories use a combination of metadata filters, include phrases, and exclude phrases to match and score calls.

**TIP:****Best Practices for Application Development**

- Applications should be structured so that the same score type (high or low) in every category is considered "good" or "bad". This makes it easier to understand and visualize the data.

For example, if you want to measure customer experience, we recommend separate applications for measuring negative experiences and positive experiences.

- While developing your application, it is best to use a well-understood sample data set. Your data set should contain both transcripts that you know expose the problem you are trying to solve, and some that do not.

A smaller data set will allow you to develop your application more efficiently, by cutting down on reprocess times.

## Building and customizing

The next few sections discuss everything you need to know about creating and customizing applications. The mechanics of the Application Editor are presented first, followed by a description of *best practices* for building an application.

Regardless of how you created an application, you will often want to customize it. V-Spark includes a graphical application editor to simplify this task.

To access the application editor, select **Applications** from the **Settings** dropdown. Type the name of the application that you want to

customize in the search bar. To open the application editor, click the blue and white gear icon () next to the application that you want to edit. This displays an application-specific version of the **Edit Application** screen:

The screenshot displays the 'Agent Adherence Demos (Technologies)' interface. At the top, there is a title bar with the application name and a user profile 'A. Username'. On the right, there are icons for upload/download (1), a close button, and a user indicator (2). The main area is divided into three sections:

- Left Panel:** A list of categories including Communication, Compliance, Effectiveness (selected), Politeness, and Professionalism. A plus sign (8) is at the bottom.
- Middle Panel:** A list of filters under the heading 'Call filters' (3). The filters include Additional assistance, Call Back, Offer best solution, Gather Facts (7), and Sales Effectiveness. A plus sign is at the bottom.
- Right Panel:** A search interface for speaker phrases (4). It includes a 'Speakers' dropdown, a search input field, and an 'Options' dropdown. A dropdown menu is open, showing options: Upload phrases (5), Download Phrases, Add Metadata Filters (6), and Editor Help. Below the search field are sections for 'Metadata Filters:', 'Include one or more of:', and 'Exclude all of the following:'.

1. Upload or download a JSON version of your application
2. Displays all users currently viewing the application
3. Select a category of this application to edit
4. Add speaker phrases (include phrases or exclude phrases) to your application

5. Upload or download lists of phrases for your application
6. Add filters to your application
7. Denotes leaf-level categories
8. Create a new category

## The Application Editor

The V-Spark Application Editor enables authorized users to customize an application. The Application Editor requires users to possess Create/Edit permissions in the company or organization with which an application is associated. Access the Application Editor from the Application Dashboard page by selecting the **Application Editor** icon, or from the Applications section of the Settings page by selecting the **Application Editor** icon from the application list.

### The Application Dashboard & Applications List

The screenshot shows the top section of the Application Dashboard. It includes a 'View' dropdown set to 'Agents', a date range filter for '2016-09-01 to 2016-09-30', and a notification icon with the number '1'. Below these are two level filters: 'LEVEL 1' set to 'Compliance' and 'LEVEL 2' set to 'All'. On the right, there is a 'DATA' dropdown set to 'Coverage Score' and a settings gear icon.

### The Applications List

The screenshot shows the 'Applications' section of the dashboard. It has tabs for 'Accounts', 'Folders', and 'Applications'. Below the tabs, there is a search bar and a 'Show 10 entries' dropdown. The main content is a table with the following columns: Name, Folders, Organization, Template, Created, and a set of action icons (gear, play, and close).

Name	Folders	Organization	Template	Created	
Agent Adherence	1 folder	Demo (Technologies)	Custom	2019-01-25	2 [gear] [play] [close]
Agent Scorecard	2 folders	Demo (Technologies)	Agent Scorecard	2019-01-25	[gear] [play] [close]
Customer Experience	No folders	Demo (Technologies)	Custom	2019-01-25	[gear] [play] [close]

1. The **Application Editor** icon on the Dashboard

## 2. An **Application Editor** icon on the Application List

The Application Editor opens in a separate window. This Editor is used to make changes to any of the categories, phrases, and filters that comprise an application Scorecard . Parts of the Application Editor and Using the Application Editor outline the basic elements and functionality of the Application Editor.

**NOTE:** Any changes to the Application Config will affect the application scores for all users.

## Parts of the Application Editor

Agent Scorecard Demo (Technologies) - Technologies-Demo-MonoAudio, Technologies-Demo-StereoAudio



AUser

The screenshot displays the Application Editor interface with several numbered callouts (1-8) highlighting key features:

- 1**: Upper-level Categories (Professionalism, Communication Skills, Compliance, Effectiveness, Politeness)
- 2**: Lower-level Categories (Client options, Active listening, Ask for Call Reason, Positive words, Connection stable, Client Informed, Responsive, Knowledge Transfer)
- 3**: Call filters (Call filters)
- 4**: Search for a phrase or enter a new one
- 5**: Call filters (Call filters)
- 6**: Metadata Filters
- 7**: Include one or more of (Agent: can i help you, Agent: how can help you ~3, Agent: how can i assist you, Agent: how can i help, Agent: how gonna help you, Agent: how may help you ~3, Agent: how may i help, Agent: i'll gonna help you, Agent: what can i, Agent: what can i assist, Agent: what can i do, Agent: what can i do for you today, Agent: what can i help, Agent: what happens when ~2, Agent: what's going on, Agent: what's the problem)
- 8**: Exclude all of the following

- 1. Upper-level Categories:** categories that contain lower-level categories. All categories are made up of call filters and lower-level categories that contain include phrases, exclude phrases, and metadata filters. Each level of an application can contain up to 10 categories.
- 2. Lower-level Categories:** any category that is contained within an upper-level category. Second-level categories can contain third-level categories (and so on) or be leaf-level categories.

3. **Leaf-level Categories:** application categories that have no lower-level categories of their own. Leaf-level categories are responsible for generating Leaf Scores.
4. **Category Navigation:** use the left and right arrows at the top of the Application Editor to navigate between different levels of the application hierarchy. Applications can have up to five hierarchy levels by default.
5. **Call filters:** an intermediate step between each level of categories. Any calls that include at least 1 include category phrase, include no category exclude phrases, and meet the category metadata filter requirements will pass through to the next level for further filtering and, eventually, leaf-level scoring. Any calls that do not meet the previously-listed criteria will receive no score for that category. *For example, if you are evaluating call drivers for a particular set of products, you may want to specify those product names as category filters to ensure that you only view calls where customers are talking about those particular products.*
6. **Metadata filters:** metadata filters allow you to narrow down the results of your application scoring. Metadata filters are available as part of ad-hoc Dashboard search and can be assigned wherever required. See Metadata filters for more information.
7. **Include phrase list:** the include phrase list contains phrases that you want to include in your analysis. If a call contains at least 1 include phrase, it will be counted as meeting the requirements for that category.
8. **Exclude phrase list:** the exclude phrase list contains phrases that you want to exclude from your analysis. Exclude phrases are particularly useful for eliminating false positives. *For example, if you want to view calls where the customer says "happy", you can add "not happy" as an exclude phrase to ensure that calls containing "not happy" are not counted for that category.*

**NOTE:** You can also exclude custom metadata filters but not default metadata.

# Using the Application Editor

## Application Editor controls

Agent Scorecard Demo (Technologies) - Technologies-Demo-MonoAudio, Technologies-Demo-StereoAudio

AUser

The screenshot displays the Application Editor interface. On the left, there is a list of categories: Professionalism, Communication Skills (highlighted), Compliance, Effectiveness, and Politeness. Each category has edit and delete icons. A plus sign with a circled '3' is at the bottom. In the center, there is a 'Call filters' section with a help icon (circled '4') and a list of filters: Client options, Active listening, Ask for Call Reason (highlighted), Positive words, Connection stable, Client Informed, Responsive, and Knowledge Transfer. On the right, there is a search bar (circled '5') with a dropdown menu (circled '6') containing options: Upload phrases, Download Phrases, Add Metadata Filters, and Editor Help. Below the search bar, it shows 'Showing 16/16 phrases' and a list of phrases (circled '7') such as 'Agent: can i help you', 'Agent: how can help you -3', etc. There are also circled numbers 8, 9, 10, and 11 pointing to specific elements in the interface.

The following list shows the controls that are available to you in the Application Editor. All changes you make to an application are saved immediately.

1. **Remove category:** to remove a category, select the "X" next to that category then confirm your choice by selecting "OK" in the window that

appears. Each app must have at least one category.

2. **Change category name:** to change the name of a category, select the Edit icon next to that category, type a new name into the window that appears, and confirm your changes.
3. **Add new category:** to add a new category, select the blue "+" underneath the list of categories, type a new name into the window that appears, and confirm your change. Each level of an application can contain up to 10 categories.
4. **View Call Filter Help:** if you have questions about how to use Call Filters or about how Call Filters affect application scoring, select the (?) for more information.
5. **Select speaker(s):** when adding a new phrase, you can specify the side of the conversation to which the search phrase should apply. See [Speaker phrases](#) for more information.
6. **Add new phrase:** to add a new search phrase, type it into the search bar at the top and select + to the right of the search box, or press the *Enter* or *Return* key on your keyboard. The new phrase will be added to the **Include phrase list**. To add a phrase to the **Exclude phrase list**, prefix it with a "-" (minus). See [Speaker phrases](#) for more information.
7. **Remove phrase:** to remove a search phrase, simply locate the phrase you wish to remove from the list and select the **x** to the right of the search phrase tag.
8. **Upload phrases:** to import speaker phrases and metadata filters to the current category, choose **Upload phrases** from the **Options** dropdown menu. See [Using phrase and filter files](#) for more information about file format.
9. **Download Phrases:** to export speaker phrases and metadata filters from the current category, choose **Download Phrases** from the **Options** dropdown menu. See [Using phrase and filter files](#) for more information about file format.
10. **Add metadata filters:** to add metadata filters, select **Add filters** from the **Options** dropdown, select the type of filter you wish to add, configure the filter settings, and select **Add**. See [Metadata filters](#) for more information.
11. **View Application Editor Help:** if you have questions about how to use the Application Editor or about how application searches work, simply select the "Editor Help" option from the **Options** menu.

12. **Upload or Download application config:** import or export an application's entire set of categories, phrases, and filters. See Using config files for more information about usage and file format.

## Using phrase and filter files

The Application Editor provides the option to upload and download a list of speaker phrases and metadata filters to or from a selected category. Phrase and filter lists that are downloaded from one category may be uploaded to another category, or even to another application.

Agent Scorecard AutoTests (AutoTests) - AutoTests-AutoTests-SearchData

admin

Professionalism

**Communication Skills**

Compliance

Effectiveness

Politeness

+

Call filters

Client options

**Active listening**

Ask for Call Reason

Positive words

Connection stable

Client Informed

Responsive

Knowledge Transfer

+

Speakers Search for a phrase or enter a new one + Options

Showing 60/60 phrases

1 Upload phrases

2 Download Phrases

Add Metadata Filters

Editor Help

Metadata Filters:

Include one or more of:

Agent: and you just want x Agent: are we talking about x Agent: are you calling about x

Agent: are you saying x Agent: as you said x Agent: basically you x Agent: basically you're x

Agent: better understand x Agent: better understanding x Agent: can you clarify x

Agent: can you elaborate x Agent: can you explain x Agent: didn't catch that x

Agent: give you a ring back in x Agent: gotcha x Agent: hear last part ~2 x

Agent: i definitely understand x Agent: i got you x Agent: i gotcha x

Agent: i just want to review x Agent: i know what you're saying x Agent: i make sure ~3 x

Agent: i understand x Agent: i wanna be sure ~2 x Agent: i want be sure ~2 x

Agent: i will address that x Agent: i will address that ~2 x Agent: i would like to understand x

Exclude all of the following:

1. Select to upload a phrase and filter list to the current category
2. Select to download the current category's phrase and filter list

An upload list must be a plain `.txt` file. An example of a properly formatted text file is shown at the end of this section. The file is separated into labeled sections, according to phrase or filter type. Phrases in the `CLIENT` and `AGENT` sections are Client and Agent phrases, respectively.

Phrases in the `SPEAKERS` section are phrases for both Client and Agent. Phrases in the `METADATA` section are filters using custom metadata. Phrases in other sections are values for the built-in metadata filter that is identified by the section's label.

See Metadata filters for more information about available metadata filters and Speaker phrases for more information about speaker phrases. Blank lines between sections are not required, but are included here for clarity.

**Category Phrase and Filter Text File**

## SPEAKERS:

cancel

having problem ~n

## CLIENT:

hello

my account

expensive

## AGENT:

your account

downgrade

-purchase

## METADATA:

color = blue

## AGENT VOICE CLARITY:

18.2% - 69.3%

## CLIENT GENDER:

female

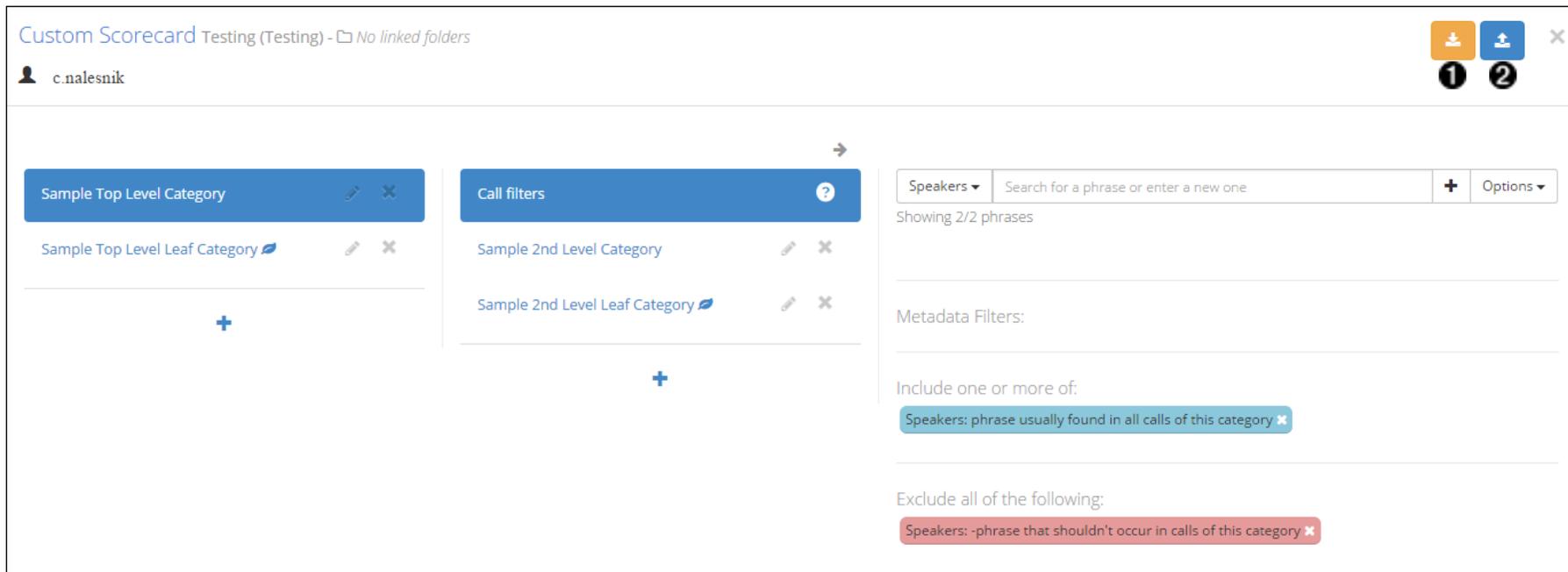
## CALL DURATION:

0:00:00 - 0:17:23

## Using config files

An application's config contains the comprehensive set of categories, phrases, and filters. This config may be downloaded or uploaded to support application backups or offline editing, as an alternative to using the application editor to modify the application. The following figure shows the location of the upload and download controls.

**WARNING:** Uploading a configuration will overwrite the entire existing set of categories, phrases, and filters.



1. Select to download the application config
2. Select to upload an application config

Application config files are in JSON format, and each category must contain "phrases" and "subcategories" properties. The following example

JSON shows an application config that may be used as a template.

**IMPORTANT:** Uploading config files from Version 2 and older of V-Spark is not supported in Version 3 and subsequent releases.

## JSON Application Config Template

```
{
  "Sample Top Level Category": {
    "phrases": {
      "+": {
        "all": [
          "phrase usually found in all calls of this category"
        ]
      },
      "-": {
        "all": [
          "phrase that shouldn't occur in calls of this category"
        ]
      }
    },
    "subcategories": {
      "Sample 2nd Level Category": {
        "phrases": {
          "+": {
            "all": [
              "call must have one of these phrases to be scored 2",
              "call must have one of these phrases to be scored"
            ]
          },
          "-": {
            "all": [
              "call must not include this phrase to be scored"
            ]
          }
        }
      }
    }
  }
}
```

```
    }
  },
  "subcategories": {}
},
"Sample 2nd Level Leaf Category": {
  "phrases": {
    "+": {},
    "-": {}
  },
  "subcategories": {}
}
}
}
```

## Testing Your Applications

Building an application is an iterative process. You may already have ideas about which phrases to search for, but these may not be all-inclusive, and may not always match the category you expect them to match. For this reason, it is necessary to test your applications by reviewing the search results generated by your app, revising search phrases, and re-processing the changes. The recommended way to test your application is to look for both false negatives and false positives.

False negatives are calls that should have matched a particular category, but don't contain any of the phrases currently used in the application. Looking at these calls will help you find phrases that you need to add to your application.

False positives are calls that matched a particular application phrase, but the context of the phrase does not properly match the intended category. Looking at these calls will help you identify application phrases that might be too general. You may want to add exclude phrases to eliminate incorrect matches, or make your current phrases more specific.

The easiest way to test for false positives and false negatives is to use the application metrics filters on the Dashboard. These filters allow you to search matches for each category as well as search for calls that do not match a category at all.

You can also test application search phrases before adding them to your application by using the ad-hoc search capabilities. Using ad-hoc searching allows you to experiment with different variations of special search characters, adjust the different metadata filter settings, and evaluate the kinds of calls that are linked to a particular search phrase.

### Dashboard Application Metrics Filters

**NewAgentScorecard**  OR  AND



<input checked="" type="checkbox"/> Communication Skills	All
<input checked="" type="checkbox"/> Compliance	All
<input checked="" type="checkbox"/> Effectiveness	All
<input checked="" type="checkbox"/> Politeness	High
<input type="checkbox"/> Closing	All
<input checked="" type="checkbox"/> Greeting	None
<input type="checkbox"/> Other	All

## Speaker phrases

Include and exclude phrases are used for searching a particular **speaker turn** to identify matching text in a given transcript. Guidelines for application speaker phrases:

- Include and Exclude phrases may apply to **Agent** turns, **Client** turns, or both **Speakers** turns.
- Phrases may contain multiple words, but are restricted to 250 characters in length
- Phrases may only contain **one special character**. Special characters may not be combined in a single search phrase.
- Phrases prefixed with "-" (minus) are considered **exclude phrases**. The "-" in exclude phrases is not considered to be a special search character, and exclude phrases may still contain one special character. Exclude phrases are treated differently during scoring, depending on the category level.

Permitted search characters and their functions are listed in the following table, along with example use cases.

## Special Characters Permitted in Application Speaker Phrases

Character	Function	Example	Meaning
&	AND	phone & tablet	Match transcripts containing both "phone" and "tablet"
	OR	phone   tablet	Match transcripts containing either "phone" or "tablet"
*	Wildcard for 0+ characters	help*	Match transcripts containing phrases like help, helping, helpful, and so on
?	Single character wildcard	th???	Match transcripts containing phrases like "there", "thank", "those", and so on
~n	Search for phrases appearing up to <i>n</i> words apart within the same speaker turn	cancel account ~4	Match transcripts containing "cancel" and "account" no more than 4 words apart in the same speaker turn, like "cancel your, the account" or "cancel my daughter's membership account"
~t	Search for phrases appearing	cancel account ~t	Match transcripts containing "cancel"

Character	Function	Example	Meaning
	within the same speaker turn		and "account" in the same speaker turn
^	Search for phrases found at the beginning of a speaker turn	^ helpful	Match transcripts containing "helpful" at the beginning of a speaker turn
\$	Search for phrases found at the end of a speaker turn	upset \$	Match transcripts containing "upset" at the end of a speaker turn
~s>n	Search for phrases found after the first n seconds of the transcript	can I have your account number ~s>30	Match transcripts containing "can I have your account number" after the first 30 seconds of the call
~s<n	Search for phrases found within the first n seconds of the transcript	can I have your name please ~s<30	Match transcripts containing "can I have your name please" within the first 30 seconds of the call
~e>n	Search for phrases found before the last n seconds of the transcript	cancel account ~e>30	Match transcripts containing "cancel account" before the last 30 seconds of the call
~e<n	Search for phrases found within	have a good one ~e<30	Match transcripts containing "have a

Character	Function	Example	Meaning
	the last n seconds of the transcript		good one" within the last 30 seconds of the call

**NOTE:****Limitations of time-based searches**

- Time-based searches use the speaker turn **start** times when looking for matches. For example, if the search phrase is "Client: phone ~s<30" and the Client's turn begins at 28 seconds, but the phrase "phone" doesn't occur until 40 seconds in, that will still be marked as a match since the start of the speaker turn was within the correct time frame.
- Time-based searches will not work on files that were uploaded to a system running Version 2 of V-Spark . A search phrase can match any location in the file, not limited to time.

## Metadata filters

Metadata filters, either built-in or custom, will match a particular metadata value or range of values, depending on the type. V-Spark applications can be configured to use both built-in and custom metadata filters. Find all available metadata filters on the **Filter** drop-down menu. Built-in metadata filters are listed at the top of the menu. Custom metadata filters are listed below the built-in metadata filters.

### Built-in metadata filters

Add built-in metadata filters to define which files should be included for analysis. V-Spark includes the following built-in metadata for each file:

- **Gender:** filters results based on Agent or Client gender: All, Male, Female. See [Gender Identification](#).
- **Emotion:** filters results based on Agent, Client, or Overall emotion: Positive, Negative, Improving, or Worsening. Positive calls remain positive or neutral throughout the call. Negative calls remain neutral or negative throughout the call. Improving calls begin negative and progress to positive by the end of the call. Worsening calls begin positive but decline to negative by the end of the call. See [Emotion and Sentiment Analysis](#).

**Add metadata filter** [X]

**Filter:**

Emotion ▼

**Select Emotion**

Overall ▼

- All
- Positive
- Worsening
- Negative
- Improving

Add

- **Call Duration:** filters results to include only calls within a call duration range.
- **Call Silence Time:** filters results based on the percentage of non-speech duration. Calls with 100% silence contain maximum silence. A percentage range may be defined using a slider.
- **Voice Clarity:** filters results based on how clear the Agent or Client sounds on the recording. Speakers with 100% clarity would be the clearest. Low clarity indicates speech that is hard to understand, possibly due to poor phone signal, background noise, or speaker accent or enunciation. A percentage range may be defined using a slider.

**Add filter** [X]

**Filter:**

Voice Clarity

**Select Voice Clarity**

Agent Client

85% 100%

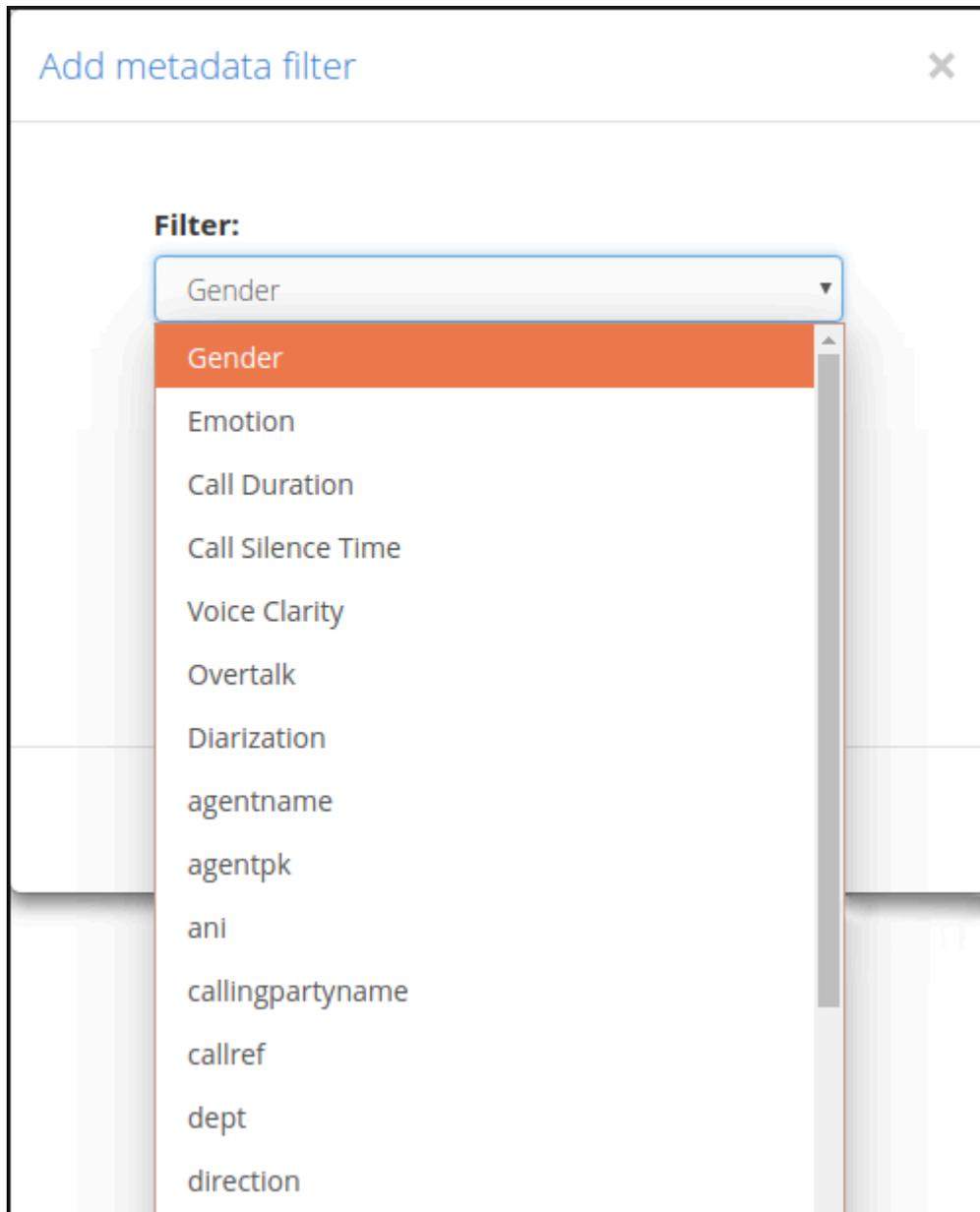
Add

- **Overtalk:** filters results based on the percentage of turns that an Agent talks over the Client. Overtalk of 100% indicates that the Agent spoke over the Client throughout the entire call. A percentage range may be defined using a slider. Overtalk may negatively impact transcription accuracy, as described in [Types of Errors from Mono Transcripts](#).
- **Diarization:** filters results based on how well mono (single-channel) audio was separated into multiple speakers for analysis. Diarization of 100% indicates the highest quality speaker separation. See [Diarization](#).

**IMPORTANT:** Only one filter may be added for each metadata type. Agent and Client filters are considered to be different metadata types.

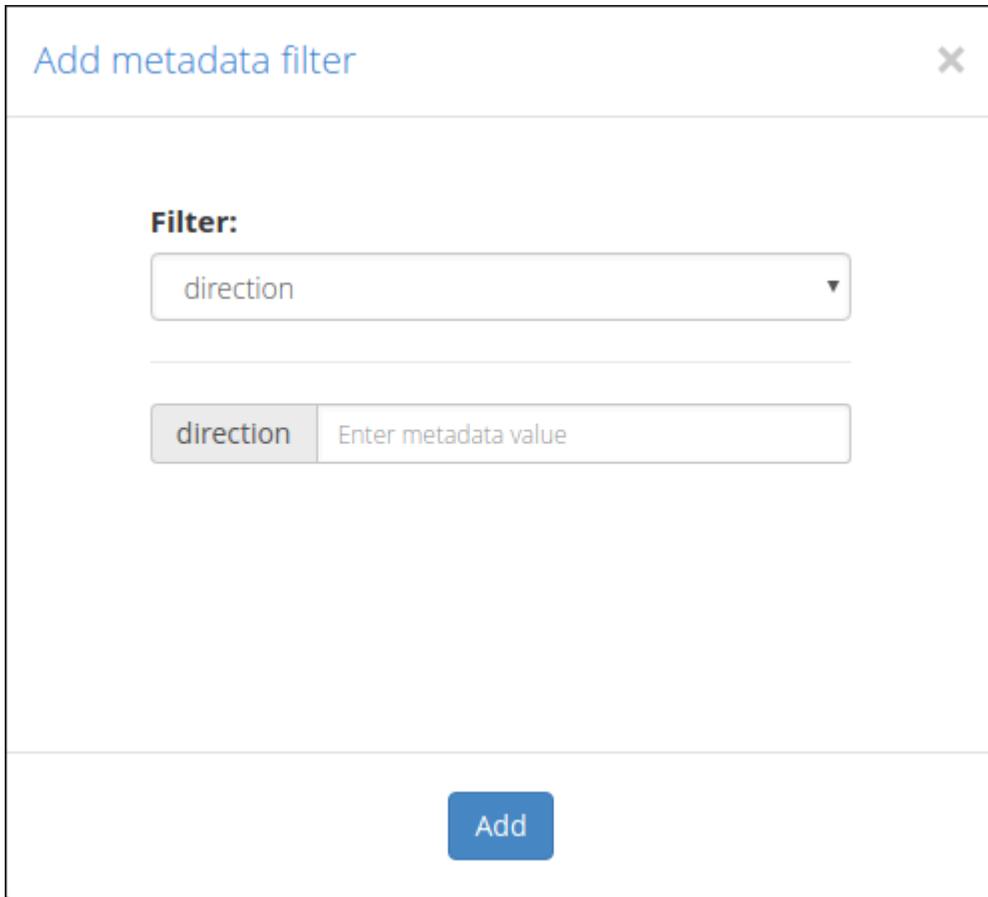
## Custom metadata filters

Custom metadata filters can only be added to an application category if custom metadata field names have been configured for at least one of the folders linked to the given application. Refer to the *V-Spark Management Guide* for more information regarding configuring custom metadata field names.



Available custom metadata fields can be found in the **Filter** drop-down menu, beneath the built-in filters.

To add a custom metadata filter, select a custom metadata field from the **Filter** drop-down menu. The "Add metadata filter" dialog displays. Enter the value for the custom metadata field by which to filter, and select **Add**. Custom metadata filters display in the **Metadata filters** section, similarly to built-in metadata filters, as shown in Parts of the Application Editor.



The screenshot shows a dialog box titled "Add metadata filter" with a close button (X) in the top right corner. Inside the dialog, there is a section labeled "Filter:" followed by a dropdown menu currently displaying "direction". Below this, there is a text input field with "direction" on the left and "Enter metadata value" on the right. At the bottom center of the dialog is a blue button labeled "Add".

Unlike built-in metadata filters, custom metadata filters may be used to *exclude* files that match a designated value. To add an exclude custom metadata filter, prefix the entered value with a dash (-) before adding. Exclude filters display as a yellow tag in the **Metadata filters**

section.

**IMPORTANT:**

Only one filter may be added to a category for each custom metadata type. However, in order to filter by multiple value criteria, custom metadata values may use a special character (|) to represent OR.

For example, for a custom field "direction", a value of "inbound | outbound" could be used to match files that have *either* of those metadata values.

The special character (|) used to represent OR may also be used with a dash (-) to exclude multiple values. The dash negates the entire field. For example, for a custom field "direction", specifying a value of "- inbound | outbound" excludes any file with a direction field that contains the value "inbound" and excludes any file with a direction field that contains the value "outbound".

## Templates

V-Spark comes with several ready-made application templates to jump start your call analysis. Each of these templates is designed to offer valuable insights as-is or to be customized to address your company's unique needs for analysis in terms of particular products, services, compliance scripts, or business processes. See *The Application Editor* for more information about modifying applications.

### Agent scorecard

The V-Spark *Agent Scorecard* application increases the efficiency of the agent evaluation process by automatically detecting the presence or absence of phrases that correspond to QA form requirements. Application results can be used to get an overall view of your agents' performance, pinpoint performance categories that require improved training, and compare scores for individual agents.

The *Agent Scorecard* uses six top-level categories to evaluate agent performance: Communication Skills, Compliance, Effectiveness, Politeness, Professionalism, and Sales. Application scores are accessible for individual call transcripts as well, enabling supervisors to quickly check off objective requirements on agent evaluation forms.

### Call driver analysis

The V-Spark *Call Drivers* application is the perfect springboard for developing industry-specific call driver analyses. The *Call Drivers* application automatically categorizes calls according to call type and the customer's ultimate objective. The *Call Drivers* application can be used to identify which types of calls your agents struggle with the most, cause the highest call volumes, and more.

### Customer experience

V-Spark comes equipped with a templated *Customer Experience* application that covers all aspects of both positive and negative call center experiences, including customer sentiment, customer effort, and churn detection.

The V-Spark *Customer Experience* application enhances your analysis of positive and negative customer experiences by leveraging Voci's

advanced emotional intelligence capabilities. This emotional intelligence combines both linguistic- and acoustic-based information about the speaker's emotional state (such as word choice and tone of voice) which is then used to assign each call a score of Positive, Negative, Worsening, or Improving emotion. All of these scores are searchable, and can be added to any V-Spark application as filters to help you drill down into your calls for deeper insights into your customers' state of mind.

The *Customer Experience* application lets you see how well your agents resolve customer complaints by automatically detecting repeat calls, transfers, and escalations. This information can then be used to identify areas for improvement in agent training, business processes, and self-service systems that will reduce customer effort and prevent churn. This application can be used hand-in-hand with the *Call Drivers* application in order to identify the relationship between particular call drivers and unresolved calls.

The *Customer Experience* application identifies negative customer experiences that could increase churn rate and detects calls where the customer is actively trying to cancel their account. Churn attempts are further categorized by the customer's reason for cancelling as well as the rebuttal strategies that the agent has employed in order to save the account. All of this enables you to identify common reasons for churning, reach out to unhappy customers before they churn, and identify which save strategies are most effective

# Scores

Once you understand how applications are designed and constructed, you will understand what the application is measuring, how the application is measuring, and what the application metrics mean.

Note that in some cases, a "low" score may indicate a positive outcome, and a "high" score may indicate a negative outcome. For example, if an application measures the use of impolite language by Agents, a "high" score could indicate that some Agents are speaking rudely to callers.

There are numerous ways to view application scores in a variety of contexts:

1. Using the application breadcrumb links on the  **Dashboard**:
  - a. The application dashboard shows two graphs:
    - i. The **Overview** shows coverage and hit/miss scores for top-level application categories for all days in the specified time period. Each day has one chart column.
    - ii. The **Daily Chart** shows a detailed breakdown of the selected day's scores. To change days, click a column in the **Overview**.
  - b. Below the graphs, the application dashboard shows three views:
    - i. **Agents** – View scores for individual agents.
    - ii. **Summary** – View and compare daily summary scores.
    - iii. **Files** – Define search terms and other parameters to review specific transcripts.
2. The **Application Scores** tab on a transcript's **File Details** page.
3. The `/appmatches` endpoint.

## Best practices

When defining the analytic constraints within an application, you are advised to define the categories and filters so that high scores indicate *either* positive or negative aspects of the transcript, and not both. This best practice will make it easier to understand the resulting scores quickly. For example, if you assign scores that indicate *both* positive and negative aspects of a call, then more attention is required to determine if "high scoring" agents are functioning well or poorly.

If leaf-level categories are not resulting in the scores you expect, review the filters of the "parent" category at the level above the leaf-level. It is most likely that one or more filters are preventing the transcript from being passed down to the leaf level.

## Score types

There are three kinds of scores:

- **Leaf Scores** only apply to leaf-level categories, and indicate how many phrase matches were found for that category. Every leaf-level category receives a leaf score. A leaf score of zero corresponds to a coverage and hit/miss score of 0% for that category. A leaf score greater than zero corresponds to a coverage and hit/miss score of 100% for that category.
- **Hit/Miss Scores** apply to all categories at every category level, and are either 0% or 100%. These scores indicate whether or not at least one lower-level category contained at least one match. Use hit/miss scores for your analysis when you want to find calls that hit particular categories, but when it does not matter to what extent these calls hit the categories.

For instance, if you want to find negative calls but it does not matter how many negative-indicator categories are hit by a call, then hit scores are more appropriate. Hit/Miss scores can be used for "bucketing" calls, where just one piece of information from a category or sub-categories can be used to identify a group of calls. For instance, hit/Miss scores can be used for "bucketing" calls in which the caller requests a cancellation of service.

- **Coverage Scores** apply to all categories at every category level, and are the average of the scores of the categories beneath them. Use coverage scores when it is important to analyze how many lower-level categories were hit by the call. Coverage scores do the best job of analyzing how well an individual file hits multiple sub-categories.

For instance, if you want to find calls in which a call center agent mentions the widest variety of new product offerings and uses the most positive service descriptions, then coverage scores will be most useful.

The following table summarizes score types and their locations in V-Spark.

## Application Score Types

Score Type	Description	Location(s)
Leaf Score	<p>For leaf-level categories of single calls only.</p> <p>Equal to the number of phrase matches that occurred in a leaf-level category.</p> <p>Converted into a temporary Match/No Match value before being used to calculate Coverage Scores.</p>	<p>File Details page</p> <p>JSON transcript file</p>
Match/No Match Value	<p>This value is not a formal application score, but is simply a binary version of the Leaf Score. It is therefore not stored in the V-Spark database or displayed anywhere.</p>	N/A
Coverage Score	<p>For upper-level categories only.</p> <p>Equal to the average of leaf-level Match/No Match values or of lower-level coverage scores.</p>	<p>Application Overview Graph</p> <p>Application Daily Charts (percent of calls with Hit/Miss Scores greater than 0)</p> <p>Summary View (top-level categories only) &amp; CSV Export</p> <p>Agents View &amp; CSV Export</p> <p>File Details page</p>

Score Type	Description	Location(s)
		JSON transcript file
Hit/Miss score	<p>For upper-level categories only.</p> <p>If at least one lower-level category contains a match (in other words, if the Coverage Score is greater than 0), the upper-level category receives a score of 100%.</p> <p>If none of the lower-level categories contain a match, the upper-level category receives a score of 0%.</p>	<p>Application Overview Graph</p> <p>Application Daily Charts (percent of calls with Hit/Miss Scores greater than 0)</p> <p>Summary View (top-level categories only) &amp; CSV Export</p> <p>Agents View &amp; CSV Export</p> <p>File Details page</p> <p>JSON transcript file</p>

## Leaf-level Category Scoring

Leaf-level categories are categories at the lowest level of an application. Leaf-level category scores are called **leaf scores**.

When leaf-level categories contain include phrases, the leaf score is equal to the total number of matched phrases in the transcript minus the number of matched exclude phrases. The first round of scoring is done on each individual speaker turn, and each turn's score has a floor of 0 even if the number of exclude phrases exceeds the number of matched phrases. These turn scores are then combined for an overall transcript score. Leaf-level categories with no include phrases receive a leaf score of 1.

Once calculated, leaf scores are stored in the V-Spark database and are converted into binary Match/No Match values each time Coverage scores need to be calculated for upper-level categories:

- Leaf-level categories that contain no matches (and therefore have Leaf Scores of 0) maintain a Match/No Match value of 0 when the upper-level category scores are calculated.
- Leaf-level categories that contain at least one match (and therefore have Leaf Scores greater than 0) are given a Match/No Match value of 1 when the upper-level category scores are calculated.

**NOTE:** These Match/No Match values are temporary and are only used in score calculations for upper-level categories.

## Exclude phrases

Exclude phrases in leaf-level categories work differently than exclude phrases in Category Filters sections. Exclude phrases added to Call Filters sections act as filters for entire calls, but exclude phrases in leaf-level categories simply cancel out matches for include phrases.

When searching for application matches in leaf-level categories, V-Spark searches first for all include phrases, and takes note of which speaker turns contained a match, and how many matches were contained in each of those turns. V-Spark then searches those saved speaker turns for the exclude phrases and subtracts the number of exclude phrases from the number of include phrases. This result is then entered as the Leaf

Score.

Because any exclude phrase can cancel out an include phrase, regardless of whether the words used are related, it is important to use exclude phrases with care. We recommend that you design your exclude phrases to eliminate very specific false positives that might result from a more general include phrase (e.g. “-thank you for calling” vs. “+thank you”).

## Coverage Scores

The Coverage Score is based on the average score of all lower-level categories contained within the upper-level category. For example, if an upper-level category contains four leaf-level categories and three of them contain at least one match, but the fourth contains no matches, then Coverage Score is equal to the average of these scores, i.e.  $(1+1+1+0) / 4$ , or 75%. This Coverage score is stored in the V-Spark database and is used to calculate Hit/Miss scores.

Coverage Scores are useful for analyses where every lower-level category is significant and qualifies to be matched, such as agent compliance evaluation. For example, if you have a category for Gathering Customer Data that contains lower-level categories for Account Number, Phone Number, and Birthdate and your agents need to collect all of this information, then it is important to determine how many of these three categories are satisfied. Examples for how this scoring works for individual calls versus daily or monthly collections of calls are available in .

## Hit/Miss scores

The Hit/Miss score is based on whether any matches are found in a category's lower-level categories and is calculated using the Coverage Score. If at least one phrase matches for one lower-level category, then the Coverage Score is greater than 0%, and the Hit/Miss score is consequently equal to 100%. If none of the lower-level categories match, then the Coverage Score will equal 0%, and the Hit/Miss score will consequently equal 0% also. This dependence of scores is very similar to the binary Match/No Match values that are assigned to leaf-level categories during the calculation of Coverage Scores. Note that Hit/Miss scores are not stored in the V-Spark database.

Hit/Miss scores are useful for analyses where a call need only match one leaf-level category, such as call driver analysis. If you have a category for Billing calls that contains one leaf-level category for Payments and one for Questions, you do not need to know *how many* leaf-level categories are matched by the call. You simply need to know that the call *did* match, because customers do not always call with multiple issues.

## Calculation

Call filtering is the primary method V-Spark uses to calculate application scores. In upper-level categories, call filters determine which calls are selected for further analysis, and which calls are excluded from further analysis within that category. The following diagram depicts the process that calls follow through an application's filters and categories to receive scores.



First, calls are filtered in the top-level categories. Calls that pass all the metadata filters in a category contain at least one of the include phrases of that category. Conversely, calls that contain none of the excluded phrases of that category, are passed to the upper-level categories of that top-level category. Calls that do not satisfy any requirements of the top-level categories of the application are discarded from further analysis, and do not receive scores from the application.

Calls are then filtered in the upper-level categories. Once again, calls that pass all the metadata filters in a category, contain at least one of the include phrases of that category. Other calls that contain none of the exclude phrases of that category are passed to the next level categories of that category, or to the leaf-level categories of that category. Calls that do not satisfy any requirements of the category are discarded from further analysis within that category, and do not receive scores within that category, though they may receive scores from other categories within the application.

When calls reach a leaf-level category, they are filtered one more time. Calls that hit on a metadata filter in the category and hit on at least one of the include phrases of that leaf category that is not cancelled by an exclude phrase of that leaf category receive scores for that category. Unlike calls that match exclude phrases in upper-level categories, calls that contain exclude phrases at the leaf category level are not immediately excluded from the analysis. Leaf-level category exclude phrases are used to rule out false positives and only cancel out individual phrases, rather than entire calls. Only calls that meet all filtering requirements at every upper level will be matched against include and exclude phrases at the leaf level and go on to receive scores.

After a call has been filtered into one or more leaf level categories, leaf scores are calculated for that call.

In the Application Editor, all upper-level categories have a first-level Call Filters section, located at the top of the list of the category's lower-level categories. The phrases and metadata filters in the Call Filters section determine which calls will pass on to the next level for further filtering or for leaf-level scoring.

### The Application Editor

Agent Scorecard Demo (Technologies) - Technologies-Demo-MonoAudio, Technologies-Demo-StereoAudio



AUser

The screenshot shows the Application Editor interface. On the left, there are two columns of filter categories. The first column includes Professionalism, Communication Skills, Compliance, Effectiveness, and Politeness. The second column includes Call filters (highlighted with a circled '1' and a right arrow), Call control, Empathy, Commitment, and Customer Valued. Each category has edit and delete icons. Below each column is a plus sign. On the right, there is a search panel with a 'Speakers' dropdown, a search input field with the placeholder 'Search for a phrase or enter a new one', a plus sign, and an 'Options' dropdown. Below the search panel, it says 'Showing 0/0 phrases'. Further down, there are sections for 'Metadata Filters:', 'Include one or more of:', and 'Exclude all of the following:'.

1. Select **Call Filters** to view call filters

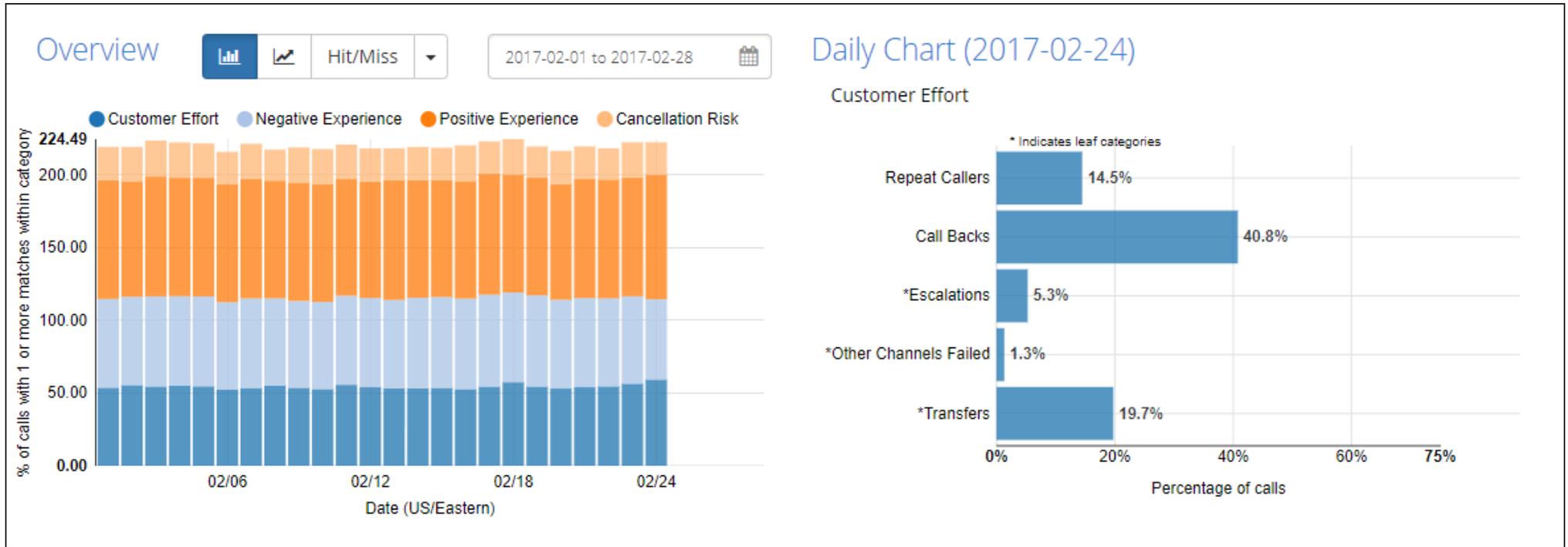
## Dashboard

After you've selected a company and organization from the breadcrumb menu, select an application from the submenu to view its dashboard. The primary way that the application dashboard enables you to view and analyze application scores is with the dashboard graphs. These graphs enable you to quickly visualize your application results and compare category results by month.

The Application Overview graph displays Coverage and Hit/Miss scores for top-level categories by day, while the Application Daily Chart enables you to drill down into lower-level categories.

Clicking on a data point on the Overview graph updates the Daily Chart on the right to provide a more detailed display of scores for lower-level categories. Likewise, selecting a data point on the Daily Chart updates the Files, Agents, or Summary View below this chart. If the selected category contains its own lower-level categories, then the chart is updated to also show the scores for those categories.

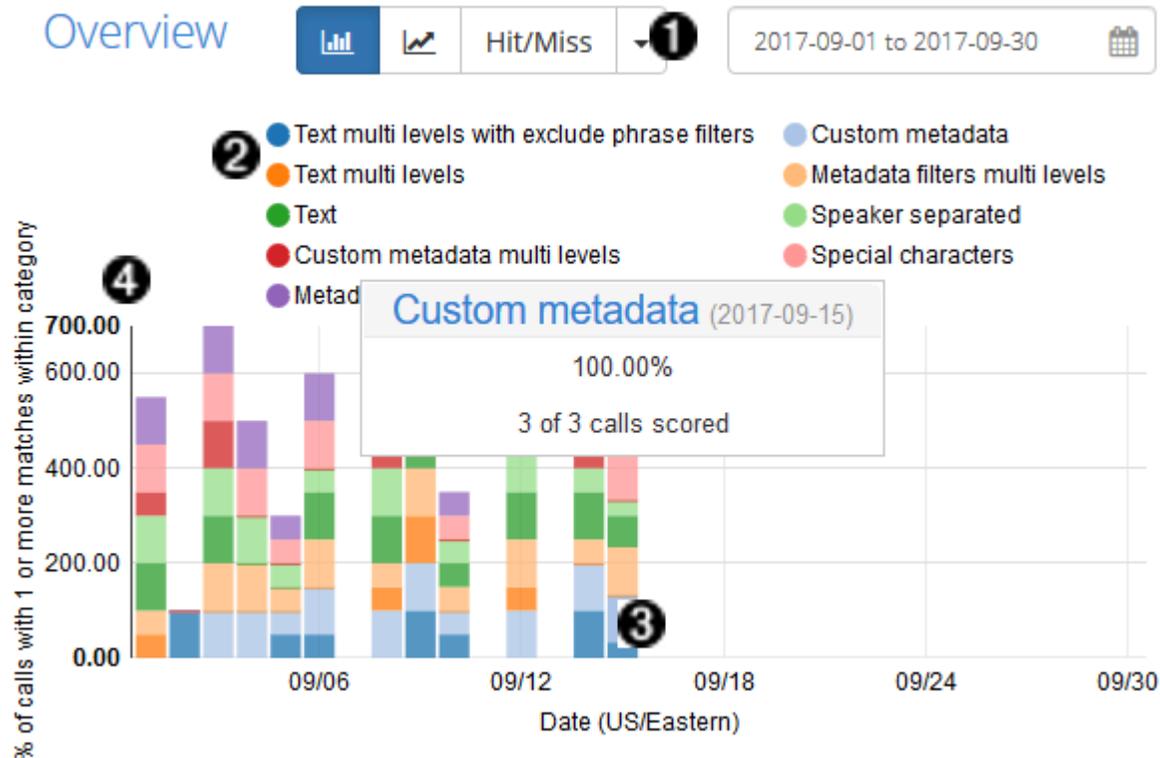
### Application Dashboard Graphs



## Using the Application Overview Graph

The bar chart version of the Overview graph shows you how many calls each day received scores based on the application's categories.

### Bar Chart Version of the Application Overview Graph

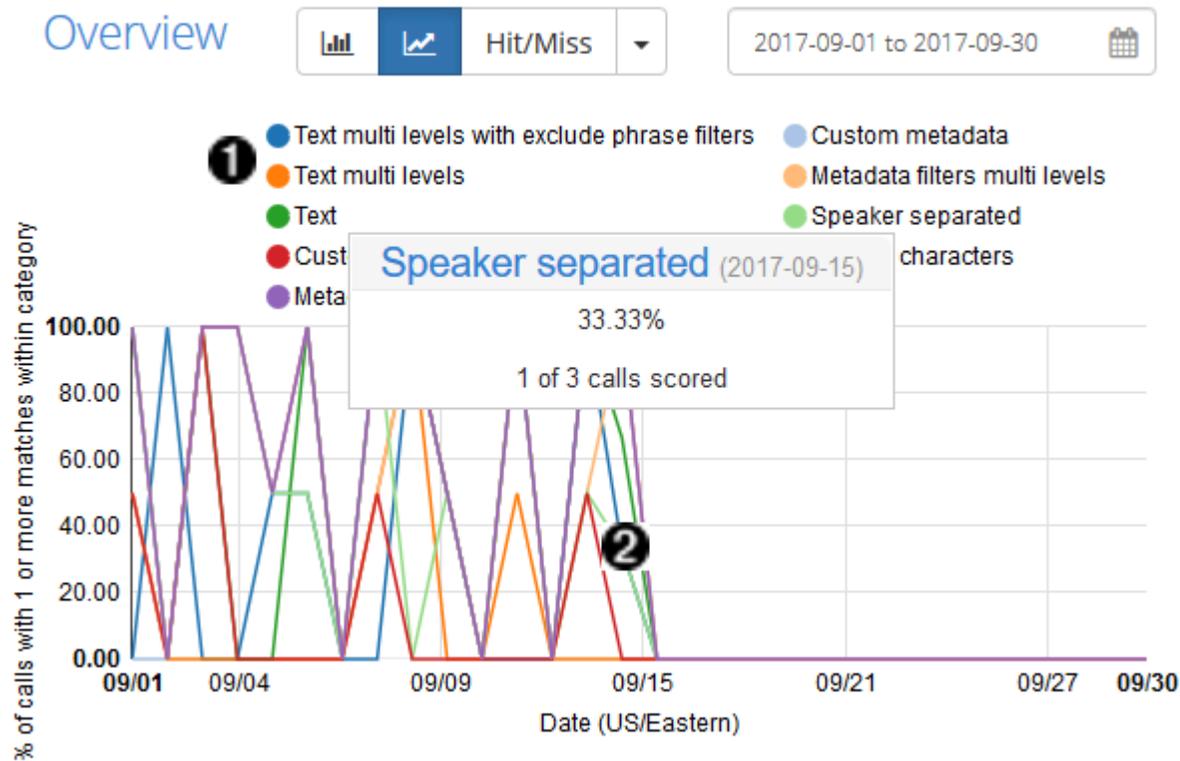


1. Choose "Hit/Miss" from the drop-down menu to display only hit/miss score data on the graph, or choose "Coverage" from the drop-down menu to display more-nuanced coverage data.
2. The key above the Overview graph assigns a color to each top-level category. Each day's vertical bar is divided into categories using these colors. Select a color in the key to hide that category's data so that it is not displayed in the graph.

3. Hover the pointer over a division to see a tool tip that displays the name of the category, the date represented by the bar, the percentage of files that received scores from that category on that day, the number of files that received scores from that category on that day, and the total number of files recorded that day.
4. The total height of each bar is measured against the vertical axis, and is the total of all the percentages that day. The relative heights of the bars over time enable you to compare the effectiveness of the application on each day.

The line graph version shows you the effectiveness of each category over time.

### Line Graph Version of the Application Overview Graph



1. The key above the Overview graph assigns a color to each top-level category. Each category is represented as a line that follows the percentage of files each day that received scores from that category. Select a color in the key to hide that category's data so that it is not displayed in the graph.
2. Hover the pointer over a single-day point in the graph to see a tool tip similar to the one described for the bar chart.

Selecting a graph division in the bar chart (or a single-day point in the line graph) also filters the view below to only those files that match the same date and that received scores in the selected category.

## Using the Application Daily Chart

Select a graph division in the bar chart (or a single-day point in the line graph) to break that category's scores out into lower-level category scores in the Daily Chart. This bar chart shows you the percentage of files for that day that received scores from each lower-level category within the category you selected. Tool tips on each bar show how many files received scores from that lower-level category. You will be able to compare the effectiveness of the different lower-level categories, since every lower-level category is shown even if it did not score any files that day. If a lower-level category is not a leaf category, select it in the chart to drill down further into the data. The category hierarchy that leads to the data you are displaying is shown above the Daily Chart. Select higher levels in the hierarchy to navigate back up to the top.

Selecting a lower-level category in the Daily Chart also filters the view below to only those files that match the specific date and that received scores in the selected category.

## Viewing Transcript Scores

You can also view the application scores of individual transcripts. To view the scores for a particular application from the File Details page, first select the **Application Scores** tab, then select **View Scores** next to the application name. The File Details Page displays Coverage Scores for all upper-level categories and Count Scores for leaf-level categories. Hit/Miss scores for a category can be inferred from the presence (Hit) or absence (Miss) of scores.

## Application Scores on the File Details Page

Category	Score
Agent Performance	View Scores
Processed: 2018-03-21 19:03:50	
Communication Skills	76%
Compliance	None
Effectiveness	40%
Additional assistance	3
Call Back	
Offer best solution	
Gather Facts	4
Sales Effectiveness	
Politeness	57%
Professionalism	35%

Expand a top-level category to see the breakdown of lower-level category scores. These scores are updated each time the application is reprocessed.

**Transcript with Application Scores and Highlighting**

759173003527854.wav

0:00 / 6:31

Download MP3 | JSON | Text

File Details Application Scores Tags

AppStatsGold View Scores  
Processed: 2019-05-23 05:59:18 UTC

Text multi levels with exclude phrase filters None

**Custom metadata** 25% **1**

- supervisor name exclude BROKEN should be 12
- site include 3
- site exclude BROKEN should be 8
- supervisor name include 3

Text multi levels None

Metadata filters multi levels 100%

Text 20%

- leaf no include 6 100%
- thank you for 6 100%

AGENT: Alright and once it's completely now we're gonna leave it off about 15 to 20 seconds and then powered back up. [Go to top](#)

CLIENT: Okay. [SILENCE 13] Well, I'm waiting for that, you know on this particular phone the front glass screen name is Chandra

AGENT: I'm sorry I.

CLIENT: and that would just be replaced or.

AGENT: Do you have insurance? [SILENCE 7] Do you have insurance on the devise?

CLIENT: I do have a lot.

AGENT: Do you have insurance on your device [SILENCE 5] with no insurance if the screen is cracked um, what I would recommend you know cause and I have the account pulled up to see exactly do you know when you upgrade, date is. [SILENCE 3]

CLIENT: Know, they've I know the company has a lot of time. So I was just curious if this thing to be replaced or not.

AGENT: Yeah, the screen can be replaced. However, you would have to like take it to like a kiosk like in most maza have a little key. I said like you know, they can make sure screen Allan things like that, but with physical damage Samsung is not gonna actually replaced it out under the main factors warranty and with no insurance we will be looking at either at full retail a certified pre, owned devise or possibly you know going through a third party to have that screen replaced.

CLIENT: Okay, so I should try to be honest.

AGENT: Yeah. I always I tell people to try kiosk in a heartbeat because paying \$7580 have a screen fixed gonna be allowed to and a \$610 for another like full retail price of the phone.

CLIENT: Yes. Okay with that help me and I got me out of safe mode.

AGENT: Alright, so we're good to go.

2

↑

↓

1. Select a score to highlight (in the transcript) the category phrase that the application scored on. You may need to scroll the transcript view up or down before the highlighted part of the transcript is visible. This highlighting enables you to see the part of the transcript that contains the phrase that the application scored on.
2. If more than one phrase in the transcript is highlighted, V-Spark will also display blue up and down arrows in the right margin of the transcript. Use these arrows to step between highlighted phrases within the transcript.

Select the score again to turn off highlighting for that score.

Application scores are also included in the JSON transcript for each call under `app_data` within the `scorecard` object. JSON transcripts contain Coverage and Count Scores for the entire application.

**NOTE:** The sample JSON files in this document use *ellipses* ( `...` ) to indicate where more than one of a certain type of section can be present in a JSON file of that type.

To download the JSON file of a transcript while viewing a file's File Details page, select **JSON** from the file download choices listed beneath the audio control. Your web browser will save the JSON file to your local computer.

## JSON Scorecard Object

```
"scorecard": {
  "AppStatsGold": {
    "Text multi levels with exclude phrase filters": {
      "subcategories": {
        "lvl 1 Communication Skills": {
          "subcategories": {},
          "score": 1
        },
        "lvl 2 Client Informed": {
          "subcategories": {
            "lvl 2 Share Info": {
              "subcategories": {},
              "score": 1
            },
            "lvl 2 Warm Hold": {
              "subcategories": {},
              "score": 1
            },
            "lvl 3 Agent Actions": {
              "subcategories": {},
              "score": 0
            }
          }
        },
        "score": 0.666667
      },
      "lvl 1 Compliance": {
        "subcategories": {},
```

```
        "score": 0
      }
    },
    "score": 0.555556
  },...
},...
}
```

Categories and lower-level categories are contained within fields for each application. The score for the category is contained in the `score` field at each level. Higher-level categories show the average of all the scores of their lower-level categories, and leaf-level categories display their count scores.

JSON files that are exported from the File Details page always contain the most recent scores. JSON files that are exported in bulk from the Folders page or via the API may only contain the application scores from the first time that the file was transcribed unless the **update JSON** option was selected during application reprocessing.

# Examples

## Single-call scoring

Let's say we have an Agent Scorecard application with one category for Politeness and three 2nd-level categories for Opening, Closing, and Other. The Opening 2nd-level category has two additional 3rd-level categories for Hello and Other Greeting, but the Closing and Other categories do not have any 3rd-level categories.

The following table illustrates the structure of the application and the phrases contained within each leaf-level category. While upper-level categories may also contain phrases, these phrases are treated as filters and are therefore not involved in call scoring.

### Application Category Structure

Top-level Category	2nd-level Category	3rd-level Category (leaf-level)	Agent Phrase(s)
Politeness	Opening	Hello	Hello
			Hi there
	Other Greeting	How are you doing	
		How can I help you	
	Closing		Have a good day
			Bye

Top-level Category	2nd-level Category	3rd-level Category (leaf-level)	Agent Phrase(s)
	Other		Please
			Thank you

Now let's say we have a call transcript named Call 1 that contains the following number of matches for each phrase:

#### Call 1 Phrase Matches

2nd-level Category	3rd-level Category (leaf-level)	Phrases	Call 1 Phrase Matches
Opening	Hello	Hello	0
		Hi there	0
	Other Greeting	How are you doing	1
		How can I help you	1
Closing		Have a good day	0
		Bye	1

2nd-level Category	3rd-level Category (leaf-level)	Phrases	Call 1 Phrase Matches
Other		Please	0
		Thank you	0

## Leaf-level scoring

Since our Hello and Other Greeting 3rd-level categories and our Closing and Other 2nd-level categories don't have any lower-level categories of their own, they will be scored as leaf-level categories.

First, let's calculate the Leaf Scores for the 3rd-level categories. Remember that this score is equal to the total number of matches within the leaf-level category.

### Call 1: 3rd-level Category Leaf Scores

2nd-level Category	3rd-level Category (leaf-level)	Matches per Phrase	Leaf Score
Opening	Hello	0	0
		0	
	Other Greeting	1	2
		1	

Next, let's calculate the leaf-level scores for our 2nd-level categories, Closing and Other. As before, the Leaf Scores are equal to the total number of matches within the leaf-level category.

## Call 1: 2nd-level Category Leaf Scores

2nd-level Category (leaf- level)	Matches per Phrase	Leaf Score
Closing	0	1
	1	
Other	0	0

## Upper-level Category Scoring

Using the Leaf Scores for the two 3rd-level categories, we can now calculate the Coverage and Hit/Miss scores for the 2nd-level Opening category, as explained in the next few sections.

### The opening category

**Coverage Score:** As mentioned previously, the Coverage Score is based on the average score of all lower-level categories within the upper-level category. Since the Hello leaf-level category contains no matches, it gets a temporary Match/No Match value of 0, but the Other Greeting leaf-level category has 2 matches, so it gets a temporary Match/No Match value of 1. Call 1's Opening Coverage Score is an average of those two values, and is therefore equal to  $(0+1) / 2$ , or 50%.

**Hit/Miss score:** As mentioned previously, if the Coverage Score is greater than 0% (meaning that at least one phrase matches for one leaf-level category), the category receives a Hit/Miss score of 100%. Since our Opening Coverage Score is 50% and is therefore greater than 0%, Call 1's Opening Hit/Miss score is 100%.

### The closing and other categories

Next we need to calculate the Coverage and Hit/Miss scores for the 2nd-level Closing and Other categories. Since these categories are leaf-level categories, their Coverage Scores will be the same as their Hit/Miss scores. The Leaf Scores will again need to be converted into temporary Match/No Match values before being converted into a Coverage Score. A Match/No Match value of 1 is equal to a score of 100%, while a Match/No Match value of 0 is equal to 0%.

Since the Closing Leaf Score was 1, it receives a temporary Match/No Match value of 1, and therefore receives a score of 100% for both the Coverage and Hit/Miss score. Since the Other Leaf Score was 0, it receives a temporary Match/No Match value of 0 and receives a score of 0% for both scores. The following table shows a summary of Call 1's Coverage and Hit/Miss scores for all of the lower-level Politeness categories.

## Category Scores Summary

Top-level Category	2nd-level Category	3rd-level Category Coverage Score	3rd-level Category Hit/Miss Score
Politeness	Opening	50%	100%
	Closing	100%	100%
	Other	0%	0%

## Top-level Category Scoring

Now that we have all of the Coverage and Hit/Miss scores for the lower-level Politeness categories, we can calculate Call 1's Coverage and Hit/Miss scores for the entire Politeness branch.

**Coverage Score:** The Coverage Score is based on the average score of all lower-level categories within the upper-level category. Since the Opening category has a score of 50, the Closing category has a score of 100 and the Other category has a score of 0, Call 1's Politeness Coverage Score is  $(50+100+0) / 3$ , or 50%.

**Hit/Miss score:** As mentioned previously, if the Coverage Score is greater than 0%, this means that at least one phrase matches for one leaf-level category, and the category receives a Hit/Miss score of 100%. Since our Politeness Coverage Score is 50% and is therefore greater than 0, Call 1's Politeness Hit/Miss score is 100%. The following table summarizes all of Call 1's scores for the entire Politeness branch.

### Top-level Category Scores

Top-level Category	2nd-level Category	3rd-level Category	Leaf Score	Coverage Score	Hit/Miss Score
Politeness				50%	100%
	Opening	Hello	1	50%	100%
		Other Greeting	0		
	Closing		1	100%	100%
	Other		0	0%	0%

## Multi-call scoring

Using the same example Agent Scorecard application as in Top-level Category Scoring, we'll calculate the Category Scores for multiple calls. As before, the Hello and Other Greeting 3rd-level categories and the Closing and Other 2nd-level categories will be treated as leaf-level categories.

### Multi Category Scores

Top-level Category	2nd-level Category	3rd-level Category (leaf-level)	Phrase(s)
Politeness	Opening	Hello	Hello
			Hi there
	Other Greeting		How are you doing
			How can I help you

### Score for Other Categories

Top-level Category	2nd-level Category (leaf-level)	3rd-level Category	Phrase(s)
Politeness	Closing	n/a	Have a good day
			Bye

Top-level Category	2nd-level Category (leaf-level)	3rd-level Category	Phrase(s)
	Other	n/a	Please Thank you

Let's say our call center received three calls last Monday: Call 1 (which is the same as the call we scored in the previous section) Call 2, and Call 3. In multi-call scoring, the scores for individual calls are calculated first, then averaged together.

## Call 1

Since we already calculated the scores for Call 1, the following table shows copying these into the Multi-Call Politeness Category scores.

### Initial Politeness Score for Call 1

Category	Category Coverage Score	Category Hit/Miss Score
Politeness	50%	100%

## Call 2

Using the same process that we did for Call 1 in the Single-Call Scoring section, we'll calculate the scores for Calls 2 and 3. Call 2 contained the following number of matches per phrase:

### Call 2 Phrase Matches

2nd-level Category	3rd-level Category (leaf-level)	Agent Phrases	Call 2 Phrase Matches
Opening	Hello	Hello	1
		Hi there	0
	Other Greeting	How are you doing	0
		How can I help you	0
Closing		Have a good day	1
		Bye	0
Other		Please	0
		Thank you	0

## Leaf-level category scores

As before, Call 2's Leaf Scores for all leaf-level categories are equal to the total number of matches for each category.

### Call 2 Leaf-Level Leaf Scores

2nd-level Category	3rd-level Category (leaf-level)	Call 2 Phrase Matches	Leaf Score
Opening	Hello	1	1
		0	
	Other Greeting	0	0
		0	
2nd-level category (leaf- level)		Call 2 Phrase Matches	Leaf Score
Closing		1	1
		0	
Other		0	0

## Upper-level category scores

Using the Leaf Scores for the two 3rd-level Opening categories, we can now calculate temporary Match/No Match values and use them to calculate the Coverage and Hit/Miss scores for Call 2's Opening category.

**Coverage Score:** The Coverage Score is based on the average score of all lower-level categories within the upper-level category. Since the Hello category has a Leaf Score of 1, its temporary Match/No Match value is 1. Since the Other Greeting category has a Leaf Score of 0, it receives a temporary Match/No Match value of 0. Call 2's Opening Coverage Score is therefore  $(1+0) / 2$ , or 50%.

**Hit/Miss score:** If the Coverage Score is greater than 0%, this means that at least one phrase matches for one category, and the category receives a Hit/Miss score of 100%. Since our Opening Coverage Score is 50% and is therefore greater than 0, Call 2's Opening Hit/Miss score is 100%. The following table shows a summary of Call 2's Coverage and Hit/Miss scores for the entire Politeness branch.

### Call 2 Closing and Other Category Scores

Top-level Category	2nd-level Category	2nd-level Coverage Score	2nd-level Hit/Miss Score
Politeness	Opening	50%	100%
	Closing	100%	100%
	Other	0%	0%

## Top-level Category Scoring

Now that we have Coverage and Hit/Miss scores for all of our lower-level categories, we can calculate Call 2's scores for the top-level Politeness category.

**Coverage Score:** The Coverage Score is based on the average of the Coverage Scores for all lower-level categories within the upper-level category. Since the Opening category has a Coverage Score of 50%, the Closing category has a score of 100%, and the Other category has a score of 0%, Call 2's Politeness Coverage Score is  $(50+100+0) / 3$ , or 50%.

**Hit/Miss score:** If the Coverage Score is greater than 0%, this means that at least one phrase matches for one category, and the category receives a Hit/Miss score of 100%. Since our Coverage Score is 50% and is therefore greater than 0, Call 2's Politeness Hit/Miss score is 100%. The following table shows Call 2's Coverage and Hit/Miss scores for the top-level Politeness category.

### Call 2 Top-Level Scores

Category	Category Hit/Miss Score	Category Coverage Score
Politeness	100%	50%

## Call 3

The following table shows Call 3's phrase matches.

### Call 3 Phrase Matches

2nd-level Category	3rd-level Category (leaf-level)	Phrases	Call 3 Phrase Matches
Opening	Hello	Hello	0
		Hi there	0
	Other Greeting	How are you doing	0
		How can I help you	1
Closing		Have a good day	0
		Bye	0
Other		Please	0
		Thank you	0

## Leaf-level Category Scoring

As before, the leaf-level category Leaf Scores are equal to the total number of matches for each phrase.

### Call 3 Leaf-level Leaf Scores

2nd-level Category	3rd-level Category (leaf-level)	Call 3 Phrase Matches	Leaf Score
Opening	Hello	0	0
		0	
	Other Greeting	0	1
		1	
2nd-level Category (leaf-level)		Call 3 Phrase Matches	Leaf Score
Closing		0	0
		0	
Other		0	0

2nd-level Category	3rd-level Category (leaf-level)	Call 3 Phrase Matches	Leaf Score
		0	

## Upper-level category scores

The next few sections explain how to calculate scores for upper-level categories.

### The opening category

Using the Leaf Scores for the two 3rd-level Opening categories, we can now calculate the Coverage and Hit/Miss scores for Call 3's 2nd-level Opening category.

**Coverage Score:** The Coverage Score is based on the average score of all lower-level categories within the upper-level category. Since the Hello category has a Leaf Score of 0, its temporary Match/No Match value is 0. Since the Other Greeting category has a Leaf Score of 1, it receives a temporary Match/No Match value of 1. Call 3's Opening Coverage Score is therefore  $(0+1) / 2$ , or 50%.

**Hit/Miss score:** If the Coverage Score is greater than 0%, the category receives a Hit/Miss score of 100%. Since our Opening Coverage Score is 50% and is therefore greater than 0, Call 3's Opening Hit/Miss score is 100%. The following table summarizes Call 3's Opening Coverage and Hit/Miss scores.

#### Call 3 Category Scores

Category	2nd-level Category	2nd-level Coverage Score	2nd-level Hit/Miss Score
Politeness	Opening	50%	100%

### The closing and other categories

Next we need to calculate the Coverage and Hit/Miss scores for the Closing and Other categories. Since these categories are leaf-level categories, their Coverage Scores will be the same as their Hit/Miss scores. The Leaf Scores will again need to be converted into temporary Match/No Match values before being converted into a Coverage Score.

Since the Closing Leaf Score was 0, it receives a temporary Match/No Match value of 0, and therefore receives a score of 0% for both the Coverage and Hit/Miss score. Since the Other Leaf Score was also 0, it too receives a temporary Match/No Match value of 0 and receives a score of 0% for both scores. The following table shows a summary of Call 3's Coverage and Hit/Miss scores for the entire Politeness branch.

#### Call 3 Closing and Other Category Scores

Category	2nd-level Category	2nd-level Coverage Score	2nd-level Hit/Miss Score
Politeness	Opening	50%	100%
	Closing	0%	0%
	Other	0%	0%

## Top-level Category Scoring

Now that we have Coverage and Hit/Miss scores for all of our lower-level categories, we can calculate Call 3's scores for the top-level Politeness category.

**Coverage Score:** The Coverage Score is based on the average of the Coverage Scores for all lower-level categories within the upper-level category. Since the Opening category has a Coverage Score of 50%, the Closing category has a score of 0%, and the Other category has a score of 0%, Call 3's Politeness Coverage Score is  $(50+0+0) / 3$ , or 16.67%.

**Hit/Miss score:** If the Coverage Score is greater than 0%, the category receives a Hit/Miss score of 100%. Since our Coverage Score is 16.67% and is therefore greater than 0, Call 3's Politeness Hit/Miss score is 100%.

The following table shows Call 3's Coverage and Hit/Miss scores for the top-level Politeness category.

### Call 3 Top-Level Category Scores

Category	Category Coverage Score	Category Hit/Miss Score
Politeness	16.67%	100%

## Combined scores

Now that we know the Coverage and Hit/Miss scores for each of our calls, we can calculate the scores for all three calls. Let's review the scores that we found. The following table summarizes the individual and multi-call Coverage and Hit/Miss scores for the Politeness Category.

### Overall Politeness Category Scores

File Names	Politeness Coverage Score	Politeness Hit/Miss Score
Call 1	50%	100%
Call 2	50%	100%
Call 3	16.67%	100%
ALL CALLS	38.89%	100%

**Coverage Score:** The Coverage Score for multiple calls is equal to the average of the individual calls' Coverage Scores. Since our calls received scores of 50%, 50%, and 16.67% respectively, the Coverage Score for all calls received last Monday is  $(50+50+16.67) / 3$ , or 38.89%.

**Hit/Miss score:** The Hit/Miss Score is equal to the average of the individual calls' Hit/Miss Scores. Since all three of our calls had Hit/Miss Scores of 100%, the Hit/Miss score for all calls received last Monday is equal to  $(100+100+100) / 3$ , or 100%.