



SpeechStorm



## Release Notice for SpeechStorm 3.4.0

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## 1. Release Summary

### 1.1 SpeechStorm 3.4.0

SpeechStorm 3.4.0 is a regular maintenance release which addresses the following feature requests and defects:

- Updated look and feel in the Control Centre
- Simplified mode for setting variables easily in 'Script' blocks
- Visual IVR:
  - Context passing from voice to Visual IVR channels
  - Prompt-level CSS configurability
- Reporting:
  - CSV download for standard reports
  - Ability to filter the Block Results report
  - Pagination for raw data reports
  - CLI and DNIS filters for raw data reports
- 3<sup>rd</sup> Party Platform Support:
  - Oracle 12c
  - Nuance Vocalizer 6
  - Nuance Recognizer 10
  - GVP 8.5
  - Mozilla Firefox
  - Google Chrome
  - Microsoft Edge
  - Portico SMS Gateway
- Ability to export and import prompt wordings via Excel spreadsheets
- Prompts within the same section can be re-ordered with drag and drop
- Removed the need for 32-bit Java and Tomcat for GUI servers
- Bulk editing of parameters that are passed in to callflow modules

- New business processes:
  - Airline Flight Status
  - Card Cashback Request
  - Dynamic Grammar
  - Dynamic Menu
  - Loan Request
  - Local Identification and Verification
  - Statement Request
  - YesNo Selector
- Enhanced business processes:
  - Questionnaire Builder and Random Questionnaire Builder now have ability to view results on-screen

See section [3](#) for a full listing of all features added and defects resolved in this release.

## 2. General Constraints with SpeechStorm 3

### 2.1 3<sup>rd</sup> Party Software Requirements

#### 2.1.1 Operating System

The following operating systems are supported:

- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2012 R2

#### 2.1.2 Database Software

The following RDBMSs are supported:

- MS SQL Server 2008 R2 Standard Edition - 10.50.2550.0
- MS SQL Server 2012 R2 Standard Edition - 11.0.5058.0
- Oracle 11g Release 11.2.0.1.0 - Standard Edition
- Oracle 12c Release 12.1.0.2 - Standard Edition

#### 2.1.3 Java Software

The following Java Development Kit must be available in 64-bit version:

- Sun JDK 1.8.0 u45

#### 2.1.4 Other Software

##### 2.1.4.1 Tomcat

The following versions of Tomcat must be available in 64-bit version:

- Tomcat 7.0.61

##### 2.1.4.2 Graphviz

The following versions of Graphviz are supported:

- Graphviz 2.28

##### 2.1.4.3 Web Browser

The following web browsers are supported for accessing the SpeechStorm Control Centre:

- Google Chrome

- Mozilla Firefox
- Microsoft Edge
- Microsoft Internet Explorer 11

### 3. New Features and Resolved Defects

#### 3.1 SpeechStorm 3.4.0

SpeechStorm 3.4.0 included the following new features:

New Features
The visual appearance of the Control Centre user interface has been updated.
There is now a simplified mode to Script blocks to make it possible to set a variable without writing Groovy script.
New Script block API methods to allow token-based passing of variables in-scope from voice channels to visual channels and back again.
It is now possible to add per-prompt CSS customisations in Visual IVR.
Results of standard reports (e.g. "Block Results", "Business Tasks Summary", etc.) can be downloaded in CVS format.
Results in the Block Results report can be filtered to show only certain blocks of interest.
Raw call data reports can now be viewed on-screen with pagination between groups of records.
Raw call data reports can be filtered by CLI and/or DNIS.
SpeechStorm now officially supports Oracle 12c for core and reports databases.
SpeechStorm is now validated against Nuance Vocalizer 6 TTS and Nuance Recognizer 10 ASR.
SpeechStorm is now validated against Genesys GVP 8.5.
The SpeechStorm Control Centre now supports the Mozilla Firefox, Google Chrome, and Microsoft Edge web browsers.
SpeechStorm is tested against the Genesys Portico SMS Gateway for sending outbound messages.
TTS prompt wordings can now be exported to Excel format and re-imported again.
For convenience, prompts within the same prompt section (e.g. Initial Prompts in a Menu block) can be re-ordered using drag-and-drop.
The SpeechStorm Control Centre now runs in a 64-bit process.
It is now possible to edit all of the parameter values for parameterised callflow modules in one screen.
There is now an index on the calls.voice_platform_full_call_id database column to assist with matching records in SpeechStorm with their counterparts in InfoMart.



New Features
A new server setting permits control over whether audio files captured by a Recording block should be copied to all VUI servers.
<p>New Business Processes introduced in this release:</p> <ul style="list-style-type: none"> <li>• Airline Flight Status</li> <li>• Card Cashback Request</li> <li>• Dynamic Grammar</li> <li>• Dynamic Menu</li> <li>• Loan Request</li> <li>• Local Identification and Verification</li> <li>• Statement Request</li> <li>• YesNo Selector</li> </ul>
<p>Enhanced Business Processes included in this release:</p> <ul style="list-style-type: none"> <li>• Questionnaire Builder and Random Questionnaire Builder now have the ability to view the questionnaire results on-screen.</li> </ul>

SpeechStorm 3.4.0 includes resolved defects as follows:

Defect #	Description
2240	The user's choice of selected persona is now maintained when switching between different block editors in the Callflow Editor.
2954	Visual IVR now uploads custom CSS and logo files to multiple servers.
3103	Resolved a Visual IVR scrolling issue in Firefox.
3116	Visual IVR credit card expiry input now accepts December in the earliest year in-range.
3120	Random Questionnaire Builder no longer generates an error when entering dates if the display language is Spanish.
3127	Resolved issues with the layout of the TreeView Callflow Editor in Chrome and Firefox browsers.
3135	Prompt list for es-mx CPR prompts now correctly displays accented characters.
3140	Improved the user experience and alerting if JavaScript is not enabled on the user's browser.
3148	Corrected a typographical issue in the introduction text on the Default Server Settings page.
3153	Control Centre now allows apostrophe characters in email addresses.
3161	Resolved an issue that was preventing the correct display of 'special dates' in the Edit Opening Hours page.
3179	The "recognition failure" path in Menu and Question blocks is now created as a simple path and not as a menu option.

Defect #	Description
3180	Interceptor blocks no longer auto-create paths for known defaults such as "error" and "recognition failure".
3186	The Application Designer role is now able to add and remove "Other Prompts" from the Prompt List page when the module is locked.
3188	It is now possible to create two separate non-concurrent Business Tasks with the same name during a call.
3192	Downloading moderate amounts of 'raw' call data in CSV format no longer causes an Out Of Memory Error.
3197	The "Scripting.EndCallNotification.WebServiceURL" setting is now created as standard.
3204	Resolved a typographical error in the Visual IVR default CSS file.
3206	Visual IVR no longer deletes contents of resources folder when creating a new Visual App.
3207	Downloading CPR prompts for Cantonese and Mandarin languages no longer causes an error.
3211	Removed spaces from the return value of the US Phone Number standard grammar.
3215	Resolved an Out Of Memory Error when importing callflows.
3222	Questionnaire Builder and Random Questionnaire Builder now correctly close connections to the database after downloading results.
3226	Expansion of [var] variable references in prompts is now correctly applied in Virtual Call.
3238	Business Tasks Summary report now correctly filters on a per-Application basis.
3247	Resolved an issue whereby Visual IVR would sometimes fail when skipping over Recording blocks.
3248	Virtual Call now works correctly with Internet Explorer 11.
3274	It is now possible to use [var] variable notation in the values for parameters being passed in to standard grammars.
3284	Clicking the 'Jump to Module' button in a Link block that doesn't point to another module no longer causes an error.
3285	Summary Report now correctly displays the average calls per day.
3327	Playback of alphanumeric strings in Nuance en-us TTS no longer says the word "capital" before uppercase letters.

Defect #	Description
3343	Nuance en-us TTS no longer reads out the word "space" when alphanumeric strings contain space characters.
3412	URLs for grammar files that are reported in Nuance logs now contain the block type and block name for ease of classification during tuning exercises.

### 3.2 Previous Releases

#### 3.2.1 SpeechStorm 3.3.1

SpeechStorm 3.3.1 included the following new features:

New Features	
Added support for Windows Server 2012 R2 Added support for SQL Server 2012 Database	
Added support for seventeen "Silver" (Medium) level Concatenated Prompt Recording (CPR). This significantly adds to our previous CPR packs which where:  Gold (Full): English, American-English and Mexican-Spanish.  Bronze (Basic): English and French  Dynamic prompt recordings are used to playback numbers, dates, times, currencies and alphanumeric strings. This is achieved through concatenating audio files. In the Bronze (basic) CPR pack there are less than 150 audio files. In the Silver (medium) CPR pack there are between 750 -1000 audio files depending on the language. In the Gold (Full) CPR pack there are between 3000-4000 audio files.  The Silver and Gold packs expand on the Bronze pack so that fewer concatenations are necessary. This results in smoother and more natural sounding playback. The audio files are to be recorded by the customer using the same voice artist as that for the static prompts.  The new Silver CPR packs are listed below:	
Language	Language Code

New Features	
<ul style="list-style-type: none"> <li>• Arabic</li> <li>• Czech</li> <li>• German</li> <li>• English</li> <li>• Spanish</li> <li>• French</li> <li>• Hindi</li> <li>• Hungarian</li> <li>• Italian</li> <li>• Japanese</li> <li>• Malayalam</li> <li>• Dutch</li> <li>• Polish</li> <li>• Portuguese</li> <li>• Russian</li> <li>• Cantonese</li> <li>• Mandarin</li> </ul>	<ul style="list-style-type: none"> <li>• Ar-ww</li> <li>• Cs-cz</li> <li>• De-de</li> <li>• En-gb</li> <li>• Es-es</li> <li>• Fr-fr</li> <li>• Hi-in</li> <li>• Hu-hu</li> <li>• It-it</li> <li>• Ja-jp</li> <li>• MI-in</li> <li>• NI-nl</li> <li>• Pl-pl</li> <li>• Pt-pt</li> <li>• Ru-ru</li> <li>• Zh-hk</li> <li>• Zh-ma</li> </ul>

### 3.2.2 SpeechStorm Lynch 3.3.0

SpeechStorm Lynch 3.3.0 included the following new features:

New Features
Visual IVR to allow IVR callflows to be presented on web pages.
MX Enhancement: ability to embed Visual IVR flows in a mobile app
MX Enhancement: Dedicated 'tablet' layout option
MX Enhancement: WebRTC support via Visual IVR
Preview CSV reporting data on-screen before downloading
Reporting drill-down into individual call details
Added ability to pass parameters into Link blocks
Added table to show where each module is called from
GUI display text localisation: de-de
MCP performance enhancement: reduction in number of HTTP fetches required
Beta support for HollyConnects 6.0 platform
Beta support for Nuance Recognizer 9 and Vocalizer 5 with Cisco 10

SpeechStorm Lynch 3.3.0 included resolved defects as follows:

Defect #	Description
2042	Better error messages when exporting callflows with a missing wav file
2192	No longer have to save a callflow before running unit tests in a new Script block
2700	Password reset email is now internationalised
2896	Better handling of session IDs in Virtual Call
2910	Script block unit tests now display the return value in the results section
2911	Using opening hours in a Phone Transfer block no longer causes errors
2917	Correct timestamp is now used in the Hive Off logging
2923	Virtual Call now remembers the start page settings between visits
2925	Virtual Call no longer displays JSON text when hitting return in a Question block
2935	Average calls per day is now displayed correctly in the Summary report when using Oracle
2948	Corrected placement of the 'currently editing' toolbar for small screen sizes
2953	Module details are now updated when deleting a persona
2979	French (fr-fr) is now included in the 'available languages' setting for both TTS and ASR, rather than having to be added manually
2992	Increased the maximum length of data object audio filenames in the database
3003	Blank 'DNIS' fields for Inbound SMS rules are now handled correctly in Oracle
3022	Updated the default MRCP connection settings

### 3.2.3 SpeechStorm 3.2.3.1

SpeechStorm 3.2.3.1 included resolved defects as follows:

Defect #	Description
2928	Deploying or creating a module now flushes the VUI cache only for that module.
2940	Post Migrate no longer fails when upgrading from Hitchcock (or earlier) to Kubrick.
2929	DNIS is now passed correctly into SpeechStorm for GVP 8.1.
2930	System pulse is now correctly calculating recognition failure statistics.

### 3.2.4 SpeechStorm Kubrick 3.2.3

SpeechStorm Kubrick 3.2.3 included the following new features:

New Features
Support for DTMF call-steering applications with Cisco CVP 10.
Support for Oracle 11g database.
New Virtual Call feature to allow Control Centre users to step through a phone call on-screen.
Store-and-Forward feature which can detect when the reporting database is slow or unavailable and batch up "Gui Actions" and call history report data on the local server, and which can then upload that data to the database when the database is back online.
Time filters on CSV Download reports.
Generation and better management of SSL certificates in the Control Centre.
Additional es-mx ASR 'standard' voice grammars: <ul style="list-style-type: none"> <li>• Time</li> <li>• ZIP Code (Mexico)</li> <li>• Phone (Mexico)</li> <li>• Credit Card Expiry</li> <li>• Credit Card</li> </ul>
Improved server checks in the Control Centre's Administration tab.
Better database connection pooling performance.
Timeouts for 'Remember Me' database queries and updates.
Faster reloading of server configuration settings on multiple servers.
Added server details to license checkout error messages/emails.
New Product: Prompt Recorder lets you use your phone to record audio prompts that can then be uploaded into the Control Centre for use in callflows.

SpeechStorm Kubrick 3.2.3 included resolved defects as follows:

Defect #	Description
2600	Nightly "Hive Off" database job no longer fails on subsequent days if call records straddle midnight.
2687	Reduced the number of HTTP fetches requested by GVP 8.1 for files that can be cached. This affects audio (.wav) files and EcmaScript (.es) files.
1517	Number of retries, timeouts, etc. is now recorded if you hangup in an input block.

Defect #	Description
2307	Download CSV queries can no longer lock the 'daily' and 'historical' reporting database tables.
2183	VUI Preferences screen no longer allows you to set a blank DTMF "interdigit timeout" value.
2840	Lowered the default value for maximum number of connections in the database connection pool settings. Defaults are now: max 100 active connections; and max 25 idle connections.
2639	Errors occurring when calling a web service within an Interceptor block can no longer cause further errors.
2806	In the Cyara settings table the "Step Minimum Confidence" value now updates correctly after being edited.
2854	HTTP requests now clear session cookies on each request.
2852	Call Monitor no longer stops working after multiple sessions.
1846	Business Tasks are now logged in the DB with the correct (i.e. "test") site ID.
2507 and 1834	More robust closure of Business Tasks for the "max attempts" route in the Query product.
2514	Corrected calculation of "average retries/timeouts" and "average recovery attempts" in the Summary report.
2695	Added duration logging around end-of-call database writes.
1966	Removed the "Message Undefined" text from log files when no appropriate error description is available from the VXML interpreter.
2629	Removed the limit around how many personas can be associated with a module.
2621	TTS now plays 'start of decade' date values (i.e. years that end in '0') correctly for en-gb and fr-fr.
2655	Improved version numbering of individual products.
2554	Excel no longer reports a "SYLK file format error" when opening downloaded CSV reports.
2100	Better flash messages when creating or saving an "unavailable" server
2653	Fixed recognition of MXN (Mexican Pesos) currency in "en" locales.
2496	Locate and connect postcode product now validates postcodes correctly.
2611	More robust parsing of Attached Data field names in Start Block dialog.
2591	List of Users displayed in the GUI is now ordered correctly.

### 3.2.5 SpeechStorm 3.2.2.2

SpeechStorm 3.2.2.2 included resolved defects as follows:

Defect #	Description
2601	<p>When the System Pulse calculation on the Dashboard page is in progress, switching to the Voice Apps page no longer causes a delay while the calculation finishes.</p> <p>In addition, refreshing the Dashboard page while the System Pulse calculation is still in progress will not start a second System Pulse calculation for that company.</p>

### 3.2.6 SpeechStorm 3.2.2.1

SpeechStorm 3.2.2.1 included resolved defects as follows:

Defect #	Description
2624	In Opening Hours, Special Dates section reverts back to current date in the GUI

### 3.2.7 SpeechStorm Jackson 3.2.2

SpeechStorm Jackson 3.2.2 included the following new features:

New Features
GUI Internationalisation – Basics
GUI Internationalisation - Choice of Languages
GUI Internationalisation - Use of non-ASCII characters in Graphviz callflow diagrams
Cyara first release
IVR Localisation for es-mx
IVR Localisation for fr-fr
IVR Localisation for en-us
IVR Localisation - Flexible currency grammars
Integration Hub – GUI
Productise Conversation Manager - Rules Engine Integration
Productise GME EWT, Transfer-with-context, and Callback Use Case in Mobile



<b>New Features</b>
Integration Hub
Mobile Maintenance

SpeechStorm Jackson 3.2.2 included resolved defects as follows:

<b>Defect #</b>	<b>Description</b>
2475	Transaction List product script return values did not match callflow or SpeechStorm standard naming conventions
2471	Caller ID activation product not reading text from ChildMessages.properties
2473	PAC Port In with Date Change product - Settings can be saved when required fields are blank.
2490	Within the Locate and connect postcode product. Postcode must be capitalised when adding an area.
2486	In Direct Debit request product validation message not appearing when required field left blank
2485	In integration tab of the "Flight Status Checker" product validation of required fields isn't working
2489	Saving settings in the offer direct debit product does not apply validation checking.
2555	Document generator displays i18n key instead of associated text.
2529	Example CPR ZIP files no longer part of the release files
2558	Question block's grammar screen has been internationalised
2560	Opening hours's Suggested Action If Closed has been internationalised
2563	Script Block Junit test buttons has been internationalised
2544	Customer Journey enhancement to resolve issue when journey image being rendered is too large
2472	Continuous Card Payment Settings page throws exception instead of field validation message
2321	New company should be set up to 'cache production modules' automatically
2518	Cannot upload pre-recorded prompt
2325	Inconsistent behaviour when changing card type in Payment Capture
2433	Exception message content related to incorrect server ID should be more informative

Defect #	Description
2394	Bulk prompt upload does not map the correct modules when folder names start with digits
2481	'Supported Personas' from a module are not copied to production versions
2389	ServerStatus.jsp needs added to speech-fish-gui
2424	Usability issue: no feedback when dragging a block onto a path name
2405	"Skip this question next time" option in question block not working
2388	Documentation.jsp downloading word file error in the logs
2479	Operator product had problems with ambiguity check
2268	Spaces not trimmed before comparing contents of server settings VuiPreferences.AvailableLanguages.TTS and VuiPreferences.AvailableLanguages.ASR
2482	Mobile apps can be renamed to blank space under the visual flow details tab.
2483	It is possible to deploy a mobile app to production without giving a reason
2179	Mobile Screen Render Problem
2408	Should not be able to use interceptors to modify locked callflow structure
2398	Variable references in interceptors only work in lowercase
2412	Flash message for an inbound SMS rule JSP has being appended erroneously
2407	Should not be able to delete start blocks
2450	On a TreeView call flow when we add a question/answer etc we are moved to the Main menu
2384	Interceptor 'operand' field shows up when you use 'is blank' operator
2484	Attempting to delete an area in Locate and Connect and Flight Status Checker fails.
2217	Interceptor does not allow numeric comma-separated values for 'in list' operator
2411	Cannot specify multiple question prompts in TreeView callflow editor
2410	Automatic update of path name in synonyms and prompts no longer works
2415	Underlining in printable prompt list obscures underscores
2429	Creating a new path from the 'defaults' block doesn't prompt you for a name
2488	Account selector templates contain "Standard Application" default settings
2425	Hitting Enter on login after typing email and password no longer works in Chrome

Defect #	Description
2421	Internationalisation key text is displayed instead of value text in the Postal rates calculator product
2436	Should force module names to be unique
2432	'Currently editing' dropdown gets stuck if you have unsaved changes
2431	Usability issue: removing a callflow block mid-flow breaks the diagram apart
2476	Marketing Promotions GUI page throwing NullPointerException when clicking Save
2523	Personas flag list has missing labels
2504	Persona prompts not automatically used for DataObject prompts

### 3.2.8 SpeechStorm 3.2.1.1

SpeechStorm 3.2.1.1 included resolved defects as follows:

Defect #	Description
2394	Bulk prompt upload now correctly maps modules when folder names start with digits
2320	Improved filtering and display of Solution View modules diagram, and limitation of GraphViz execution time. This is controllable using the following Default Server Settings: <ul style="list-style-type: none"> <li>GraphViz.MaxExecutionTimeMillis (default value 8000)</li> <li>GUI.ApplicationImage.MaxBoxesToShowPerLevel (default value 30)</li> <li>GUI.ApplicationImage.MaxBoxesToShowOverall (default value 50)</li> </ul>

### 3.2.9 SpeechStorm Ingram 3.2.1

SpeechStorm Ingram 3.2.1 included the following new features:

New Features
Interceptor blocks can now branch based on Date/Time/Weekday
Interceptor blocks can have multiple “and/or” conditions for each rule
Interceptor blocks can now resolve [var:... ] references in operands
Aggregation of report data for built-in reports
Database “views” are now available for designing customer-specific ETL or report queries

<b>New Features</b>
Ability to embed web pages in Mobile app screens
Ability to embed Google Maps in Mobile app screens
Support for Android v2.33 ("Gingerbread") and higher in Mobile apps
Mobile IntelliMedia image management provides automatic scaling of images to balance bandwidth and CPU loads
Mobile Framework usability enhancements for rapid prototyping
Pre-loaded XML definitions to reduce web service load in Mobile apps
New Mobile screen layout tools: grids, segments, tables
Standard speech-recognition grammars for fr-fr locale
Payment Capture product enhancements: <ul style="list-style-type: none"> <li>• New variable to indicate successful payment</li> <li>• New variables containing the first 6 and last 4 digits of the PAN</li> <li>• Swapped the order of the "issue number" and "start date" questions</li> <li>• Ability to handle more specific "authorisation declined" response codes</li> <li>• Additional choices for handling expired card dates</li> </ul>
Customisable IIN/BIN ranges for credit card grammars
Support (limited) for GVP 8.1 Legacy VXML Interpreter
More flexible SSML implementation
New Product: Call Divert
New Product: Caller ID Activation
New Product: Call Waiting Activation
New Product: Cancel Contract
New Product: Handset Unlock Request
New Product: PAC Port In
New Product: PAC Request
New Product: Payment by Registered Card
New Product: PIN Request
New Product: Remaining Allowance v2
New Product: Roaming Activation
New Product: SIM Card Activation

<b>New Features</b>
New Product: Top Shelf Activation
New Product: Top Up by Voucher
New Product: Transaction List
New Product: Voicemail Activation

SpeechStorm Ingram 3.2.1 included resolved defects as follows:

<b>Defect #</b>	<b>Description</b>
2184	Launching external processes (e.g. GraphViz) now works with Java 7 update 21
2198	Behaviour of "max attempts" counters in Payment Capture is now more intuitive
2199	Error is no longer displayed when you drag a toolbox block onto the bin in the Callflow Editor
2201	Better handling of duplicate prompts when deleting items in the Prompt List screen
2202	Fixed internationalisation of table headers in the Dynamic Prompt Uploads page
2204	Unknown CLIs are now stored as a blank strings – rather than as SIP addresses – in the database
2205	Preview Prompt button now correctly processes '[pause]' notation in prompts
2206	Cannot attach data in GVP 8 when name contains unusual characters
2208	Better support for absolute URLs with grammar files, leading to more stable load balancer/failover solutions
2211	Transaction List product no longer returns 'null' as a path name
2212	Added logic to check whether attached data variable names in GVP 8.x are valid ECMAScript identifiers
2231	Credit Card Expiry (en-gb) grammar now allows phrases like "twenty thirteen" for the year
2232	Credit Card Expiry (en-gb) grammar now recognises years beyond 2020
2234	Updated use of the "Include All Modules" reporting filter to make it more consistent and less confusing
2235	Credit card expiry grammar (en-gb) validation is no longer out-by-one on certain days of the year
2237	Playback of dates in French TTS/CPR now uses cardinals instead of ordinals

Defect #	Description
2239	French ccexp playback now only includes the century if it has been explicitly provided
2242	French 'ouais' is now a standard synonym for 'yes'
2244	Character limit on 'attached data field names' in Start blocks is too low
2246	Increased the default "MaxIdle" setting for DBCP connection pools
2254	Increased the maximum allowable number of Call IDs in the reporting database to use 64-bit integers
2258	Saying 'zero' now works in Grammar Builder (fr-fr)
2269	'Dummy Call' entries no longer appear in the reports DB when testing Script blocks and a license issue occurs
2277	Increased the size of the "call_steps.wav_filename" database column to make room for larger GVP 8 session IDs
2308	System Pulse queries no longer lock the underlying database tables while they are running
2319	Updates to Payment Capture to make the logic when correcting credit card details more consistent
2326	Made it possible to prevent background generation of Graphical View images in 'Voice Apps'
2357	Using [pause] in mid-sentence with TTS now works as expected

### 3.2.10 SpeechStorm 3.2.0.1

SpeechStorm 3.2.0.1 included resolved defects as follows:

Defect #	Description
2181	Can now change module name etc. if only one persona exists
2188	"Defaults" menu options from parent modules are now picked up

### 3.2.11 SpeechStorm Hitchcock 3.2.0

SpeechStorm Hitchcock 3.2.0 included new features:

New Features
Mobile Framework

<b>New Features</b>
Persona Support - ability to create multi-lingual or multi-brand (persona) callflows
Localisation: Support for French (fr-fr) TTS
Localisation: Support for 'basic' French (fr-fr) dynamic prompts
SSML support for non-customised TTS playback
Ability to set up automatic deletion of old historical data
Support for sending SNMP traps
Ability to reset System Pulse statistics and to set detailed thresholds
The "Voice Apps" page now displays site IDs for applications
The "Print Prompts" view highlights rows that already have prompts uploaded
Ability to change the default "success" path for Interceptor blocks to something more specific
Can now upload a custom prompt to replace the standard "ringing" in a Phone Transfer block
Can now configure a different audio file for the "call failure" message

SpeechStorm Hitchcock 3.2.0 included resolved defects as follows:

<b>Defect #</b>	<b>Description</b>
1854	Added ability to limit the number of CSV records that can be downloaded
1825, 2046	More robust handling of malformed jsessionid URL cookies from GVP 8.1.2
2048	The "new grammar builder row" button now works correctly
2044	HTTP Post requests with a custom request body can now be sent
2043	Deleting branches and areas in Locate and Connect now works correctly
2045	Added support for UTF-8 values in attached data
2040	Added missing file "cpr_at_m.wav" to the "en-gb Full" CPR prompts list and ZIP
2034	Resolved key-ahead and delay issues with GVP 7.2

### 3.2.12 SpeechStorm 3.1.8.1

SpeechStorm 3.1.8.1 included new features as follows:

New Features
New VUI API that returns a sorted list of current block's output node names
New Product: Random Questionnaire Builder

### 3.2.13 SpeechStorm Godard 3.1.8

SpeechStorm Godard 3.1.8 included new features as follows:

New Features
Support for PA-DSS for the Payment Capture product
Support for Genesys GVP 7.2

SpeechStorm Godard 3.1.8 included resolved defects as follows:

Defect #	Description
1987	Now possible to expand/collapse nodes in TreeViewCallflowEditor after renaming a question/answer
1990	Added missing "natnum_final_0.wav" and "natnum_medial_0.wav" files to the "en-gb full" CPR prompt script
1991	Session ID and CLI are now from the correct call when written to log files
1992	Fixed incorrect escaping of attached data values in GVP 8
1994	Renamed 'unused7' permission
1999	Resolved runtime issues with Natural Number (en-gb) DTMF grammar
2001	Confidential Mode no longer logs out PAN to GVP 8 logs
2002	Updated mechanism for checking for symbols in new passwords
2003	Resolved repetitive logging of exceptions when using the MRCPv1 'TTS Preview'
2016	Corrected a typo in the Dashboard page's graph header
2017	The 'GUI Actions' table and log file now record the correct (client) IP address
2018	Removed blank space between the description and footer in the 'Error' page



Defect #	Description
2020	Added cross-site-scripting checks to the Call Monitor page
2021	Added cross-site-scripting checks to the File Upload page
2028	Corrected a typo when uploading an invalid custom grammar format

### 3.2.14 SpeechStorm Fellani 3.1.7

SpeechStorm Fellani 3.1.7 included new features as follows:

New Features
Addition of Customer Journeys reporting
Ability to import/export custom grammar files
New 'Maintenance Mode' and 'Message of the Day' facility to streamline the restart and upgrade process
Support for negative (in credit) currency amounts
DTMF values are now displayed beside menu option names on Callflow Editor diagrams
New VUI Preferences to control DTMF key-ahead
New 'Recovery Mode' to allow the caller to recover from speech recognition failures
Additional CTI support for Genesys GVP 8.1
Callflow Editor now assigns DTMF value to new menu options
Update to System Pulse display on the Dashboard
New variable-length [pause:xxx] notation in prompts
New Server Settings to control which CTI fields are logged in the reports database
Ability to store a unique 'UUID' reference for the whole call under Genesys GVP 8.1
New Apps: <ul style="list-style-type: none"> <li>• Order Phone Services</li> <li>• Query Account Add-Ons</li> <li>• Semafone Payment Capture</li> </ul>

SpeechStorm Fellani 3.1.7 included resolved defects as follows:

Defect #	Description
1388	License server connection details are now picked up from fish-*.local.properties files
1403/1550	Resolved issues in RoI Phone Number (en-gb) grammar
1757	Removed unnecessary space from the name of the Payment with Partial Balance (en-gb) template
1791	Resolved issue with indexing of 'offers' and 'combinations' in Marketing Promotions product
1797	Direct Debit Request product now allows you to change the sort code after hearing the summary
1804	Corrected the ordering of templates and products when using the 'In Other Industries' section of the New Module screen
1814	Database stored procedures no longer require 'sysadmin' privileges on the database server
1820	Lasercards are no longer classified as Maestro cards in the Credit Card (en-gb) standard grammar
1822	DTMF # and * options now work as expected
1826	Fixed issues with missing data in several built-in reports
1828	Settings for overnight jobs are now stored in the Default Server Settings section, not for an individual Admin server
1840	CPR 'en-gb full' prompt set now uses 'final' intonation prompts when text ends with punctuation
1841	CPR prompt upload names are now correctly escaped in confirmation dialogs
1843	'Payment without Balance (en-gb)' template is now marked as 'public'
1847	Fixed ordering of records in downloadable CSV reports
1848	Call by Date reports no longer show misleading data when filtered by a particular site ID
1852	Added validation to reports page fields when start date is later than end date
1843	CTI Viewer now lists calls after switching company
1889	CTI Viewer now correctly handles blank fields
1909	Added permissions checks around Inbound SMS rules for Reports Only user role

Defect #	Description
1939	Increased the maximum allowed sized of the 'attached data field names' in Start blocks
1940	Products can now be imported when two Admin servers are installed in different filesystem folders/drives
1957	Fixed issue with handling of bridged transfers
1958	Updated ordering of Business Tasks in CTI Viewer
1974	Updated test data logic in the out-of-the-box Direct Debit Request web service
1976	Product-specific editor tab names no longer wrap on Google Chrome

### 3.2.15 SpeechStorm 3.1.6

SpeechStorm 3.1.6 included new features as follows:

New Features
Improved management of applications and templates
New MenuController component for handling Menu and Question blocks
<p>New Apps:</p> <ul style="list-style-type: none"> <li>• Bar/Unbar Account</li> <li>• Bill Copy Request</li> <li>• Bill Information</li> <li>• Change PIN</li> <li>• Continuous Card Payment</li> <li>• Current Balance</li> <li>• Direct Debit Setup</li> <li>• Fair Usage and Remaining Amounts</li> <li>• Offer Direct Debit Setup</li> <li>• Plan Details</li> <li>• Questionnaire Builder with Conditional Questions</li> <li>• Unbilled Amount</li> </ul>

<b>New Features</b>
Mobile Apps (beta)
DTMF settings are now displayed on callflow editor diagram
Updated Marketing Promotions product to allow use of a custom variable/attached data key instead of DNIS
Version number now appears in Control Centre
VXML platform session ID is now included with each log file entry

SpeechStorm 3.1.6 included resolved defects as follows:

<b>Defect #</b>	<b>Description</b>
1338	Resolved issues relating to accuracy of values included in Call Summary report.
1390	Resolved issues caused by different users with different AdvancedVUI privileges changing the same modules
1402	Resolved issues with some aspects of standard time voice grammar
1427	Resolved issue with saving synonyms that contained unusual characters (e.g. curly quotation marks, hyphens surrounded by spaces)
1431	Recognition result is no longer passed as 'JS Void' when recognising a 'default' menu item in NR9
1433	GBP Currency (en-gb) voice grammar no longer causes an error when triggered by noise in NR9
1457	Resolved issue whereby Credit Card DTMF built-in grammar accepted invalid card numbers in NR9
1482	Improved performance of Dashboard, System Pulse, and Built-in Reports in the Control Centre
1499	Enabled the addition of product licenses without requiring a restart
1539	Migration script now handles JDBC driver JAR being stored in Tomcat common/lib folder
1549	Updated GBP DTMF voice grammar to work with VoiceGenie
1550	Resolved issue with meaning not being returned by Rol Phone Number DTMF grammar in NR9
1551	Changed EUR DTMF grammar to mirror GBP DTMF grammar.
1553	Resolved issue when entering a time using DTMF in VoiceGenie

Defect #	Description
1562	Added "text/plain" as supported mime type for grammar uploads
1566	Resolved issue with call history occasionally not being written to the database
1572	
1575	Built-in DTMF recogniser now enforces min/max constraints in standard grammars
1576	Updated functionality to enable retrieval of GVP attached data to use GET or POST, instead of just GET
1578	Fixed incorrect figures in Recognition Summary report
1579	NR9 logs – removed "invalid attribute 'out.weight'" warning
1580	NR9 logs - removed "no expiration header" warning
1586	HttpClient no longer limits max connections to 2
1589	Resolved issue where user says 'repeat' during a confirmation
1606	Update to CPR prompt handling – VoiceGenie now plays back CPR prompts for Initial Prompt of a menu/question if the CPR Upload name contains spaces
1607	Message Blocks not using CPR Prompts if CPR Upload Name contains spaces for VoiceGenie
1609	Wav filename is now stored correctly in reporting DB for Recording Blocks
1610	Database transaction now rolled back completely when a migration fails
1615	Increased the upper limit for Numeric Range questions in Questionnaire Builder
1629	Updated CallMonitor setting to use seconds instead of milliseconds
1631	Semafone Payment Capture can now properly detect Mastercards
1633	Updated average timeout and retry figures in Recognition Summary report
1647	Resolved an error in the Natural Numbers (en-gb) Grammar
1715	Payment Capture templates now accept all card types at the grammar level
1723	Updated GrammarBuilder DTMF grammars so that inputs may be confirmed as required

### 3.2.16 SpeechStorm 3.1.5

SpeechStorm 3.1.5 included new features as follows:

New Features
Improvement in the performance of built-in reports due to database indexing.
Menu and simple Custom Question blocks can now be used with GVP 7.6's built-in DTMF interpreter.
Added ability to release an ASR session for GVP 7.6 and GVP 8.1 platforms.

SpeechStorm 3.1.5 included resolved defects as follows:

Defect #	Description
1349	'Applications' tab is now visible to 'Reports Only' user role
1342	'Enter' key can be used to submit the Module Details form
1495	Added new Maestro ranges to the built-in credit card grammar

### 3.2.17 SpeechStorm 3.1.4

SpeechStorm 3.1.4 included resolved defects as follows:

Defect #	Description
1489	Added ability to flush prompt queues in Message blocks without the use of the 'fetchaudio' VXML property.
1488	DTMF GBP currency grammar now returns full 'pence' amount when there are trailing zeroes, e.g. "GBP1.50" instead of "GBP1.5".

### 3.2.18 SpeechStorm 3.1.3

SpeechStorm 3.1.3 included new features as follows:

New Features
Details of voice recognition grammars are no longer output when the 'input mode' is set to DTMF-only. This means that grammar URLs for voice grammars are no longer sent to the ASR for processing.
Improvement in performance of compiling Groovy scripts in Script blocks due to caching for production calls.
CTI attached data for a given key is now only updated once per call, as opposed to all keys being updated with the same value every time a new key is attached.

SpeechStorm 3.1.3 included resolved defects as follows:

Defect #	Description
1440	VXML Platform parameters (CLI, DNIS, and Session ID) are now stored when using Genesys GVP 7.6.
1455	Removal of additional 'zero' rows in Calls by Date report.
1468	Creating a Message block with a blank TTS message no longer results in a 'file not found' 404 error being reported on some platforms for the built-in 'silence5ms.wav' file.
1469	PaymentAmount is no longer attached to the call in Payment Capture product.
1471	Correct playback of card expiry date with 4-digit years using the 'EN-GB Full' CPR prompt set.
1472	Confirmation 'bookend' prompts ("I think you said...is that correct?") are now played during confirmations when CPR prompts are active.
1475	Addition of a server-level setting to enable the 'fetchaudio' VXML property on each page, primarily for Genesys GVP 7.6 which does not specify a fetchaudio setting by default.
1477	Calls no longer log an error message at the end of the call if the CLI is blank.
1479	No longer renders the VoiceGenie-specific '<meta name="application" ...>' tag on every VXML page.
1480	Platform no longer references a missing CPR audio file for playback of "GBP1.00" amount.

### 3.2.19 SpeechStorm 3.1.2

SpeechStorm 3.1.2 included new features as follows:

New Features
Support for the Genesys GVP IPCS 7.6 VXML interpreter with Nuance Recognizer 9 ASR and Nuance Vocalizer 5 TTS.
Support for 'DTMF termination char' in callflow preferences which allows the user to enter an optional character (typically '#') at the end of a digit string to signal that they have finished entering digits. This can have the effect of removing the delay while the system waits to see if any more characters will be entered.
<p>New 'confidential mode' callflow preference to restrict reporting and logging of sensitive information such as credit card numbers. This affects data captured in-call that would otherwise be logged to the following locations:</p> <ul style="list-style-type: none"> <li>• VoiceGenie and Genesys GVP 8.1 'pw_metricsfile' log file</li> <li>• Nuance OSR 3 'SWIEvent' log file</li> <li>• SpeechStorm 3 'fish.log' file</li> <li>• SpeechStorm 3 'reports' database</li> </ul> <p>The new 'confidential mode' callflow preference replaces the 'encrypt' checkbox that was previously available on Menu and Question blocks, and can be applied to any block type or even to an entire module or application.</p>
New 'check server identity' feature available via the Control Centre's 'Servers' tab allows administrators to check that each SpeechStorm 3 'server' has been configured with the correct server ID.
Five new online reports available in the Control Centre: Calls by Day; Calls by Time of Day; Block Results; Recognition Summary; and Business Task Summary.

SpeechStorm 3.1.2 included resolved defects as follows:

Defect #	Description
1413	Can now correct the start date for a Maestro card in Payment Capture templates.
1412	Dates in the CSV reports now display correctly in Excel.
1410	Correct playback type now used for confirmation of start dates in Payment Capture templates.
1389	Playback of four-digit natural numbers through TTS no longer attempts to play them as though they were dates.
1377	Javascript error when using the 'expand/collapse' buttons in the TreeView Callflow Editor has been resolved.
1376	Pressing '0' in a Natural Numbers (en-gb) grammar no longer returns 'NaN'.
1374	Grammar Builder 'words' field is now correctly stored.
1373	Maximum length for the contents of the 'Attached Data Fieldnames' text box in the Start block's callflow editor dialog has been extended from 200 to 500 characters.



Defect #	Description
1367	'Bad Fetch' error is no longer thrown when keying in certain 6-digit dates using the Standard Date (en-gb) grammar.
1361	Web Service POSTs from Groovy scripts now automatically pass non-string variables such as Integers and Doubles.
1359	Carriage return character in TTS fields no longer causes errors on the VoiceGenie platform.
1358	'Preview' button in the callflow editor now works for pre-recorded 8kHz 8 bit WAV files.
1355	Users with the 'Application Maintainer' role no longer see groupings for products that they are not able to create.
1354	'Administration' tab in Control Centre no longer obscures the tabs below when the browser window is made smaller.
1352	Toolbar button for 'Print all of this application's prompts' now appears for Applications and not for other Modules.
1344	Upward facing arrows in callflow diagrams are now no longer obstructed.
1284	A 'repeat' output path from a Menu or Question block will now be followed if the caller uses the built-in "repeat" command.
1235	Control Centre pages are no longer cached in Internet Explorer.
1227	'Unique key constraint' error no longer occurs when trying to edit Opening Hours Rules in the Control Centre.
1050	The following templates have now been marked as public so that they can be instantiated by other Companies in the SpeechStorm 3 Control Centre: "Payment without balance" and "Address capture with recording", and all Query product templates have been locked.
1042	Question block editor now displays text to indicate that a custom voice and/or DTMF grammar have already been uploaded.

### 3.2.20 SpeechStorm 3.1.1

SpeechStorm 3.1.1 included resolved defects as follows:

Defect #	Description
1347	When creating new modules as a non-administrator user (i.e. a user who does not have the permission to change a module's 'public' flag), the new module inherits the template module's setting for the 'public' flag; it should instead default to 'false'.

### 3.2.21 SpeechStorm 3.1.0

SpeechStorm 3.1.0 included new features as follows:

New Features
Menu Builder product now supports a new 'tree view' callflow editor style which may better suit menus with large number of menu options and levels.
New Questionnaire Builder product allows users to create and customise questionnaires using numeric or multiple-choice answers and, possibly, recorded comments.
New Locate and Connect product provides similar functionality to Locate and Connect Postcode but does not attempt to automatically map branches to their closest areas.
Query product now supports being able to exit the module with a path other than 'success' – e.g. the web service could be configured to return a 'status' value of 'account suspended' and this value would also be used as the exit path from the Query module, rather than 'error'.
Support for playback of dynamic data using concatenated audio files; this release includes two 'CPR prompt sets' for the 'en-gb' language: 'basic' and 'full'.
New built-in "back" command allows callers to re-trace their steps through the IVR.
Settings to control DTMF for the "help", "repeat", and "back" commands.
Business Tasks can now be ended automatically when leaving a module.
Support for Control Centre access behind a proxy URL re-writer.

SpeechStorm 3.1.0 included resolved defects as follows:

Defect #	Description
1138	Error reported when trying to upload an invalid audio format.
1141	Maximum TTS length is too short.
1147	Cannot import Data Object audio files in isolation.
1148	Error reported when trying to import audio prompts.
1149	"Please Wait" animation hangs on some versions of Internet Explorer Callflow Editor.
1154	Call Details CSV download sometimes contains spurious newlines.
1155	Importing callflow audio doesn't automatically save changes.
1156	DTMF confirmation grammar causes error.

Defect #	Description
1227	Error when editing opening hours rules.
1231	Business Tasks are always reflected as 100% successful.
1235	Internet Explorer caching issues.
1243	Links between modules are not resolved when importing multiple modules.
1249	Default phone number format rules do not allow free-phone numbers.
1323	Cannot disable 'timeout' prompt in Recording blocks.
1336	Max Speech Timeout parameter not picked up.
1337	Incorrect calculations in Dashboard and reporting statistics.

### 3.2.22 SpeechStorm 3.0.2

SpeechStorm 3.0.2 included new features as follows:

New Features
Additional support for Genesys Conversation Manager: access to multiple profile “extensions”; lookup customer profiles using fields other than CLI; querying, starting, and ending of services, states, and tasks.
Ability to use [prompt:...] notation to reference an existing prompt or audio file.
Addition of “blank” and “not blank” operators in the Interceptor block.

SpeechStorm 3.0.2 included resolved defects as follows:

Defect #	Description
1139	Technical error encountered when prompt text is too long.
1236	Apostrophes in Menu prompts with audio cause an XML entity error.
1237	Incorrect time displayed in the Deploy to Production screen.
1238	Tuning parameters being ignored.
1248	Slow loading times for the main “Applications” tab.

### 3.2.23 SpeechStorm 3.0.1

SpeechStorm 3.0.1 included new features as follows:

<b>New Features</b>
Support for Genesys GVP 8.
Addition of basic outbound capability.

## 4. Unresolved Defects

Defect #	Description
2571	The "Save and Close" button in the Mobile "Start" block editor is not localised for "es" locale.
2739	Calls by Date report shows incorrect results on some environments; figures shown are correct, but the dates displayed can be out-of-sync.
2663	End-of-call HTTP timeouts are not handled gracefully.
2721	System Pulse query can run slowly (SQL Server).
2722	Dashboard graphs don't show today's calls on some environments.

## 5. Migration from Previous SpeechStorm Releases

### 5.1 Callflows

Callflows created or tested in SpeechStorm 3.1.6 or later will continue to work without modification in SpeechStorm 3.3.1.

If you are updating from a version prior to 3.1.6 then please see the version-specific migration steps from these previous releases:

- 3.1.6
- 3.1.2
- 3.0.2

### 5.2 CPR/Dynamic Prompts

As of 3.2.0, an extra (previously missing) prompt is required for the “en-gb full” CPR prompt set:

cpr\_at\_m.wav

This prompt will need to be recorded and added to any CPR zip files before uploading. If creating a new recording file is not feasible then you can create a copy of the cpr\_at\_f.wav file instead.

### 5.3 Licensing

As of SpeechStorm 3.1.3 new license keys have been introduced so it will be necessary to have any existing license keys re-signed by SpeechStorm Support for use in version 3.1.3 or later.

As of SpeechStorm 3.1.8 the number of non-menu modules that can be executed concurrently is controlled by licensing, so new ‘ProductPort\_<productID>’ license features need to be added to existing license files.

### 5.4 Java and Tomcat

If you are upgrading from a version prior to 3.1.8 then be aware that SpeechStorm 3.1.8 requires new versions of Java and Tomcat (see section 2). When upgrading, be sure to re-use the same ‘webapps’ folder from each Tomcat in order to preserve log settings and files that have been uploaded by customers (e.g. WAV files).

If you are upgrading from a version prior to 3.3.1 then you should ensure that all SpeechStorm components are running within a 64-bit version of Java and Tomcat. (The ‘GUI’ component in previous versions of Speechstorm was 32-bit only.) It is also required to edit the Tomcat “conf/web.xml” file in order to set the source and target Java versions to 1.8 for the JSP servlet.

## 5.5 Browser Support

As of 3.4.0, Internet Explorer versions 10 and below are no longer supported.

## 5.6 Required Database and Server Configuration Changes

If you are updating from a version prior to 3.1.8 then please see the version-specific migration steps from these previous releases:

- 3.1.8
- 3.1.7
- 3.1.6

## 6. Installation Instructions

This section describes the installation instructions for each supported operating system.

### 6.1 Windows Server 2008 R2 and 2012 R2

Installation of this version should only be carried out by a member of the SpeechStorm Delivery Services team.

Note that, as of 3.1.6 the database upgrade process is a two-part process. The `migrate.bat` script should be run to migrate the database schema to the latest version. Once all the Voice Servers have been deployed, the `Postmigrate.bat` script should be run to perform the required database backfill.



## 7. Document Information

### 7.1 Document Approval

Definitive versions of this document must be authorised by the SpeechStorm Product Manager.

### 7.2 Changes History

Issue	Date	Description
0/1	8 Aug 2016	MO; First draft version.
0/2	9 Aug 2016	MO; Applied review comments from Alan Beck. Specifically: added the GUI rebranding and prompt proliferation.
1/0	9 Aug 2016	AB; Authorised.

### 7.3 Changes Forecast

None.

### 7.4 References

Ref	Title	Reference	Issue
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### 7.5 Terms and Abbreviations

Term/Abbreviation	Meaning
CPR	Concatenated Prompt Recordings
CSV	Comma Separated Variables
DTMF	Dual Tone Multi Frequency (a.k.a. TouchTone)
GVP	Genesys Voice Portal
IPCS	IP Communication Server
JAR	Java ARchive
JDBC	Java DataBase Connectivity
JDK	Java Developer Kit

NR9	Nuance Recognizer 9
RoI	Republic of Ireland
TTS	Text to Speech
VXML	Voice eXtensible Markup Language

## 7.6 Distribution List

Name	Organisation/Location
Product Delivery Group	SpeechStorm, Belfast
SpeechStorm Customers	Various