RT-Voice PRO

Hearing is understanding



Documentation

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Thank you for buying our asset "RT-Voice PRO"!

If you have any questions about this asset, send us an email at rtvoice@crosstales.com.

Please don't forget to rate it or write a little review – it would be very much appreciated.

1. Overview

Did you ever want to make a game for people with **visual impairments** or **reading difficulties**? Or want your players to **not have to read too much**? Or would you listen to just the dialogues in your game **without consulting a voice-actor** in early stages of development? Then RT-Voice is your **time-saving** solution to do so! RT-Voice uses TTS-voices already integrated in your system to pronounce any written text at runtime.

All of this happens without intermediate steps: the transformation effects **instantaneously** - and, if needed, **simultaneously**!

2. Features

2.1. Convert text to voice

• Instant conversion from text to speech - generated during runtime!

- Side effect: the continuous audio generation saves a lot of memory!
- No need for voice actors during the testing phase of your game!
- Filter voices by name, culture and/or gender
- **Several voices at once** are possible (e.g. for scenes in a public place, where many people are talking at the same time)
- Fine tuning for your voices with speed, pitch and volume!
- Support for <u>SSML</u> and <u>EmotionML</u>!
- Current word, visemes and phomenes on Windows and iOS including marker functions!
- Generated audio can be stored in files reusable within Unity!
- 1-infinite synchronized speakers for a single AudioSource!
- Simple sequence and dialogue system
- **No** performance drops!
- Enables access to more than 1'000 voices!

2.2. Documentation & control

- Test voices within the editor!
- Powerful API for maximum control!
- Detailed **demo scenes**!
- Comprehensive <u>documentation</u> and support!
- Full C# source code

2.3. Compatibility

- Supports all build platforms!
- Native providers for Windows, macOS, Android and iOS
- Compatible with:
 - AWS Polly
 - Azure (Bing Speech)
 - MaryTTS
 - eSpeak and eSpeak-NG
 - Klattersynth
 - WebGL Speech Synthesis
 - Google Cloud Speech
- Works with Windows, Mac and Linux editors!
- Compatible with Unity 2018.4 2020
- Supports AR and VR!
- C# delegates and Unity events!
- Works with <u>Online Check</u>
- PlayMaker actions!

2.4. Integrations

- <u>SALSA</u>
- Localized Dialogs & Cutscenes (LDC)
- <u>Dialogue System for Unity</u>
- <u>PlayMaker</u>
- Adventure Creator
- <u>LipSync</u>
- SLATE
- <u>Cinema Director</u>
- Quest System Pro
- NPC Chat
- <u>Klattersynth</u>
- WebGL Speech Synthesis
- Google Cloud Speech
- Volumetric Audio
- Online Check

2.5. Platform-specific features and limitations

2.5.1. Overview

Provider	Offline	SSML	Audio files	Words
Windows	yes	yes	yes	yes
macOS	yes	no	yes	no
Android	yes	no	yes	no
iOS	yes	no	no	yes
WSA (UWP)	yes	yes	yes	no
MaryTTS	no¹	yes	yes	no
eSpeak	yes	yes	yes	no
AWS Polly	no	yes	yes	no
Klattersynth	yes	no	no	no
SAPI Unity	yes	yes	no	no
WebGL Speech Synthesis	no	no	no	no
Azure (Bing Speech)	no	yes	yes	no
Google Cloud Speech	no	yes	yes	no

2.5.2. Windows

- Native rate is internally limited to 20 logarithmic distributed steps
- .NET 4.0 or higher must be installed
- Minimum Windows version: 7
- Maximal number of characters per speech: 32'000 (>35min)

Important note: not all SAPI-voices support SSML! If you experience a wrong voice speaking your text, the selected voice is most likely not SSML-compatible. In this case, remove all SSML-tags from your text and let RTV speak again or you could enable *Auto Clear Tags* on the Speaker-component.

2.5.3. macOS

- Native pitch has no effect
- Native volume has no effect
- Minimum macOS version: 10.6
- Maximal number of characters per speech: 256'000 (>4h 45min)
- 1 Standalone: MaryTTS could be bundled with the app installer and run locally

2.5.4. Android

- Only one native voice at the time (can be solved by generating audio)
- Volume has no effect for generated audio (can be adjusted via AudioSource)
- Minimum Android version: 4.0.3 (API 15)
- Maximal number of characters per speech: 3'999 (>5min)

2.5.5. iOS

- Only one active native voice at the time
- Current word but no phonemes and visemes
- Minimum iOS-version: 9.0
- Maximal number of characters per speech: n/a

2.5.6. WSA (UWP)

- Native audio in XAML-builds (.NET only)
- Minimum SDK-version: 10.0
- Maximal number of characters per speech: 64'000 (>1h 15min)

2.5.7. MaryTTS

- Platforms: all
- Support for RAWMARYXML, SSML and EmotionML
- No native audio (only generated audio files)
- Minimum MaryTTS-version: 5.0
- Maximal number of characters per speech: depends on the server request size, but 8'000 (>10min) is realistic. Higher numbers can lead to timeouts.

2.5.8. eSpeak

- Platforms: Windows, macOS, Linux and Android
- Minimum eSpeak version: 1.4.0
- Maximal number of characters per speech: 32'000 (>30min)

Important note: eSpeak must be installed on the target machine; see chapter 7.

2.5.9. AWS Polly

- Platforms: all except WebGL
- No native audio (only generated audio files)
- Maximal number of characters per speech: depends on the maximal request size, but 16'000 (>20min) is realistic. Higher numbers can lead to timeouts.

2.5.10. Klattersynth

Platforms: all

Unity AssetStore: https://assetstore.unity.com/packages/slug/95453

Maximal number of characters per speech: 2'150 (>3min)

2.5.11. SAPI Unity

- Platforms: Windows standalone (IL2CPP)
- Only one active native voice at the time
- Native rate is internally limited to 20 logarithmic distributed steps
- Maximal number of characters per speech: 256'000 (>4h 45min)

2.5.12. WebGL Speech Synthesis

- Platforms: WebGL and Standalone
- Unity AssetStore: https://assetstore.unity.com/packages/slug/81861
- Maximal number of characters per speech: 32'000 (>30min)

2.5.13. Azure (Bing Speech)

- Platforms: all except WebGL
- No native audio (only generated audio)
- Maximal number of characters per speech: depends on the maximal request size, but 16'000 (>20min) is realistic. Higher numbers can lead to timeouts.

2.5.14. Google Cloud Speech

- Platforms: all
- Unity AssetStore: https://assetstore.unity.com/packages/slug/115170
- Maximal number of characters per speech: depends on the maximal request size, but 16'000 (>20min) is realistic. Higher numbers can lead to timeouts.

3. Demonstration

The asset comes with many demo scenes to show the main usage.

Please install "Assets/Plugins/crosstales/Common/UI.unitypackage" first and afterwards "Demos.unitypackage" to use the demo scenes!

3.1. Speech



This demo scene shows how to transform written lines into speech. Choose the preferred voice.

3.2. Dialog

In this demo scene acts out a dialogue between two "people". Choose a different voice for both participants.



3.3. SimpleNative

The "SimpleNative" scene shows the easiest way for native audio.



3.4. Simple

The "Simple" scene shows the easiest and recommended way for most purposes with generated audio.



3.5. 3DAudio

This scene demonstrates 3D positioned and looped audio.

Needs the **Unity Standard Assets**-package.

3.6. Loudspeakers

This scene demonstrates 3D positioned loudspeakers with only one audio origin (looped). Needs the <u>Unity Standard Assets</u>-package.

3.7. SendMessage

This scene shows the usage of Unity's "SendMessage".

3.8. Sequencer

This scene shows the usage of our simple sequencer.

3.9. Exact and Exact_Native

These two scenes are showing how to build applications with exact timing between audio and animations (e.g. lip sync).

3.10. SpeechText

This scene shows how to speak or store generated audio (see the result inside the folder "_generatedAudio").

3.11. SpeechText

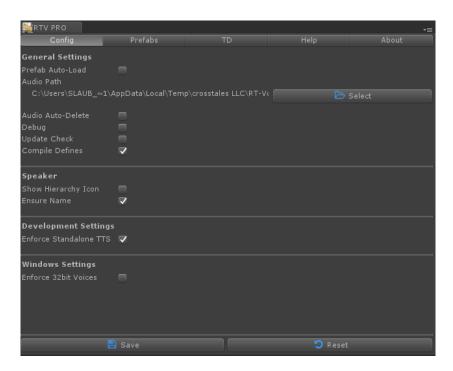
This scene shows how to speak text files with a voice (e.g. random dialogues of NPCs).

3.12. AudioFileGenerator

This scene shows how-to generate audio files from text files.

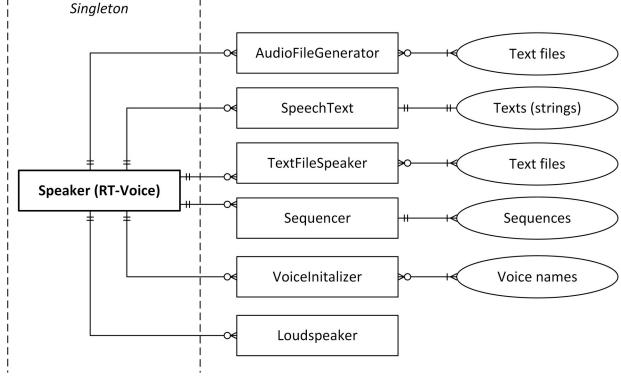
4. Setup

RT-Voice has global settings under "Edit\Preferences..." and under "Tools\RTVoice PRO\ Configuration...":



4.1. Schema

The following graphic explains the relationships between all relevant components:



4.2. Add RT-Voice

There are four ways to add RT-Voice to the project:

1. Add the prefab **RTVoice** from Assets/Plugins/crosstales/RTVoice/Prefabs to the scene

- 2. Or go to Tools => RTVoice PRO => Prefabs => RTVoice
- 3. Right-click in the hierarchy-window => RTVoice PRO => RTVoice
- 4. Add it from the Prefabs-tab:

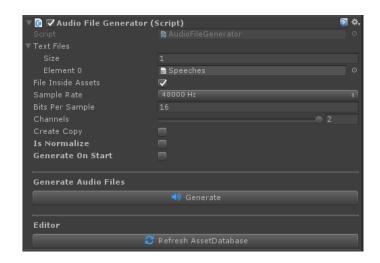


4.3. Other components

The other components can be added in the same way as "RTVoice".

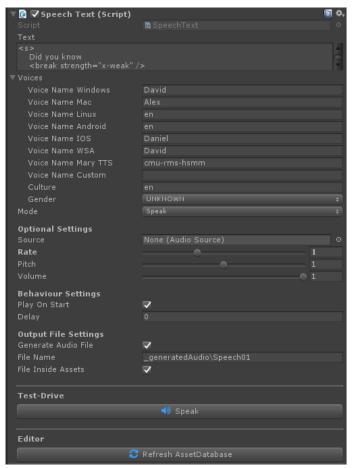
4.3.1. AudioFileGenerator

This scene generates audio files from text files with lines like: #Text;Output file (without extension);Voice name;Rate;Pitch;Volume This is a test speech;Speeches\Mary01;cmu-slt-hsmm;1.2;0.85;0.95



4.3.2. SpeechText

Allows to speak and store generated audio.

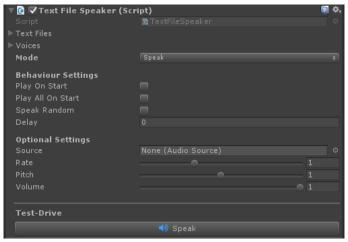


4.3.3. Sequencer

Simple sequencer for dialogues.

4.3.4. TextFileSpeaker

Allows to speak text files.



4.3.5. Loudspeaker

Loudspeaker for an AudioSource.

This is useful to use a speech on multiple locations in the game.

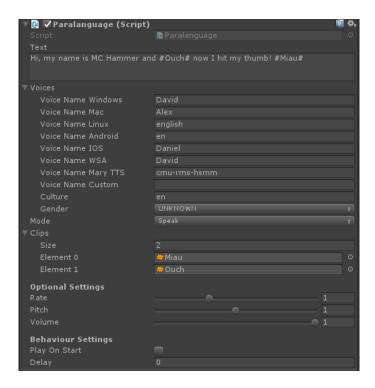
4.3.6. VoiceInitalizer

This component allows to initalize voices to provide lag-free speeches. It's especially useful for Android.

Add it together with RT-Voice to the first scene (e.g. splash screen).

4.3.7. Paralanguage

Paralanguage allows to use sounds inside a speech:



It works like this: add 1-n audio clips (names without spaces). Then add text and fill in the desired clips with the # as pre- and postfix.

4.4. Differences between standard and native mode

In the **standard** mode the TTS-system of the OS will **convert** text to an **audio** file and return it to **Unity** as an "**AudioSource**" for further use (like changing the volume, pitch etc.).

On the other hand, the **native** mode **delegates** the speech-task **entirely** to the underlying TTS-system (outside of Unity). It offers less **control** but it uses slightly **less performance**.

We clearly **recommend** using the **standard** mode.

4.5. Speaker.cs vs. LiveSpeaker.cs

"Speaker.cs" is the main class of RT-Voice and presents the API via static methods.
"LiveSpeaker.cs" on the other hand is a wrapper for "Speaker.cs" and presents the API as normal C#-instance via public methods. The main usage of "LiveSpeaker.cs" is as a receiver for "SendMessage"-calls.

4.6. MaryTTS

MaryTTS is an open-source TTS with a server, client and many voices.

It enables TTS under all Unity platforms.

Customize everything by yourself, just follow their guides:

http://mary.dfki.de/

To enable MaryTTS, simply check "MaryTTS" in the RTVoice-component and configure the URL and port.

4.6.1. Important

The default server in RT-Voice is the test server from MaryTTS.

Never release a product with the **default configuration** and install your own server (local/remote)!

4.6.2. Account for our MaryTTS-service

We offer a service for MaryTTS. It's currently free and in early beta-stage, this means it could be sometimes slow or unavailable.

If you're interested in getting a test account, contact us.

4.6.3. Installation guide

We created a guide which should help installing a MaryTTS-server with HTTPS (needed for the WebGL-platform).

It can be found under "Assets/crosstales/RTVoice/Documentation/MaryTTS.pdf".

5. API

The asset contains various methods and the most important are explained here.

Make sure to **include** the **name space** in the relevant source files:

using Crosstales.RTVoice;

5.1. Speaker

The "Speaker.cs" is a singleton and contains the following static methods.

5.1.1. Speak

Speaks a text with a given voice and optional AudioSource.

For example:

```
//Immediately speak "hello world" with the first available voice
Speaker.Instance.Speak("hello world", audioSource);

//Immediately speak "hello world" with the first English voice (if available else it uses the first voice on the OS)
Speaker.Instance.Speak("hello world", audioSource, Speaker.Instance.VoiceForCulture("en"));

// Prepare speak "hello world" with the first available voice (without AudioSource.Play() - this is up to you). With this technique, all audio texts of a scene can be created in advance and the AudioSource can be modified in various ways
Speaker.Instance.Speak("hello world", audioSource, null, false);
```

5.1.2. SpeakNative

Speaks a text with a given voice.

For example:

```
//Speak "hello world" with the first available voice
Speaker.Instance.SpeakNative("hello world");
```

```
//Speak "hello world" with the first English voice (if available else it uses
the first voice on the OS)
Speaker.Instance.SpeakNative("hello world",
Speaker.Instance.VoiceForCulture("en"));
```

5.1.3. Silence

Silence all active TTS-voices.

Example:

```
//Silence all voices
Speaker.Instance.Silence();
```

5.1.4. Voices

List<Voice> Voices

Returns all available voices (alphabetically ordered by 'Name').

5.1.5. VoicesForGender

List<Voice> VoicesForGender(Model.Enum.Gender gender, string culture)
Returns all available voices for a given gender and optional culture (alphabetically ordered by 'Name').

5.1.6. VoiceForGender

Voice VoiceForGender(Model.Enum.Gender gender, string culture, int index, string fallbackCulture)

Returns a voice for the given gender and optional culture/index/fallbackCulture.

5.1.7. VoicesForCulture

List<Voice> VoicesForCulture(string culture)

Returns all available voices for a given culture (alphabetically ordered by 'Name').

5.1.8. VoiceForCulture

Voice VoiceForCulture(string culture, int index, string fallbackCulture)
Returns a voice for the given culture and optional index/fallbackCulture.

5.1.9. VoiceForName

Voice VoiceForName(string name)

Returns the voice for the given name or null if not found.

5.1.10. Cultures

List<string> Cultures

Returns all available cultures (alphabetically ordered by 'Culture').

5.2. Callbacks

There are various callbacks available. Subscribe them in the "OnEnable"-method and unsubscribe in "OnDisable".

5.2.1. Voices ready

VoicesReady();

VoicesReady OnVoicesReady;

Triggered as soon as the voices of a provider are ready to use.

5.2.2. Speak start and complete

SpeakStart(Wrapper wrapper);

SpeakStart OnSpeakStart;

Triggered whenever a speak is started.

SpeakComplete(Wrapper wrapper);

SpeakComplete;

Triggered whenever a native speak is completed.

5.2.1. Current word (native, Windows and iOS only)

SpeakCurrentWord(Wrapper wrapper, string[] speechTextArray, int wordIndex);
SpeakCurrentWord OnSpeakCurrentWord;

Triggered whenever a new word is spoken (native, Windows and iOS only).

5.2.2. Current phoneme (native, Windows only)

SpeakCurrentPhoneme(Wrapper wrapper, string phoneme);

SpeakCurrentPhoneme OnSpeakCurrentPhoneme;

Triggered whenever a new phoneme is spoken (native mode, Windows only).

5.2.3. Current viseme (native, Windows only)

SpeakCurrentViseme(Wrapper wrapper, string viseme);

SpeakCurrentViseme OnSpeakCurrentViseme;

Triggered whenever a new viseme is spoken (native mode, Windows only).

5.2.4. Speak audio generation start and complete

SpeakAudioGenerationStart(Wrapper wrapper);
SpeakAudioGenerationStart OnSpeakAudioGenerationStart;

Triggered whenever a speak audio generation is started.

SpeakAudioGenerationComplete(Wrapper wrapper);
SpeakAudioGenerationComplete OnSpeakAudioGenerationComplete;

Triggered whenever a speak audio generation is completed.

5.2.5. Provider change

ProviderChange(string provider);
ProviderChange OnProviderChange;

Triggered whenever a provider changes (e.g. from Windows to MaryTTS).

5.2.6. Errors

ErrorInfo(string info);

ErrorInfo OnErorInfo;

Triggered whenever an error occurs.

5.2.7. Example

Wait until all voices are ready. Then speak the text and get informed when it starts and completes:

```
public void OnEnable() {
 // Subscribe event listeners
 Speaker.Instance.OnVoicesReady += voicesReady;
 Speaker.Instance.OnSpeakStart += speakStart;
 Speaker.Instance.OnSpeakComplete += speakComplete;
}
public void OnDisable() {
 // Unsubscribe event listeners
 Speaker.Instance.OnVoicesReady -= voicesReady;
 Speaker.Instance.OnSpeakStart -= speakStart;
 Speaker.Instance.OnSpeakComplete -= speakComplete;
}
private void voicesReady() {
 Debug.Log("voicesReady: " + wrapper);
 Speaker.Instance.SpeakNative("Hello world!");
}
private void speakStart(Model.Wrapper wrapper) {
 Debug.Log("speakStart: " + wrapper);
}
private void speakComplete(Model.Wrapper wrapper) {
 Debug.LogWarning("speakComplete: " + wrapper);
}
```

5.3. Complete API

For more details, please see the RTVoice-api.pdf

6. Additional voices

RT-Voice works great with third-party voices (e.g. Cereproc).

6.1. Windows

All SAPI5-compatible voices are supported. Microsoft also provides a wide range of voices for different languages:

https://www.microsoft.com/en-us/download/details.aspx?id=27224

To install and use those voices follow this manual:

http://superuser.com/a/872573

To verify the voices, go to the path "C:\Windows\System32\Speech\SpeechUX" and double-click on "sapi.cpl". The voices should appear in the "Voice selection".

6.1.1. Important

Don't install those Microsoft voices or RTVoice won't work:

- hui hui
- hun yee
- han han

6.2. macOS

Apple delivers many voices for different languages. To add or customize them, follow the tutorial below:

http://osxdaily.com/2011/07/25/how-to-add-new-voices-to-mac-os-x/

6.3. Android

Follow the link to add various voices on an Android phone:

http://hyperionics.com/TtsSetup/eng/TtsInfo.html

6.4. iOS

Follow the link to change the quality of the installed voices:

https://support.apple.com/en-us/HT202362

6.5. WSA (UWP)

No information so far. If you know a working guide, please let us know.

6.6. MaryTTS

http://mary.dfki.de/

6.7. eSpeak

http://espeak.sourceforge.net/languages.html

7. Setup eSpeak

eSpeak and esSpeak-NG are open-source TTS solutions that work under Windows, macOS, Linux and Android.

To take advantage of it, please install it on the PC.

7.1. Windows

http://sourceforge.net/projects/espeak/files/espeak/espeak-1.48/setup_espeak-1.48.04.exe

7.1. macOS

http://sourceforge.net/projects/espeak/files/espeak/espeak-1.45/espeak-1.45.04-OSX.zip

7.2. Linux

sudo apt-get install espeak

7.3. eSpeak-NG

https://github.com/espeak-ng/espeak-ng#binaries

To use eSpeak-NG in RT-Voice, please change the variables **DEFAULT_TTS_LINUX** and **DEFAULT_TTS_LINUX_DATA** in the region "eSpeak" inside the class "Constants.cs".

8. Third-party support (PlayMaker etc.)

RT-Voice supports various products from other companies. Please import the desired packages from "Assets/Plugins/crosstales/RTVoice/3rd party".

9. Verify installation

Check if RT-Voice is installed:

10. Upgrade to new version

Follow this steps to upgrade the version of "RT-Voice PRO":

- 1. Update "RT-Voice PRO" to the latest version from the "Unity AssetStore"
- 2. Inside the project in Unity, go to menu "File" => "New Scene"
- 3. Delete the "Assets/Plugins/crosstales/RTVoice" folder from the Project-view
- 4. Import the latest version downloaded from the "Unity AssetStore"

11.Important notes

After this setup, RT-Voice is ready to use. It is important to know that it uses the **singleton**-pattern, which means that **once instantiated**, the RT-Voice will **live until** the application is **terminated**.

12. Problems, improvements etc.

If you encounter any problems with this asset, just <u>send us an email</u> with a problem description and the invoice number and we will try to solve it.

13. Release notes

See "VERSIONS.txt" under "Assets/crosstales/RTVoice/Documentation" or online: https://crosstales.com/media/data/assets/rtvoice/VERSIONS.txt

14. Credits

The icons are based on Font Awesome.

15. Contact and further information

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Homepage: https://www.crosstales.com/en/portfolio/rtvoice/

Email: rtvoice@crosstales.com

AssetStore: https://assetstore.unity.com/lists/crosstales-42213

Forum: http://forum.unity3d.com/threads/rt-voice-run-time-text-to-speech-

solution.340046/

Documentation: https://www.crosstales.com/media/data/assets/rtvoice/RTVoice-

doc.pdf

API: http://www.crosstales.com/en/assets/rtvoice/api/

WebGL-Demo: https://www.crosstales.com/media/data/assets/rtvoice/webgl/

Windows-Demo: https://drive.google.com/file/d/

11BFDLbj9vmyrfltXeS_d9zK3oM9h8TaS/view?usp=sharing

Mac-Demo: https://drive.google.com/file/d/

11A7u7g7Cs63Bu7Iv7ER9KFTVCU9oWAaT/view?usp=sharing

Linux-Demo: https://drive.google.com/file/d/

1XViADtStr8NXKHPMejXQ6iY4C2U_Bh3o/view?usp=sharing

Android-Demo: https://drive.google.com/file/d/

11FUbfuvSAAT5JgdolUKZO1sCPkTAFYJG/view?usp=sharing

16. Our other assets

3D Skybox PRO 3D Skybox	Those beautiful packages contain professional 8k, HDR, stereoscopic 360° real-world skyboxes for your projects.
Bad Word Filter	The "Bad Word Filter" (aka profanity or obscenity filter) is exactly what the title suggests: a tool to filter swearwords and other "bad sentences".
DJ	DJ is a player for external music-files. It allows a user to play his own sound inside any Unity-app. It can also read ID3-tags.
File Browser	File Browser is a wrapper for native file dialogs on Windows, macOS, Linux and UWP (WSA).
Online Check	You need a reliable solution to check for Internet availability? Here it is!
Radio	Radio allows implementing free music from Internet radio stations into your project
True Random	True Random can generate "true random" numbers for you and your application. The randomness comes from atmospheric noise, which for many purposes is better than the pseudo-random number algorithms typically used in computer programs.
Turbo Backup	Turbo Backup is the fastest and safest way to backup your Unity project. It only stores the difference between the last backup, this makes it incredible fast.
Turbo Builder	Turbo Builder creates builds for multiple platforms in one click. It works together with <u>Turbo Switch</u> to offer an incredible fast build pipeline.



Turbo Switch is a Unity editor extension to reduce the time for assets to import during platform switches. We measured speed improvements up to 100x faster than the built-in switch in Unity.

17. Appendix

17.1. Voices

The voices of all available providers ordered by language.

Please see chapter 6 on how-to add additional voices.

17.1.1. Windows

Windows 10 (64bit, tested: 28.04.2020)

Name	Gender	Language
Microsoft Server Speech Text to Speech Voice (ca-ES, Herena)	FEMALE	ca-ES
Microsoft Server Speech Text to Speech Voice (da-DK,	FEMALE	da-DK
Helle) Microsoft Hedda Desktop	FEMALE	de-DE
Microsoft Server Speech Text to Speech Voice (en-AU,	FEMALE	en-AU
Hayley) Microsoft Server Speech Text to Speech Voice (en-CA,		en-Ao
Heather) Microsoft Server Speech Text to Speech Voice (en-IN,	FEMALE	en-CA
Heera)	FEMALE	en-IN
Microsoft Server Speech Text to Speech Voice (en-US, Helen)	FEMALE	en-US
Microsoft Server Speech Text to Speech Voice (en-US, ZiraPro)	FEMALE	en-US
Microsoft Zira Desktop	FEMALE	en-US
Microsoft Server Speech Text to Speech Voice (es-ES, Helena)	FEMALE	es-ES
Microsoft Server Speech Text to Speech Voice (es-MX, Hilda)	FEMALE	es-MX
Microsoft Server Speech Text to Speech Voice (fi-FI, Heidi)	FEMALE	fi-Fl
Microsoft Server Speech Text to Speech Voice (fr-CA,	FEMALE	11-1-1
Harmonie) Microsoft Server Speech Text to Speech Voice (fr-FR,	FEMALE	fr-CA
Hortense)	FEMALE	fr-FR
Microsoft Server Speech Text to Speech Voice (it-IT, Lucia)	FEMALE	it-IT
Microsoft Server Speech Text to Speech Voice (ja-JP, Haruka)	FEMALE	ja-JP
Microsoft Server Speech Text to Speech Voice (ko-KR,	IEMALE	Ja-ar
Heami)	FEMALE	ko-KR

Microsoft Server Speech Text to Speech Voice (nb-NO,		
Hulda)	FEMALE	nb-NO
Microsoft Server Speech Text to Speech Voice (nI-NL,		
Hanna)	FEMALE	nI-NL
Microsoft Server Speech Text to Speech Voice (pl-PL,		
Paulina)	FEMALE	ρl-PL
Microsoft Server Speech Text to Speech Voice (pt-BR,		
Heloisa)	FEMALE	ρt-BR
Microsoft Server Speech Text to Speech Voice (pt-PT,		
Helia)	FEMALE	ρt-PT
Microsoft Server Speech Text to Speech Voice (ru-RU,		
Elena)	FEMALE	ru-RU
Microsoft Server Speech Text to Speech Voice (sv-SE,		
Hedvig)	FEMALE	sv-SE

17.1.2. macOS

Version 10.15.3 (tested: 28.04.2020)

Name	Gender	Language
Maged	MALE	ar-SA
Zuzana	FEMALE	cs-CZ
Sara	FEMALE	da-DK
Anna	FEMALE	de-DE
Melina	FEMALE	el-GR
Karen	FEMALE	en-AU
Daniel	MALE	en-GB
Moira	FEMALE	en-IE
Rishi	UNKNOWN	en-IN
Veena	FEMALE	en-IN
Fiona	FEMALE	en-scotland
Fred	MALE	en-US
Samantha	FEMALE	en-US
Victoria	FEMALE	en-US
Tessa	FEMALE	en-ZA
Diego	MALE	es-AR
Jorge	MALE	es-ES
Monica	FEMALE	es-ES
Juan	MALE	es-MX
Paulina	FEMALE	es-MX
Satu	FEMALE	fi-Fl
Amelie	FEMALE	fr-CA
Thomas	MALE	fr-FR
Carmit	FEMALE	he-IL
Lekha	FEMALE	hi-IN
Mariska	FEMALE	hu-HU

Damayanti	FEMALE	id-ID
Luca	MALE	it-IT
Kyoko	FEMALE	ja-JP
Yuna	FEMALE	ko-KR
Nora	FEMALE	nb-NO
Ellen	FEMALE	nI-BE
Xander	MALE	nI-NL
Zosia	FEMALE	ρl-PL
Luciana	FEMALE	ρt-BR
Joana	FEMALE	ρt-PT
loana	FEMALE	ro-RO
Milena	FEMALE	ru-RU
Yuri	MALE	ru-RU
Laura	FEMALE	sk-SK
Alva	FEMALE	sv-SE
Kanya	FEMALE	th-TH
Yelda	FEMALE	tr-TR
Ting-Ting	FEMALE	zh-CN
Sin-ji	FEMALE	zh-HK
Mei-Jia	FEMALE	zh-TW

17.1.3. Android

Version 9 (Google TTS, tested: 28.04.2020)

Name	Gender	Language
bn-bd-x-ban-network	UNKNOWN	bn-bd
bn-IN-language	UNKNOWN	bn-IN
bn-in-x-bin-local	UNKNOWN	bn-in
bn-in-x-bin-network	UNKNOWN	bn-in
bn-in-x-bnf-local	UNKNOWN	bn-in
bn-in-x-bnf-network	UNKNOWN	bn-in
bn-in-x-bnm-local	UNKNOWN	bn-in
bn-in-x-bnm-network	UNKNOWN	bn-in
bs	UNKNOWN	bs
са	UNKNOWN	са
cmn-cn-x-ccc-local	UNKNOWN	cmn-c
cmn-cn-x-ccc-network	UNKNOWN	cmn-c
cmn-cn-x-ccd-local	UNKNOWN	cmn-c
cmn-cn-x-ccd-network	UNKNOWN	cmn-c
cmn-cn-x-cce-local	UNKNOWN	cmn-c
cmn-cn-x-cce-network	UNKNOWN	cmn-c
cmn-cn-x-ssa-local	UNKNOWN	cmn-c
cmn-cn-x-ssa-network	UNKNOWN	cmn-c
cmn-tw-x-ctc-local	UNKNOWN	cmn-t
cmn-tw-x-ctc-network	UNKNOWN	cmn-t

cmn-tw-x-ctd-local	UNKNOWN	cmn-t
cmn-tw-x-ctd-network	UNKNOWN	cmn-t
cmn-tw-x-cte-local	UNKNOWN	cmn-t
cmn-tw-x-cte-network	UNKNOWN	cmn-t
cs-CZ-language	UNKNOWN	cs-CZ
cs-cz-x-jfs-local	UNKNOWN	CS-CZ
cs-cz-x-jfs-network	UNKNOWN	CS-CZ
су	UNKNOWN	су
da-DK-language	UNKNOWN	da-DK
da-dk-x-kfm-local	UNKNOWN	da-dk
da-dk-x-kfm-network	UNKNOWN	da-dk
de-DE-language	UNKNOWN	de-DE
de-de-x-deb-local	UNKNOWN	de-de
de-de-x-deb-network	UNKNOWN	de-de
de-de-x-deg-local	UNKNOWN	de-de
de-de-x-deg-network	UNKNOWN	de-de
de-de-x-nfh-local	UNKNOWN	de-de
de-de-x-nfh-network	UNKNOWN	de-de
de-de-x-nfh#female_1-local	FEMALE	de-de
de-de-x-nfh#female_2-local	FEMALE	de-de
de-de-x-nfh#female_3-local	FEMALE	de-de
de-de-x-nfh#male_1-local	MALE	de-de
de-de-x-nfh#male_2-local	MALE	de-de
de-de-x-nfh#male_3-local	MALE	de-de
el-GR-language	UNKNOWN	el-GR
el-gr-x-vfz-local	UNKNOWN	el-gr
el-gr-x-vfz-network	UNKNOWN	el-gr
en-AU-language	UNKNOWN	en-AU
en-au-x-afh-local	UNKNOWN	en-au
en-au-x-afh-network		
en-au-x-aua-local	UNKNOWN	en-au
	UNKNOWN	00-311
	UNKNOWN	en-au
en-au-x-aua-network	UNKNOWN UNKNOWN	en-au
en-au-x-aua-network en-au-x-aub-local	UNKNOWN UNKNOWN	eu-au eu-au
en-au-x-aua-network	UNKNOWN UNKNOWN	en-au
en-au-x-aua-network en-au-x-aub-local	UNKNOWN UNKNOWN	eu-au eu-au
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network	UNKNOWN UNKNOWN UNKNOWN UNKNOWN	en-au en-au en-au
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network	UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN	en-au en-au en-au en-au en-au
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network en-au-x-aud-local	UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN	en-au en-au en-au en-au en-au en-au
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network en-au-x-aud-local en-au-x-aud-network	UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN	en-au en-au en-au en-au en-au en-au en-au
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network en-au-x-aud-local en-au-x-aud-network en-GB-language	UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN	en-au en-au en-au en-au en-au en-au en-au en-GB
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network en-au-x-aud-local en-au-x-aud-network en-GB-language en-gb-x-fis-local	UNKNOWN	en-au en-au en-au en-au en-au en-au en-GB en-gb
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network en-au-x-aud-local en-au-x-aud-network en-GB-language en-gb-x-fis-local en-gb-x-fis-network	UNKNOWN	en-au en-au en-au en-au en-au en-au en-au en-GB
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network en-au-x-aud-local en-au-x-aud-network en-GB-language en-gb-x-fis-local	UNKNOWN	en-au en-au en-au en-au en-au en-au en-GB en-gb
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network en-au-x-aud-local en-au-x-aud-network en-GB-language en-gb-x-fis-local en-gb-x-fis-network	UNKNOWN	en-au en-au en-au en-au en-au en-au en-GB en-gb
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network en-au-x-aud-local en-au-x-aud-network en-GB-language en-gb-x-fis-local en-gb-x-fis-network en-gb-x-fis#female_1-local en-gb-x-fis#female_2-local	UNKNOWN EMALE FEMALE	en-au en-au en-au en-au en-au en-au en-GB en-gb en-gb en-gb en-gb
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network en-au-x-aud-local en-au-x-aud-network en-GB-language en-gb-x-fis-local en-gb-x-fis-network en-gb-x-fis#female_1-local en-gb-x-fis#female_2-local en-gb-x-fis#female_3-local	UNKNOWN EMALE FEMALE FEMALE	en-au en-au en-au en-au en-au en-au en-au en-GB en-gb en-gb en-gb en-gb en-gb
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network en-au-x-aud-local en-au-x-aud-local en-gb-x-fis-local en-gb-x-fis-network en-gb-x-fis#female_1-local en-gb-x-fis#female_3-local en-gb-x-fis#male_1-local	UNKNOWN EMALE FEMALE FEMALE MALE	en-au en-au en-au en-au en-au en-au en-au en-GB en-gb en-gb en-gb en-gb en-gb
en-au-x-aua-network en-au-x-aub-local en-au-x-aub-network en-au-x-auc-local en-au-x-auc-network en-au-x-aud-local en-au-x-aud-network en-GB-language en-gb-x-fis-local en-gb-x-fis-network en-gb-x-fis#female_1-local en-gb-x-fis#female_2-local en-gb-x-fis#female_3-local	UNKNOWN EMALE FEMALE FEMALE	en-au en-au en-au en-au en-au en-au en-au en-GB en-gb en-gb en-gb en-gb en-gb

en-gb-x-gba-local	UNKNOWN	en-gb
en-gb-x-gba-network	UNKNOWN	en-gb
en-gb-x-gbb-local	UNKNOWN	en-gb
en-gb-x-gbb-network	UNKNOWN	en-gb
en-gb-x-gbc-local	UNKNOWN	en-gb
en-gb-x-gbc-network	UNKNOWN	en-gb
en-gb-x-gbd-local	UNKNOWN	en-gb
en-qb-x-qbd-network	UNKNOWN	en-gb
en-qb-x-rjs-local	UNKNOWN	en-gb
en-gb-x-rjs-network	UNKNOWN	en-gb
en-gb-x-rjs#female_1-local	FEMALE	en-gb
en-gb-x-rjs#female_2-local	FEMALE	en-gb
en-gb-x-rjs#female_3-local	FEMALE	en-gb
en-gb-x-rjs#male_1-local	MALE	en-gb
en-gb-x-rjs#male_2-local	MALE	en-gb
en-gb-x-rjs#male_3-local	MALE	en-gb
en-IN-language	UNKNOWN	en-IN
en-in-x-ahp-local	UNKNOWN	en-in
en-in-x-ahp-network	UNKNOWN	en-in
en-in-x-ahp#female_1-local	FEMALE	en-in
en-in-x-ahp#female_2-local	FEMALE	en-in
en-in-x-ahp#female_3-local	FEMALE	en-in
en-in-x-ahp#male_1-local	MALE	en-in
en-in-x-ahp#male_2-local	MALE	en-in
en-in-x-ahp#male_3-local	MALE	en-in
en-in-x-cxx-local	UNKNOWN	en-in
en-in-x-cxx-network	UNKNOWN	en-in
en-in-x-cxx#female_1-local	FEMALE	en-in
en-in-x-cxx#female_2-local	FEMALE	en-in
en-in-x-cxx#female_3-local	FEMALE	en-in
en-in-x-cxx#male_1-local	MALE	en-in
en-in-x-cxx#male_2-local	MALE	en-in
en-in-x-cxx#male_3-local	MALE	en-in
en-in-x-enc-local	UNKNOWN	
en-in-x-enc-network	UNKNOWN	
en-in-x-end-local	UNKNOWN	
en-in-x-end-network	UNKNOWN	en-in
en-in-x-ene-local	UNKNOWN	en-in
en-in-x-ene-network	UNKNOWN	en-in
en-NG-language	UNKNOWN	en-NG
en-ng-x-tfn-local	UNKNOWN	en-ng
en-ng-x-tfn-network	UNKNOWN	en-ng
en-US-language	UNKNOWN	en-US
en-us-x-sfg-local	UNKNOWN	en-us
en-us-x-sfg-network	UNKNOWN	en-us
en-us-x-sfg#female_1-local	FEMALE	en-us
en-us-x-sfg#female_2-local	FEMALE	en-us
ch os A sigmicinole_Z local	// \	C11 U3

en-us-x-sfg#female_3-local	FEMALE	en-us
en-us-x-sfg#male_1-local	MALE	en-us
en-us-x-sfg#male_2-local	MALE	en-us
en-us-x-sfg#male_3-local	MALE	en-us
en-us-x-tpd-local	UNKNOWN	en-us
•		
en-us-x-tpd-network	UNKNOWN	en-us
es-ES-language	UNKNOWN	es-ES
es-es-x-ana-local	UNKNOWN	es-es
es-es-x-ana-network	UNKNOWN	es-es
es-es-x-ana#female_1-local	FEMALE	es-es
es-es-x-ana#female_2-local	FEMALE	es-es
es-es-x-ana#female_3-local	FEMALE	es-es
es-es-x-ana#male_1-local	MALE	es-es
es-es-x-ana#male_2-local	MALE	es-es
es-es-x-ana#male_3-local	MALE	es-es
es-US-language	UNKNOWN	es-US
es-us-x-sfb-local	UNKNOWN	es-us
es-us-x-sfb-network	UNKNOWN	es-us
es-us-x-sfb#female_1-local	FEMALE	es-us
es-us-x-sfb#female_2-local	FEMALE	es-us
es-us-x-sfb#female_3-local	FEMALE	es-us
es-us-x-sfb#male_1-local	MALE	es-us
es-us-x-sfb#male_2-local	MALE	es-us
es-us-x-sfb#male_3-local	MALE	es-us
et-EE-language	UNKNOWN	et-EE
et-ee-x-tms-local	UNKNOWN	et-ee
et-ee-x-tms-network	UNKNOWN	et-ee
fi-FI-language	UNKNOWN	fi-Fl
fi-fi-x-afi-local	UNKNOWN	fi-fi
fi-fi-x-afi-network	UNKNOWN	fi-fi
fil-PH-language	UNKNOWN	fil-P
fil-ph-x-cfc-local	UNKNOWN	•
fil-ph-x-cfc-network	UNKNOWN	•
fr-CA-language	UNKNOWN	fr-CA
fr-ca-x-caa-local	UNKNOWN	fr-ca
fr-ca-x-caa-network	UNKNOWN	fr-ca
fr-ca-x-cab-local	UNKNOWN	
fr-ca-x-cab-network	UNKNOWN	
fr-ca-x-cac-local	UNKNOWN	
fr-ca-x-cac-network	UNKNOWN	fr-ca
fr-ca-x-cad-local	UNKNOWN	fr-ca
fr-ca-x-cad-network	UNKNOWN	fr-ca
fr-FR-language	UNKNOWN	fr-FR
fr-fr-x-fra-local	UNKNOWN	
fr-fr-x-fra-network	UNKNOWN	
fr-fr-x-frb-local	UNKNOWN	
fr-fr-x-frb-network	UNKNOWN	fr-fr

fr-fr-x-frc-local	UNKNOWN	fr-fr
fr-fr-x-frc-network	UNKNOWN	fr-fr
fr-fr-x-frd-local	UNKNOWN	fr-fr
fr-fr-x-frd-network	UNKNOWN	
fr-fr-x-vlf-local	UNKNOWN	fr-fr
fr-fr-x-vlf-network	UNKNOWN	fr-fr
fr-fr-x-vlf#female_1-local	FEMALE	fr-fr
fr-fr-x-vlf#female_2-local	FEMALE	fr-fr
fr-fr-x-vlf#female_3-local	FEMALE	fr-fr
fr-fr-x-vlf#male_1-local	MALE	fr-fr
fr-fr-x-vlf#male_2-local	MALE	fr-fr
fr-fr-x-vlf#male_3-local	MALE	fr-fr
gu-IN-language	UNKNOWN	gu-IN
gu-in-x-guf-local	UNKNOWN	gu-in
gu-in-x-guf-network	UNKNOWN	gu-in
gu-in-x-gum-local	UNKNOWN	gu-in
gu-in-x-gum-network	UNKNOWN	gu-in
hi-IN-language	UNKNOWN	hi-IN
hi-in-x-cfn-local	UNKNOWN	hi-in
hi-in-x-cfn-network	UNKNOWN	
		hi-in
hi-in-x-cfn#female_1-local	FEMALE	hi-in
hi-in-x-cfn#female_2-local	FEMALE	hi-in
hi-in-x-cfn#female_3-local	FEMALE	hi-in
hi-in-x-cfn#male_1-local	MALE	hi-in
hi-in-x-cfn#male_2-local	MALE	hi-in
hi-in-x-cfn#male_3-local	MALE	hi-in
hi-in-x-hic-local	UNKNOWN	
hi-in-x-hic-network	UNKNOWN	hi-in
hi-in-x-hid-local	UNKNOWN	hi-in
hi-in-x-hid-network	UNKNOWN	hi-in
hi-in-x-hie-local	UNKNOWN	hi-in
hi-in-x-hie-network	UNKNOWN	
hr	UNKNOWN	
hu-HU-language	UNKNOWN	hu-HU
hu-hu-x-kfl-local	UNKNOWN	hu-hu
hu-hu-x-kfl-network	UNKNOWN	hu-hu
id-ID-language	UNKNOWN	
id-id-x-dfz-local	UNKNOWN	
id-id-x-dfz-network	UNKNOWN	id-id
id-id-x-dfz#female_1-local	FEMALE	id-id
id-id-x-dfz#female_2-local	FEMALE	id-id
id-id-x-dfz#female_3-local	FEMALE	id-id
id-id-x-dfz#male_1-local	MALE	id-id
id-id-x-dfz#male_2-local	MALE	id-id
id-id-x-dfz#male_3-local	MALE	id-id
id-id-x-idc-locəl	UNKNOWN	id-id
id-id-x-idc-network	UNKNOWN	id-id
	· ·	-

id-id-x-idd-local	UNKNOWN	id-id
id-id-x-idd-network	UNKNOWN	id-id
id-id-x-ide-local	UNKNOWN	id-id
id-id-x-ide-network	UNKNOWN	id-id
it-IT-language	UNKNOWN	it-IT
it-it-x-itb-local	UNKNOWN	
it-it-x-itb-network	UNKNOWN	
it-it-x-itc-local	UNKNOWN	
it-it-x-itc-network	UNKNOWN	
it-it-x-itd-local	UNKNOWN	
it-it-x-itd-network	UNKNOWN	
it-it-x-kda-local	UNKNOWN	
it-it-x-kda-network	UNKNOWN	
it-it-x-kda#female_1-local	FEMALE	it-it
it-it-x-kda#female_1-local		
	FEMALE	it-it
it-it-x-kda#female_3-local	FEMALE	it-it
it-it-x-kda#male_1-local	MALE	it-it
it-it-x-kda#male_2-local	MALE	it-it
it-it-x-kda#male_3-local	MALE	it-it
ja-JP-language	UNKNOWN	ja-JP
ja-jp-x-htm-local	UNKNOWN	ја-јр
ja-jp-x-htm-network	UNKNOWN	ја-јр
ja-jp-x-htm#female_1-local	FEMALE	ја-јр
ja-jp-x-htm#female_2-local	FEMALE	ја-јр
ja-jp-x-htm#female_3-local	FEMALE	ја-јр
ja-jp-x-htm#male_1-local	MALE	ja-jp
ja-jp-x-htm#male_2-local	MALE	ja-jp
ja-jp-x-htm#male_3-local	MALE	ja-jp
ja-jp-x-jab-local	UNKNOWN	ја-јр
ja-jp-x-jab-network	UNKNOWN	ја-јр
ja-jp-x-jac-local	UNKNOWN	ја-јр
ja-jp-x-jac-network	UNKNOWN	ja-jp
ja-jp-x-jad-local	UNKNOWN	ja-jp
ja-jp-x-jad-network	UNKNOWN	ja-jp
jv-ID-language	UNKNOWN	jv-ID
jv-id-x-jvf-local	UNKNOWN	jv-id
jv-id-x-jvf-network	UNKNOWN	jv-id
km-KH-language	UNKNOWN	km-KH
km-kh-x-khm-local	UNKNOWN	km-kh
km-kh-x-khm-network	UNKNOWN	km-kh
kn-IN-language	UNKNOWN	
kn-in-x-knf-local	UNKNOWN	kn-in
kn-in-x-knf-network	UNKNOWN	kn-in
kn-in-x-knm-local	UNKNOWN	
kn-in-x-knm-network	UNKNOWN	
ko-KR-language	UNKNOWN	
ko-kr-x-ism-local	UNKNOWN	ko-kr
NO KI A ISIII IOCOI	CINICINOVIN	NO KI

ko-kr-x-ism-network		ko-kr
ko-kr-x-ism#female_1-local	FEMALE	ko-kr
ko-kr-x-ism#female_2-local	FEMALE	ko-kr
ko-kr-x-ism#female_3-local	FEMALE	ko-kr
ko-kr-x-ism#male_1-local	MALE	ko-kr
ko-kr-x-ism#male_2-local	MALE	ko-kr
ko-kr-x-ism#male_3-local	MALE	ko-kr
ko-kr-x-kob-local	UNKNOWN	ko-kr
ko-kr-x-kob-network	UNKNOWN	ko-kr
ko-kr-x-koc-local	UNKNOWN	ko-kr
ko-kr-x-koc-network	UNKNOWN	ko-kr
ko-kr-x-kod-local	UNKNOWN	ko-kr
ko-kr-x-kod-network	UNKNOWN	ko-kr
ku	UNKNOWN	kυ
la	UNKNOWN	la
ml-IN-language	UNKNOWN	mI-IN
ml-in-x-mlf-local	UNKNOWN	ml-in
ml-in-x-mlf-network	UNKNOWN	ml-in
ml-in-x-mlm-local	UNKNOWN	ml-in
ml-in-x-mlm-network	UNKNOWN	ml-in
mr-IN-language	UNKNOWN	mr-IN
mr-in-x-mrf-local	UNKNOWN	mr-in
mr-in-x-mrf-network	UNKNOWN	mr-in
nb-NO-language	UNKNOWN	nb-NO
nb-no-x-cfl-local	UNKNOWN	nb-no
nb-no-x-cfl-network	UNKNOWN	nb-no
nb-no-x-cmj-local	UNKNOWN	nb-no
nb-no-x-cmj-network	UNKNOWN	nb-no
nb-no-x-rfj-local	UNKNOWN	nb-no
nb-no-x-rfj-network	UNKNOWN	nb-no
nb-no-x-tfs-local	UNKNOWN	nb-no
nb-no-x-tfs-network	UNKNOWN	nb-no
nb-no-x-tmg-local	UNKNOWN	nb-no
nb-no-x-tmg-network	UNKNOWN	nb-no
ne-NP-language	UNKNOWN	ne-NP
ne-np-x-nep-local	UNKNOWN	ne-np
ne-np-x-nep-network	UNKNOWN	ne-np
nl-NL-language	UNKNOWN	nl-NL
nl-nl-x-bmh-local	UNKNOWN	nl-nl
nl-nl-x-bmh-network	UNKNOWN	nl-nl
nl-nl-x-dma-local	UNKNOWN	nl-nl
nl-nl-x-dma-network	UNKNOWN	nl-nl
nl-nl-x-lfc-local	UNKNOWN	nl-nl
nl-nl-x-lfc-network	UNKNOWN	nl-nl
nl-nl-x-tfb-local	UNKNOWN	nl-nl
nl-nl-x-tfb-network	UNKNOWN	nl-nl
nl-nl-x-yfr-local	UNKNOWN	nl-nl
III III A YII TOCOI	CINKINOVVIN	111 1111

nl-nl-x-yfr-network	UNKNOWN	nl-nl
pl-PL-language	UNKNOWN	ρl-PL
pl-pl-x-afb-local	UNKNOWN	pl-pl
pl-pl-x-afb-network	UNKNOWN	pl-pl
pl-pl-x-bmg-local	UNKNOWN	pl-pl
pl-pl-x-bmg-network	UNKNOWN	pl-pl
pl-pl-x-jmk-local	UNKNOWN	pl-pl
pl-pl-x-jmk-network	UNKNOWN	pl-pl
pl-pl-x-oda-local	UNKNOWN	pl-pl
pl-pl-x-oda-network	UNKNOWN	pl-pl
pl-pl-x-oda#female_1-local	FEMALE	pl-pl
pl-pl-x-oda#female_2-local	FEMALE	pl-pl
pl-pl-x-oda#female_3-local	FEMALE	pl-pl
pl-pl-x-oda#male_1-local	MALE	pl-pl
pl-pl-x-oda#male_2-local	MALE	pl-pl
pl-pl-x-oda#male_3-local	MALE	pl-pl
pl-pl-x-zfg-local	UNKNOWN	pl-pl
pl-pl-x-zfg-network	UNKNOWN	pl-pl
pt-BR-language	UNKNOWN	pt-BR
pt-br-x-afs-local	UNKNOWN	pt-br
pt-br-x-afs-network	UNKNOWN	pt-br
pt-br-x-afs#female_1-local	FEMALE	pt-br
pt-br-x-afs#female_2-local	FEMALE	pt-br
pt-br-x-afs#female_3-local	FEMALE	pt-br
pt-br-x-afs#male_1-local	MALE	pt-br
pt-br-x-afs#male_2-local	MALE	pt-br
pt-br-x-afs#male_3-local	MALE	pt-br
pt-PT-language	UNKNOWN	pt-PT
pt-pt-x-jfb-local	UNKNOWN	pt-pt
pt-pt-x-jfb-network	UNKNOWN	pt-pt
pt-pt-x-jmn-local	UNKNOWN	pt-pt
pt-pt-x-jmn-network	UNKNOWN	pt-pt
pt-pt-x-pmj-local	UNKNOWN	pt-pt
pt-pt-x-pmj-network	UNKNOWN	pt-pt
pt-pt-x-sfs-local	UNKNOWN	pt-pt
pt-pt-x-sfs-network	UNKNOWN	pt-pt
ro-RO-language	UNKNOWN	ro-RO
ro-ro-x-vfv-local	UNKNOWN	10-10
ro-ro-x-vfv-network	UNKNOWN	10-10
ru-RU-language	UNKNOWN	ru-RU
ru-ru-x-dfc-local	UNKNOWN	וט-וט
ru-ru-x-dfc-network	UNKNOWN	רט-רט
ru-ru-x-dfc#female_1-local	FEMALE	וט וט
ru-ru-x-dfc#female_2-local	FEMALE	רט-רט
ru-ru-x-dfc#female_3-local	FEMALE	רט-רט
ru-ru-x-dfc#male_1-local	MALE	רט-רט
ru-ru-x-dfc#male_1-local	MALE	רט-רט
10 10 X 01C#111016_Z-10C01		10-10

ru-ru-x-dfc#male_3-local	MALE	เก-เก
ru-ru-x-ruc-local	UNKNOWN	
	UNKNOWN	רט-רט
ru-ru-x-ruc-network		רט-רט
ru-ru-x-rud-local	UNKNOWN	רט-רט
ru-ru-x-rud-network	UNKNOWN	רט-רט
ru-ru-x-rue-local	UNKNOWN	רט-רט
ru-ru-x-rue-network	UNKNOWN	רט-רט
ru-ru-x-ruf-local	UNKNOWN	רט-רט
ru-ru-x-ruf-network	UNKNOWN	เก-เก
si-LK-language	UNKNOWN	si-LK
si-lk-x-sin-local	UNKNOWN	si-lk
si-lk-x-sin-network	UNKNOWN	
sk-SK-language	UNKNOWN	
sk-sk-x-sfk-local	UNKNOWN	
sk-sk-x-sfk-network	UNKNOWN	sk-sk
sq	UNKNOWN	sq
sr	UNKNOWN	sr
su-ID-language	UNKNOWN	
su-id-x-suf-local	UNKNOWN	
su-id-x-suf-network	UNKNOWN	su-id
sv-SE-language	UNKNOWN	sv-SE
sv-se-x-lfs-local	UNKNOWN	sv-se
sv-se-x-lfs-network	UNKNOWN	sv-se
SW	UNKNOWN	SW
ta-IN-language	UNKNOWN	ta-IN
ta-in-x-taf-local	UNKNOWN	ta-in
ta-in-x-taf-network	UNKNOWN	
ta-in-x-tag-local	UNKNOWN	
ta-in-x-tag-network	UNKNOWN	
te-IN-language	UNKNOWN	te-IN
te-in-x-tef-local	UNKNOWN	te-in
te-in-x-tef-network	UNKNOWN	
te-in-x-tem-local	UNKNOWN	
te-in-x-tem-network	UNKNOWN	te-in
th-TH-language	UNKNOWN	
th-th-x-mol-local	UNKNOWN	th-th
th-th-x-mol-network	UNKNOWN	th-th
th-th-x-mol#female_1-local	FEMALE	th-th
th-th-x-mol#female_2-local	FEMALE	th-th
th-th-x-mol#female_3-local	FEMALE	th-th
th-th-x-mol#male_1-local	MALE	th-th
th-th-x-mol#male_2-local	MALE	th-th
th-th-x-mol#male_3-local	MALE	th-th
	UNKNOWN	
tr-TR-language		
tr-tr-x-ama-local	UNKNOWN	
tr-tr-x-ama-network	UNKNOWN	
tr-tr-x-cfs-local	UNKNOWN	tr-tr

tr-tr-x-cfs-network tr-tr-x-efu-local	UNKNOWN tr-tr UNKNOWN tr-tr
tr-tr-x-efu-network	UNKNOWN tr-tr
tr-tr-x-mfm-local	UNKNOWN tr-tr
tr-tr-x-mfm-network	UNKNOWN tr-tr
tr-tr-x-tmc-local	UNKNOWN tr-tr
tr-tr-x-tmc-network	UNKNOWN tr-tr
uk-UA-language	UNKNOWN uk-UA
uk-ua-x-hfd-local	UNKNOWN uk-ua
uk-ua-x-hfd-network	UNKNOWN uk-ua
ur-PK-language	UNKNOWN ur-PK
ur-pk-x-cfn-local	UNKNOWN ur-pk
ur-pk-x-cfn-network	UNKNOWN ur-pk
ur-pk-x-urm-local	UNKNOWN ur-pk
ur-pk-x-urm-network	UNKNOWN ur-pk
vi-VN-language	UNKNOWN vi-VN
vi-vn-x-gft-local	UNKNOWN vi-vn
vi-vn-x-gft-network	UNKNOWN vi-vn
vi-vn-x-vic-local	UNKNOWN vi-vn
vi-vn-x-vic-network	UNKNOWN vi-vn
vi-vn-x-vid-local	UNKNOWN vi-vn
vi-vn-x-vid-network	UNKNOWN vi-vn
vi-vn-x-vie-local	UNKNOWN vi-vn
vi-vn-x-vie-network	UNKNOWN vi-vn
vi-vn-x-vif-local	UNKNOWN vi-vn
vi-vn-x-vif-network	UNKNOWN vi-vn
yue-HK-language	UNKNOWN yue-H
yue-hk-x-jar-local	UNKNOWN yue-h
yue-hk-x-jar-network	UNKNOWN yue-h
zh-CN-language	UNKNOWN zh-CN
zh-TW-language	UNKNOWN zh-TW

17.1.4.iOS

Version 13.3.1 (tested: 28.04.2020)

Name Maged Zuzana	Gender MALE FEMALE	Language ar-SA cs-CZ
Sara	FEMALE	da-DK
Anna	FEMALE	de-DE
Helena	FEMALE	de-DE
Martin	MALE	de-DE
Melina	FEMALE	el-GR
Catherine	FEMALE	en-AU
Gordon	MALE	en-AU
Karen	FEMALE	en-AU
Arthur	MALE	en-GB
Daniel	MALE	en-GB
Martha	FEMALE	en-GB
Moira	FEMALE	en-IE
Rishi	UNKNOWN	en-IN
Fred	MALE	en-US
Nicky	FEMALE	en-US
Samantha	FEMALE	en-US
Tessa	FEMALE	en-ZA
Mónica	FEMALE	es-ES
Paulina	FEMALE	es-MX
Satu	FEMALE	fi-Fl
Amélie	FEMALE	fr-CA
Daniel	MALE	fr-FR
Marie	FEMALE	fr-FR
Thomas	MALE	fr-FR
Carmit	FEMALE	he-IL
Lekha	FEMALE	hi-IN
Mariska	FEMALE	hu-HU
Damayanti	FEMALE	id-ID
Alice	FEMALE	it-IT
Hattori	MALE	ja-JP
Kyoko	FEMALE	ja-JP
O-ren	FEMALE	ja-JP
Yuna	FEMALE	ko-KR
Ellen	FEMALE	nI-BE
Xander	MALE	nI-NL
Nora	FEMALE	no-NO
Zosia	FEMALE	ρl-PL
Luciana	FEMALE	ρt-BR
Joana	FEMALE	ρt-PT

loana	FEMALE	ro-RO
Milena	FEMALE	ru-RU
Laura	FEMALE	sk-SK
Alva	FEMALE	sv-SE
Kanya	FEMALE	th-TH
Yelda	FEMALE	tr-TR
Li-mu	FEMALE	zh-CN
Tian-Tian	UNKNOWN	zh-CN
Yu-shu	FEMALE	zh-CN
Sin-Ji	FEMALE	zh-HK
Mei-Jia	FEMALE	zh-TW

17.1.5.WSA (UWP)

Depends on the installed voices.

17.1.6. MaryTTS

Version 5.2 (tested: 28.04.2020)

Name	Gender	Language
bits2	MALE	de
bits3	MALE	de
bits3-hsmm	MALE	de
bits4	FEMALE	de
dfki-pavoque-neutral	MALE	de
dfki-pavoque-neutral-hsmm	MALE	de
dfki-obadiah	MALE	en-GB
dfki-obadiah-hsmm	MALE	en-GB
dfki-poppy	FEMALE	en-GB
dfki-poppy-hsmm	FEMALE	en-GB
dfki-prudence	FEMALE	en-GB
dfki-prudence-hsmm	FEMALE	en-GB
dfki-spike	MALE	en-GB
dfki-spike-hsmm	MALE	en-GB
cmu-bdl	MALE	en-US
cmu-bdl-hsmm	MALE	en-US
cmu-rms	MALE	en-US
cmu-rms-hsmm	MALE	en-US
cmu-slt	FEMALE	en-US
cmu-slt-hsmm	FEMALE	en-US
enst-cəmille	FEMALE	fr
enst-camille-hsmm	FEMALE	fr
enst-dennys-hsmm	MALE	fr
upmc-jessica	FEMALE	fr

upmc-jessica-hsmm	FEMALE	fr
upmc-pierre	MALE	fr
upmc-pierre-hsmm	MALE	fr
istc-lucia-hsmm	FEMALE	it
dfki-ot	MALE	tr
dfki-ot-hsmm	MALE	tr

17.1.7. eSpeak

Version 1.48.03 (tested: 28.04.2020)

Name amharic-test aragonese assamese-test azerbaijani-test bulgarian bengali-test bosnian catalan czech welsh danish german greek default english en-scottish english-north english_rp english_wmids english-us en-westindies esperanto spanish spanish-latin-am estonian basque-test persian persian-pinglish finnish french-Belgium	Gender UNKNOWN MALE UNKNOWN UNKNOWN MALE MALE MALE MALE MALE MALE MALE MALE	Language am an as az bg bn bs ca cs cy da de el en en-gb en-sc en-uk-north en-uk-rp en-uk-wmids en-us en-us en-us en-wi eo es es-la et eu fa fa-pin fi fr-be
finnish french-Belgium french	MALE	fi fr-be fr-fr
irish-gaeilge scottish-gaelic-test greek-ancient	UNKNOWN UNKNOWN MALE	ga gd grc

gujarati-test	UNKNOWN	gu
hindi	MALE	hi
croatian	MALE	hr
hungarian	MALE	hυ
armenian	MALE	hy
armenian-west	MALE	hy-west
indonesian	MALE	iď
icelandic	MALE	is
italian	MALE	it
lojban	UNKNOWN	jbo
georgian	UNKNOWN	ka
greenlandic	UNKNOWN	kl
kannada	UNKNOWN	kn
korean-test	MALE	ko
kurdish	MALE	kυ
latin	MALE	la
lingua_franca_nova	MALE	lfn
lithuanian	MALE	lt
latvian	MALE	lv
macedonian	MALE	mk
malayalam	MALE	ml
malay	MALE	ms
nahuatl-classical	MALE	nci
nepali	MALE	ne
dutch	MALE	nl
norwegian	MALE	no
oriya-test	UNKNOWN	or
punjabi	UNKNOWN	ра
papiamento-test	UNKNOWN	рар
polish	MALE	 ρΙ
brazil	MALE	pt-br
portugal	MALE	ρt-ρt
romanian	MALE	ro
russian	MALE	ru
sinhala-test	UNKNOWN	si
slovak	MALE	sk
slovenian-test	UNKNOWN	sl
serbian	MALE	sr
swedish	MALE	SV
swahili-test	MALE	SW
tamil	MALE	ta
telugu-test	UNKNOWN	te
turkish	MALE	tr
urdu-test	UNKNOWN	ur ur
vietnam	MALE	vi
vietnam_hue	MALE	vi-hue
vietnam_sgn	MALE	vi-sgn
	,	v. 5911

Mandarin MALE zh cantonese MALE zh-yue

17.1.8. AWS Polly

Tested: 28.04.2020

Name Zeina Gwyneth Mads Naja Hans Marlene Vicki Nicole Russell Brian Emma Geraint Raveena Ivy Joanna Joey Justin Kendra Kimberly Matthew Salli Conchita Enrique Lucia Mia Lupe Miguel	Gender FEMALE FEMALE MALE FEMALE FEMALE FEMALE FEMALE MALE FEMALE MALE FEMALE	Language ar cy-GB da-DK da-DK de-DE de-DE de-DE en-AU en-GB en-GB-WLS en-US
Conchita	FEMALE	es-ES
Mia	FEMALE	es-MX
•		
Bianca Carla Giorgio Mizuki	FEMALE FEMALE MALE FEMALE	it-IT it-IT it-IT ja-JP

Takumi	MALE	ja-JP
Seoyeon	FEMALE	ko-KR
Lotte	FEMALE	nI-NL
Ruben	MALE	nI-NL
Liv	FEMALE	no-NO
Ewa	FEMALE	ρl-PL
Jacek	MALE	ρl-PL
Jan	MALE	ρl-PL
Maja	FEMALE	ρl-PL
Camila	FEMALE	ρt-BR
Ricardo	MALE	ρt-BR
Vitoria	FEMALE	ρt-BR
Cristiano	MALE	ρt-PT
Ines	FEMALE	ρt-PT
Carmen	FEMALE	ro-RO
Maxim	MALE	ru-RU
Tatyana	FEMALE	ru-RU
Astrid	FEMALE	sv-SE
Filiz	FEMALE	tr-TR
Zhiyu	FEMALE	zh

17.1.9. Klattersynth

Unlimited variations of voices can be created.

17.1.10. SAPI Unity

Has the same voices as in chapter 17.1.1.

17.1.11. WebGL Speech Synthesis

Google Chrome 81.0.4044.122 (tested: 28.04.2020)

Name	Gender	Language
Google UK English Female	FEMALE	en-GB
Google UK English Male	MALE	en-GB
Google US English	UNKNOWN	en-US
Google español	UNKNOWN	es-ES
Google español de Estados		
Unidos	UNKNOWN	es-US
Google français	UNKNOWN	fr-FR
Google हिन्दी	UNKNOWN	hi-IN
Google italiano	UNKNOWN	it-IT
Google 日本語	UNKNOWN	ja-JP
Google 한국의	UNKNOWN	ko-KR
Google Nederlands	UNKNOWN	nI-NL
Google polski	UNKNOWN	ρI-PL
Google português do Brasil	UNKNOWN	pt-BR
Google русский	UNKNOWN	ru-RU
Google 普通话 (中国大陆)	UNKNOWN	zh-CN
Google 粤語 (香港)	UNKNOWN	zh-HK
Google 國語 (臺灣)	UNKNOWN	zh-TW

17.1.12. Azure (Bing Speech)

Tested: 28.04.2020

Name	Gender	Language
Hoda	FEMALE	ar-EG
Naayf	MALE	ar-SA
Ivan	MALE	bg-BG
HerenaRUS	FEMALE	ca-ES
Jakub	MALE	cs-CZ
HelleRUS	FEMALE	da-DK
Michael	MALE	de-AT
Karsten	MALE	de-CH
Hedda	FEMALE	de-DE
HeddaRUS	FEMALE	de-DE
Stefan-Apollo	MALE	de-DE
Stefanos	MALE	el-GR
Catherine	FEMALE	en-AU
HayleyRUS	FEMALE	en-AU
HeatherRUS	FEMALE	en-CA

L	inda	FEMALE	en-CA
G	eorge-Apollo	MALE	en-GB
Н	lazelRUS	FEMALE	en-GB
S	usan-Apollo	FEMALE	en-GB
	ean	MALE	en-IE
Н	leera-Apollo	FEMALE	en-IN
	riyaRUS	FEMALE	en-IN
	avi-Apollo	MALE	en-IN
	enjaminRUS	MALE	en-US
	iuy24kRUS	MALE	en-US
	essa24kRUS	FEMALE	en-US
	essaRUS	FEMALE	en-US
	iraRUS	FEMALE	en-US
	lelenaRUS	FEMALE	es-ES
	aura-Apollo	FEMALE	es-ES
	ablo-Apollo	MALE	es-ES
	lildaRUS	FEMALE	es-MX
	aul-Apollo	MALE	es-MX
Н	leidiRUS	FEMALE	fi-Fl
C	aroline	FEMALE	fr-CA
Н	larmonieRUS	FEMALE	fr-CA
G	iuillaume	MALE	fr-CH
Н	lortenseRUS	FEMALE	fr-FR
Jı	ulie-Apollo	FEMALE	fr-FR
	aul-Apollo	MALE	fr-FR
	.saf	MALE	he-IL
Н	lemant	MALE	hi-IN
	alpana	FEMALE	hi-IN
	alpana-Apollo	FEMALE	hi-IN
	latej	MALE	hr-HR
	zabolcs	MALE	hu-HU
	osimo-Apollo	MALE	it-IT
	uciaRUS	FEMALE	it-IT
	yumi-Apollo	FEMALE	ja-JP
	larukaRUS		•
		FEMALE	ja-JP
	chiro-Apollo	MALE	ja-JP
	leamiRUS	FEMALE	ko-KR
	izwan	MALE	ms-MY
	uldaRUS	FEMALE	nb-NO
	lannaRUS	FEMALE	nI-NL
	aulinaRUS	FEMALE	ρl-PL
D	aniel-Apollo	MALE	ρt-BR
Н	leloisaRUS	FEMALE	ρt-BR
Н	leliaRUS	FEMALE	ρt-PT
Α	ndrei	MALE	ro-RO
Е	katerinaRUS	FEMALE	ru-RU
Ir	ina-Apollo	FEMALE	ru-RU
	•		

Pavel-Apo Filip Lado HedvigRU Valluvar Chitra Pattara SedaRUS HuihuiRU Kangkang Yaoyao-A Danny-Apo Tracy-Apo TracyRUS HanHanRI	S Apollo pollo pollo pollo	MALE MALE FEMALE MALE FEMALE MALE FEMALE FEMALE FEMALE MALE FEMALE FEMALE FEMALE FEMALE FEMALE	ru-RU sk-SK sl-Sl sv-SE ta-IN te-IN th-TH tr-TR zh-CN zh-CN zh-CN zh-HK zh-HK zh-HK
HanHanR Yating-Ap Zhiwei-Ap	oollo	FEMALE FEMALE MALE	zh-TW zh-TW zh-TW
ZIIIWEI A	50110	1 1/ \LL	Z11 1 V V

17.1.13. Google Cloud Speech

Tested: 28.04.2020

Name	Gender	Language
ar-XA-Standard-C	MALE	ar-XA
ar-XA-Standard-D	FEMALE	ar-XA
ar-XA-Wavenet-A	FEMALE	ar-XA
ar-XA-Wavenet-B	MALE	ar-XA
ar-XA-Wavenet-C	MALE	ar-XA
bn-IN-Standard-A	FEMALE	bn-IN
bn-IN-Standard-B	MALE	bn-IN
cmn-CN-Standard-A	FEMALE	cmn-CN
cmn-CN-Standard-B	MALE	cmn-CN
cmn-CN-Standard-C	MALE	cmn-CN
cmn-CN-Standard-D	FEMALE	cmn-CN
cmn-CN-Wavenet-A	FEMALE	cmn-CN
cmn-CN-Wavenet-B	MALE	cmn-CN
cmn-CN-Wavenet-C	MALE	cmn-CN
cmn-CN-Wavenet-D	FEMALE	cmn-CN
cmn-TW-Standard-A-Alpha	FEMALE	cmn-TW
cmn-TW-Standard-B-Alpha	MALE	cmn-TW
cmn-TW-Standard-C-Alpha	MALE	cmn-TW
cmn-TW-Wavenet-A-Alpha	FEMALE	cmn-TW
cmn-TW-Wavenet-B-Alpha	MALE	cmn-TW
cmn-TW-Wavenet-C-Alpha	MALE	cmn-TW
cs-CZ-Standard-A	FEMALE	cs-CZ
cs-CZ-Wavenet-A	FEMALE	cs-CZ
da-DK-Standard-A	FEMALE	da-DK
da-DK-Wavenet-A	FEMALE	da-DK
de-DE-Standard-A	FEMALE	de-DE
de-DE-Standard-B	MALE	de-DE
de-DE-Standard-E	MALE	de-DE
de-DE-Standard-F	FEMALE	de-DE
de-DE-Wavenet-A	FEMALE	de-DE
de-DE-Wavenet-B	MALE	de-DE
de-DE-Wavenet-C	FEMALE	de-DE
de-DE-Wavenet-D	MALE	de-DE
de-DE-Wavenet-E	MALE	de-DE
de-DE-Wavenet-F	FEMALE	de-DE
el-GR-Standard-A	FEMALE	el-GR
el-GR-Wavenet-A	FEMALE	el-GR
en-AU-Standard-A	FEMALE	en-AU
en-AU-Standard-B	MALE	en-AU
en-AU-Standard-C	FEMALE	en-AU
en-AU-Standard-D	MALE	en-AU

en-AU-Wavenet-A	FEMALE	en-AU
en-AU-Wavenet-B	MALE	en-AU
en-AU-Wavenet-C	FEMALE	en-AU
en-AU-Wavenet-D	MALE	en-AU
en-GB-Standard-A	FEMALE	en-GB
en-GB-Standard-B	MALE	en-GB
en-GB-Standard-C	FEMALE	en-GB
en-GB-Standard-D	MALE	en-GB
en-GB-Wavenet-A	FEMALE	en-GB
en-GB-Wavenet-B	MALE	en-GB
en-GB-Wavenet-C	FEMALE	en-GB
en-GB-Wavenet-D	MALE	en-GB
en-IN-Standard-A	FEMALE	en-IN
en-IN-Standard-B	MALE	en-IN
en-IN-Standard-C	MALE	en-IN
en-IN-Standard-D	FEMALE	en-IN
en-IN-Wavenet-A	FEMALE	en-IN
en-IN-Wavenet-B	MALE	en-IN
en-IN-Wavenet-C	MALE	en-IN
en-IN-Wavenet-D	FEMALE	en-IN
en-US-Standard-B	MALE	en-US
en-US-Standard-C	FEMALE	en-US
en-US-Standard-D	MALE	en-US
en-US-Standard-E	FEMALE	en-US
en-US-Wavenet-A	MALE	en-US
en-US-Wavenet-B	MALE	en-US
en-US-Wavenet-C	FEMALE	en-US
en-US-Wavenet-D	MALE	en-US
en-US-Wavenet-E	FEMALE	en-US
en-US-Wavenet-F	FEMALE	en-US
es-ES-Standard-A	FEMALE	es-ES
fi-FI-Standard-A	FEMALE	fi-FI
fi-FI-Wavenet-A	FEMALE	fi-FI
fil-PH-Standard-A	FEMALE	fil-PH
fil-PH-Wavenet-A	FEMALE	fil-PH
fr-CA-Standard-A	FEMALE	fr-CA
fr-CA-Standard-B	MALE	fr-CA
fr-CA-Standard-C	FEMALE	fr-CA
fr-CA-Standard-D	MALE	fr-CA
fr-CA-Wavenet-A	FEMALE	fr-CA
fr-CA-Wavenet-B	MALE	fr-CA
fr-CA-Wavenet-C	FEMALE	fr-CA
fr-CA-Wavenet-D	MALE	fr-CA
fr-FR-Standard-A	FEMALE	fr-FR
fr-FR-Standard-B	MALE	fr-FR
fr-FR-Standard-C	FEMALE	fr-FR
fr-FR-Standard-D	MALE	fr-FR

fr-FR-Standard-E	FEMALE	fr-FR
fr-FR-Wavenet-A	FEMALE	fr-FR
fr-FR-Wavenet-B	MALE	fr-FR
	FEMALE	fr-FR
fr-FR-Wavenet-C		
fr-FR-Wavenet-D	MALE	fr-FR
fr-FR-Wavenet-E	FEMALE	fr-FR
gu-IN-Standard-A	FEMALE	gu-IN
gu-IN-Standard-B	MALE	gu-IN
hi-IN-Standard-A	FEMALE	hi-IN
hi-IN-Standard-B	MALE	hi-IN
hi-IN-Standard-C	MALE	hi-IN
hi-IN-Standard-D	FEMALE	hi-IN
hi-IN-Wavenet-A	FEMALE	hi-IN
hi-IN-Wavenet-B	MALE	hi-IN
hi-IN-Wavenet-C	MALE	hi-IN
hi-IN-Wavenet-D	FEMALE	hi-IN
hu-HU-Standard-A	FEMALE	hu-HU
hu-HU-Wavenet-A	FEMALE	hu-HU
id-ID-Standard-A	FEMALE	id-ID
id-ID-Standard-B	MALE	id-ID
id-ID-Standard-C	MALE	id-ID
	FEMALE	
id-ID-Standard-D		id-ID
id-ID-Wavenet-A	FEMALE	id-ID
id-ID-Wavenet-B	MALE	id-ID
id-ID-Wavenet-C	MALE	id-ID
id-ID-Wavenet-D	FEMALE	id-ID
it-IT-Standard-A	FEMALE	it-IT
it-IT-Standard-B	FEMALE	it-IT
it-IT-Standard-C	MALE	it-IT
it-IT-Standard-D	MALE	it-IT
it-IT-Wavenet-A	FEMALE	it-IT
it-IT-Wavenet-B	FEMALE	it-IT
it-IT-Wavenet-C	MALE	it-IT
it-IT-Wavenet-D	MALE	it-IT
ja-JP-Standard-A	FEMALE	ja-JP
ja-JP-Standard-B	FEMALE	ja-JP
ja-JP-Standard-C	MALE	ja-JP
ja-JP-Standard-D	MALE	ja-JP
ja-JP-Wavenet-A	FEMALE	ja-JP
ja-JP-Wavenet-B	FEMALE	ja-JP
ja-JP-Wavenet-C	MALE	ja-JP
ja-JP-Wavenet-D	MALE	ja-JP
kn-IN-Standard-A	FEMALE	kn-IN
kn-IN-Standard-B	MALE	kn-IN
ko-KR-Standard-A	FEMALE	ko-KR
ko-KR-Standard-B	FEMALE	ko-KR
ko-KR-Standard-C	MALE	ko-KR

ko-KR-Standard-D	MALE	ko KD
ko-KR-Standard-D ko-KR-Wavenet-A	MALE FEMALE	ko-KR ko-KR
ko-KR-Wavenet-B	FEMALE	ko-KR
ko-KR-Wavenet-C	MALE	ko-KR
ko-KR-Wavenet-D	MALE	ko-KR
mI-IN-Standard-A	FEMALE	mI-IN
ml-IN-Standard-B	MALE	ml-IN
nb-NO-Standard-A	FEMALE	nb-NO
nb-NO-Standard-B	MALE	nb-NO
nb-NO-Standard-C	FEMALE	nb-NO
nb-NO-Standard-D	MALE	nb-NO
nb-no-Standard-E	FEMALE	nb-NO
nb-NO-Wavenet-A	FEMALE	nb-NO
nb-NO-Wavenet-B	MALE	nb-NO
nb-NO-Wavenet-C	FEMALE	nb-NO
nb-NO-Wavenet-D	MALE	nb-NO
nb-no-Wavenet-E	FEMALE	nb-NO
nl-NL-Standard-A	FEMALE	nI-NL
nl-NL-Standard-B	MALE	nl-NL
nI-NL-Standard-C	MALE	nl-NL
nI-NL-Standard-D	FEMALE	nI-NL
nl-NL-Standard-E	FEMALE	nI-NL
nI-NL-Wavenet-A	FEMALE	nI-NL
nI-NL-Wavenet-B	MALE	nI-NL
nI-NL-Wavenet-C	MALE	nI-NL
nI-NL-Wavenet-D	FEMALE	nI-NL
nI-NL-Wavenet-E	FEMALE	nI-NL
ρΙ-PL-Standard-A	FEMALE	ρl-PL
pl-PL-Standard-B	MALE	ρl-PL
pl-PL-Standard-C	MALE	ρl-PL
pl-PL-Standard-D	FEMALE	ρl-PL
pl-PL-Standard-E	FEMALE	ρl-PL
pl-PL-Wavenet-A	FEMALE	ρΙ-PL
pl-PL-Wavenet-B	MALE	ρΙ-PL
pl-PL-Wavenet-C	MALE	ρΙ-PL
pl-PL-Wavenet-D	FEMALE	ρΙ-PL
pl-PL-Wavenet-E	FEMALE FEMALE	ρl-PL
pt-BR-Standard-A		ρt-BR
pt-BR-Wavenet-A	FEMALE	ρt-BR
pt-PT-Standard-A	FEMALE MALE	ρt-PT
pt-PT-Standard-B pt-PT-Standard-C	MALE	ρt-PT ρt-PT
pt-PT-Standard-D	FEMALE	ρt-PT
pt-PT-Wavenet-A	FEMALE	ρt-PT
pt-PT-Wavenet-B	MALE	pt-PT
pt-PT-Wavenet-C	MALE	ρt-PT
pt-PT-Wavenet-D	FEMALE	ρt-PT
pt i i wovenet-D	ILIIALL	Pt⁻F I

FEMALE	ru-RU
MALE	ru-RU
FEMALE	ru-RU
MALE	ru-RU
FEMALE	ru-RU
FEMALE	ru-RU
MALE	ru-RU
FEMALE	ru-RU
MALE	ru-RU
FEMALE	ru-RU
FEMALE	sk-SK
FEMALE	sk-SK
FEMALE	sv-SE
FEMALE	sv-SE
FEMALE	ta-IN
MALE	ta-IN
FEMALE	te-IN
MALE	te-IN
FEMALE	th-TH
FEMALE	tr-TR
MALE	tr-TR
FEMALE	tr-TR
FEMALE	tr-TR
MALE	tr-TR
FEMALE	tr-TR
MALE	tr-TR
FEMALE	tr-TR
FEMALE	tr-TR
MALE	tr-TR
FEMALE	uk-UA
FEMALE	uk-UA
FEMALE	vi-VN
MALE	vi-VN
FEMALE	vi-VN
MALE	vi-VN
FEMALE	vi-VN
MALE	vi-VN
FEMALE	vi-VN
MALE	vi-VN
	MALE FEMALE MALE FEMALE MALE FEMALE MALE FEMALE FEMALE FEMALE FEMALE FEMALE FEMALE FEMALE MALE FEMALE