

ReadSpeaker® speechServer MRCP

Network-based text-to-speech solution that enables MRCP-compliant client applications to request high-quality speech synthesis within a client-server architecture. It provides standards-based interoperability with MRCPv2 and UniMRCP servers for reliable, real-time TTS in IVR environments.

Product Description

ReadSpeaker speechServer MRCP (“speechServer MRCP”) is a client-server text-to-speech (TTS) solution that makes the ReadSpeaker TTS engine and the voice-specific data files for each licensed voice available to MRCP-compliant applications over the network. It enables scalable, dynamic, multithreaded speech generation through standards-based MRCPv2 or UniMRCP interoperability.

Client applications communicate with speechServer MRCP using the MRCP protocol over TCP/IP. A command-line tool is also provided for server control operations such as start, stop, and version checks.

The solution provides a complete server-side TTS runtime consisting of:

- The ReadSpeaker TTS Engine
- Test Client
- Documentation

speechServer MRCP supports multiple concurrent TTS requests, with concurrency determined by the licensed number of ports and available system resources. It delivers clear, natural-sounding synthetic speech and is suitable for IVR systems, call centres, CRM platforms, news and email reading services, and other automated telephony environments requiring efficient, predictable, server-based text-to-speech output.

Features

High-quality Synthetic Speech

ReadSpeaker's text-to-speech voices deliver clear, natural, human-like synthetic speech and are continually optimized to ensure consistent quality and reliable output.

150+ Voices in 50+ Languages

speechServer MRCP supports ReadSpeaker's catalog of more than 150 synthetic voices across over 50 languages. New voices and languages are added regularly. A complete list is available on the [ReadSpeaker website](#).

Modifiable Speaking Rate, Pitch, and Volume (DSP)

The speaking rate, pitch, and volume can be configured as desired.

Voice and Language Switch

speechServer MRCP supports switching to another language or to another voice in the same language during text-to-speech conversion, based on SSML instructions in the input.

User Dictionary and IPA Support

Each licensed language includes a user dictionary where customers can define custom pronunciations for words or patterns. This improves the reading accuracy for domain-specific vocabulary. Multiple user dictionaries per language and IPA transcription input are supported.

Audio Clip Insertion Supported

speechServer MRCP allows for links to audio clips (files) to be inserted in the input text so that the referenced audio is inserted at the correct position within the synthetic speech output streamed back to the client application.

Mark Information Creation for Event Notification

speechServer MRCP allows for mark information to be created alongside the output audio to allow:

- Event triggers at specific text positions
- Device or interface synchronization
- Text highlighting aligned with audio playback

Technical Specifications

Supported MRCP Versions

- IETF MRCP v2 (Media Resource Control Protocol, draft-ietf-speechsc-mrcpv2-21)

Supported Operating Systems

Windows

- Windows Server 2019 and higher (most recently tested: Windows Server 2025)

Linux

- CentOS Stream 9.x, 10.x
- Ubuntu 18.x – 24.x
- RHEL 8.x, 9.x
- Rocky Linux 9.x

CPU Requirements

- Intel x64, 1 GHz or higher

Note: If the AVX instruction set is not supported, please consult with ReadSpeaker.

RAM Requirements

- 4 GB or more recommended (depending on the number of channels)

Voice Footprint

- 9 MB – 35 MB per voice (Deep Neural Networks technology)

Runtime Memory Usage

- 100 MB for basic load
- 35 MB per voice
- 2 MB – 90 MB per channel

Supported Input Formats

- Plain text
- SSML

Supported Character Encoding for Text Input

- Plain text: Multibyte encoding
- SSML: UTF-8 encoding

Supported Audio Formats

- 8 KHz 8-bit A-law PCM
- 8 KHz 8-bit μ -law PCM

Platform Compliance and Certification

speechServer MRCP is certified as fully compliant with:

- Cisco:
 - Cisco CVP 12.x
 - Cisco Virtualized Voice Browser (CVVB)
- Avaya:
 - Avaya Experience Portal 8.x
 - Avaya AAEP (Aura Experience Portal) 7.x/8.x

speechServer MRCP also adheres to the standards of, and is used in conjunction with:

- Genesys GVP 8.x, 9.x

TCP/IP Protocol

speechServer MRCP supports the use of TCP/IP protocol for communication between the server application and the TTS engine/speechServer MRCP.

Command Line Interface

speechServer MRCP allows the server application to communicate with the TTS engine through a command-line tool. The tool supports basic server control operations, including start, stop, and version checks.

Voice and Language Switch

Switching to another language or another voice in the same language can also be performed using SSML as the input text.

Simple Implementation

ReadSpeaker speechServer MRCP is easy to install using the speechServer MRCP installer. Any licensed ReadSpeaker voice can be installed and used in speechServer MRCP.

Installation and Implementation Support

speechServer MRCP includes installation and implementation support from the ReadSpeaker Support Team. The team assists customers in understanding and carrying out the installation according to the provided instructions, as well the implementation necessary for the client application to communicate with speechServer MRCP.

Configuration Settings

speechServer MRCP supports the use of a configuration file in which default values for key parameters can be set, including:

- SIP port
- MRCPv2 port
- RTP port
- Volume
- Speaking rate
- Pitch
- Sentence pause time
- Comma pause time
- Default user dictionary

Licensing

ReadSpeaker speechServer use is governed by a license agreement. See the Licensing section under Requirements and Limitations for more information. The license agreement is technically enforced by a license file

The license file specifies and enforces:

- The text-to-speech voices that are licensed
- The number of concurrent TTS ports permitted
- The permitted synthesis speed
- The number of servers covered
- The license term (duration of permitted use of speechServer)

Product Components

ReadSpeaker speechServer MRCP

A TCP/IP network-based speech synthesis solution that processes MRCP text-to-speech requests from the client application.

ReadSpeaker TTS Engine

speechServer MRCP includes a TTS engine for each licenced language.

speechServer MRCP invokes the TTS Engine to convert text into synthetic speech. The ReadSpeaker TTS Engine includes a pronunciation dictionary for the licensed language.

User Dictionary

Allows the user to create one or more user dictionaries for each licensed language to customize the pronunciation. The user dictionary files are used by the TTS Engine for the voice synthesis.

User Documentation

User documentation is provided and includes the information required to integrate the client application with speechServer MRCP, as well as the installation and implementation instructions needed to set up and configure the solution.

Requirements and Limitations

Licensing

A license agreement governs and restricts the use of ReadSpeaker speechServer MRCP.

The license agreement defines:

- The permitted usage context for speechServer, typically identified by the name and description of the speech-enabled server application
- The text-to-speech voices that are licensed
- The number of concurrent TTS ports permitted
- The permitted synthesis speed
- The number of servers covered
- The license term (duration of permitted use of speechServer)

Intended Use

Customers may use ReadSpeaker speechServer MRCP only in accordance with this product specification and the required license agreement.

Any use outside the scope defined in this specification and the license agreement is not considered intended use.

Disclaimer

The features described in this document are guaranteed only when speechServer MRCP is implemented according to the provided instructions.

Specifications and features may be modified by ReadSpeaker at any time without prior notice.