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# Asterisk Modules

## Developer Guide

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# 1 Overview

This guide describes how to obtain and build from source UniMRCP module for Asterisk. The document is intended for developers familiar with software programming and integrated development environments.

## 1.1 Applicable Versions

Instructions provided in this guide are applicable to the following versions.

 UniMRCP modules for Asterisk 1.3.0 and above

## 1.2 Supported Platforms

The following Linux distributions are primarily supported.

Operating System	32-bit	64-bit
Red Hat / Cent OS 5.x	✓	✓
Red Hat / Cent OS 6.x	✓	✓
Red Hat / Cent OS 7.x	N/A	✓
Ubuntu 14.04 LTS (trusty)	✓	✓
Ubuntu 16.04 LTS (xenial)	✓	✓

Other Linux distributions should also be supported with no or minimal changes in the installation procedure.

## 2 Obtaining the Source Code

### 2.1 Prerequisites

The development tools such as *autoconf*, *libtool*, *gcc*, and others must be installed on the system. The following command can be used to install all the prerequisites on a Red Hat-based distribution:

```
yum groupinstall "Development Tools"
```

Asterisk as well as UniMRCP need to be installed prior to installation of the UniMRCP modules for Asterisk. The following versions are supported:

```
Asterisk 1.6, 1.8, 10, 11, 12, 13  
UniMRCP 1.0.0 and above
```

Note: this guide does not cover installation of Asterisk and UniMRCP.

### 2.2 Downloading the Release Package

The release source packages have the following naming convention *asterisk-unimrcp-major.minor.patch*. The packages are available in *tar.gz* format, and can be downloaded from the following location:

```
http://www.unimrcp.org/downloads/asterisk
```

Note, that starting from 1.3.0 version, the release packages are no longer bundled with any specific version of Asterisk or UniMRCP.

### 2.3 Retrieving from the Repository

The source repository is hosted on [GitHub](#). The code can be retrieved using a git client.

```
git clone https://github.com/unispeech/asterisk-unimrcp.git
```

# 3 Build the Project

## 3.1 Procedure

If the source has been checked out from repository, the *bootstrap* script must be executed first in order to generate the *configure* script and other required files.

```
./bootstrap
```

The usual sequence of commands *configure*, *make* and *make install* should follow in order to build and install the project from source.

```
./configure  
make  
make install
```

As a result, the modules *res\_speech\_unimrcp.so* and *app\_unimrcp.so* will be installed in the modules directory of Asterisk such as */usr/lib/asterisk/modules* by default. Similarly, the configuration files *res\_speech-unimrcp.conf* and *mrcp.conf* will be placed in */etc/asterisk* by default.

## 3.2 Configure Options

There are a number of options which can be additionally configured.

To explicitly specify where to look for Asterisk, use the option *--with-asterisk*. For example, if Asterisk is installed in */usr/local/asterisk*, use:

```
./configure --with-asterisk=/usr/local/asterisk
```

To explicitly specify where the Asterisk configuration files are located, use the option *--with-asterisk-conf*. For example:

```
./configure --with-asterisk-conf=/usr/local/asterisk/conf
```

To explicitly specify the Asterisk version, use the option *--with-asterisk-version*. For example:

```
./configure --with-asterisk-version=11.2.1
```

To explicitly specify where to look for UniMRCP, use the option *--with-unimrcp*. For example, if UniMRCP is installed in */opt/unimrcp*, use:

```
./configure --with-unimrcp=/opt/unimrcp
```

To exclude the module *res\_speech\_unimrcp.so* from build, use:

```
./configure --disable-res-speech-unimrcp
```

To exclude the module *app\_unimrcp.so* from build, use:

```
./configure --disable-app-unimrcp
```

## 4 Test the Installation

Run Asterisk and check if the UniMRCP modules are loaded normally.

```
*CLI> module show like res_speech_unimrcp.so
```

Module	Description	Use Count
res_speech_unimrcp.so	UniMRCP Speech Engine	0

1 modules loaded

  

```
*CLI> module show like app_unimrcp.so
```

Module	Description	Use Count
app_unimrcp.so	MRCP suite of applications	0

1 modules loaded