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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.

<table>
<thead>
<tr>
<th>Operating System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Hat / Cent OS 6</td>
</tr>
<tr>
<td>Red Hat / Cent OS 7</td>
</tr>
<tr>
<td>Red Hat / Cent OS 8</td>
</tr>
<tr>
<td>Ubuntu 14.04 LTS (trusty)</td>
</tr>
<tr>
<td>Ubuntu 16.04 LTS (xenial)</td>
</tr>
<tr>
<td>Ubuntu 18.04 LTS (bionic)</td>
</tr>
</tbody>
</table>

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:

```bash
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, 14, 15, 16, 17
- UniMRCP 1.1.0 and above

Note: this guide does not cover installation of Asterisk.

UniMRCP can be installed either from source or using binary development packages from the corresponding YUM or Apt repositories.

```bash
yum install unimrcp-client-devel
```

or

```bash
sudo apt-get install unimrcp-client-dev
```

Refer to UniMRCP installation manuals for detailed installation procedure.

## 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:


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](https://github.com). 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 using the binary packages 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
```