



# Bing SS Plugin

## Administrator Guide

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# Table of Contents


1 Overview.....	3
1.1 Applicable Versions.....	3
1.2 Supported Distributions .....	3
1.3 Authentication.....	3
2 Installing RPMs Using YUM.....	4
2.1 Repository Configuration .....	4
2.2 Repository Verification.....	4
2.3 BingSS Plugin Installation.....	5
3 Installing RPMs Manually .....	6
3.1 Package List.....	6
3.2 Package Installation Order .....	7
4 Obtaining License .....	8
4.1 License Type.....	8
4.2 Node Information.....	8
4.3 License Installation .....	8
5 Obtaining Service Subscription Keys .....	9
5.1 Bing Speech API Subscription.....	9
5.2 Subscription Key Installation.....	9
6 Configuring Server and Plugin .....	10
6.1 Plugin Factory Configuration .....	10
6.2 Logger Configuration .....	10
6.3 BingSS Plugin Configuration .....	10
7 Validating Setup.....	11
7.1 Launching Server.....	11
7.2 Launching Client.....	11

# 1 Overview

This guide describes how to obtain and install binary packages for the Microsoft Bing Speech Synthesis (BingSS) plugin to the UniMRCP server on Red Hat-based Linux distributions. The document is intended for system administrators and developers.


## 1.1 Applicable Versions

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

 UniMRCP 1.5.0 and above  
UniMRCP BingSS Plugin 1.0.0 and above

## 1.2 Supported Distributions

UniMRCP binary packages are currently available only for x86\_64 (64-bit) architecture.

Operating System	32-bit	64-bit
Red Hat / Cent OS 6		
Red Hat / Cent OS 7		

Note: packages for other distributions can be made available upon request. For more information, contact [services@unimrcp.org](mailto:services@unimrcp.org).

## 1.3 Authentication

UniMRCP binary packages are available to authenticated users only. In order to register a free account with UniMRCP, please visit the following page.

 <https://www.unimrcp.org/profile-registration>

Note: a new account needs to be verified and activated prior further proceeding.

## 2 Installing RPMs Using YUM

Using the Yellowdog Updater, Modifier (yum), a command-line package management utility for Red Hat-based distributions, is recommended for installation of UniMRCP binary packages.

### 2.1 Repository Configuration

The content of a typical yum configuration file, to be placed in `/etc/yum.repos.d/unimrcp.repo`, is provided below.

```
[unimrcp]
name=UniMRCP Packages for Red Hat / Cent OS-$releasever $basearch
baseurl=https://username:password@unimrcp.org/repo/yum/main/rhel$releasever/$basearch/
enabled=1
sslverify=1
gpgcheck=1
gpgkey=https://unimrcp.org/keys/unimrcp-gpg-key.public

[unimrcp-noarch]
name=UniMRCP Packages for Red Hat / Cent OS-$releasever noarch
baseurl=https://username:password@unimrcp.org/repo/yum/main/rhel$releasever/noarch/
enabled=1
sslverify=1
gpgcheck=1
gpgkey=https://unimrcp.org/keys/unimrcp-gpg-key.public
```

The username and password fields included in the HTTPS URI must be replaced with the corresponding account credentials.

### 2.2 Repository Verification

In order to verify that yum can properly connect and access the UniMRCP repository, the following command can be used.

```
yum repolist unimrcp
yum repolist unimrcp-noarch
```

where *unimrcp* and *unimrcp-noarch* are names of the sections set in the yum configuration file above.

In order to retrieve a list of packages the UniMRCP repository provides, the following command can be used.

```
yum --disablerepo="*" --enablerepo="unimrcp" list available
```

```
yum --disablerepo="*" --enablerepo="unimrcp-noarch" list available
```

## 2.3 BingSS Plugin Installation

In order to install the BingSS plugin, including all the dependencies, use the following command.

```
yum install unimrcp-bing-ss
```

In order to install the additional data files for the sample client application *umc*, the following command can be used.

```
yum install umc-addons
```

Note: this package is optional and provides additional data which can be used for validation of basic setup.

## 3 Installing RPMs Manually

UniMRCP RPM packages can be installed manually using the *rpm* utility. Note, however, that the system administrator should take care of package dependencies and install all the packages in appropriate order.

The RPM packages have the following naming convention:

```
$packagename-$universion-$packageversion.el$rhelversion.$arch.rpm
```

where

- *packagename* is the name of a package
- *universion* is the UniMRCP version
- *packageversion* is the RPM release version
- *rhelversion* is the Red Hat version
- *arch* is the architecture (x86\_64, i686, ...)

### 3.1 Package List

The following is a list of UniMRCP RPM packages required for the installation of the BingSS plugin.

Package Name	Description
<b>unimrcp-bing-ss</b>	BingSS plugin to the server.
<b>unilibevent</b>	UniMRCP edition of the libevent library.
<b>umc-addons</b>	Sample en-US data files used with umc. [Optional]
<b>unilicnodegen</b>	Node information retrieval tool, required for license deployment.
<b>unimrcp-server</b>	Shared library and application of the server.
<b>unimrcp-client</b>	Shared libraries and sample applications of the client. [Optional]
<b>unimrcp-demo-plugins</b>	Set of demo plugins to the server. [Optional]
<b>unimrcp-common</b>	Data common for the client and the server.
<b>uniapr</b>	UniMRCP edition of the Apache Portable Runtime (APR) library.

<b>uniapr-util</b>	UniMRCP edition of the Apache Portable Runtime Utility (APR-Util) library.
<b>unisofia-sip</b>	UniMRCP edition of the Sofia SIP library.

## 3.2 Package Installation Order

Note that all the RPM packages provided by UniMRCP are signed by a GNU Privacy Guard (GPG) key. Before starting the installation, you may need to import the public key in order to allow the *rpm* utility to verify the packages.

```
rpm --import https://unimrcp.org/keys/unimrcp-gpg-key.public
```

Packages for the APR, APR-Util and Sofia-SIP libraries must be installed first.

```
rpm -ivh uniapr-$aprversion-$packageversion.el$rhelversion.$sarch.rpm
rpm -ivh uniapr-util-$apuversion-$packageversion.el$rhelversion.$sarch.rpm
rpm -ivh unisofia-sip-$sofiaversion-$packageversion.el$rhelversion.$sarch.rpm
```

Then, a package containing common data for the client and the server, and a package for the server should follow.

```
rpm -ivh unimrcp-common-$universion-$packageversion.el$rhelversion.$sarch.rpm
rpm -ivh unimrcp-server-$universion-$packageversion.el$rhelversion.$sarch.rpm
```

Next, a package containing the utility tool *unilicnodegen*, required for license deployment.

```
rpm -ivh unilicnodegen-$toolversion-$packageversion.el$rhelversion.$sarch.rpm
```

Next, a package containing the libevent library.

```
rpm -ivh unilibevent-$libeventversion-$packageversion.el$rhelversion.$sarch.rpm
```

Finally, a package containing the BingSS plugin should follow.

```
rpm -ivh unimrcp-bing-ss-$universion-$packageversion.el$rhelversion.noarch.rpm
```

# 4 Obtaining License

The BingSS plugin to the UniMRCP server is a commercial product, which requires a license file to be installed.

## 4.1 License Type

The following license types are available:

- Trial
- Production
- Test and Development

## 4.2 Node Information

The license files are bound to a node the product is installed on. In order to obtain a license, the corresponding node information needs to be retrieved and submitted for generation of a license file.

Use the installed tool *unilicnodegen* to retrieve the node information.

```
/opt/unimrcp/bin/unilicnodegen
```

As a result, a text file *uninode.info* will be saved in the current directory. Submit the file *uninode.info* for license generation to [services@unimrcp.org](mailto:services@unimrcp.org) by mentioning the product name in the subject.

## 4.3 License Installation

The license file needs to be placed into the directory */opt/unimrcp/data*.

```
cp umsbingss_*.lic /opt/unimrcp/data
```



# 5 Obtaining Service Subscription Keys

In order to utilize the Bing Speech API, a corresponding service subscription key needs to be retrieved from the Microsoft Cognitive Services portal and further installed to the UniMRCP server.

## 5.1 Bing Speech API Subscription

Subscribe to the Bing Speech API and obtain one of the keys.

1. Navigate to the Cognitive Service portal.  
<https://azure.microsoft.com/try/cognitive-services/>
2. Select the Speech tab.
3. Click the Get API Key button for the Bing Speech API.
4. Accept and agree to the terms.
5. Log in to your account

As a result, the Bing Speech API will be added to your subscription with two keys available.

Endpoint: `https://api.cognitive.microsoft.com/sts/v1.0`

Key 1: \*\*\*\*\*

Key 2: \*\*\*\*\*

## 5.2 Subscription Key Installation

Copy one of the subscription keys and past the content into a text file *cognitive.subscription.key*, which needs to be placed to the directory */opt/unimrcp/data*.

```
printf 'one-of-your-keys' > /opt/unimrcp/data/cognitive.subscription.key
```

Note that the file *cognitive.subscription.key* must NOT contain any additional preceding or trailing characters, besides the key itself.

# 6 Configuring Server and Plugin

## 6.1 Plugin Factory Configuration

In order to load the BingSS plugin into the UniMRCP server, open the file *unimrcpserver.xml*, located in the directory */opt/unimrcp/conf*, and add the following entry under the XML element *<plugin-factory>*. Disable other synthesizer plugins, if available. The remaining demo plugins might also be disabled, if not installed.

```
<!-- Factory of plugins (MRCP engines) -->
<plugin-factory>
  <engine id="Demo-Synth-1" name="demosynth" enable="false"/>
  <engine id="Demo-Recog-1" name="demorecog" enable="true"/>
  <engine id="Demo-Verifier-1" name="demoverifier" enable="true"/>
  <engine id="Recorder-1" name="mrcprecorder" enable="true"/>
  <engine id="Bing-SS-1" name="umsbingss" enable="true"/>
</plugin-factory>
```

## 6.2 Logger Configuration

In order to enable log output from the plugin and set filtering rules, open the configuration file *logger.xml*, located in the directory */opt/unimrcp/conf*, and add the following entry under the element *<sources>*.

```
<source name="BINGSS-PLUGIN" priority="INFO" masking="NONE"/>
```

## 6.3 BingSS Plugin Configuration

The configuration file of the plugin is located in */opt/unimrcp/conf/umsbingss.xml*. Default settings should be sufficient for generic use.

Refer to the *Usage Guide* for more information.

# 7 Validating Setup

Validate your setup by using the sample UniMRCP client and server applications on the same host. The default configuration and data files should be sufficient for a basic test.

## 7.1 Launching Server

Launch the UniMRCP server application.

```
cd /opt/unimrcp/bin
./unimrcpserver
```

In the server log output, check whether the plugin is normally loaded.

```
[INFO] Load Plugin [Bing-SS-1] [/opt/unimrcp/plugin/umsbingss.so]
```

Next, check for the license information.

```
[NOTICE] UniMRCP BINGSS License

-product name:  umsbingss
-product version: 1.0.0
-license owner:  -
-license type:  trial
-issue date:    2017-10-26
-exp date:     2017-11-25
-channel count: 2
-feature set:   0
```

## 7.2 Launching Client

Note: the optional package *umc-addons* must be installed for this test to work.

Launch the sample UniMRCP client application *umc*.

```
cd /opt/unimrcp/bin
./umc
```

Run a typical speech synthesis scenario by issuing the command *run bss1* from the console of the *umc* client application.

```
run bss1
```

This command sends a SPEAK request to the server and then records synthesized stream into a PCM file stored in the directory `/opt/unimrcp/var`.

Visually inspect the log output for any possible warnings or errors.