

Platinum SIM Users Guide



v2.1
July 19, 2013



Contents

Introduction 3
System Requirements 5
Installation 5
Starting the SIM Module for the First Time 6
SIM Operation Notes..... 7
Device Mappings..... 8
Platinum SIM Configuration File..... 8
Platinum SIM Output Files 13
Platinum SIM Input Files 16

Introduction

The Platinum SIM is a software integration module that provides a file based interface to the Platinum software, allowing 3rd party software to control the MH Corbin Highway Advisory Radio products. The interface is based on the creation of files in a specific directory which contain commands for the Platinum server. These files are processed by the SIM and the results are then returned in separate files that the 3rd party software can process.

The following component diagram represents the architecture of the Platinum SIM service module:

Platinum SIM Component Diagram

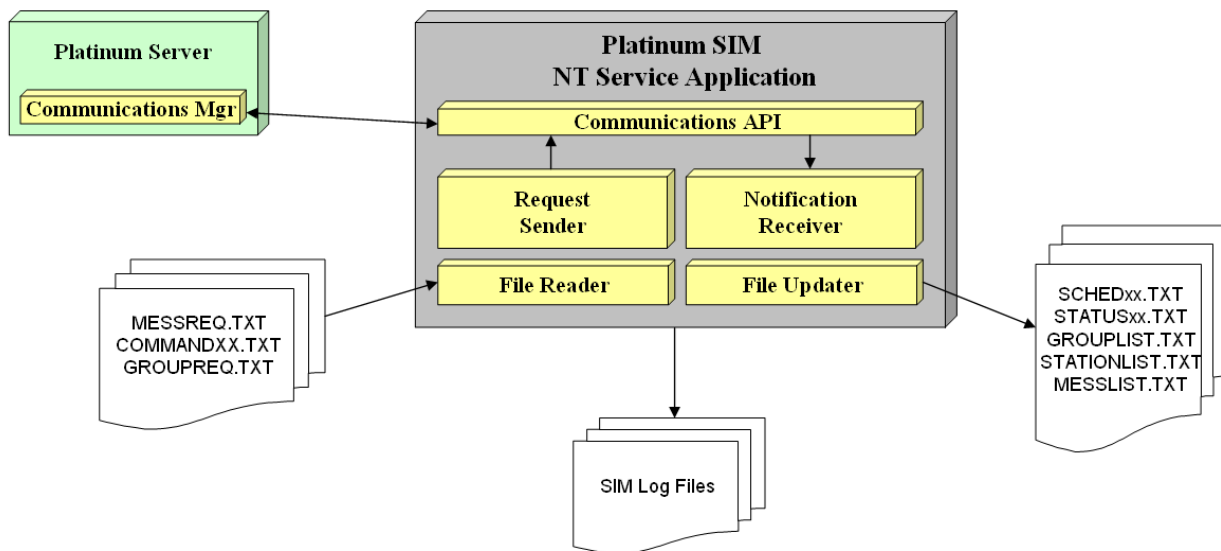


Figure 1- Platinum SIM Service Component Diagram

The Platinum SIM module provides a subset of the functionality available through the Platinum Client application. The features available to the SIM user are:

1. Ability to perform Text-To-Speech conversions to create messages¹
2. Ability to import WAV files into the Platinum message library
3. Ability to create a list of messages and broadcast this list on one or more HAR devices
4. Ability to retrieve a list of devices setup in the system
5. Ability to turn beacons ON or OFF

¹ Requires purchase and installation of the MH Corbin Text to Speech engine product.

6. Ability to retrieve a list of messages in the message library
7. Ability to retrieve the ASCII text files for Text-to-Speech generated messages²
8. Ability to retrieve the status of HAR and Beacon devices

Features that are not available to the SIM user are:

1. Ability to create, edit, or delete HAR and Beacon devices in Platinum
2. Ability to query or edit scheduled activities in the system
3. Ability to view or abort operations that are taking place in the system
4. Ability to perform administrative operations, such as creating/editing/deleting users, user groups, operations, device scripts, and other administrative activities.

The SIM is intended to provide operational capability, but not administrative capabilities, to 3rd party software. Administrative capabilities need to be carried out using the Platinum Client application.

The SIM module runs as a Windows Service application and connects to the Platinum server over the Ethernet. The SIM carries out activities by logging into Platinum under a user account, which has to be setup on the Platinum server using the Platinum Client application. In this way, the SIM is operating as a separate Platinum user with that user's rights and login credentials. Using the user rights setup for the SIM allows the Platinum administrator to limit or expand the capabilities of the 3rd party interface software.

The SIM module does not have a user interface component, and uses a log file to indicate any errors or warnings that occur during operation. The log file should be used during development of the 3rd party interface to check for any problems as the interface is being tested.

This document covers the following topics:

1. System Requirements
2. Installation of the SIM
3. Configuration options for the SIM
4. Files produced by the Platinum SIM
5. Files read by the Platinum SIM

² Requires the MH Corbin Text to Speech engine product.

System Requirements

The Platinum SIM module runs on the Windows XP™, Vista™, Windows 7™, Windows Server 2003™, and Windows Server 2008™ operating systems. In addition, the SIM requires the following hardware:

- 1GHz processor or better
- 1GB RAM
- 4GB free HD space available
- TCP/IP (Ethernet) connectivity to the computer running the Platinum server software

Installation

The Platinum SIM module is shipped as a ZIP archive containing the following files:

- awClientInterface.dll
- awSIM.exe
- awSIM.INI
- AWUtils.dll
- LogMan.dll
- msvcp60.dll
- msvcrt.dll
- SIM Release Notes.doc

Note that the SIM does not have an installer. The user will need to create a directory on the hard drive of the target machine and un-zip the above files into this directory.

In addition to creating the SIM program directory, the user should also create the following sub-directories under the SIM program directory to be used in creating and reading files required for interfacing to the SIM by the 3rd party application:

- logs
- scripts
- files

The actual names of the sub-directories can be changed based on your preferences – please see the next section on the configuration file to understand what these subdirectories are used for and how the SIM loads the directory names from the configuration file.

After installation of the above files, the SIM can be installed as a Windows Service application

by opening a command prompt, changing to the directory of the SIM files, and executing the following command:

```
awSIM.exe install
```

The SIM supports the following command line options:

Name	Description
install	Installs the SIM as a Windows Service application
remove	Removes (un-installs) the SIM Windows Service.
start	Starts the SIM service
stop	Stops the SIM service
console	Runs the SIM as a console application in the command prompt window
ini={path\filename to INI}	Specifies the location and name of the SIM configuration file.

Note that command line options can be combined.

To install and start the SIM service:

```
awSIM.exe install start
```

To install and start the SIM service and use a configuration file not in the default location:

```
awSIM.exe install start "INI=c:\program files (x86)\awSIM.ini"
```

Note that the SIM runs under the Windows Service name of "DR2000P-SIM".

Starting the SIM Module for the First Time

The recommended procedure for installing and operating the SIM is as follows:

- 1) Unzip the SIM into the program folder where it is to reside
- 2) Ensure the Platinum server is installed and operating properly
- 3) Using the Platinum Client, create a user for the SIM module and assign the user rights for the SIM that are desired
- 4) Edit the SIM configuration file and update the [CONNECTION] section with the proper settings to allow the SIM to connect to the Platinum Server.

- 5) From the command prompt, run the SIM in console mode by typing **awSIM console<RET>**. After starting the SIM, open the SIM log file and verify that the SIM was able to connect to the Platinum server. If unable to connect, update the proper settings until a successful connection is achieved
- 6) Close the SIM by typing **exit<RET>** at the command prompt
- 7) Update the SIM device mappings in the SIM configuration file (see **Device Mappings** section below)
- 8) At the command prompt, permanently install and start the SIM service by typing **awSIM install start<RET>**

SIM Operation Notes

When the SIM is started, it loads up all necessary information from the configuration file to connect to the Platinum server. If the Platinum server is not available, the SIM will continue to retry to connect indefinitely. The SIM log files can be used to track SIM activity.

When the SIM is able to successfully connect to the Platinum server, the SIM will request information from the server and write this information out to several text files which will be created in the {FileDirectory} location (specified in the configuration file). The files and the information they contain are as follows:

File	Description
STATIONLIST.TXT	Contains one line for each HAR device setup in Platinum.
SIGNLIST.TXT	Contains one line for each Beacon device setup in Platinum.
MESSLIST.TXT	Contains one line for each message in the Platinum message library.
GROUPLIST.TXT	Contains one line for each device group setup in Platinum.

These files will also be updated by the SIM when changes are detected. The user application can monitor these files by timestamp to detect device and group changes made by users in the system.

The SIM will automatically retrieve all audio recordings (messages) stored in the Platinum message library and place them in separate files in the {FileDirectory} directory. The names of these message files will be AMxxxx.WAV, where xxxx will be the slot number the message was assigned. As messages are changed or deleted, the SIM will update the corresponding files in this directory.

The SIM will also automatically retrieve the text components of all text-to-speech recordings (messages) stored in the Platinum message library and place them in separate files in the {ScriptsDirectory} directory. The names of these message files will be AMxxxx.TXT, where xxxx will be the slot number the message was assigned. As messages are changed or deleted, the SIM will update the corresponding files in this directory.

Device Mappings

The SIM module requires that users map Platinum device IDs to HAR station numbers. Platinum device IDs are assigned by the database when the device is created and are not necessarily sequential. Each device in Platinum will have a unique device ID. The mapping of device IDs to station numbers allows the SIM developer to assign their own HAR station number which the SIM will then bind to Platinum device IDs using the mapping information in the SIM configuration file. Device IDs in Platinum will not change once they are created. The SIM will update the STATIONLIST and SIGNLIST files with new devices and their device IDs as they are created by the Platinum server.

Note that the SIM module will **not** create status files or take commands for devices which are not mapped to a HAR station number.

Platinum SIM Configuration File

The Platinum SIM service requires a configuration file to operate properly. This file's location is specified on the command line. The default name and location of this file, if not specified, is in the SIM's executable directory with the name "awSIM.INI".

Changes to certain sections of this file are picked up automatically by the SIM. These sections are indicated below. Changes to any other section will require a restart of the SIM to become effective.

[GENERAL]

General settings for the Platinum SIM service.

Name	Description
FileDirectory	Specifies the full path to the directory where both the input files and the output files will be found/created. Default value is "c:\".
CheckFrequencyMS	Specifies the time to wait in milliseconds between checks of the input files. Default value is 5000 (5 seconds).

LogFileDirectory	Specifies the full path to the directory where the Platinum SIM Service will place log files. Default value is "c:\\".
LoggingLevel	Specifies the level of details written to the log file. Values can be: <ul style="list-style-type: none"> • Off • Normal • Verbose • FunctionCalls
ScriptsDirectory	Specifies the full path to the directory where the Platinum SIM Service will place all the script and text files used for text-to-speech messages. Default value is "c:\\"
BeaconOnOperatonName	The Platinum defined operation name to use that will turn on a beacon device.
BeaconOffOperationName	The Platinum defined operation name to use that will turn off a beacon device.
Spanish	Specifies the Spanish voice to use for Text-To-Speech conversions done in Spanish.
English	Specifies the English voice to use for Text-To-Speech conversions done in English.
Speed	Specifies the TTS voice playback speed (1 to 100)
Volume	Specifies the TTS voice playback volume (1 to 100)
Priority	Specifies the priority level (0 – 5) for all SIM operations to run. Lower priority levels can be over-ridden by higher priority activities. Default value is 3. See Platinum Client help for more information.
SecondsToRun	Specifies the number of seconds for each SIM operation to be active in the event scheduler. Default is 10. See Platinum Client help for more information.
ControlledShutdown	This is a variable set by the SIM to monitor automatic restarts of the SIM service. Users should not modify this value.

Example:

```
[GENERAL]
ControlledShutdown=1
LogFileDirectory=logs
LoggingLevel=Normal
FileDirectory=data
ScriptsDirectory=scripts
BeaconOnOperationName=TurnOn
BeaconOffOperationName=TurnOff
English=Tom
Volume=100
Speed=50
```

```
Priority=3
SecondsToRun=10
```

[CONNECTION]

Settings for the connection to the Platinum server.

Name	Description
ServerHost	Specifies the IP address or host name of the computer hosting the Platinum server. Default is 127.0.0.1
ServerPort	Specifies the port number (1 – 65535) to use in the connection to the Platinum server.
UserName	Specifies the user name to use when connecting to the Platinum Server. This user account must have been created in the Platinum database with all the necessary rights for the SIM service to perform its operations. Default value is “PlatinumSIMService”.
Password	The password for the username specified above. There is no default value.
ReceiveTimeoutMS	Specifies the time to wait for data being received, in milliseconds, before reporting a timeout on the read operation. Default value is 10000 (10 seconds).
SendTimeoutMS	Specifies the time to wait for data being sent, in milliseconds, before reporting a timeout on the send operation. Default value is 10000 (10 seconds).

Example:

```
[Connection]
ServerHost=www.intellizone.us
ServerPort=3000
UserName=SIM
Password=123SIM
ReceiveTimeoutMS=20000
SendTimeoutMS=20000
```

[DevToStationMap]

Settings for mapping the Platinum device IDs to the HAR station numbers.

This section is slightly different than other sections. Each entry represents a Platinum HAR device which the Platinum SIM service will use to map to a HAR station number.



Name	Description
{PlatinumDeviceID}={Station Number}	<p>The Platinum Device ID (a list of these IDs is created by the Platinum SIM Module and placed in the STATIONLIST.TXT output file).</p> <p>The value assigned should be the HAR station number that you wish to map to this Platinum Device ID.</p>

Example:

```
[DevToStationMap]
12=1
156=2
```

This example shows how to map device ID 12 to HAR station 1, and device ID 156 to station 2.

[DevToSignMap]¹

Settings for mapping the Platinum Beacon device IDs for use with the SIM.

This section is similar to the previous section (DevToStationMap). The SIM associates beacons with HAR stations. Up to 8 beacons can be assigned to a HAR station.

Each entry in this section of the configuration file represents a Platinum Beacon device ID, the HAR station number, and the beacon position within the HAR beacon list.

Name	Description
{PlatinumDeviceID}={Position}, {Station}	<p>The Platinum Device ID (a list of these IDs is created by the Platinum SIM Module and placed in the SIGNLIST.TXT file).</p> <p>The value assigned to this ID should be the beacon position, followed by a comma, followed by the HAR station number that this sign belongs to. Beacon positions should range from 1 to 8.</p>

Example:

¹ Changes to this section will be picked up automatically by the Platinum SIM.

```
[DevToSignMap]
122=1,1
150=2,1
```

This example shows that Platinum device 122 (a beacon device) will be mapped to the HAR station 001 at position 1, and that Platinum device 150 will be mapped to the HAR station 001 at position 2. Beacon positions are used to show the beacon state – either a zero for OFF or a one for ON – in the COMMANDxx and STATUSxx files, described later in this document.

Note that a list of beacon device numbers is automatically generated by the Platinum SIM service and written to the SIGNLIST.TXT file. Station numbers listed in this section must also exist in the [DevToStationMap] section.

[Playlist]

This section identifies the playlist slot number that should be used by the Platinum SIM application for all playlist operations on the HARs.

This section has the following entries:

Name	Description
PlaylistSlotID={Slot Number}	<p>The playlist slot ID for the Platinum SIM service to use when creating playlist to be downloaded to the HARs.</p> <p>The value assigned to this ID should be from 1001 to 1024, and will be used by the SIM to create and activate playlists on the HARs.</p>

Example:

```
[Playlist]
PlaylistSlotID=1024
```

This example shows that playlist slot 1024 will be used by the Platinum SIM for building and downloading playlist to the HAR.

Platinum SIM Output Files

STATUSxx.TXT Files

The Platinum SIM service module will create/update schedule files for any HAR device which was specified with a DevToStationMap entry (from the configuration file). The status file will contain the following ASCII data:

```
ScheduledTime=YYYYMMDDHHMMSS  
DeviceMode=[{Operation Name}, Off, Lost Contact, Error]  
Messages=XXXX,XXXX, etc.  
Beacons=XXXXXXXX where the X's represent: Off (0), On (1), Error (2), or  
Unknown (3)
```

*For detailed descriptions of what each of the above lines mean, please see the section describing the **COMMANDxx.TXT** file later in this document.*

This file will be modified whenever the HAR changes any of the following device parameters:

- Last Operation
- Comm Status
- Device Status
- HW Status
- Transmitter State

In general, any error in Communications status will result in the “Lost Contact” entry for the DeviceMode. Any error in Device status or HW status will cause the DeviceMode line to be set to a value of “Error”. Otherwise, the DeviceMode will be set to the last operation, if it was successful and “Error” if it was not successful.

The only exception to this is when the transmitter state is OFF. In this case, the DeviceMode will be set to “Off”. When the DeviceMode is “Off”, the “Messages” entry will not be cleared, but will continue to reflect the existing set of messages that would be broadcast if the HAR transmitter were turned on.

It should be noted that the DeviceMode value will reflect the Operation name last executed by the Platinum server. Operation Names are a topic covered in the Platinum Server Administrator’s Guide.

The Messages section will reflect the slot numbers of the messages being played on the HAR.

The Beacons section will contain 8 beacon digits, set to either 0 (for OFF) or 1 (for ON) or 2 (for ERROR). These will reflect the beacon device parameter, UNITSTATE, which can be either ON, OFF, or UNKNOWN. UNKNOWN will show up as a 2 in this section. Beacon digits will

default to a value of 0. Only beacon digits which have a corresponding mapping will be updated, as defined in the configuration file section [DevToSignMap].

MESSLIST.TXT File

The MESSLIST.TXT file contains a list of all the messages in the Platinum message library. It has the following format:

```
001:Test detector 11
002:Test message 6
003:Empty 0
004:test 21
005:general test message for NJTP 33
006:Normal traffic, Interchange 11 20
007:Normal traffic, interchange 13a 20
008:Normal traffic, interchange 14c 26
009:A 21 second message 21
```

Where the first 3 digits are the slot number, followed by a colon, followed by the message name, and ending with the message length (in seconds).

GROUPLIST.TXT File

The GROUPLIST.TXT file indicates device groups that exist in the Platinum database. Device groups are created in the Platinum user interface, and allow users to group field devices together in order to more easily send commands to those devices. This file has the following format:

```
0:Statewide group=1,2,3,4,5
1:Raleigh stations=1,2,3
2:Durham stations=0,4,5
3:
4:
5:
6:
7:
8:
9:
```

The first digit is the group ID, followed by a colon, and then the group name, the equals sign, and the list of Platinum Device IDs in the group. It should be noted that the Platinum group IDs are not necessary sequential and may not start at zero. Platinum device IDs may also be more than one digit values (ie, such as 10 or 192).

In addition, Platinum is able to support multi-level grouping (ie, groups within groups). The Platinum SIM service shows only the highest level grouping (and not any subgrouping) within the GROUPLIST.TXT file.

The Platinum SIM reports group information but does not allow any mechanism for executing

group commands. This feature may be included in a future version of the SIM. At this time, users who wish to execute a command across multiple HAR stations can do so by creating multiple COMMANDxx.TXT files, and use the GROUPLIST.TXT file as a reference for knowing what stations are in what groups.

STATIONLIST.TXT File

The STATIONLIST.TXT file is a list of all HAR devices defined in the Platinum server. It has the following format:

```
0:On the Desk DR1500AM
1:Second On the Desk HAR
2:Test HAR
3:Highway Advisory Radio 03
4:Highway Advisory Radio 04
5:Highway Advisory Radio 05
```

The first digits indicate the Platinum Device ID, followed by a colon, followed by the HAR device name. It should be noted that the Platinum device IDs are not necessary sequential and may not start at zero. They may also be other than two digit values (ie, such as 2 or 192).

SIGNLIST.TXT File

The SIGNLIST.TXT file is used to list all beacon devices defined in the Platinum server. It has the following format:

```
0:Rt1 Beacon
1:I40 and I77 Beacon 1
2:I40 and I77 Beacon 2
3:I95 Beacon
```

The first digits indicate the Platinum Device ID, followed by a colon, and then the beacon name. It should be noted that the Platinum device IDs are not necessary sequential and may not start at zero. They may also be other than two digit values (ie, such as 2 or 192).

AMxxxx.TXT Files

The AMxxxx.TXT files hold the contents of the script files used in generating Text-To-Speech conversions. These files are created by the SIM for use by a 3rd party to examine the text used in the conversion process. An example of this file's contents are below:

```
Testing of the HAR software. This is only a test!
```

Platinum SIM Input Files

COMMANDxx.TXT File

The COMMANDxx.TXT file is created by the 3rd party interface application to issue a command to a HAR station (Note that the {xx} in the file name should be replaced with the HAR station number. For example, a command to HAR station one would be placed in a file named **COMMAND01.TXT**).

The SIM will scan the directory specified in the configuration file looking for any file that has the name COMMAND*.TXT, and when found the file will be opened and processed. After processing the command in the file, the SIM will automatically delete the file. The results of the activity can be viewed in the corresponding HAR station's STATUSxx.TXT file (see below), or also in the SIM log file.

If a 3rd party application creates a COMMANDxx.TXT file and then updates or re-writes the same COMMANDxx.TXT file before the SIM has executed the command, the original command will be lost.

The COMMANDxx.TXT file has the following format:

```
Action=NewAppointment
ScheduledTime=YYYYMMDDHHMM
DeviceMode={Platinum Operation Name}
Messages=X, X, {X}
Beacons=XXXXXXXX
```

The lines in the COMMANDxx.TXT file must be in the order shown above. Rearranging the order will prevent the SIM from correctly processing the file. A description of each line follows:

Line Name	Description
Action	Presently the only allowed value for this line is NewAppointment . Future commands may be implemented.
ScheduledTime	Should contain the date/time when the command is to be scheduled to execute. Placing a date in the past will cause the command to be executed immediately. Placing a date in the future will cause the SIM to wait until that time is reached before submitting the COMMAND to the Platinum server (NOTE: the COMMANDxx.TXT file will not be erased until it is sent to the Platinum server).
DeviceMode	This line should be set to the Platinum operation name that is to be executed for the HAR/Beacon. Please see the Platinum Client Users Guide for a description of Operation Names.

	Note that operation names are case sensitive.
Messages	Contains a comma delimited list of message slot numbers to download and activate on the HAR. Message slots used should already be in the Platinum message library prior to executing this command.
Beacons	A list of 8 digits indicating the desired beacon state as a result of executing the command. Valid digits are: <ul style="list-style-type: none"> • 0 = beacon in this position should be turned OFF • 1 = beacon in this position should be turned ON

The following example COMMAND01.TXT file will cause HAR station 1 to start playing messages in slots 1, 2, and 3 as well as to turn beacon position 2 on and all other beacons off:

```
Action=NewAppointment
ScheduledTime=201201011200
DeviceMode=Playlist
Messages=1,2,3
Beacons=01000000
```

The following example COMMAND01.TXT file will cause HAR station 1 to stop playing messages as well as to turn all beacons off (note that the although Messages are defined, the operation will turn the transmitter off and no messages will be playing):

```
Action=NewAppointment
ScheduledTime=201201011200
DeviceMode=TurnOff
Messages=1,2,3
Beacons=00000000
```

MESSREQ.TXT File

The MESSREQ.TXT file is created by the 3rd party interface application to perform an operation to the message library of the Platinum server.

The SIM will scan the directory specified in the configuration file looking for this file, and when found the file will be opened and processed. After processing the request in the file, the SIM will automatically delete the file. The results of the activity can be viewed in the MESSLIST.TXT file or by examining the SIM log file.

If a 3rd party application creates a MESSREQ.TXT file and then updates or re-writes the same MESSREQ.TXT file before the SIM has processed the first file, the original file request will be lost.

The MESSREQ.TXT file has the following format:

```
Action={NewMessage, RepMessage, GetMessage, ConMessage}
```

```
MessageNumber=X
MessageTitle={desired text title (40 characters max.)}
```

The lines in the MESSREQ.TXT file must be in the order shown above. Rearranging the order will prevent the SIM from correctly processing the file. A description of each line follows:

Line Name	Description
Action	The Action should be one of the following values: <ul style="list-style-type: none"> • NewMessage or RepMessage: Loads an external WAV file into the Platinum message library • GetMessage: Retrieves a message from the Platinum message library and stores it into a WAV file. • ConMessage: Creates a message in the Platinum message library by doing a text-to-speech conversion of a text file.
MessageNumber	Indicates the message slot number which this operation applies to.
MessageTitle	When used with NewMessage , RepMessage , or ConMessage , this will contain the title to apply to the specified message. This value is ignored for GetMessage .

Note that **NewMessage** and **RepMessage** are identical and perform the same action. For both of these action codes, the SIM will search for a WAV file to upload to the Platinum message library. The WAV file is required to have the following:

- To be located in the {FileDirectory} directory specified in the SIM configuration file
- To be named either MESSxxxx.WAV or AMxxxx.WAV (where xxxx is a 4 digit numeric slot number)
- To be in WAV (PCM) format with 16KHz sampling rate, 8-bit, and mono channel.

For the action code **ConMessage**, the SIM will search for a text file to upload to the Platinum message library and convert from text to speech. The text file is required to have the following:

- To be located in the {ScriptsDirectory} directory specified in the SIM configuration file
- To be named AMxxxx.TXT (where xxxx is a 4 digit numeric slot number)

The following example MESSREQ.TXT file will load the file AM0001.WAV into the Platinum message library with the title of “Update traffic alert”:

```
Action=NewMessage
MessageNumber=1
MessageTitle=Update traffic alert
```

The following example MESSREQ.TXT file will create/update the message in slot 4 based on

the text in the file AM0004.TXT:

```
Action=ConMessage  
MessageNumber=4  
MessageTitle=Traffic Incident
```