

HP OpenCall Media Platform

Software Development Kit Release Notes 3.1

First Edition, February 2006



E0206

NOTE

A monthly OCMP Software Status Bulletin (SSB) for release 3.1 will be available. This bulletin lets you know all the news about OCMP release 3.1.

How to receive the SSB:

If you have an OpenCall support contract, connect to the <http://www.hp.com/go/opencallsupport> website, sign-in with HP Passport or register (i.e. create an HP Passport login). Go to "Online service" > "Email notifications", select "Subscribe for software status bulletin notification" in the "Subscribe to e-mail notification" list.

Then, in the Notification Options, select for Product "OpenCall Media Platform (OC MP)" and the appropriate values for Product Version and OS.

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Publication History

The following release note editions have been shipped for HP OpenCall Media Platform Software Development Kit Release 3.1 (hereafter referred to as OCMP SDK 3.1).

First Edition: *October 2005* (HP OpenCall Media Platform Software Development Kit 3.1, Initial Release)

Conventions

Release

A release means a software version that has been released. The initial release will then be evolving by the add-on of patches and incremental Consolidated Patches. Its description and evolution history is documented in the Release Notes.

Patch

A patch is a downloadable package solving a specific problem (urgent corrective maintenance). Patches are cumulative; this means fixes related to a given software component are successively developed on the same source code. Patch descriptions are documented in the Patch Notes.

Consolidated Patch

A Consolidated Patch is a set of consistent packages bringing the software to a better and validated quality level. It consolidates fixes brought by patches or enhancements requested by customers. Consolidated Patches are delivered as downloadable packages. They are cumulative. Its description is documented in subsequent Release Note editions and/or Consolidated Patch Notes. Consolidated Patches are identified by the month and year in which they became available. For example, *Consolidated Patch HP OpenCall Media Platform 2.4, May 2005*, refers to the set of packages that became available in May 2005 for OCMP 2.4 C2

Discontinued

Features or products no longer shipped, still supported

Obsolete

Features or products no longer shipped, no longer supported

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1. Finding HP OpenCall Documentation

Where Do I Begin?

The OCMP SDK 3.1 Release Notes describe what is new, has changed, or has become obsolete since the OCMP SDK 2.4 C2 (June 2005). When appropriate, it cumulates previous announced information of the Software Status Bulletins.

If for OCMP SDK 3.1 you need to have up-to-date information in order to

- find out what has changed since OCMP SDK 2.4 C2 (June 2005)
- know which defects exist on OCMP SDK 3.1

And if any consolidated patch has been delivered:

- know which of these defects were fixed with which Consolidated patches
- know which other improvements are coming with which Consolidated patches
- know what the differences are between the latest Consolidated patches and its predecessor
- install the latest packages of the Consolidated patch level

Then have a look at these OCMP SDK 3.1 release notes.

For other information, refer to the existing documentation on this release by using the information below:

Related Information

- *HP OpenCall Media Platform - Product Description*

This provides descriptive background information to help the reader understand the OCMP.

- *HP OpenCall Media Platform - Glossary*

This contains a list of acronyms followed by a glossary of OCMP terminology.

- *HP OpenCall Media Platform – Base Operations Guide*

This guide contains instructions for configuring, maintaining, and validating the HP OpenCall Media Platform Base (OCMP-Base) software. It also contains procedures for upgrading capacity and software, and replacing the Telecom Media Card.

- *HP OpenCall Media Platform SDK - User Guide*

This document describes the SDK used to develop CCAPI, VoiceXML and CCXML applications for the OCMP 3.1 release.

- *HP OpenCall Media Platform – CCAPI Developer’s Guide*

This Developer’s Guide describes how to use the platform-specific application programming interface (API) to develop services and applications for deployment on an HP OpenCall Media Platform (OCMP).

- *HP OpenCall Media Platform – BRE - VoiceXML Implementation Description*

This document introduces the HP OpenCall Media Platform - Browser Runtime Environment (OCMP-BRE) VoiceXML description document and describes how OCMP-BRE implements VoiceXML 2.0 as described in the W3C Recommendation 16 March 2004, Voice Extensible Markup Language (VoiceXML) Version 2.0, as well as some of the features of VoiceXML 2.1. The document describes deviations from the standard.

- *HP OpenCall Media Platform – BRE - CCXML Implementation Description*

This document describes how the OCMP-BRE implements CCXML as described in the *W3C Working Draft 29 June 2005, Voice Browser Call Control: CCXML Version 1.0*. The document describes deviations from the standard.

- *HP OpenCall Media Platform – BRE – Outgoing Calls*

This document describes the functionality for creating outbound calls in the OCMP-BRE using Call Out and Call Initiation requests.

- *HP OpenCall Media Platform – BRE – CDR Specification*

The purpose of this document is to describe the VoiceXML Call Data Records (CDR). The OCMP CDR, Call Data Record captures user-computer interaction and call control events.

- *Call Control API Javadoc*

This HTML document gives parameter and usage information for all classes, interfaces, and exceptions defined for the Call Control API.

The documentation set is available at <http://www.docs.hp.com>, Telecom Infrastructure section.

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What’s in This Document?

This document consists of two sections.

Section1: Release Information. The section gives an up-to-date description of what is new, what has changed or what has become obsolete on OCMP SDK 3.1 compared with the previous releases (OCMP SDK 2.4 C2 release).

This section also includes an up-to-date list of known defects and compatibility.

Section2: Consolidated Patch Level. If applicable, this section gives an up-to-date description of the latest Consolidated Patch level available for OCMP SDK 3.1. It describes new features and the defects fixed by this Consolidated Patch level.

Note that because of the cumulative nature of these Consolidated Patches, features and fixed defects of previous Consolidated Patches are mentioned as well. This last section also describes how to install the packages of this latest Consolidated Patch level and the potential impact they might have regarding, for example, compatibility.

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Section 1: Release Information

The first section gives an up-to-date description of what is new, what has changed or has become obsolete on OCMP SDK 3.1 compared with the previous releases (i.e. OCMP SDK 2.4 C2).

This also includes an up-to-date list of known defects and compatibility information.

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2. Features

New Features

The following list includes changes provided by the Initial release of OCMP 3.1.

For a complete detailed description of the following topics and especially supported configurations, please refer to: *OCMP 3.1 Product Description*.

SDK Presentation

The Software Development Kit allows you to develop your application on top of the HP OCMP product without any hardware required.

It provides:

- Quick and easy installation
- Same functionality as the HP OCMP
- Development environment including tutorials
- Test environment
- On-line java docs for the Call Control API
- Complete compatibility of your developed application with the HP OCMP.

General

- Merge between OCMP 2.4 C2, June 2005 release and OCMP 3.0, January 2005 release
- Service compatibility (service running under OCMP 2.4 C2, June 2005 or OCMP 3.0, January 2005 releases can run under 3.1)
- For developer related information or VoiceXML and CCXML information, please refer to respectively the *HP OCMP 3.1 CCAPI Developer's Guide* and the *HP OCMP - BRE - VoiceXML/CCXML Implementation Description guides*.

Media Processing

- G723.1 and G729A/AB encoder/decoder

Incorporated features from previous releases

The following list describes features that have been incorporated in the Initial OCMP SDK 3.1 from previous releases.

Application Framework

- Asynchronous Call Control API (CCAPI) using Java language based on the S410 ECTF standard, allowing call control and media processing.
- VoiceXML and CCXML interpreter, enabling a standardized XML-based approach for fast voice dialog and enhanced call control application creation.
- The HP OCMP SDK is downloadable at the following URL <http://devresource.hp.com/drc/downloads/ocmpsdk.jsp>

More information and tools for the developers are available on the OpenCall developer portal: <http://devresource.hp.com/drc/topics/OpenCall.jsp>

Call Control

Capabilities of the Call Control include:

- Receiving an incoming call
- Connecting the call to a media resource
- Bridging an incoming call to an outgoing call.
- Initiating an outgoing call

Media processing and softDSP

SoftDSP function is a software module that allows media processing functions to be connected to the voice channels coming into and going out of the platform through a TMC.

Media processing includes:

- Play pre-recorded voice data from a file out to the line (use of RTCs, speed and volume control, jumps, maximum duration...) and play prompts via TTS server
- Record voice data to a file from the line (pause, resume and append, minimum and maximum duration, silence termination and truncation)
- Detect user command via ASR server (with or without Barge-in), pre-processing of audio inputs by VAD to optimize ASR server usage (nVAD is available: it filters out silent input)
- Generate and detect DTMF signals coming on the line (use of patterns, initial and inter signals timeouts)
- A-law and μ -law encoder/decoder
- IMA ADPCM encoder/decoder

- OKI/Dialogic ADPCM encoder/decoder
- Conferencing:
 - Registering and joining a conference call
 - Individual media groups allowing media operations (play, record, signal detection and generation)
 - Conference media groups allowing plays to all the members of the conference and record of the conference.
- Fax Enabler:
 - Detecting and redirecting faxes

Operation & Support

- Developer Training
- Technical Assistance for developers
- Web-based management of the platform:
 - Enhancement of the OCMP Services installation
- Tracing and logging API: refer to Chapter 7: Developer.

3. Compatibility

Services

- The Call Control API of OCMP 3.1 is compatible with the Call Control API of OCMP 2.4 C2, June 2005 release and with the Call Control API of OCMP 3.0, January 2005 release. Thus, services can be re-used without any compilation.

4. Software Description

Below is a list of the different software components of the OCMP 3.1 platform. You will need this information when installing OCMP 3.1

For the OCMP SDK 3.1 installation procedure description, please refer to the *HP OpenCall Media Platform – SDK User Guide*, for release 3.1

Software Description

Identifier of this release: HP OCMP SDK 3.1																			
Description	HP OpenCall Media Platform SDK 3.1 Windows – October 2005																		
List of packages	OCMP-BASE: ocmp-base_24_C2_CPEw1_bg7.exe OCMP-BRE: ocmp-bre_windows_105.exe																		
OS Version	Windows 2000 and XP																		
OS Patch required	None																		
OCMP Patches	None																		
OCMP SDK Dependencies	Java 2 SDK for Windows version 1.4.2_09 (see http://java.sun.com)																		
Scope *	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%;">Front-End</td> <td style="width: 50%;">N/A</td> </tr> <tr> <td></td> <td>Platform Manager</td> <td>N/A</td> </tr> <tr> <td></td> <td>Back-End</td> <td>N/A</td> </tr> <tr> <td></td> <td>Standalone</td> <td>N/A</td> </tr> <tr> <td></td> <td>Developer</td> <td>Yes</td> </tr> </table>		Front-End	N/A		Platform Manager	N/A		Back-End	N/A		Standalone	N/A		Developer	Yes			
	Front-End	N/A																	
	Platform Manager	N/A																	
	Back-End	N/A																	
	Standalone	N/A																	
	Developer	Yes																	
Impact	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%;">Kernel rebuilt</td> <td style="width: 50%;">No</td> </tr> <tr> <td></td> <td>User application compilation</td> <td>No</td> </tr> <tr> <td></td> <td>User application relink</td> <td>No</td> </tr> <tr> <td></td> <td>User application restart</td> <td>Yes</td> </tr> <tr> <td></td> <td>Platform configuration change</td> <td>Yes</td> </tr> <tr> <td></td> <td>Platform restart</td> <td>Yes</td> </tr> </table>		Kernel rebuilt	No		User application compilation	No		User application relink	No		User application restart	Yes		Platform configuration change	Yes		Platform restart	Yes
	Kernel rebuilt	No																	
	User application compilation	No																	
	User application relink	No																	
	User application restart	Yes																	
	Platform configuration change	Yes																	
	Platform restart	Yes																	
OA&M	<p>The Web-based interface should be run on a Windows machine with one of the following browsers:</p> <ul style="list-style-type: none"> • Netscape 7.1 (or Mozilla) • Internet Explorer 6 and above <p>In order to run Java applets, Java Development Kit (JDK) 1.4.2 is needed on this machine. Download from: http://java.sun.com/j2se/download.html</p> <hr/> <p>NOTE <i>The OCMP OA&M must be launched on a machine that is on the same domain as OCMP.</i></p>																		
ASR/TTS Supported versions	<p>The HP OCMP SDK 3.1 has been validated with Scansoft ASR/TTS systems. The Recommended versions for this OCMP SDK 3.1 are:</p> <p>ASR: Scansoft OpenSpeech Recognizer (OSR) 3.0 TTS: Scansoft RealSpeak 4.0 Both used SpeechWorks Media Server 3.1.4</p>																		

* Scope describes where the described bundle needs to be installed as a function of the host-system

5. Developer

This chapter covers the topics mentioned below and are dedicated to developers

The following topics are covered:

- CCAPI
 - new features
 - features incorporated from previous releases
 - future features

- VoiceXML/CCXML
 - new features
 - features incorporated from previous releases

- Tracing and Logging API

CCAPI new features

For a complete description of the following topics, please refer to: *HP OCMP 3.1 CCAPI Developer's Guide* and to the *Call Control API Javadoc*.

In the CCAPI Javadoc, these new features are tagged "since OCMP 3.1", or "since OCMP 3.0" if they were brought by the OCMP 3.0 SIP server.

The features that are not yet supported are tagged "Not supported".

- Access to parameters of SIP incoming and outgoing messages
- SoftDSP bridge creation with `hp.telephony.media.ConfigSpec.bridgeCPCConfigSpec` and `setbridge()` method
- media operation on softDSP bridge (`loopBridge()` method of `CCSession`)

NOTE *This feature cannot be tested with the HP OCMP SDK. Refer to the HP OCMP 3.1 CCAPI Developer's Guide Annex E for more information.*

CCAPI features incorporated from previous releases

- Call Control
 - Receiving an incoming call
 - CCSession* class
 - CP* (Call Party) interface
 - TrunkLeg* and *TrunkLegListener* interfaces
 - Connecting the call to a media resource
 - loopCP* method of *CCSession*
 - Bridging an incoming call to an outgoing call
 - bridge* method of *CCSession*
 - Initiating an outgoing call
 - CallSpec* class
 - addTrunkCParty* method of *CCSession*

- Media processing
 - *AsyncMediaGroup* class
 - play* (*PlayerConstants* interface)
 - Jump
 - Speed Control
 - Volume Control
 - Maximum Duration
 - TTS access (*Player* Interface / TTS operations)
 - record* (*RecorderConstants* interface)
 - Pause/Resume, Append
 - Minimum and Maximum duration
 - Silence truncation and termination
 - ASR access (*Recorder* Interface / ASR operations)
 - Barge-In: play automatically stopped when voice activity is detected. *v_Nvad* Symbol in *SpeechDetectorConstants* interface.
 - Refer to the *HP OCMP 3.1 CCAPI Developer's Guide* to learn how to implement barge-in.
 - retrieveSignals* (*SignalDetectorConstants* interface)
 - sendSignals* (*SignalGeneratorConstants* interface)
 - *ResourceEventListener* interface
 - SignalDetectorEvent*
 - SignalGeneratorEvent*

- μ -law and IMA ADPCM encoder/decoder (Refer to CoderConstants interface)
 - v_MuLawPCM_64k symbols
 - v_ADPCM_32k symbol
- Conferencing
 - ConferenceSession class and ConferenceIF interface
 - CCSession class methods: register/unregister
 - AsyncMediaGroup methods: join/unjoin
 - Conferencing ConfigSpec statics
 - Conferencing media operations (broadcast of play, conference record)
 - Audio mixing (using loopConf method of ConferenceSession)
- Fax Enabler
 - v_CNG Symbol in SignalConstants interface
- Proxy mechanism
 - getProxy method of CCSession and ConferenceIF
 - Creates a proxy instance on which users methods can be called from external threads.
 - Replaces and enhances the mechanism of external event listener
- createNewServiceSession method in CCSession
 - This method can be called from any Application Thread to trigger the creation of a new CCSession.
- Access to parameters of ISUP incoming and outgoing messages

NOTE *This feature cannot be tested with the HP OCMP SDK. Refer to the HP OCMP 3.1 CCAPI Developer's Guide Annex D for more information.*

- ConfigSpec customization

Interfaces available through the CCAPI: RTPPlayer, RTPRecorder, SpeechDetector.

Refer to the HP OCMP 3.1 CCAPI Developer's Guide for more information on how creating your own ConfigSpec.

CCAPI future features

In the *CCAPI Javadoc*, all methods, constants and classes tagged “FOR FUTURE USE” are not yet supported and should not be used for services development.

VoiceXML/CCXML new features

- Some new features come from VoiceXML 2.1 standard :
 - support of non-SRGS grammars
 - <foreach> element
 - <mark>element
 - srcexpr attribute on <grammar> element
 - namelist attribute in <transfer>, <disconnect> and <exit> elements.

For more information check the VoiceXML implementation description document.

- Call out manager for VoiceXML/CCXML applications. For information on this check the *HP OpenCall Media Platform - BRE - Outgoing calls* document
- External event injection in CCXML. For more information check the *HP OpenCall Media Platform - BRE - CCXML implementation description* document.

VoiceXML/CCXML features incorporated from previous releases

- VoiceXML 2.0 support with some HP extensions. For more information, see the *HP OpenCall Media Platform - BRE - VoiceXML implementation description* document.
- CCXML 1.0 partial support. For more information, see the *HP OpenCall Media Platform - BRE - CCXML implementation description* document.

Tracing and logging API

The tracing and logging API lets developers include their own traces and logs in the OCMP services. Refer to the *HP OCMP 3.1 CCAPI Developer's Guide*, Annex B and to Know Defects: Tracing and Logging API.

NOTE *This feature cannot be tested with the HP OCMP SDK*

6. Known Defects

Known Problems

JAGaf92120 On-line CCAPI Javadoc not available from OAM

Description: On-line CCAPI javadoc is not browsable from OAM <http://localhost:4243> in "Help"-> "Javadoc".

Workaround: Javadoc is included in zip download packages with both the OCMP-BASE and the OCMP-BRE.

JAGaf92213 A call to an unconfigured service makes phone simulator hanging

Description: If a service is not configured in operating management system, and called from the phone simulator, then the phone simulator hangs

JAGaf92215 No beep heard in <record name="msg" beep="true" dtmfterm="true">

Description : Beep play with beep=true in <record> is silent.

Workaround: define an audio file to play a beep.

```
<record name="msg" beep="false" dtmfterm="true">
  <prompt>
    Start recording after the beep.
    <audio src="../../wav/langpip.wav"/>
  </prompt>
</record>
```

Problems known from previous releases OCMF 2.4 C2

Known Problems from OCMF 2.4 C2

JAGae55831 SDK: CCAPF inner classes do not compile.

Description: CCAPF inner classes fail with "cannot resolve symbol" error.

This problem occurs with the following inner classes:

ISDNCallSpec.IIDigits
 CallSpec.CallSpecType
 ResourceSpec.Add
 ResourceSpec.Alt
 ResourceSpec.And
 ResourceSpec.Future
 ResourceSpec.Operator
 ResourceSpec.Or

For example the following line:

```
if (inSpec.getCallSpecType() == CallSpecType.ISDN_CALLSPEC)
  does not compile.
```

Workaround

The workaround is to qualify the inner class with the container class, e.g. to replace:

ISDNCallSpec.IIDigits by ISDNCallSpec\$IIDigits
 CallSpec.CallSpecType by CallSpec\$CallSpecType
 ResourceSpec.Add by ResourceSpec\$Add
 ResourceSpec.Alt by ResourceSpec\$Alt
 ResourceSpec.And by ResourceSpec\$And
 ResourceSpec.Future by ResourceSpec\$Future
 ResourceSpec.Operator by ResourceSpec\$Operator
 ResourceSpec.Or by ResourceSpec\$Or

For example:

```
if (inSpec.getCallSpecType() == CallSpec$CallSpecType.ISDN_CALLSPEC)
  compiles.
```

JAGaf20207 q_Duration not received when ASR did not recognize expected word

Description: In ASR mode, if the word recognized by the ASR is not the expected one, we get in the traces:

```
"RECOGNITION-COMplete 147521090 COMPLETE MRCP/1.0
Completion-Cause: 001 no-match"
```

But in the RecorderEvent, we do not get q_Duration. Instead of that, we get ev_Record /q_Standard.

Note that q_Duration is well obtained with the SDK.

Known Limitations

- The following features cannot be tested with the HP OCMP SDK :
 - SoftDSP bridge is a new feature of OCMP 3.1, but not supported with SDK
 - Access to ISUP/SIP incoming or outgoing messages in CCAPI or CCXML.
 - Test applications containing more than one call party in audio mode : the HP OCMP 3.1 SDK must be launched in text mode for conferencing, VoiceXML call transfer or CCAPI bridge applications.
 - Voice Activity detection. v_HP Symbol of SpeechDetectorConstants interface
 - Volume and Speed control in the play of audio file
 - Voice controls allowing to skip ahead and back in an audio file
 - ASR simulation when OCMP SDK is started in text mode. Only TTS simulation is supported.
 - Scansoft OSR3 : Grammars that should return "simple results" must include the OSR meta tag `swirec_simple_result_key`. See the VoiceXML 2.0 specification, section 3.1.6, for a description of simple and structured results.
 - ISUP parameters : Only localuri (called/B-number) and remoteuri (calling/A- number) can be used in the SDK. These are the parameters set by the switch simulator when placing a call.

- The HP OCMP SDK is not able to test all encoding audio file formats. The following are supported:
 - wav files encoded in PCM 16-bits linear with record operations and
 - wav file encoded in PCM 16-bit-linear, alaw and ulaw with play.

For more information on the supported audio file formats on a real platform go to the HP OCMP 3.1 CCAPI Developer's guide or the HP OpenCall Media Platform - BRE - VoiceXML implementation description document.

- The RealSpeak TTS language is configured by default for en-US. To run applications with the language en, add the lines below in C:\Program Files\SpeechWorks\MediaServer\server\config\OSSserver.cfg.

```
server.realspeak4.language.1.ShortName VXIString en
server.realspeak4.language.1.FullName VXIString American English
server.realspeak4.language.1.Voice VXIString Jill
server.realspeak4.language.1.Gender VXIString female
```


Section 2: Consolidated Patch Level

The following section gives an up-to-date description of the latest Consolidated Patch level available for HP OpenCall Media platform release 3.1

At the time of writing this edition of the release notes, no Consolidated Patches were available on top of this initial release delivery. Hence, this section (2) of the release notes is left empty. It might be used in following release note editions once Consolidated Patches become available.