

# **OnStream MediaPlayer+ Player SDK Migration**

**Application Guide for  
Android Platforms  
API Version 2 to API Version 3**

***VisualOn, Inc.***

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# 1 About This Manual

## 1.1 OVERVIEW

This application guide provides a reference to assist developers in upgrading OnStream<sup>®</sup> MediaPlayer+ (OSMP+) V2 API projects to OSMP+ V3 API.

## 1.2 REVISION HISTORY

Rev	Product Version	Date	Description
1.0	V3.5	2013-03-25	Document Creation
1.1	V3.5	2013-05-07	Minor Update
1.2	V3.6	2013-05-29	Update for V3.6

## 1.3 RELATED DOCUMENTS

The following documents (included with your installation package) provide additional information related to this user guide:

- *OnStream MediaPlayer+ Player API Reference Manual for Android Platforms*
- *OnStream MediaPlayer+ Player SDK Integration Guide for Android Platforms*
- *OnStream MediaPlayer+ SDK Project Setup for Android Platforms*

## 2 General Migration

### 2.1 MINIMUM ANDROID SDK SUPPORT

The V3.5 SDK release requires a minimum Android API level 8, Android 2.2 (Froyo) or above. For more information on setting the minimum required SDK for Android projects, refer to the *OnStream MediaPlayer+ SDK Project Setup for Android Platforms*.

### 2.2 SDK PACKAGE CHANGES

The V2 API releases utilize the following package structure:

- com.visualon.OSMPBasePlayer
- com.visualon.OSMPHDMICheck
- com.visualon.OSMPSubTitle
- com.visualon.OSMPUtils

The V3 API releases utilize the following package structure:

- com.visualon.OSMPPlayer
  - VOCommonPlayer
  - VOCommonPlayerAssetSelection
  - VOCommonPlayerConfiguration
  - VOCommonPlayerControl
  - VOCommonPlayerDeviceInfo
  - VOCommonPlayerHDMI
  - VOCommonPlayerListener
  - VOCommonPlayerSubtitle
  - VOOSMPChunkInfo
  - VOOSMPInitParam
  - VOOSMPType
  - VOOSMPVerificationInfo
- com.visualon.OSMPPlayerImpl
  - VOCommonPlayerHDMIImpl
  - VOCommonPlayerImpl
  - VOOSMPAssetIndexImpl
  - VOOSMPAssetPropertyImpl
  - VOOSMPEnumUtils
  - VOOSMPInitParamImpl

## 3 API Migration

### 3.1 GENERAL CHANGES

The V3 API includes the following general changes/updates:

- Naming conventions have been modified for consistency across platforms
- Parameters and return types have been updated to use SDK types to improve clarity
- Time-related parameters and return values have been increased to long integers
- Methods returning void now return VO\_OSMP\_RETURN\_CODE

### 3.2 DETAILED CHANGES

V2 API Method	V3 API Method	Comment
<pre>int Init(     android.content.Context context,     String packageName,     List&lt;voOSOption&gt; options,     int nPlayerType,     int nInitParam,     int nInitParamFlag)</pre>	<pre>VO_OSMP_RETURN_CODE init(     android.content.Context context,     String libraryPath,     VO_OSMP_PLAYER_ENGINE playEngineType,     Object initParam,     int initParamFlag)</pre>	
<pre>void updateVideoAspectRatio(int arWidth,     int arHeight)</pre>	<pre>VO_OSMP_RETURN_CODE setVideoAspectRatio(     VO_OSMP_ASPECT_RATIO ar)</pre>	
<pre>int Open(     Object pSource,     int nSourceFlag,     int nSourceType,     int nInitParam,     int nInitParamFlag)</pre>	<pre>VO_OSMP_RETURN_CODE open(     String url,     VO_OSMP_SOURCE_FLAG flag,     VO_OSMP_SOURCE_FORMAT type,     VOOSMPInitParam initParam,     int initParamFlag)</pre>	
<pre>int Close()</pre>	<pre>VO_OSMP_RETURN_CODE close()</pre>	

int Run()	VO_OSMF_RETURN_CODE start()	
int Pause()	VO_OSMF_RETURN_CODE pause()	
int Stop()	VO_OSMF_RETURN_CODE stop()	
int GetDuration()	long getDuration()	
int SetPos( int nPos)	VO_OSMF_RETURN_CODE setPosition( long msec)	
int GetPos()	long getPosition()	
int SetVolume( float fLeft, float fRight)	VO_OSMF_RETURN_CODE setVolume( float volume)	
void SetView( android.view.SurfaceView sv)	VO_OSMF_RETURN_CODE setView( android.view.SurfaceView sv)	
int GetProgramCount()	Now managed by VOCommonPlayerAssetSelection	Refer to API reference manual and SDK integration guide.
Object GetProgramInfo( int nProgram)		
Object GetCurTrackInfo( int nTrackType)		
int SelectProgram( int nProgram)		
int SelectStream( int nStream)		
int SelectTrack( int nTrackID)		
List<voOSSubtitleLanguage> GetSubtitleLanguageInfo()		
int SelectSubtitleLanguage( int nIndex)		
int Uninit()	VO_OSMF_RETURN_CODE destroy()	

<code>void SetDisplaySize(     int width,     int height)</code>	<code>VO_OSMP_RETURN_CODE setViewSize(     int width,     int height)</code>	
<code>Object GetSample(     int nTrackType,     int nTimeStamp)</code>	--	Use only on VisualOn recommendation.
<code>String GetFrameScrubbingThumbnail(     int timeStamp)</code>	<code>String getFrameScrubbingThumbnail(     long timeStamp)</code>	
<code>Object GetParam(     int id)</code>	<code>VO_OSMP_RETURN_CODE getParameter(     int id,     Object obj)</code>	Refer to section 4.
<code>int SetParam(     int id,     Object param)</code>	<code>VO_OSMP_RETURN_CODE setParameter(     int id,     Object obj)</code>	Refer to section 5.



## 4 Parameter IDs (GetParam/getParameter)

### 4.1 GENERAL CHANGES

In the V3 API, commonly used parameter IDs now utilize a dedicated API method. The `getParameter` method should only be used on recommendation from VisualOn.

### 4.2 DETAILED CHANGES

OSMP+V2 Parameter ID	OSMP+V3 API Method	Comments
VOOSMP_PID_STATUS	VO_OSMF_STATUS <code>getPlayerStatus()</code>	
VOOSMP_PID_SENDBUFFERFUNC	--	
VOOSMP_PID_AUDIO_FORMAT	--	
VOOSMP_PID_VIDEO_FORMAT	--	
VOOSMP_PID_PLAYER_TYPE	VO_OSMF_PLAYER_ENGINE <code>getPlayerType()</code>	
VOOSMP_PID_AUDIO_DEC_BITRATE	--	
VOOSMP_PID_VIDEO_DEC_BITRATE	--	
VOOSMP_PID_CPU_INFO	Now managed by <code>VOCommonPlayerDeviceInfo</code>	Refer to API reference manual and SDK integration guide.
VOOSMP_PID_COMMAND_STRING	--	
VOOSMP_PID_BLUETOOTH_HANDSET	--	
VOOSMP_PID_SUBTITLE_SETTINGS	Now managed by <code>VOCommonPlayerSubtitle</code>	Refer to API reference manual and SDK integration guide.
VOOSMP_SRC_PID_FUNC_READ_BUF	--	
VOOSMP_SRC_PID_COMMAND_STRING	--	

VOOSMP_SRC_PID_DVRINFO	Now managed by: getMinPosition getMaxPosition getPosition	
VOOSMP_SRC_PID_BA_WORKMODE	enableBitrateAdaptation(boolean)	Default is true.

## 5 Parameter IDs (SetParam/setParameter)

### 5.1 GENERAL CHANGES

In the V3 API, commonly used parameter IDs now utilize a dedicated API method. The `setParameter` method should only be used on recommendation from VisualOn.

### 5.2 DETAILED CHANGES

V2 API Parameter ID	V3 API Method	Comments
VOOSMP_SRC_PID_DRM_FILE_NAME	VO_OSMF_RETURN_CODE setDRMLibrary( String libName, String libApiName)	
VOOSMP_SRC_PID_DRM_API_NAME		
VOOSMP_SRC_PID_FUNC_IO	--	
VOOSMP_SRC_PID_CC_AUTO_SWITCH_DURATION	--	
VOOSMP_SRC_PID_DRM_THIRDPARTY_FUNC_SET	--	
VOOSMP_SRC_PID_DRM_CALLBACK_FUNC	--	
VOOSMP_SRC_PID_DOHTTPVERIFICATION	setHTTPVerificationInfo( voOSVerificationInfo)	
VOOSMP_SRC_PID_SOCKET_CONNECTION_TYPE	setRTSPConnectionType( voOSRTSPConnectionType info)	New enumerated type voOSRTSPConnectionType.
VOOSMP_SRC_PID_COMMAND_STRING	--	
VOOSMP_SRC_PID_CAP_TABLE_PATH	VO_OSMF_RETURN_CODE setDeviceCapabilityByFile( String filename)	
VOOSMP_SRC_PID_BA_STARTCAP	VO_OSMF_RETURN_CODE setInitialBitrate( int bitrate)	

VOOSMP_SRC_PID_DODRMVERIFICATION	setDRMVerificationInfo( voOSVerificationInfo info)	
VOOSMP_SRC_PID_DRM_UNIQUE_IDENTIFIER	setDRMUniqueIdentifier( String string)	
VOOSMP_SRC_PID_Timed_Text_ClosedCaption	VO_OSMF_RETURN_CODE setSubtitlePath( String filePath)	
VOOSMP_SRC_PID_DOWNLOAD_FAIL_MAX_TOLERANT_COUNT	--	
VOOSMP_SRC_PID_DISABLE_CPU_ADAPTION	--	
VOOSMP_PID_SUBTITLE_FILE_NAME	VO_OSMF_RETURN_CODE setSubtitlePath( String filePath)	
VOOSMP_SRC_PID_DRM_FUNC_SET	--	
VOOSMP_SRC_PID_BUFFER_START_BUFFERING_TIME	VO_OSMF_RETURN_CODE setInitialBufferTime( int time)	
VOOSMP_SRC_PID_BUFFER_BUFFERING_TIME	--	
VOOSMP_SRC_PID_LOW_LATENCY_MODE	VO_OSMF_RETURN_CODE enableLowLatencyVideo( boolean value)	
VOOSMP_PID_AUDIO_VOLUME	VO_OSMF_RETURN_CODE setVolume( float volume)	
VOOSMP_PID_DRAW_RECT	VO_OSMF_RETURN_CODE setZoomMode( VO_OSMF_ZOOM_MODE mode, android.graphics.Rect rect)	
VOOSMP_PID_DRAW_COLOR	VO_OSMF_RETURN_CODE setColorType( VO_OSMF_COLOR_TYPE type)	
VOOSMP_PID_FUNC_LIB	--	
VOOSMP_PID_MAX_BUFFTIME	--	
VOOSMP_PID_MIN_BUFFTIME	--	

VOOSMP_PID_VIDEO_REDRAW	VO_OSMO_RETURN_CODE redrawVideo()	
VOOSMP_PID_AUDIO_EFFECT_ENABLE	VO_OSMO_RETURN_CODE enableAudioEffect( boolean value)	
VOOSMP_PID_LICENSE_TEXT	VO_OSMO_RETURN_CODE setPreAgreedLicense( String str)	
VOOSMP_PID_LICENSE_FILE_PATH	VO_OSMO_RETURN_CODE setLicenseFilePath( String path)	
VOOSMP_PID_PLAYER_PATH	--	
VOOSMP_PID_FUNC_DRM	--	
VOOSMP_PID_AUDIO_REND_ADJUST_TIME	--	
VOOSMP_PID_ZOOM_MODE	VO_OSMO_RETURN_CODE setZoomMode( VO_OSMO_ZOOM_MODE mode, android.graphics.Rect rect)	
VOOSMP_PID_CPU_NUMBER	--	
VOOSMP_PID_LISTENER	VO_OSMO_RETURN_CODE setOnEventListener( VOCommonPlayerListener instance)	
VOOSMP_PID_AUDIO_REND_BUFFER_TIME	--	
VOOSMP_PID_VIDEO_RENDER_TYPE	VO_OSMO_RETURN_CODE setRenderType( VO_OSMO_RENDER_TYPE type)	
VOOSMP_PID_AUDIO_DECODER_FILE_NAME	--	
VOOSMP_PID_VIDEO_DECODER_FILE_NAME	--	
VOOSMP_PID_PERFORMANCE_DATA	--	
VOOSMP_PID_FUNC_READ_IO	--	
VOOSMP_PID_AUDIO_STEP_BUFFTIME	--	
VOOSMP_PID_AUDIO_SINK_BUFFTIME	--	

VOOSMP_PID_AUDIO_STREAM_ONOFF	VO_OSMO_RETURN_CODE enableAudioStream( boolean value)	Default is true.
VOOSMP_PID_VIDEO_STREAM_ONOFF	VO_OSMO_RETURN_CODE enableVideoStream( boolean value)	Default is true.
VOOSMP_PID_AUDIO_DECODER_API_NAME	--	
VOOSMP_PID_VIDEO_DECODER_API_NAME	--	
VOOSMP_PID_DEBLOCK_ONOFF	VO_OSMO_RETURN_CODE enableDeblock( boolean value)	Default is true.
VOOSMP_PID_LOAD_AUDIO_EFFECT_MODULE	--	Automatically handled by enableAudioEffect().
VOOSMP_PID_AUTHENTICATION_INFO	--	
VOOSMP_PID_SURFACE_CHANGED	VO_OSMO_RETURN_CODE setSurfaceChangeFinished()	
VOOSMP_PID_COMMON_CC_PARSER	VO_OSMO_RETURN_CODE enableSubtitle( boolean value)	Default is false.
VOOSMP_PID_LICENSE_CONTENT	VO_OSMO_RETURN_CODE setLicenseContent( byte[] data)	
VOOSMP_PID_SOURCE_FILENAME	--	
VOOSMP_PID_LIB_NAME_PREFIX	--	
VOOSMP_PID_LIB_NAME_SUFFIX	--	
VOOSMP_PID_COMMAND_STRING	--	
VOOSMP_PID_HDMI_DISPLAY	VO_OSMO_RETURN_CODE enableHDMIDetection( android.content.Context context, boolean value)	
VOOSMP_PID_CLOSED_CAPTION_OUTPUT	--	
VOOSMP_PID_LOW_LATENCY	VO_OSMO_RETURN_CODE enableLowLatencyVideo( boolean value)	Default is false.

VOOSMP_PID_VIEW_ACTIVE	VO_OSMP_RETURN_CODE resume( android.view.SurfaceView sv)	
VOOSMP_PID_SUBTITLE_SETTINGS	Now managed by VOCommonPlayerSubtitle	
VOOSMP_PID_SUBTITLE_SETTINGS_ONOFF	VO_OSMP_RETURN_CODE resetSubtitleParameter()	
VOOSMP_PID_APPLICATION_SUSPEND	VO_OSMP_RETURN_CODE suspend( boolean keepAudio)	
VOOSMP_PID_APPLICATION_RESUME	VO_OSMP_RETURN_CODE resume( android.view.SurfaceView sv)	
VOOSMP_PID_AUDIO_SINK	--	
VOOSMP_PID_BITMAP_HANDLE	--	

## 6 Event Callback IDs

### 6.1 GENERAL CHANGES

In the V3 API, the event callback IDs (sent to `onVOEvent`) have been updated for consistency and clarity.

### 6.2 DETAILED CHANGES

V2 API Event ID	V3 API Event ID	Comments
--	VO_OSMF_HDMI_CONNECTION_STATUS	New in V3
VOOSMP_CB_PlayComplete	VO_OSMF_CB_PLAY_COMPLETE	
VOOSMP_CB_VideoStartBuff	VO_OSMF_CB_VIDEO_START_BUFFER	
VOOSMP_CB_VideoStopBuff	VO_OSMF_CB_VIDEO_STOP_BUFFER	
VOOSMP_CB_AudioStartBuff	VO_OSMF_CB_AUDIO_START_BUFFER	
VOOSMP_CB_AudioStopBuff	VO_OSMF_CB_AUDIO_STOP_BUFFER	
VOOSMP_CB_SourceBuffTime	VO_OSMF_CB_SOURCE_BUFFER_TIME	
VOOSMP_CB_SeekComplete	VO_OSMF_CB_SEEK_COMPLETE	
VOOSMP_CB_VideoAspectRatio	VO_OSMF_CB_VIDEO_ASPECT_RATIO	
VOOSMP_CB_VideoSizeChanged	VO_OSMF_CB_VIDEO_SIZE_CHANGED	
VOOSMP_CB_Deblock	VO_OSMF_CB_DEBLOCK	
VOOSMP_CB_HWDecoderStatus	VO_OSMF_CB_HW_DECODER_STATUS	
VOOSMP_CB_AUTHENTICATION_RESPONSE	VO_OSMF_CB_AUTHENTICATION_RESPONSE	
VOOSMP_CB_LanguageInfoAvailable	VO_OSMF_CB_LANGUAGE_INFO_AVAILABLE	
VOOSMP_CB_VideoRenderStart	VO_OSMF_CB_VIDEO_RENDER_START	
VOOSMP_CB_OpenSource	VO_OSMF_CB_OPEN_SOURCE_COMPLETE	
VOOSMP_CB_BLUETOOTHHANDSET	VO_OSMF_CB_BLUETOOTHHANDSET_CONNECTION	



VOOSMP_SRC_CB_Connecting	VO_OSMF_SRC_CB_CONNECTING	
VOOSMP_SRC_CB_Connection_Finished	VO_OSMF_SRC_CB_CONNECTION_FINISHED	
VOOSMP_SRC_CB_BA_Happened	VO_OSMF_SRC_CB_BA_HAPPENED	
VOOSMP_SRC_CB_DRM_Not_Secure	VO_OSMF_SRC_CB_DRM_NOT_SECURE	
VOOSMP_SRC_CB_Open_Finished	VO_OSMF_SRC_CB_OPEN_FINISHED	
VOOSMP_SRC_CB_Seek_Complete	VO_OSMF_SRC_CB_SEEK_COMPLETE	
VOOSMP_CB_MediaTypeChanged	VO_OSMF_CB_MEDIA_TYPE_CHANGED	
VOOSMP_CB_VideoFrameRate	VO_OSMF_CB_VIDEO_FRAME_RATE	
VOOSMP_CB_Metadata_Arrive	VO_OSMF_CB_METADATA_ARRIVED	
VOOSMP_CB_Error	VO_OSMF_CB_ERROR	
VOOSMP_SRC_CB_Connection_Timeout	VO_OSMF_SRC_CB_CONNECTION_TIMEOUT	
VOOSMP_SRC_CB_Connection_Loss	VO_OSMF_SRC_CB_CONNECTION_LOSS	
VOOSMP_SRC_CB_Connection_Fail	VO_OSMF_SRC_CB_CONNECTION_FAIL	
VOOSMP_SRC_CB_Download_Fail	VO_OSMF_SRC_CB_DOWNLOAD_FAIL	
VOOSMP_SRC_CB_DRM_Fail	VO_OSMF_SRC_CB_DRM_FAIL	
VOOSMP_SRC_CB_Playlist_Parse_Err	VO_OSMF_SRC_CB_PLAYLIST_PARSE_ERR	
VOOSMP_SRC_CB_Connection_Rejected	VO_OSMF_SRC_CB_CONNECTION_REJECTED	
VOOSMP_SRC_CB_DRM_AV_Out_Fail	VO_OSMF_SRC_CB_DRM_AV_OUT_FAIL	
VOOSMP_SRC_CB_Download_Fail_Waiting_Recover	VO_OSMF_SRC_CB_DOWNLOAD_FAIL_WAITING_RECOVER	
VOOSMP_CB_CodecNotSupport	VO_OSMF_CB_CODEC_NOT_SUPPORT	
VOOSMP_SRC_CB_Download_Status	VO_OSMF_SRC_CB_DOWNLOAD_STATUS	
VOOSMP_SRC_CB_Download_Fail_Recover_Success	VO_OSMF_SRC_CB_DOWNLOAD_FAIL_RECOVER_SUCCESS	
VOOSMP_SRC_CB_Adaptive_Streaming_Info	VO_OSMF_SRC_CB_ADAPTIVE_STREAMING_INFO	
VOOSMP_SRC_CB_Adaptive_Streaming_Error	VO_OSMF_SRC_CB_ADAPTIVE_STREAMING_ERROR	
VOOSMP_SRC_CB_Adaptive_Stream_Warning	VO_OSMF_SRC_CB_ADAPTIVE_STREAM_WARNING	
VOOSMP_SRC_CB_RTSP_Error	VO_OSMF_SRC_CB_RTSP_ERROR	

VOOSMP_SRC_CB_Customer_Tag	VO_OSMP_SRC_CB_CUSTOMER_TAG	
VOOSMP_CB_BufferStatus	--	Moved the buffer into source.