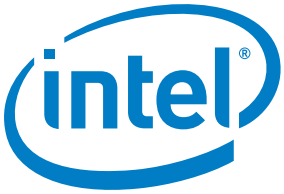

Streaming Media Transcoding Application (SMTA) v0.9.0

Release Notes

1 July 2019

Version History/Revision History

These are the main releases of SMTA:

Date	Revision	Description
September 2014	0.4	Initial release
November 2015	0.5	•Move to MSS v16.4.3 •Update corresponding to SMTA version 0.5.0
April 2016	0.6	•Move to MSS v16.5 •Add HEVC HW decode and HW encode feature •Update FFMPEG version to 3.0.1 •Add De-noise feature
August 2016	0.7	•Porting MSS to version 16.5 PV1 •Add local file input support
September 2016	0.8	•Add Windows building support
July 2019	0.9	•Add FEI feature support(PreENC, ENCODE) for encoder •Add dynamic VPP •Add FEI feature support(ENC, PAK) for encoder •Add MFE feature support for encoder •Add HEVC FEI feature(PreENC, ENCODE) support for encoder •Add Dockerfile to generate SMTA transcoding container

Intended Audience

The purpose of the Streaming Media Transcoding Application (SMTA) is to demonstrate video transcoding capabilities of Intel® HD Graphics enabled processors, particularly in terms of stream density (number of streams per “system”). The SMTA takes an input AV stream from a Real Time Streaming Protocol (RTSP) source, splits out the video, decodes it, optionally applies some processing to the video frames (scaling, de-interlacing). Finally, it re-encodes the result to the specified encoding, and then transmits it to the designated host and port(s) using Real-time Transport Protocol (RTP).

This release targets general application developers who want to integrate transcoding pipelines into their design.

Customer Support

For technical support, please contact your Intel representatives (FAE or PAE).

Please remember to register your product at https://registrationcenter.intel.com/ by providing your email address. Registration entitles you to free technical support, product updates and upgrades for the duration of the support term. It also helps Intel recognize you as a valued customer in the support forum.

NOTE: If your distributor provides technical support for this product, please contact them for support rather than Intel.

Contents:

1 Introduction

This document provides system requirements, installation instructions, issues and limitations, and legal information.

To learn more about this product, see:

- New features listed in the section below.
- Reference documentation listed in the section below.
- Installation instructions can be found in the below.

2 New in This Release

New Features

The following new features are added in this release:

1. Add FEI feature support(PreENC, ENCODE) for encoder
2. Add dynamic VPP
3. Add FEI feature support(ENC, PAK) for encoder
4. Add MFE feature support for encoder
5. Add HEVC FEI feature(PreENC, ENCODE) support for encoder
6. Add Dockerfile to generate SMTA transcoding container

3 Known Issues/limitations

The following known issues apply to this release of SMTA:

- HEVC encoder only support main profile.
- When decoding or transcoding HEVC video, video frame rate is not more than 30.
- When decoding or transcoding HEVC video, only support ES format.
- When transcoding H.264 (4K) and HEVC (1080p) to HEVC (1080p), transcoded stream cannot be played smoothly by VLC.
- When doing 1 to N streaming for H.264 elementary clips, jitters will happen and the video cannot be played to end.
- H264 and MPEG2 file transcoding to H264 with 'speed, balanced, quality' works well but the size of output is abnormal.
- The bitrate value and fps value of output stream is abnormal for some video.
- On Windows, when encoding HEVC video, the output stream play with shake.
- On Windows, the parameter ‘-u’ works abnormal.
- The FEI encoder supports only H.264
- On Windows, the FEI encoder is not supported.
- On Centos, the pipeline is noVPP and includes FEI ENCPAK or PREENC-ENCODE, SMTA process block in multiple processes.

4 Related Documentation

Streaming Media Transcoding Application (SMTA) User Guide – 506465

5 Where to Find the Release

User can access to download this application.

How to Install this Release

Refer to SMTA User Guide Section 8, “Building SMTA” for detailed information.

Refer to SMTA User Guide Section 9, “Building FFmpeg* Libraries,” for detailed information about FFmpeg.

6 Release Content

This release package is distributed with source code and binary. All components described in Table 1 are relative to this installation folder.

Table 1. Package Contents

Component	Description
./doc/SMTA_Release_Notes.pdf	Release Notes
./doc/SMTA_User_Guide.pdf	User Guide
./Dockerfile	Generate SMTA transcoding container
./filelist	Release files list
./license.txt	SMTA license information
./lin_x64	SMTA Linux* executables
./lin_x64/StreamingMediaTranscoder	Streaming media transcoder core
./lin_x64/libxcodebase.so	Libxcode base library
./lin_x64/libxcodevideo.so	Libxcode video library
./sources	Source code folder
./versionfile	SMAT version information

7 Hardware and Software Compatibility

The following processor models are supported:

- i7-6700 LGA1151
- i5-6600 LGA1151

Note: Only the Intel® 6th Generation Intel® Core™ processors with Skylake platform for HEVC support

Supported OS/Software

- CentOS* 7.3/7.4, Windows 8.1
- Intel® Media Server Studio , v16.5.2. It can be downloaded on (contact your Intel representative to get access).

NOTE: only the hardware/OS/MSS combinations shown in Table2 are supported.--

Table 2. Supported Hardware/OS/MSS Combinations

OS and MSS	CentOS* 7.3/7.4 with MSS v16.5.2~v16.9	Windows 8.1 with MSS v7.0
6th Generation Intel® Core™ Processors with Intel Iris™ Pro Graphics, Intel Iris Graphics or Intel HD Graphics 4200+ Series	✓	--
Intel® Xeon® E3-128x v3 with Intel C226 Chipset	✓	--

8 Acronyms and Terms

The following acronyms and terms are used in this document (arranged in alphabetic order):

Acronym/Term	Description
AGC	Automatic Gain Control
CABAC	Context-Adaptive Binary Arithmetic Coding
CAVLC	Context-Adaptive Variable-Length Coding
DCT	Discrete Cosine Transform
GPL	GNU* General Public License
H.265	Same as HEVC
HEVC	High Efficiency Video Coding
Intel® IPP	Intel® Integrated Performance Primitives
LA BRC	Look Ahead Bitrate Control algorithm
LGPL	GNU* Lesser General Public License
MSS	Intel® Media Server Studio
VPP	Video Post Processing
RTP	Real-time Transport Protocol
RTSP	Real Time Streaming Protocol
SDP	Session Description Protocol
SMTA	Streaming Media Transcoding Application
UDP	User Datagram Protocol
UMC	Unified Media Classes
URI	Uniform Resource Identifier
FEI	Flexible Encode Infrastructure extension
ENC	ENCode - first stage of encoding process that include motion estimation and MB mode decision
PAK	PAcK – last stag of encoding process that include bit packing
PreENC	Pre Encoding
ENCODE	Actual encoding
MFE	Multi-frame encode

9 Legal Information

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