
MP3 Encoder

BACKGROUND

This ready-to-implement MP3 encoder reduces time-to-market because it can be treated as a tested module and integrated into a software system. The decoder conforms fully with all of the pertinent MP3 standards as specified by the International Standards Organization (ISO) and the International Electrotechnical Commission (IEC).

MP3 encoding has become increasingly popular for playing CD-quality stereo music stored in compressed MP3 files. The MP3 name is derived from the full name, MPEG-1 Audio Layer 3 standard, which was developed by the Motion Pictures Experts Group and sanctioned by ISO and IEC. The MP3 encoder for DaVinci™ Technology supports a range of sampling rates from 8 to 48 kHz. As output, it provides high-quality audio as a 16-bit pulse-code modulation (PCM) signal.

DESCRIPTION

The TI MP3 audio encoder is an eXpressDSP-compliant Codec Engine. It is available in a stand alone library or in pre-built codec server; a DSP-executable based on Code Engine

CAPABILITY SUPPORTED (V1.00)

- MPEG-1 layer 3 encoding
- High speed encoding suitable for ripping applications
- Supports all sampling frequencies in the range of 16 KHz to 48 kHz according to MPEG-1/2
- Bit Rates 16-320 kbps
- Mono and stereo data support
- C-callable Interface for encoder
- Re-Entrant multi channel implementations
- Efficient scratch memory management with reduced stack requirements
- Constant bit rate (CBR)
- MS stereo
- Re-locatable tables
- xDM API



Application Layer (APL) Signal Processing Layer (SPL)

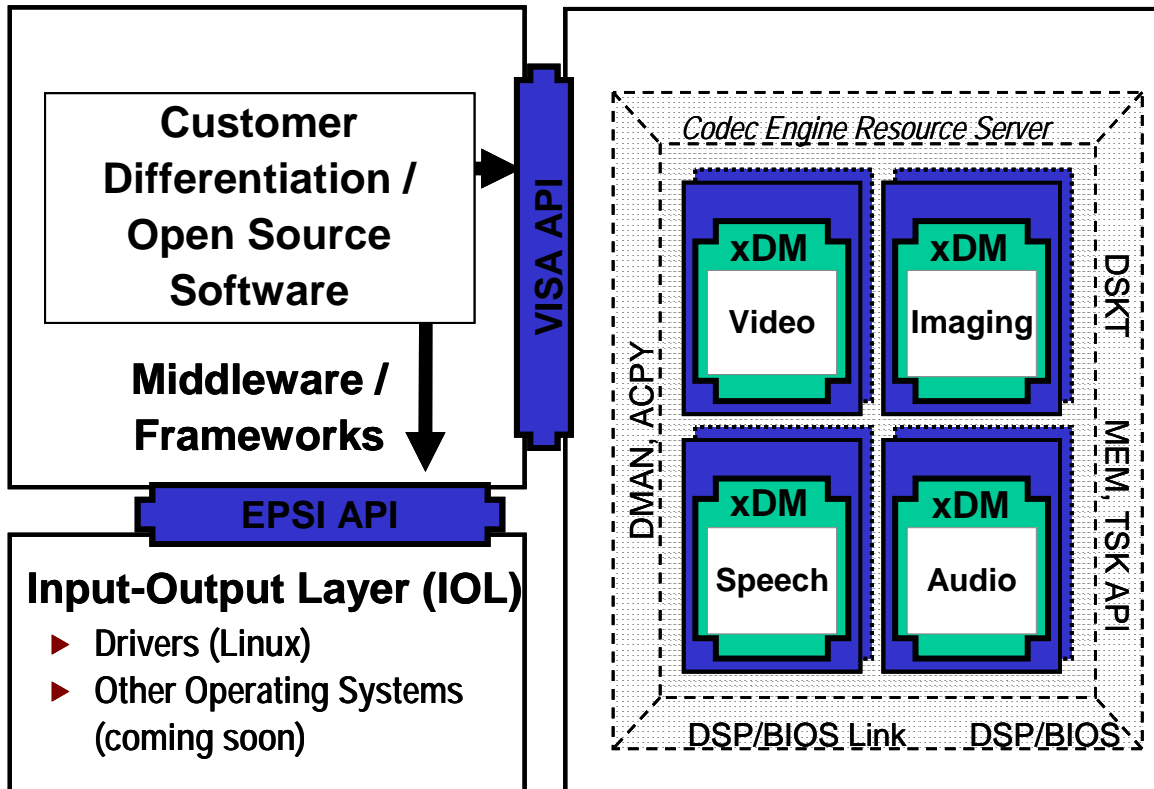


Figure 1

The overall software architecture for the DaVinci Technology-based TMS320DM644x processors are shown in Figure 1. TI digital media encoders and decoders seamlessly plug into the signal processing layer architecture; the right side of the above diagram. The codec engine framework includes code for different classes of TI digital media software. It connects to the application layer and exposes user control through the VISA API; a high level interface that allows developers to control and operate the software from a high level Operating System (OS) environment. TI digital media encoders, such as the MP3 encoder, allow developers to focus design efforts on differentiating features at the application layer, while DaVinci's open software environment allows developers to include differentiating IP on any of the DSP, application, or IO layers shown above.

Commonly Used Terms:

- API – Application Programming Interface
- DMAN – Direct Memory Access Manager
- EPSI – Easy Peripheral Software Interface
- MEM - Memory
- TSK – Task
- VISA – Video Imaging Speech Audio
- xDM – eXpressDSP Algorithm Interoperability Standard for Digital Media

REQUIRED TOOLS

eXpressDSP™ Digital Media Software and Development Tools

For Evaluation: = Required = Optional

DM644x Digital Video Evaluation Module (DVEVM) TMDXEVM6446

Free upgrade of DM644x Digital Video Software Development Kit (DVSDK) TMDSSDK6446-L – content for DSP development*

Code Composer Studio™ Integrated Development Environment (IDE) – TMDSCCSALL-1 (Free 120 day evaluation available)

Emulator

(*Available to registered DM644x DVEVM users)

For Production:

Digital Video Software Development Kit (DVSDK) TMDSSDK6446-L with Production MontaVista Linux release for DaVinci

Code Composer Studio™ Integrated Development Environment (IDE) - TMDSCCSALL-1

Production Software License Agreement with your selected Authorized Software Provider (ASP)

Emulator

PERFORMANCE SUMMARY

CRITERIA	PERFORMANCE
MIPS at Standard Configuration	<ul style="list-style-type: none"> • 18.67 MHz Typical • 22.56 MHz Peak
MEMORY	<ul style="list-style-type: none"> • 2.46 kB Internal Data (stack) • 50.9 kB Program • 49.67 kB Total Data

TI DIGITAL MEDIA SOFTWARE

MP3 ENCODER MAY 2007

AVAILABILITY AND PRICING

- Available now, v1.4
- Price: Up front fee \$12,500 + \$1.67 per unit royalty @ 10 KU – for further pricing information, contact your TI representative or visit www.ti.com/digitalmediasoftware

FUTURE FEATURES

- Error resiliency changes
- MISRAC compliant
- Support for building big endian library

GET STARTED TODAY

Request an evaluation from your TI representative or a TI Authorized Software Provider www.ti.com/asp . To receive future updates or more information, complete the contact me information form at www.ti.com/digitalmediasoftware .

SPRT436

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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
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