TI eXpressDSP™ Digital Media Software
Frequently Asked Questions: General Questions

Q: How does the free evaluation program work?
A: TI Digital Media Software is available for a free 60-day evaluation. To request a free evaluation, complete the "Contact Me - Evaluation requests, questions and updates" at www.ti.com/digitalmediasoftware or click here.

In the request, you will be asked to select your codec(s) as well as the end equipment/application for which you are considering TI digital media software. Once you have submitted a software request form with the proper information, a TI representative will contact you to confirm the shipment of a free 60-day evaluation copy of the requested software, which may include watermark protection to prevent use in a production system. The software is further protected by a click-wrap evaluation license agreement that you must accept before installing the software. A regional Authorized Software Provider (ASP) will provide four hours of support during the 60-day evaluation period.

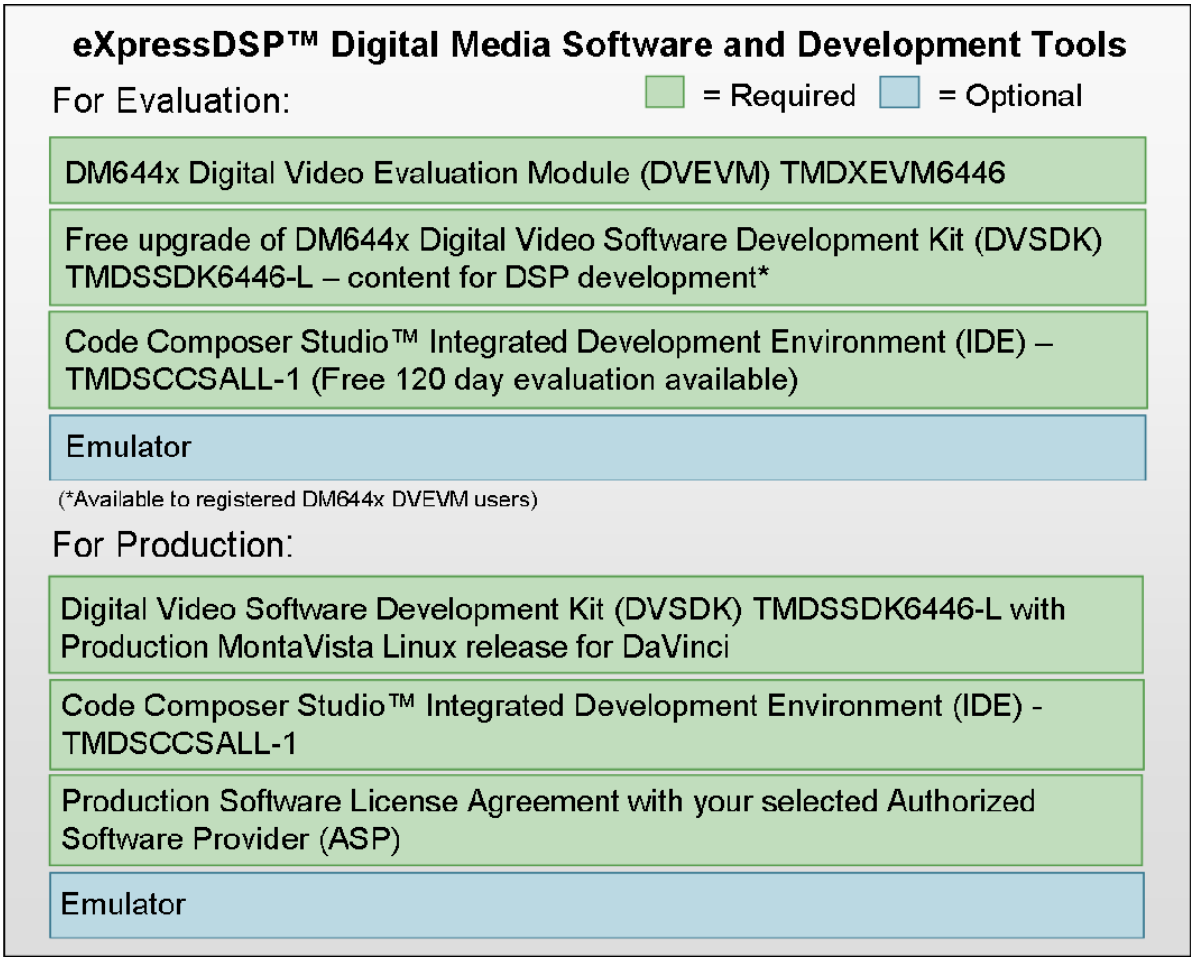
Q: What is included in the evaluation software package?
A: The evaluation software package includes the requested software, a click-wrap evaluation agreement, release notes, a user guide, a usage example application and a datasheet.

Q: What evaluation software is included with the digital video evaluation module (DVEVM)?
A: The DVEVM includes a set of codec combinations that you can use to evaluate various encoders and decoders. These combinations are complete DSP binary executables, with an ARM® usage example. The codec combos that are included with the DVEVM are covered by an evaluation license that does not expire.

Q: What can I do with the codec combinations on the DVEVM?
A: The codec combinations on the DVEVM give you complete access to the control and process APIs from the xDM codec. These two xDM API calls are directly reflected to the ARM subsystem via the codec engine's VISA API. Developers can change parameters, call the encoders and decoders with their own data, use individual codecs in a combo, and benchmark the combo or an individual codec running in that combo.

The DVEVM codec combinations are complete executable binary .out files combining the codecs, codec engine, framework components, BIOS and BIOS Link into a single executable DSP image, designed for use with a codec engine executable module on the ARM with exposed VISA APIs.

Q: What tools do I need to integrate an xDM codec in a DaVinci™ design? Can I do this with a DVEVM or do I need a digital video software development kit (DVSDK)?
A: The following diagram shows the requirements to both evaluate and go to production with your DM644x design.



Q: What codecs are available and how much do they cost?
A: Pricing and available software products are available at the TI Digital Media Software licensing home page: www.ti.com/digitalmediasoftware. For pricing options beyond 10 ku and for discounts on multiple algorithms, complete the "Contact Me" form and a TI representative will contact you.

Q: On what hardware architectures will TI's software products be supported?
A: TI's major focus will be on the TMS320C6000™ DSP platform, including DM6443, DM6446, and other devices with DaVinci technology. DM643x LC software is on the TI roadmap.

Q: What audio-only software will TI be supporting through ASPs?
A: Currently, TI provides MP3 and AAC LC encode and decode software for the TMS320C55x™ DSP platform as well as MP3 decode, AAC LC encode/decode and WMA encode/decode on the TMS320C64x+™ DSP platforms. Dolby AC-3 is available, but requires proof of an appropriate user license before TI can provide a software evaluation.

Q: How can I check performance (MIPS/MEMORY) of each codec on a target platform before evaluation?
A: Product Information Documents are available on the TI Web site for each software codec. Datasheets are included in the evaluation package. In addition, developers can evaluate performance on the codec combinations provided with the DVEVM.

Q: What information is included in a TI codec datasheet?
A: A general description of the codec features, profiles supported and capabilities is included in the datasheet. The general description is followed by detailed benchmarks as tested for specific test streams and configurations. The datasheets do not include API or usage details, as those are provided in the codec user guide.

Q: What if I am not satisfied with my ASP? Can I switch?
A: Yes, as the customer you can switch ASPs in the unfortunate event that your ASP-related experience is unsatisfactory. If this situation does arise, please let TI know immediately. TI will first follow up with you and the ASP to thoroughly understand the situation and attempt to resolve any potential misunderstandings. If necessary, we will take appropriate action(s) to resolve any issue(s) that may exist or recommend an alternative ASP.

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Q: Can the codecs be configured to maximize performance? Memory usage? Quality?
A: The configuration options vary from one codec to another, but generally they allow control of memory placement through the xDM interface. When the codec engine is used, its configuration kit script allows control of memory placement.

Q: What are the trade-offs between buying raw codecs (.LIB) and combos (.OUT)?
A: Codec combinations provided with the DVEVM are for evaluation purposes ONLY, and are not optimized for any specific application. ASPs and other third parties have the tools to deliver codec combinations designed and optimized to meet specific requirements - this is an additional service not included in the pricing of the stand-alone codecs. Developers will be able to create their own custom combinations of raw codecs using the DVSDK, but this will require system-level optimization work and integration support from an ASP.

Q: What codecs are currently available, and what codecs are on the roadmap?
A: An updated roadmap and availability list is provided on the external Web site at www.ti.com/digitalmediasoftware.

Q: How will ASPs enhance our codec offerings and when? Are the TI codecs fully optimized or should I wait for ASPs to tweak them if I need maximum performance?
A: The TI codecs are highly optimized for megahertz (MHz) performance at D1 resolution. A “fully optimized” codec is a theoretical concept that is not practically attainable, but the expectation is that the TI codecs are highly optimized for MIPS and memory. It is possible that some incremental performance can be obtained, but this is likely to be a few percentage points of performance difference or a code-size reduction. The value-add for ASPs will more likely be in additional feature support, or optimizing along other vectors such as quality, power, performance at lower resolutions or multi-channel performance, to name a few. Several third parties and ASPs are working on differentiated codecs today. If you have a requirement that is not currently met by TI codecs, work with your third party or ASP to identify possible third-party options or future options from TI.

Q: How do I estimate performance and memory trade-offs when integrating multiple codecs?
A: Developers can use the DVSDK software to create custom combinations of codecs based on TI's Codec Engine. Megahertz requirements for a combination of codecs will not be a simple summation of the individual codecs' MHz numbers; system trade-offs between memory placement, codec settings and performance will be necessary, and the actual performance should be measured. For developers who do not have experience in system-level optimization and codec integration, ASPs can provide integration services, additional support or custom-tailored combinations.

Q: How do I verify that our implementation of a codec is optimal? Does TI provide test streams or other verification tools?
A: TI provides test bit streams with our own codecs, many of which are available from the ITU.

Q: Who performs the A/V sync? Is this part of the TI framework?
A: A/V sync is not handled by the codec engine. It can be handled by a media framework application on the ARM, such as GStreamer or OpenMAX (available in open source) or in a custom media framework on the DSP. A/V sync is not currently a feature provided within the codec engine. However, some development work is being done in this area to enable a future software product release. In the meantime, ASPs offer a variety of A/V sync solutions today.

Q: What is TI's roadmap for future codecs? What are the market factors that you see influencing the future needs for codecs? How can I influence that roadmap?
A: The TI roadmap for future codecs is located at www.ti.com/digitalmediasoftware. TI's intention with respect to future codecs is to provide the core set of encoders, decoders and libraries required by the market - it is NOT our intention to offer every standard codec. The core suite of codecs will be ported to new TI architectures as the new development platforms become available. Developers can influence the priorities for TI's codec development efforts based on the size of the total market for a given codec or codec feature; individual developers can also leverage the healthy ecosystem of ASPs and third parties for specific codecs or feature enhancements.