Product Bulletin

Network Video Developer's Kit

Key Features

- Complete hardware and software solution for developing high-performance video and imaging applications
- Based on TI's ultra-high performance 600-MHz TMS320C6416 DSP
- Performs encode/decode, transcoding, transrating, statistical remultiplexing and IP multicasting/video broadcasting/networking functions
- Expansion through daughter cards
- Full programmability for easy upgrade and flexibility to meet evolving standards

The Network Video Developer's Kit (NVDK) is a comprehensive development tool with the basic hardware and software for developing imaging and video applications, including those requiring network connectivity.

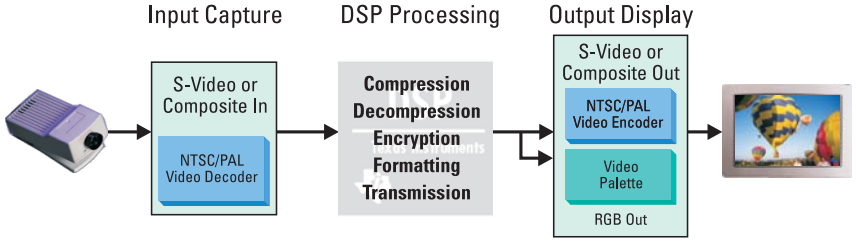
Based on the high-performance TMS320C6416 DSP, the NVDK addresses video/imaging designers' most pressing needs: full software programmability, fast time-to-market and optimum system cost.

The C6416 DSP has all the peripherals available on current TMS320C64x™ DSPs plus co-processors that accelerate wireless infrastructure applications. At 600 MHz, the C6416 DSP is operating at over 4 billion instructions per second. This allows real-time processing for such functions as image compression (JPEG2000, JPEG), video stream compression (MPEG2, MPEG4, H.263) or audio compression (MP3, AAC).

The C6416 DSP can also be used for other imaging applications such as industrial vision or other computation-intensive signal-processing applications. Typical capture, processing and output display video functions include: encode/decode, transcoding, transrating and IP multicasting/video broadcast.

The NVDK board has several expansion connectors on it to provide access to a wide range of the DSP's I/O resources to enable custom digital and video interfaces as well as networking and analog I/Os. It may be used in standalone mode with its own power supply or operate in a PC using its PCI interface.

Typical Digital Video System Block Diagram



Network Connection Simplifies the Design Process

In addition to video and imaging functions, the NVDK board also features several networking interfaces that meet the growing need for connectivity. TI's Transmission Control Protocol/Internet Protocol (TCP/IP) stack runs on TMS320C6000™ DSPs enabling them to connect to networks, without a network processor, to provide an overall reduction in system cost. The TCP/IP stack software provides performance headroom, flexibility, easy integration and compliance with APIs.

High Performance and Full Software Programmability

All 6000™ DSPs are code compatible for facilitating easy migration to next-generation devices through simple software upgrades and enabling the ability to create targeted spin-off products using the same software code foundation. The NVDK is ideal for a broad range of video/imaging applications including:

Infrastructure:

- Video servers

- Statistical remultiplexor
- Multimedia edge routers
- Wireless gateways

Client-side:

- Networked video appliances
- PVR: Personal Video Recorder (set-top box), DVR: Digital Video Recorder (used in security systems, for example)
- Home servers
- Video basestations
- Security cameras
- Video phones and video conferencing gateways

The NVDK Package

The NVDK is shipped with the following components:

- ATEME C6416 DSP video board
- 10-/100-Mbps Ethernet daughter card
- Audio/Video interface box
- Power supply
- CD-ROM with schematics, drivers for PCI, board support library, application samples and executable code demonstrations

The basic NVDK package is available at a suggested retail price of U.S. $4,495. In addition, the NVDK is available in an eStore bundle with an XDS510PP-Plus emulator and Code Composer Studio™ IDE at a suggested retail price of U.S. $5,995.

DSP Foundation Software

To further speed time-to-market and simplify the design process, the DSP Image/Video Processing Library contains optimized software code and is compiled with the latest C6000 code-generation compile tools. Key imaging and video kernels for the NVDK include: inverse discrete cosine transform, image correlation, motion estimation, binary erosion/dilation, picture resizing and 2D median filter. Download this software free of charge at www.dspvillage.ti.com/siliconnvdk

NVDK Bundle

Get Started Today

Visit our web site at www.dspvillage.ti.com/siliconnvdk for a complete literature kit that includes application notes and white papers. Also available to you is a free NVDK online training class that will cover the details of the C6416 DSP architecture and the elements of the development kit.

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