# World Class High Quality Video Images/High Compression H.265/HEVC Video Encoding Applications can now be created.

H.265/HEVC CODEC SDK for Video Encoding Application Development for Mobile to 4K Video.

HEVC Software CODEC
HEVC-1000 SDK

The number of smart phones, and the amount of data they use, have increased greatly along with rapid progress in video delivery through the Internet. Meanwhile, apprehension that the rapid increase in carrier traffic will result in falling QoS means that even higher data compression for video is even more strongly desired from now on. NTT-AT's "HEVC Software CODEC HEVC-1000 SDK" is a Video Encoding Application Development Kit that utilizes the latest H.265/HEVC standards to allow the increasing number of video devices and services.
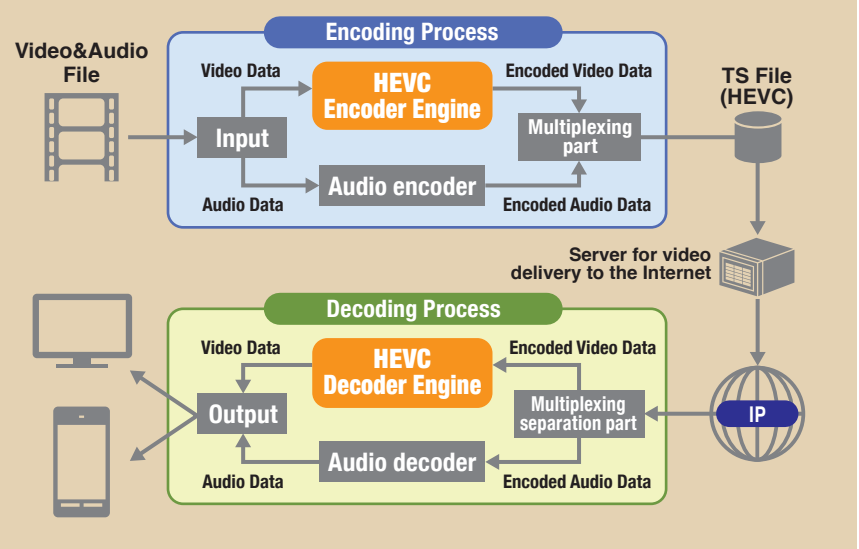
Local Qp Adjustment (LQA) technology, which NTT Media Intelligence Laboratories have developed, achieves the higher image quality and compression efficiency

POINT 1 Early Adoption of HEVC State-of-the-Art Technology

Also supports higher bit depth such as 10 and 12bit and 4:2:2 format by H.265/HEVC Range Extensions. It provides approximately twice the compression performance when compared with conventional H.264/AVC.

POINT 2 Stable Encoding Made Possible

Taking advantage of unique encoding control technology gained from many years of Video CODEC research and development, stable encoding at a constant user specified bit rate, is possible, even when the characteristics of the video are changing.

POINT 3 Ideal Even for Next Generation 4K Video Production

Since it is also compatible with the 4K resolution video production which is attracting attention from world markets as a next-generation broadcasting format, the HEVC Software CODEC HEVC-1000 SDK provides the reassurance that it can be used for a variety of purposes even with future increases in high resolution video production.

■ Comparison of H.264/AVC and H.265/HEVC Under the Same Conditions (bit rate: 2.5Mbps, frame rate: 29.97fps, image size: 1080p)

H.264/AVC

H.265/HEVC

[Expansion Image] H.265/HEVC precisely reproduces fine image details even at a low bit rate.

■ Application Examples

Perfect for including in video image applications, such as file transcode applications for performing video format conversion and bit rate conversion, as well as authoring software for editing video image data.

■ Overview of Functions

- HEVC elementary stream I/O (Annex.B form)
- CBR rate control / VBR rate control
- Automatic scene change detection and key-frame insert specification
- Frame reference structure specification
- Pre-filter control

- Range Extensions compatibility
- Progressive / interlace structural compatibility
- Parallel encoding by slice structure and LCU pipeline
- Adaptive-quantization matrix
- DeBlocking Filter/SAO Filter Control

■ Detailed Specifications

Offered Configurations		64 bits or 32 bits Windows DLL (Dynamic Link Library) format Library Necessary tools for writing header files and inter specifications operations for Import Library/C Language
Runtime Environment	CPU	SSE2 or higher capable Intel compatible CPU (AVX compatibility recommended)
	OS	Microsoft Windows Vista/7/8/8.1 (32bit or 64bit), Microsoft Windows Server 2008 R2/2012
	Run Time Library	Visual C++ Redistributable for Visual Studio 2012 Update3 or newer Visual Studio 2012 Update

■ Input/Output Format Specifications

Encoder	Input format	8bits/pixel, 10bits/pixel and 12bits/pixel YUV420/422　format Progressive/interlace
	Input image format size	64x64 - 7680x4320
	Input frame rate	10 - 120 fps
	Output format	HEVC Elementary Stream (Annex B format)
	Encoding method	HEVC (ITU-T H.265 l ISO/IEC 23008-2), HEVC Range Extensions (ISO/IEC 23008-2:201x/DAM1) Progressive coding / interlace coding
	Profile	Main,Main 10,Main 12,Main 4:2:2 10,Main 4:2:2 12 Profile
	Level	Level 1 - 6.2
Decoder	Intput format	HEVC Elementary Stream (Annex B format)
	Output format	8bit/pixel or 10bit/pixel YUV420 format Progressive/interlace
	Encoding method	HEVC (ITU-T H.265 l ISO/IEC 23008-2), HEVC Range Extensions (ISO/IEC 23008-2:201x/DAM1) Progressive coding / interlace coding
	Profile	Main,Main 10,Main 4:2:2 10 Profile
	Level	Level 1 - 6.2

Notes:
* Specifications written in this catalog may be changed without prior announcement.
* Catalog contents from August, 2014 to present.

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http://www.ntt-at.com/product/rfs_hevc_sdk/

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