

NTT-AT Upgrades H. 265/HEVC Software CODEC SDK and File Conversion Software

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- Range Extensions Support Aimed at 4K Contents Market -

NTT Advanced Technology Corp. (NTT-AT hereafter) announced on August 19 that it launched an upgraded version of "HEVC-1000 SDK," a software CODEC development kit compliant with the H.265/HEVC (*1) video coding standards, on August 7 and that it will launch an upgraded version of file conversion software "FileConverter 4K FC4000" on August 26.

NTT-AT has upgraded the H.265/HEVC encoder engine employed by the two products to make it compliant with the 4K "Range Extensions" Profile (*2) (color format (*3) 4:2:2 and 10-bit bit depth (*4)), realizing high-speed and high-quality video delivery.

As TV sets compatible with the 4K or Ultra High Definition (UHD) have become available lately, a host of new services using the H.265/HEVC standard are being considered in various areas, with U.S. cable operators and online content providers declaring their intention of promoting 4K video delivery while experimental 4K TV broadcasting launched in Japan.

With "HEVC-1000 SDK" in place, the development of applications compliant with H.265/HEVC becomes easier, helping promote the development of software using 4K videos. Also, the use of "FileConverter 4K FC4000" enables efficient production of 4K-ready content with an ordinary desktop PC, contributing greatly to the content business of content holders and online video delivery service providers.

- H.265/HEVC encoder engine

The encoder engine adopted in the NTT-AT products has been upgraded. The 265/HEVC encoding algorithm developed by the Media Intelligence Laboratories, Nippon Telegraph and Telephone Corp., is programmed into the encoder engine, making it the first of its kind in the world to be compliant with the 4K "Range Extensions" Profile (color format 4:2:2 and 10-bit bit depth). Its features include the "LQA algorithm" for combining high video quality with a high compression rate and "CBR (*5) control" for improved stability.

LQA (Local QP Adjustment) algorithm:

This is an algorithm for reducing data volume in video areas where the human eye cannot easily detect distortions, improving the compression rate while maintaining high video quality.

CBR control:

Accurate CBR control making both stable streaming and high video quality possible.

Ordinarily, in CRB control, where bit-rate variations have to be controlled, achieving high video quality is difficult. With NTT-AT's unique coding control, however, high video quality has been made possible.

“HEVC-1000 SDK” and “FileConverter 4K FC4000” have been duly upgraded and made ready for launch.

Footnote:

(*1) H.265/HEVC: High Efficiency Video Coding international standard made in 2013. It will be a primary standard for the next generation of video coding.

(*2) Range Extensions Profile: H.265/HEVC standard made in 2014 for coding high-quality video images required by high-end users of video imaging equipment and professional video makers.

(*3) Collar format: A type of signal format. The 4:2:2 format has color-difference information twice as much as the 4:2:0 format used for online video delivery.

(*4) Bit depth: A bit rate for sampling luminance and color difference signals. Sampling at a high bit depth makes it possible to show videos in smooth gradation and sharp contrast

(*5) CBR: Compressing data transmissions at a fixed bit rate. It is also called a fixed bit rate.

1. HEVC Software CODEC “HEVC-1000 SDK”

A software CODEC development kit combining encoder and decoder. With the latest upgrade, the following new functions have been added.

- Compatible with color format 4:2:2 (12-bit depth), color format 4:2:2 (10-bit depth) and color format 4:2:2 (8-bit depth). The new version is ready for high-quality broadcasting content.
- Compared with the old version, the newly upgraded version shows an improvement of more than 20% in coding efficiency and an improvement of more than 40% in the processing speed.

- 720/30P real-time encoding has been achieved.

With this development kit, multimedia software can be easily made compatible with H.265/HEVC. Users can build it into file conversion software for changing the video data compression method or changing the bit rate and into video applications such as authoring software for editing video data.

The development kit can be used in a variety of areas, including the delivery of high-quality and highly compressed videos for mobile devices, digital signage and 4K video delivery.

2. With file conversion software “FileConverter 4K FC4000,” major video media formats can be fed in. The latest upgrade has further improved the processing speed, making it compatible with the 4:2:2 (10-bit depth) and 4:2:2 (8-bit depth) color formats.

With “FileConverter 4K FC4000,” developers can use an ordinary desktop PC to efficiently create highly compressed and high-quality video content. Lately, new services using H.265/HEVC are being considered. This application software can generate encoding streams necessary for VoD services that require the authentication of playback terminals, servers and networks in addition to H.265/HEVC encoding performance.

- Price: Open

Headquarters: Kawasaki City, Kanagawa Prefecture

President and representative director: Takashi Hanazawa

Source: NTT Advanced Technology Corporation

Contact:

Mayumi Yamashita

NTT Advanced Technology Corporation US Office

1741 Technology Drive, Suite 380, San Jose, CA 95110, U.S.A.

TEL: +1 408-392-4280

E-mail: codec_sales@ntt-at.com