

Development of Single-Unit Encoder Configuration Technology for SHR Video Communications

NTT has developed single-unit encoder configuration technology for high-reality large-screen super-high-resolution (SHR) video communications.

In the past, the compression and decompression of large images having a resolution in excess of HDTV required that the entire screen be divided and processed in HDTV units. In this configuration, however, information could not be exchanged between encoders, so picture quality could differ among the encoders depending on the image. The cooperative rate-control technology developed here enables real-time information exchange between encoders (a world's first) that not only prevents such variation in picture quality but also achieves higher-quality pictures.

At the heart of this technology are 1-chip HDTV codec LSIs (VASA chips) that conform to MPEG-2 international standards. With these chips, large-screen communications equipment for images four times the size of HDTV (i.e., 2160 pixels high \times 3840 pixels wide) can be made compact and economical with a size 1/6 that of conventional systems at about 1/4 the power consumption.

In addition to live broadcasts such as for concerts

and soccer "satellite stadiums" (where high-definition relays of soccer matches are displayed on massive screens), this technology can also be applied to video recording and playback. Its use can therefore be envisioned in future SHR video applications such as digital cinema, 3D TV, and multi-angle TV, which in turn should stimulate SHR video distribution services.

Looking to the future, NTT plans to commercialize this technology with the aim of achieving next-generation SHR video communications superior to HDTV and promoting SHR video distribution services. And to develop diversified services on optical networks, NTT aims to expand high-compression and high-quality video encoding technology and LSI configuration technology, two traditional areas of research, and to undertake the development of next-generation codec technology.

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