

HEVC is Coming – What Will It Change?

Written by Paul Gray
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by Paul Gray, Director of European TV Research, Display Search



High Efficiency Video Coding (HEVC) is a video compression standard, a successor to H.264/MPEG-4 AVC, which will enable improved video quality, double the data compression ratio, and support 8K UHD (resolutions up to 8192×4320).

The ratification of the first draft specification of ITU's HEVC has been hailed as the dawn of 4Kx2K television. However it is perhaps useful to consider other generations of compression and their effect to evaluate its true significance.

MPEG-2 brought the first mass-market digital video formats (MPEG-1 only ever got brief traction in VCD in Asia), enabling DVD and the first digital broadcasts. However its low compression efficiency also made HD broadcast difficult and only a few countries adopted MPEG-2 HD (Australia, Korea, Japan and the U.S.). Probably its biggest effect was to perfect the VCD concept as DVD.

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MPEG-4's initial breakthrough was celebrated as bringing economic HD broadcasting – in particular to spectrum-challenged Europe, but since then to all new digital broadcast deployments. However, its greatest impact (viewed with a few years' hindsight) is not broadcast at all, but Internet video: Netflix, catch-up services and YouTube. MPEG-4 had unlocked video from the TV screen.

So what might HEVC bring? It is tempting to imagine that it will unlock a new era of 4Kx2K broadcasting. It is also likely that governments will seize the opportunity to sell some more radio spectrum by migrating terrestrial TV to HEVC. In fact this has already been proposed in France; with budget deficit reduction a political priority the idea is likely to be attractive politically in several countries. However, like MPEG-4 and MPEG-2 before it, its greatest effect may be in perfecting the bleeding edge of the previous codec's application. Furthermore, with the current 'pixel war' in tablet and smartphone screens, Internet video consumption devices are now HD-capable.

HEVC's main effect therefore will likely be ubiquitous HD, not 4Kx2K. **The days of your entire HD video library in your pocket are not far away...**

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Before joining DisplaySearch, Paul worked at NXP Semiconductors as a market intelligence manager and also as product manager for TV semiconductors. Before NXP, he held positions of increasing responsibility at Philips Display Components (later LG.Philips Displays), including Director and International Account Manager in both Asia and Europe. Paul started his career as a production shift leader in a CRT factory.

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