High Efficiency Video Coding (HEVC) is a proposed video compression standard, a successor to H.264/MPEG-4 AVC (Advanced Video Coding), currently under joint development by the ISO/IEC Moving Picture Experts Group (MPEG) and ITU-T Video Coding Experts Group (VCEG).

MPEG and VCEG have established a Joint Collaborative Team on Video Coding (JCT-VC) to develop the proposed HEVC standard.

* [http://www.youtube.com/watch?v=yD_8Hz6Zr6A](http://www.youtube.com/watch?v=yD_8Hz6Zr6A)
What is difference of H.265 from others?

MPEG4 and MPEG2 was used Huffman algorithm. H.264 uses Huffman algorithm, but also it uses a New Generation Arithmetic Technology.
HEVC aims to substantially improve coding efficiency compared to AVC High Profile, i.e. reduce bitrate requirements by half with comparable image quality, probably at the expense of increased computational complexity. Depending on the application requirements, HEVC should be able to trade off computational complexity, compression rate, robustness to errors and processing delay time.

HEVC is targeted at next-generation HDTV displays and content capture systems which feature progressive scanned frame rates and display resolutions from QVGA (320x240) up to 1080p and Super Hi-Vision, as well as improved picture quality in terms of noise level, color gamut and dynamic range.
The new High Efficiency Video Coding (HEVC) / H.265 standard is expected to be more efficient than its predecessor, H.264 Advanced Video Coding. Just how much better it will perform is a crucial question. Will it be enough of an improvement to justify widespread industry adoption of the new standard?

Table 4 of the document compares the compression performance of the HEVC test model ("HM") and the H.264 test model ("JM"). On average, HEVC out-performs H.264 by 39% for random access scenarios (e.g. broadcast) and by 44% for low delay scenarios (e.g. video calling).

This means that the HEVC codec can achieve the same quality as H.264 with a bitrate saving of around 39-44%.

HEVC is still under development and we might expect to see a further increase in performance from future versions of the draft standard.
How Efficient is HEVC? (cont’d)

* JCTVC-G399_Result
* http://www.youtube.com/watch?v=pt-pZVKeoGg
How Efficient is HEVC? (cont’d)

<table>
<thead>
<tr>
<th>HEVC (H.265) Video</th>
<th>AVC (H.264) Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>Similar Quality (PSNR 39.72 dB)</td>
<td>Similar Quality (PSNR 39.65 dB)</td>
</tr>
<tr>
<td>Bit Rate 610 kbps, File Size 3.10 MB</td>
<td>Bit Rate 1183 kbps, File Size 6.01 MB</td>
</tr>
</tbody>
</table>
References

* http://www.vcodex.com/h265/72-how-efficient-is-hevc.html
* http://mmediatech.blogspot.com/2012/03/qualcomm-shows-hevc.html