Why use HEVC H.265 for video compression instead of AVC H.264 for video streaming distribution to your subscribers?

1. Invest in future proof video encoding technology now rather than mature end of improvement cycle video encoding technology like AVC H.264.
2. Use HEVC H.265 for video distribution which has the tools to produce superior video quality and at much lower bit rates than AVC H.264 encoding
3. Use the encoding standard that is used to deliver 4K UHD HDR video linear programming today.
4. To reduce video storage costs used for Network DVR client personal replay use and for Replay TV / Catch Up TV services storage costs.

How can we prepare ourselves today for when programming will be delivered in 4K UHD HDR format?

1. Use Mystic Video's ASIC HEVC H.265 transcoders today that support SD, HD and 4K UHD HDR video linear programming. When programming changes from HD to 4k you can reconfigure the transcoder to the new 4K resolution and HEVC H.265 video encoding format required.

How can we significantly reduce video storage costs needed for Network DVR, Replay TV and Catch Up TV services?

1. With the advent of cloud-based storage solutions used for N-DVR and Reply TV services using HEVC H.265 as the encoding video format instead of AVC H.264 reduces the storage requirements by up to 50%.
2. In a recent example a MPVD customer was able to cost justify and pay for HEVC H.265 Transcoders for a 185 HD channel lineup. They reach the breakeven point at approx. 9,000 N-DVR subscribers using HEVC H.265 transcoding versus AVC H.264 transcoding. They also continued to save 50% on storage requirement costs for all additional subscribers beyond their breakeven point.

Are there any video quality issues encountered when preparing live programmer video for streaming which HEVC Transcoders can resolve?

1. Approximately half of all US based HD programmer feeds and all Canada programmer HD feeds are delivered to MPVDs by programmers in 1080i interlaced format. Interlaced formatted video must be converted to Progressive format in order to be decoded by streaming client devices.

2. All transcoders must perform a de-interlacing conversion function converting interlace video to progressive video format. There are various methods of doing this, some with less quality than others and all require significant resource to do in real time. Software Intel server-based transcoders cannot always optimally perform de-interlacing function with maximum video quality results.

3. When using AVC or HEVC software server transcoding and de-interlacing the results are often much less than optimal. This can result in fast motion content such as sports or action movies video have blurring and or stuttering effects.

4. Examples of this are when the football disappearing into a blur when kicked by a kicker or thrown by the quarterback when watched on a live NFL game broadcasted on Amazon Prime. Another example is for content that uses ticker text streamers across the screen as in stock finance programming, some local and national news programs and sports news programs such as ESPN. The ticker text streams can often appear as stuttering text.

5. Most AVC transcoders cannot upscale 1080i to 1080P60 which should be used to prevent potential blurring and stuttering of video scenes . Most AVC H.264 transcoders can only downscale 1080i video into 1080P30 fps video. Software Intel based transcoder servers generally do not have the processing cycle capacity needed to do the most effective de-interlacing nor are able to upscale 1080i to 1080P60 fps.

How does Mystic Video's ASIC based HEVC H.264 transcoders resolve these issues and provider a better video viewing experience.

1. Mystic Video's ASIC processor HEVC H.265 transcoder can encode all 1080i programmer content into higher video quality 1080 progressive 60 frames per second (1080P60 fps) video.

2. Specialty ASIC based Mystic HEVC transcoders have the processing power to provide the highest quality video de-interlacing possible, much higher than software Intel server-based transcoders.

3. Mystic Video's HEVC ASIC powered Transcoder de-interlaces and upscales 1080i to 1080P60 frames per second (fps) without any of the issues of blurring and text stream stuttering. The output content looks as good as the original 1080i source content

Are there any other advantages by switching to HEVC H.265 transcoding?

1. Mystic Video's ASIC processor HEVC H.264 transcoders have significant power savings over software Intel server based transcoding appliances. Mystic's transcoders consume 10 watts per HD HEVC transcode and 40 watts per 4K. That compares with software Intel server-based solutions that consume on average 200 watts per HD and 800 watts per 4K for HEVC transcodes. Mystic's HEVC transcoders deliver approximately a 200% power savings over other competitive software server-based products.
2. These substantial power savings also provide a substantial decrease in air conditioning cooling required, saving additional power and costs needed for air cooling on a continual annual basis.
3. Mystic Video's HEVC H.265 transcoded video provides up to 20% better video quality than competitor HEVC transcoder solutions for a superior client viewing experience.
4. Mystic Video's HEVC H.265 transcoded video output provides equal video quality at a 20% lower bit rate versus competitor HEVC transcoders. This is valuable where bandwidth to users is limited in any last mile or mobile use applications.
5. Mystic Video's HEVC H.265 transcoded video provides a video reduction bit rate of 50% versus using AVC transcoding solutions.
6. Mystic's HEVC 1RU dense transcoder platform has 16 times greater channel density than software blade server solutions. This saves valuable rack space as well as requiring up to 16 times few IP Ethernet connections to data center IP switches per 1RU.

What client devices support HEVC H.265 decoding today?

1. There are video client devices in all categories today that support HEVC H.265 decoding including set top boxes, Android boxes, IOS devices, Smart TV's, Phones, PC's, Tablets and Browsers.
2. HEVC is supported on the following devices:
   - iOS 11.0 or higher (Apple devices).
   - Android 5.0 or higher (Android devices).
   - Roku 4, Premier, Ultra, Streaming Stick
   - Amazon Firestick 4K and Fire TV Cube
   - Chromecast Ultra
   - Apple TV 4K
   - Web browsers that supports HEVC.
   - Phones
     - iPhone 7/7 Plus or newer.
     - iPad Pro or newer.
     - Samsung Galaxy S7/S7 Plus or newer.
     - Galaxy Note 8 or newer.
     - Google Pixel/Pixel XL or newer.
     - Huawei P9 or newer.
     - Xiaomi Mi 5 or newer.
     - LG G5 or newer.
     - HTC U10 or newer.
     - Sony Xperia X or newer.
     - Moto Z or newer.
     - OnePlus 3 or newer.