How does the automatic refresh rate functionality work?

Question:

How does the automatic resolution change functionality work?

Answer:

My Movies 4.03 adds support for automatic refresh rate changing. The automatic refresh rate functionality is added to ensure that the screen refresh rate matches the frame rate of the source material, ensuring best possible playback.

Your Windows Media Center PC is by default running in a refresh rate of typically 60 Hz or 50 Hz per default. This means that the picture is re-drawn on screen 60 or 50 times per second. Depending on the source of your video material, the pictures per second differs a lot, with NTSC material displaying 29.97 pictures per second, PAL material displaying 25 pictures per second. Blu-ray and HD DVD discs can differ in pictures per second, with the typical being 23.976 (referred to as 24P), 24.000 (also referred to as 24P, and used on some European discs), as well as also supporting also the same rates as NTSC and PAL material.

Depending on your PC's refresh rate, and the material you are playing, the difference between the PC refresh rate, and the pictures per second can give a playback that does not appear smooth.

In My Movies for Windows Media Center, under "Settings" and "Automatic Refresh Rate Changing", you can configure the refresh rate Hz that the various materials should display in. All of these refresh rates must be pre-configured in your operating system, available and supported by both your graphics card, drivers and your display. Depending on how you have configured your refresh rates in Windows, you can choose between different Hz values to configure depending on what frame rate the material have. It is not possible for My Movies to specify refresh rates in other than whole numbers, meaning that 23.976 cannot be specified directly, but instead is hidden behind your pre-configured option for 23 Hz or 24 Hz.

- For material with 23.976 frames per second, you can choose between 23 Hz or 24 Hz based on what your Windows PC is configured to. It is typical for 23.976 to be referred to as 24P, but since some Blu-ray discs in Europe is recorded with an actual 24.000 frame rate, an optimal configured environment would have 23 Hz configured for 23.976 frames per second, and 24 Hz configured for 24.000 frames per second, however outside Europe, it is often used to simply have 24

Hz configured for 23.976 frames per second, and not have a setting for 24.000 frames per second material. You must here select the Hz that your device is configured to for 23.976 frames per second material.

- For material with 24.000 frames per second, 24 Hz is always specified, and you therefore cannot change this value.
- For material with 29.970 frames per second, 60 Hz is typically used, as a TV or Projektor would display this as 59.940 frames, and therefore be double of 29.970 frames. To support environments where an actual 60 Hz is used seperately to a 59.940 frames setting, you can here select between 59 Hz, which then can be configured for 59.940 frames timings, and 60 Hz for the actual 60 Hz setting. Notice! It is at the time of development not known if 59 Hz is actually in any situation used for 59.940 - if you have detailed knowledge about this, we would appriciate the inputs.
- For material with 25.000 frames per second, 50 Hz is always specified, and you therefore cannot change this value.

Limitations:

- If you choose to leave My Movies while the media is playing, My Movies will revert the refresh rate on exit to your default refresh rate. You should therefore stay within My Movies until you are no longer playing the title in question.