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Windows Vista  
Microsoft

## [Windows Vista Sets Free The Color Space = Unlimited Color Gamut and Dynamic Range](#)

### *Via scRGB*

One aspect of the evolution introduced by Windows Vista in comparison to Windows XP is associated with the manner in which the operating system manages color profiles. It is important to note the fact that in the end, all color spaces are nothing more than mathematical representations, and that, essentially, an image is a map of numeric values. In this context, older formats such as JPEG handle unsigned integers in order to represent color values in the sRGB color profile. Microsoft comes to change this in Windows Vista with the introduction of HD Photo. "With Windows Vista (and HD Photo), Microsoft has introduced comprehensive support for the scRGB scene referred color profile. Unlike other color profiles that rely on unsigned integers to represent the color values, scRGB uses floating point numerical values. (scRGB can also used fixed point representation, which is simply a method of using signed integer numbers to represent fractional values.) The idea behind scRGB is not to redefine the color space, but to simply remove it's boundary limitations," explained [Bill Crow](#), the Program Manager for HD Photo. Behind HD Photo, which the Redmond company is currently working to get internationally standardized as JPEG XR together with JPEG, there is the growth to HDR/WG image formats. HDR/WG digital photography image formats, such as HD Photo, use high dynamic range wide gamut color for content representation via the scRGB color profile. While the JPEG standard currently makes use of unsigned integers in the 8 bits per channel space and RGB, HD Photo introduces scRGB through multiple fixed point or floating point numerical formats, at the same time evolving past the 8 bpc limitations of JPEG to 16 and even 32 bits per channel. "scRGB uses the same color primaries and white point as sRGB, but uses fixed point or floating point numbers to allow color values that are beyond the gamut limits defined by these primaries. This provides a color space that is fully compatible with the well-established sRGB standard, but removes restrictions imposed by using unsigned integer numerical values. Conversion between sRGB and scRGB is simply a matter of changing numerical formats; no complex color value transformations are required. scRGB offers all the ease and simplicity of sRGB, but removes it's limitations. This makes it the ideal intermediate scene referred working space for digital photography. A (virtually) unlimited color gamut and dynamic range is available to preserve all image content, but the same file can be treated as if it's a standard sRGB image for display and sharing using a simple numerical conversion to unsigned integer values," Crow added.