Indeo® Video Interactive Version 4.3 Release Notes

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Overview

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I. Introduction
Intel is pleased to introduce the latest update to Indeo video interactive. These Release Notes describe the features of Indeo video interactive, the enhancements included in version 4.3, and instructions on how to download and install the new version.

II. Getting Started
The Indeo video interactive version 4.3 codec, documentation, sample source code, technical information, and access to technical support are available on the Indeo video Web site:

http://www.intel.com/pc-supp/multimed/indeo/index.htm.

You can obtain all of the documents mentioned in these Release Notes from the documentation page:

http://www.intel.com/pc-supp/multimed/indeo/papers.htm.

You can download the latest drivers from the Indeo video drivers page:

http://www.intel.com/pc-supp/multimed/indeo/codec.htm.

III. Enhancements in Indeo Video Interactive Version 4.3

Indeo video interactive version 4.3 includes the following:

- performance enhancements for the Pentium® II processor

- performance enhancements for the Pentium® Pro processor

- new YUV output color formats

- a single download file for the version 4.3 codec

- support for multi-threaded digital video-editing applications.

Performance enhancements for the Pentium II processor. Indeo video interactive version 4.3 includes performance enhancements to take advantage of the new Pentium II processor's increased performance.

Performance enhancements for the Pentium Pro processor. Indeo video interactive version 4.3 includes performance enhancements to take advantage of the increased performance of the new Pentium Pro processor.

New YUV output color formats. Microsoft's ActiveMovie* and DirectDraw* technologies allow video codecs to pass decompressed video frames directly to the computer's display hardware using YUV color formats. Indeo video interactive version 4.3 is now enhanced to support these YUV output color formats. With proper graphics-card and driver support, YUV output color formats may enable more clearly defined colors, sharper image quality, and greatly improved playback performance.

A single download file. The Indeo video interactive version 4.3 codec supports both Microsoft Video for Windows* and ActiveMovie 1.0, which are now included in one download file.

Support for multi-threaded digital video-editing applications. Indeo video interactive version 4.3 includes support for various digital video-editing applications, such as Digital Video Producer* 5.0 from Asymetrix.

IV. Features Supported by Indeo Video Interactive
In addition to these new enhancements, Indeo video interactive version 4.3 supports all features of the 4.1 version. Each is described in detail below.

Offline Encoder. The offline encoder compresses video clips to Indeo video's highest video quality and lowest data rates. This is especially noticeable in clips compressed at single-speed CD-ROM data rates (~ 100-135 Kbytes/second) and lower, and in clips compressed at 30 frames/second at double-speed CD-ROM data rates
(~ 200-250 Kbytes/second) and below.

Quick Compressor. The Quick Compressor, a special mode of the offline encoder, compresses video as much as 50 times faster. Compression jobs that once took hours generally compress in minutes. Read more about using the Quick Compressor in *Compression Techniques for Great Looking Video* on the Indeo video Web site.

Scalability. The Indeo video interactive codec can vary the visual quality of decoded images dynamically, according to the processor power available during playback. On more powerful Pentium® processor-based systems, Indeo video interactive produces high quality video, which rivals hardware-based codecs. On lower-end Pentium processor-based systems, the codec scales back the visual quality without dropping entire frames.

Access Key. The Indeo video codec helps prevent misuse of video clips by using access keys, numeric passwords that can be inserted into a video clip during compression. If a video clip has been encoded with an access key, no application can play that clip without having the key.

Key Frame Flexibility. Indeo video interactive supports the use of unrestricted key frame intervals, allowing for a variety of values:

0   Only the first frame in the file is a key frame. No other key frames occur in the file.

1   Every frame in the file is a key frame.

2, 3, ... n Every nth frame in the file is a key. The value of n has no upper limit.

NOTE: Because Indeo video interactive can generate higher quality at lower data rates, the default key frame interval is now 15.

In addition to flexibility in key frame intervals, Indeo video interactive allows for aperiodic key frames. During editing, the encoding application can tell the Indeo video interactive codec to place a key frame at any location, allowing video producers to specify access points anywhere within a video sequence, or to better control video quality by placing key frames on scene-change boundaries.

Transparency. The Indeo video interactive codec supports transparency, allowing you to produce dynamic, live "blue-screen" composites of video objects. During encoding, a compression application sends information to the codec describing a color or range of colors that represent a transparent background (like the blue wall behind a television meteorologist). Indeo video interactive then analyzes each frame, separates the background pixels from the foreground, and makes the background pixels transparent, encoding only the foreground objects as compressed video. During playback, the video object can then be composited over a graphics or video background with complete interactivity.

For YVU graphics-card and driver support, such as the ATI Video Expression*, the application must provide transparency mask information to the video card for composite graphics playback.

Online Help. The encoder's Configure dialog box includes an online help menu.

ICM Programming Interface. All of the codec's interactive features are available to software developers through an ICM programming interface. This gives developers creating multimedia playback applications control over the codec's interactive features. Read more about the ICM Programming Interface on the Indeo video Web site in the documents listed below:

Programming Indeo Video Interactive Using ICM Calls: Decompressing

Indeo Video Interactive Video for Windows Programming Interface Specification

Indeo Video Interactive Video for Windows Programming Interface Specification C source header file.

Custom Palettes and Dither Patterns. Indeo video interactive supports the use of custom colors and dither patterns when playing video in 8-bit (256-color) mode.

Alternate Line Zoom-by-Two. Indeo video interactive supports alternate line zoom-by-two, a feature that doubles the video window size by horizontal pixel by doubling, then drawing a row of black pixels in between each row of image data. This reduces some of the jagged effects caused by vertical pixel doubling. The latest version of the sample Indeo video player program, IVIPlay, demonstrates this capability.

Local Decode. Sometimes an application needs to display only part of a decoded video image. For example, in a game, you might look through the periscope of a submarine, and your view would be limited to a small subset of the entire image. Indeo video interactive provides this capability through a feature called local decode. The playback application can tell Indeo video interactive to decode only a rectangular subregion, called the view rectangle, from the source video image. The minimum possible size of the local decode view rectangle is defined during compression, but the display size and location of the view rectangle can be changed dynamically during playback.

V. Installation Notes

To download the 4.3 codec from the Indeo video drivers page:

1. Click on Indeo video interactive version 4.3.

2. Fill out the registration form and send it.

3. Click on the .exe file and save it to your hard drive.

4. Click on the saved .exe file and follow the Setup instructions.

NOTE: The current version of the setup program installs only the 32-bit version of the Indeo video interactive codec on Microsoft Windows* 95 and Windows NT* machines. Windows* 3.1 support for the version 4.3 codec is not available at this time. A 16-bit version of the v4.1 codec for Windows 3.1 with a setup program is available on the Indeo video drivers page.

ActiveMovie Installation Note. You must install the ActiveMovie runtime support prior to installing Indeo video interactive. If ActiveMovie is not installed on your system, you cannot use Indeo video interactive with the ActiveMovie interface. (You can only use Indeo video interactive with Video for Windows). If you install Indeo video interactive without ActiveMovie on your system, then install ActiveMovie later, you must delete Indeo video interactive and re-install it.

*All other brands and names are property of their respective owners.