



MPEG-4 Systems

IBM Video Solutions

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<http://www.software.ibm.com/data/videocharger>



MPEG-4 Overview

Defines a standard for multimedia applications.

Changing the coding paradigm

- Optimizing use of available/minimum bandwidth
- Object based
- Flexibility in composition and presentation

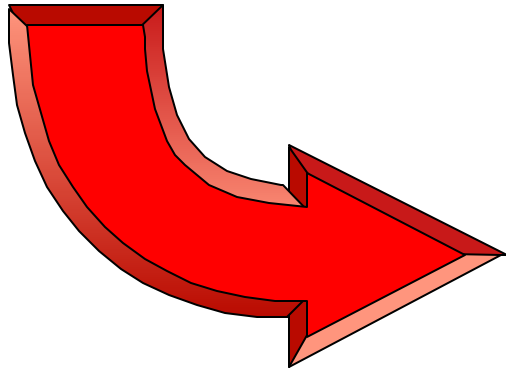
Systems Components in use today

- Multi-object scene composition and user interaction
- BIFs
- Isochronous and non-isochronous delivery
- Multiplexing

MPEG-4 paradigm shift

MPEG-4 IS **NOT** JUST ABOUT

- audio and video codecs
- passive decode
- Systems for transport only



MPEG-4 **IS** ABOUT

- interactive decode
- object based scenes
- intelligent, efficient transport & delivery

MPEG-4 Systems makes it compelling

Key MPEG-4 Differentiators

Objects in most efficient formats:

- ◆ text objects for text
- ◆ image for image
- ◆ video only for motion video when it adds value
- ◆ tremendous decrease in required bandwidth

Content authored once, stored once:

- ◆ appropriate objects are selected by client based on capabilities, data connections, usage
- ◆ intelligent clients able to utilize scene descriptions to adapt to environment

Content can be more compelling:

- ◆ hidden treasure model, provides new interest
- ◆ personalized interaction even for multicast streams

Potential Applications

- Internet streaming of plain video and audio
 - ▲ with minimal MPEG-4 Systems, select language, view
 - ▲ good quality at low bit rates
 - ▲ proxy view of HQ or Digital Cinema resolutions
- Distance learning on Company IntraNet
 - ▲ Use MPEG-4 Systems to save bandwidth
 - ▲ Much more complete presentation than only video (e.g. video of head&shoulders, overhead foils, pointers,...)
 - ▲ User interaction (e.g. language switching)
- Interactive commercials: keep viewer "watching"
 - ▲ interactive game-like
 - ▲ each broadcast can have a slightly altered version (move "hidden objects", change overlaid text, ...)
 - ▲ find incentives behind "hidden objects", collect all hidden messages