

IMAGINATION TO REALITY



Live MPEG-2 to H.264/AVC Transcoder

DVD2Mobile: Full DVD transcoding and streaming solution

DVD2Mobile is a fast and *standards-compliant* format conversion solution for live transcoding of MPEG-2 video from a DVD into MPEG-4 AVC (H.264) video, and simultaneously streaming it over to a remote client such as a PC/notebook, PocketPC media player, or selected mobile phone for live playback.

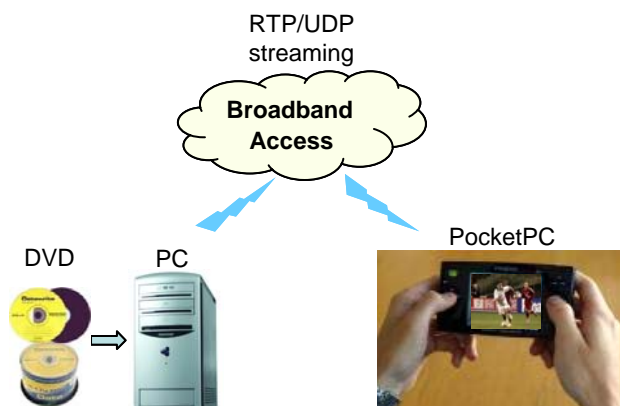
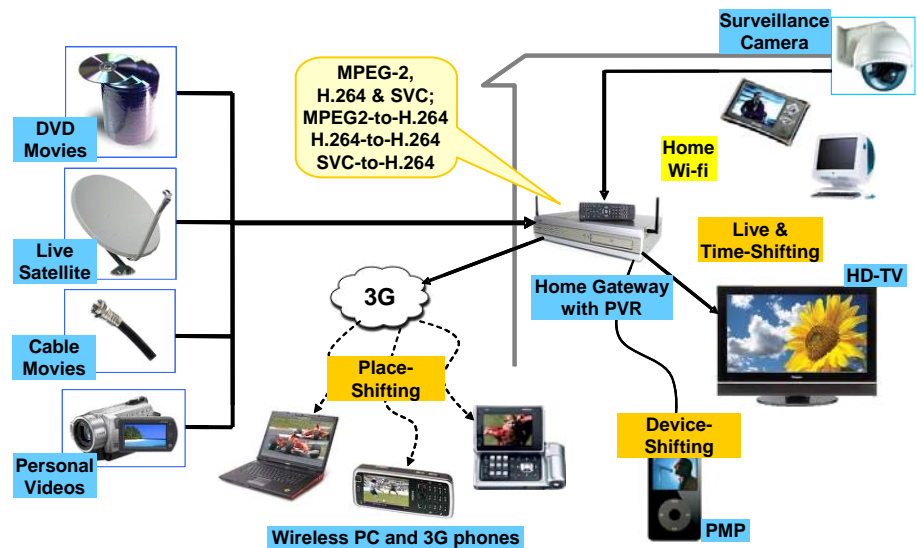
Imagine the scenario where you wish to watch your favourite DVD movie on your wireless PDA. All you need to do is simply insert the DVD into your PC or notebook, and our DVD2Mobile software system will enable you to watch the movie on your Windows-Mobile device anywhere via the IP networks. Naturally, you can also transcode live MPEG-2 movie broadcasts directly from your home.

A*STAR's Transcoding Technologies

- **Fast video transcoding algorithms** for converting MPEG-2 to H.264/AVC video
- **Integrated RTP streaming server** for live delivery over any IP-based networks
- **Fast H.264/AVC decoder** with advanced video error concealment capability

Potential Applications

- Residential gateway with transcoding software for home and mobile entertainment
- Broadcaster and video content provider for format conversion and content repurposing
- Personal mobile entertainment for place-shifting and device-shifting



DVD2Mobile Features

- Live DVD (MPEG-2) decoding on PC
- Simultaneous transcoding to H.264 and streaming to a PocketPC via RTP/RTSP
- Trans-scaling – selectable video resolution
- Trans-rating – selectable video quality (bit-rate) and frame-rate
- High quality audio

A*STAR DVD2Mobile Transcoder Specifications

Features	Specifications
Standards	<p>Input Source:</p> <ul style="list-style-type: none"> MPEG-2 ISO/IEC 13818-2 or a standard DVD movie <p>Output Format:</p> <ul style="list-style-type: none"> H.264 / AVC ISO/IEC 14496-10 video AAC / AC-3 audio
Input	<p>Video Input: MPEG-2 Video Main Profile @ Main Level:</p> <ul style="list-style-type: none"> I/B/P pictures Interlace/progressive mode CIF/4CIF/D1/HD <p>Audio Input: AAC and AC-3</p>
Output	<p>Video Output: H.264 / AVC Baseline Profile</p> <ul style="list-style-type: none"> Selectable resolution at QCIF/QVGA/VGA/CIF/4CIF/D1 Selectable frame-rate from 1 to 25 fps (PAL) or 30 fps (NTSC) Selectable bit-rate from 20 kbps to 4 Mbps <p>Audio Output: AAC / AC-3</p> <ul style="list-style-type: none"> Selectable quality at 32 - 256 kbps
Networking & Storage	<ul style="list-style-type: none"> NAL (Network Abstraction Layer) bit-stream RTP/RTSP packets MP4 file format
Platform	<ul style="list-style-type: none"> x86 PC (Windows / Linux OS)
Performance	<ul style="list-style-type: none"> Live D1 (full DVD resolution) transcoding and streaming at full frame-rate on a typical 1.6GHz Pentium-4 notebook computer Off-line transcoding speed at up to 150/50 fps for CIF/4CIF video
Other Features	<ul style="list-style-type: none"> In-loop deblocking filter for improved video quality CBR, VBR modes for channel adaptation Multiple B-frame and interlace MPEG-2 input supported Fast transcoding algorithms exploiting metadata of MPEG-2 streams Tran-scaling: Selectable output video resolution Tran-rating: Selectable output frame-rate and video quality (bit-rate) Flexible application options for transcoding parameter settings to balance between transcoding speed or streaming bit-rate Original MPEG-2 audio quality supported
Licensing-Ready SDK Package	<ul style="list-style-type: none"> Complete library SDK with optimised MPEG-2 to H.264 transcoder Full developer documentation with quick start tutorials Example codes for live DVD files transcoding, streaming and playback RTP/RTSP streaming module for client-server IP-based delivery

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