



## PacketVideo and Telestream

### *Automated video/audio transcoding to the optimal MPEG-4 format for delivery to mobile devices*

- Robust solution for large-scale media encoding & delivery
- Outstanding PacketVideo MPEG-4 video quality
- Acquires media from professional video/audio systems
- Automatically transcodes media between all major formats
- Automatically delivers output files to pvServer for streaming

*PacketVideo and Telestream have partnered to provide content owners, mobile operators and other service providers with a completely integrated end-to-end solution for video and audio transmission to today's wireless devices. The automated solution includes media acquisition from leading professional formats and systems, transcoding into the optimal high-quality MPEG-4 file format for delivery to and playback on wireless devices such as cellular phones and PDAs.*

#### Meeting the Multimedia Delivery Challenge to Wireless Devices

MPEG-4 is the global standard that enables delivery of the video and audio content that consumers are demanding for today's mobile devices. The integration of Packet Video's MPEG-4 encoding technology with Telestream's professional FlipFactory transcoding automation system provides mobile operators and content companies with a robust solution to drive adoption of this exciting new medium.

PacketVideo's MPEG-4 encoder is one component of its pv3 Mobilemedia System, a complete suite of inter-related and interoperable products tested and proven in mobile operator networks around the world.

Telestream's FlipFactory is a multi-format transcoding application which now includes standard support for PacketVideo's MPEG-4 encoder, enabling users to quickly and easily submit vast amounts of video and audio content for automated encoding and delivery to the PacketVideo pvServer for distribution to mobile devices.

#### Why Choose this Combination

The PacketVideo 3GPP-compliant MPEG-4 encoder yields outstanding media quality. Without compromising interoperability, PacketVideo enhances the encoded video to include automatic scene change detection, more

accurate color balance at all bit rates, smoother video, better data rate control, and higher-quality downloadable content. PacketVideo also delivers music at various bit rates up to CD quality.

FlipFactory, dubbed *the universal format translator*, is used by the world's leading media and entertainment companies to simplify file transfers between professional video systems and formats. FlipFactory handles input from all formats or systems, transcoding all source files for delivery to all destinations. By setting configurations once, FlipFactory automatically encodes and delivers media where and when needed.

#### A typical workflow

A typical application is a content owner, such as a broadcast or cable company, wanting to repurpose content for wireless devices. In this case, the content is stored as high-quality MPEG-2 files on the broadcaster's on-air video server. FlipFactory is pre-configured to monitor a folder on the video server for the arrival of new content. Upon detection, the new content is automatically submitted to FlipFactory for encoding into the PacketVideo MPEG-4 format. Preprocessing filters may be applied to add watermarking and adjust audio levels. The encoded files are then automatically submitted to the pvServer for distribution to and playback on cell phones, PDAs, or laptop computers.

## About PacketVideo

PacketVideo was the first company in the world to demonstrate MPEG-4 video streaming to mobile devices. Today, its carrier-grade technology is being deployed by leading mobile operators around the world. A commitment to industry standards is evidenced by PacketVideo's active participation in standards bodies and interoperability testing. For example, PacketVideo actively participates in the development of 3GPP and 3GPP-2 wireless multimedia standards for streaming services. Rigorous interoperability testing with leading handset and wireless manufacturers accompanies all PacketVideo software releases.

PacketVideo's pv3 Mobilemedia System is a mature suite of products which includes encoding (pvAuthor), distribution (pvServer) and decoding (pvPlayer).

## About Telestream

Telestream products have set the standard with the most demanding media companies in the world for fast, efficient, and reliable encoding and delivery of broadcast-quality video and streaming media via IP networks. Telestream's ClipMail appliances are used to simplify media acquisition and encoding from professional tape formats to MPEG1 and MPEG2 formats for ingest and exchange across standard LANs and WANs.

FlipFactory software applications automate media acquisition from professional digital video systems, simultaneously transcode media between file formats, include preprocessing filters to enhance media quality, and then automatically deliver resulting files to destination servers. Telestream products solve the challenge of getting media onto the network and converted into the formats needed to enable all-digital workflows for broadcasters, content owners and creators.

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## Partner products:

### PacketVideo MPEG-4 encoding solution

enhances media quality with: constant bitrate (CBR) encoding for smoother video and better data rate control; variable bitrate (VBR) encoding for higher quality downloadable content; an AAC audio codec for improved music quality plus high-quality audio encoding with GSM-AMR and EVRC. Encoding profiles can be optimized for a wide variety of network, device and content types, and the PacketVideo MPEG-4 encoder resizes video and optimizes encoded content for target display devices.

### PacketVideo 3GPP-compliant pvServer™

**mobilemedia distribution solution:** extensible modular architecture offering interfaces for billing, provisioning, authorization, validation and other services; FrameTrack™ dynamic rate control technology optimizes video quality; supports live and on-demand streaming; enables remote network

management; content management; load balancing of simultaneous streaming and downloading; ability to host WAP applications; available for Solaris, Linux, and HP-UX platforms.

**Telestream FlipFactory** supports MPEG-1, MPEG-2, MPEG-4, MJPEG, DV, AVI, QuickTime, Windows Media, RealVideo, Avid JPEG & OMF, Flash animation, MP3, WAV, RealAudio, Clipstream Java video & audio formats.

The following preprocessing filters may be applied to enhance media quality: video noise reduction, cropping, watermarking, hue rotation, gamma correction, contrast, saturation, sharpen, blur, frame rate conversion and resizing, frame mask filter, field frame control, color space correction, de-interlacing and interlacing, video & audio fade-in, audio level control, audio re-mapping & mixing. FlipFactory software runs on a Windows™ 2000 server.