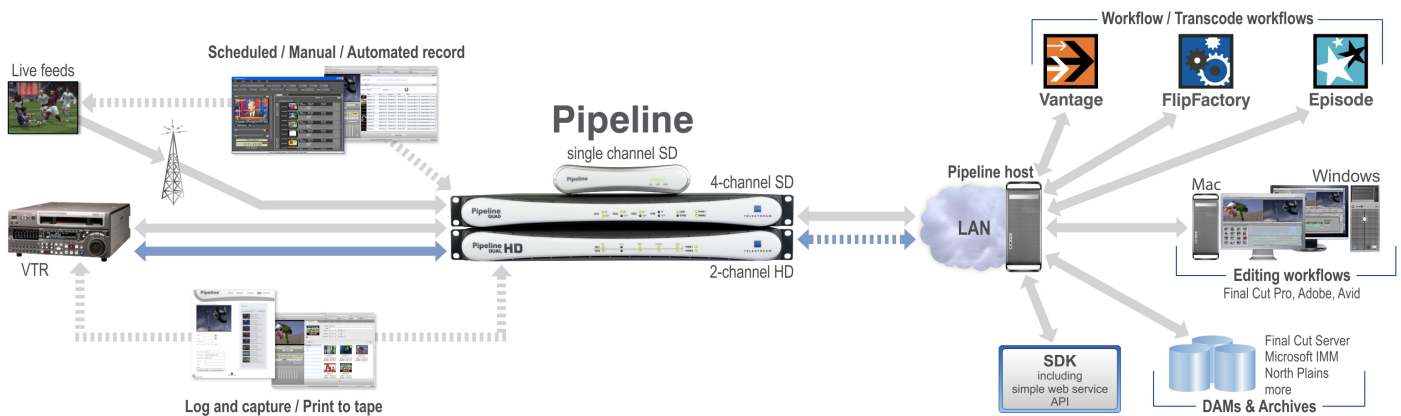# Pipeline™

Network video capture and playout

Pipeline is an industry-first shared video capture device that sits on the network where anyone can access it – eliminating the hassles, expense and limitations of traditional single user, capture-card solutions.

This standard definition SDI video capture & play-out device offers real-time, user selectable SDI encoding to multiple formats. Schedule live feeds; log & capture from tape; or ingest into any file-based workflow.

Workflow Example: Multi-camera Live-Event Capture & Edit While Encoding

Need: A production company needs to record a live event (sports, incoming news, concert, etc.) that has one or more feeds and requires real-time editing to meet a tight distribution deadline.

Solution: Using Pipeline, incoming event feeds are immediately ready to edit while they are being captured.

Set-up: Pipeline HD Dual captures multiple live camera feeds using Apple's ProRes 422 HQ codec.

The feeds are simultaneously encoded to QuickTime MOV files and recorded directly into a Final Cut Server or other designated shared storage system. This enables multiple editors to access the same files in real time on their Mac Pro editing workstations.

Result: As the event is being captured, the production company can quickly edit highlights or selected sequences; send them to a final destination or to a Telestream Episode Engine or FlipFactory application for transcoding and delivery to multiple devices such as cell phones, web sites or news rooms, while the event is occurring. Pipeline provides a very flexible toolset for this type of environment. A workflow can include ingest of both live feeds and tape assets, and it does not need to tie up a dedicated editing system.

Other multi-camera workflows supported include: reality shows, live shows, sports, news, concerts, etc. with formats ranging from ProRes to DV25, IMX and more.

Desired Toolset: Pipeline HD Dual; Final Cut Server shared storage; Mac Pro editing workstations; Vantage, Episode Engine or FlipFactory transcoding applications

Workflow Example: Transcode While Capturing a Live Feed

Need: A broadcaster must ingest a live satellite feed or tape source for transcoding and delivery to a web server for online viewing and an archive.

Solution: A single Pipeline channel system, running the scheduling application is set either manually or programmatically to capture a live feed at a specified time of day.

Set-up: For this example, the broadcaster chose the following scheduled-capture configuration:

- 2:00–3:00 pm PDT
- IMX 30 format
- Single Pipeline Channel: named "Joe"
- For delivery to FlipFactory for transcoding

At 2:00 pm Pipeline begins capture. Then, in near real-time, FlipFactory picks up the feed and begins transcoding to the designated online (WMV) and archive (MPEG-2) formats for automatic delivery to destination servers.

Result: The broadcaster is able to easily administer a capture, transcode and distribution workflow manually or automatically. The efficiency of the workflow is maximized by the ability to simultaneously capture and transcode.

Desired Toolset: A single channel of Pipeline (or, Dual or Quad if more channels are needed); Pipeline control application; Vantage or FlipFactory transcoding applications

Workflow Example: Log & Capture from tape into multiple edit format

Need: A New York post house needs to create two new spots for ad campaigns with two very demanding clients who require different edit formats. One client requires their project be captured and edited in Pro Res 422 HQ and the other in DNxHD 220. Both are on a tight deadline. Each project will be captured from tape, edited, then have a low res proxy delivered to the internal web server for client approval.

Solution: Each editor will use Pipeline Control for Mac OS X software, select an available Pipeline HD Dual network attached encoder channel connected to a VTR, and begin capturing their projects footage.

Set-up: Each editor opens the Pipeline Control application software, controls the VTR, marks selected clips and imports them into their project bin for editing using Final Cut Interchange XML and Avid MXF respectively. Each project is then edited in their respective edit environments. When finished each editor sends their final timeline edits to Telestream's Episode application for encoding to Flash and delivery to the internal web server for client approval.

Result: The post house was able to leverage editors using two different edit environments to meet a very tight deadline using the flexibility of Pipeline Control software and Pipeline network attached encoders.

Desired Toolset: A Pipeline HD Dual; Pipeline Control for Mac OS X application software; Final Cut Pro and Avid edit software; Vantage, FlipFactory transcoding or Episode encoding applications

Workflow Example: Mass Digitization from a Tape Archive

Need: A local station needs to find a way for one person to efficiently mass digitize thousands of television episodes stored on tape for repurposing on a new channel, distributed both live and online.

Set-up: The operator builds his own workflow with off-the-shelf products. For video capture, he uses a Pipeline Quad to encode content from four digital betacam VTRs. For transcoding and delivery, the digitized files are fed directly from Pipeline to Telestream's FlipFactory workflow automation product which ingests and reformats the content for delivery to the archive system for redistribution.

Result: The station was able to create an efficient, automated workflow to mass digitize and deliver thousands of television episodes for on-air broadcast and web consumption.

Desired Toolset: Pipeline Quad running the following applications: Vantage, FlipFactory, Episode, or Pipeline control.

Telestream