TELESTREAM

APP NOTE

Pipeline™

USING PIPELINE AND LAUNCH IN CLIPMAIL WORKFLOWS

March 2008

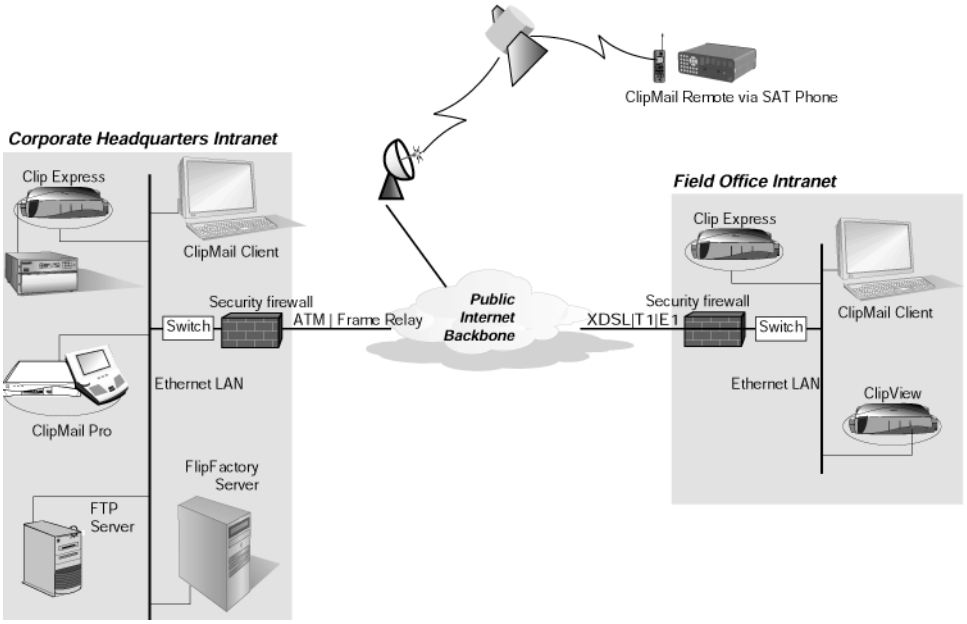
P/N 74-0113-00

Introduction

The introduction of Telestream's ClipMail revolutionized the delivery of digital video media around the world. For many large and small media companies, workflows involve delivery of media to FlipFactory, FTP Servers, and other ClipMails. Telestream's family of ClipMail appliances – ClipExpress®, ClipView™, ClipMail Pro™, and ClipRemote™ – have been the ideal solution for delivering and playing digital media from one office to the next or around the world, simply and efficiently, for over a decade.

This app note describes Pipeline, a revolutionary, networked encoder device, and Launch, Telestream's media delivery software, in workflows where ClipMail is currently used to deliver media to FlipFactory, FTP, and other ClipMail destinations.

Figure 1. ClipMail workflows deliver media to FlipFactory, FTP servers & ClipMails around the world.



With the introduction of Pipeline, ClipMail users can use Pipeline and Launch as powerful components in these same workflows, effectively replacing ClipMail as the source component.

How Pipeline Compares to ClipMail

When considering the use of Pipeline and Launch as a replacement for ClipMail workflows, consider that Pipeline differs from ClipMail in the following ways:

- ClipMail provides both analog and SDI input; Pipeline provides SDI only for input
- ClipMail is a single-solution appliance with encoding, media storage and send/receive features. Pipeline is an encoding/decoding device intended as part of a system of interchangeable components that may be assembled differently, depending on your workflow requirements
- ClipMail can be used as both an ingest and playout appliance (source and destination) in workflows. Pipeline can also be used as an ingest device. In the context of ClipMail replacement, it is best suited for replacing the ingest (source) component of workflows.

- ClipMail uses an address book and email metaphor to identify sources and destinations and receive, send and view media. Pipeline is dedicated to decoding and encoding media. While Launch utilizes media portals to identify sources and destinations and sends media files. Viewing media is the responsibility of other applications.
- ClipMail creates MPEG-2 Program stream files; Pipeline creates proprietary TIFO files containing the video compression essence chosen by the user (DV, DVCPro, IMX or MPEG-2 I-frame); Launch delivers TIFO files directly or transcodes to MPEG-2 or other formats, and then delivers the media.

Featured Telestream Products

This app note features Pipeline and Launch from Telestream. Pipeline and Launch are both innovative digital media applications from Telestream, designed with industry standards to add value and performance in your most demanding workflows. Both are used around the world in stand-alone applications. And, both work as well together as they do independently.

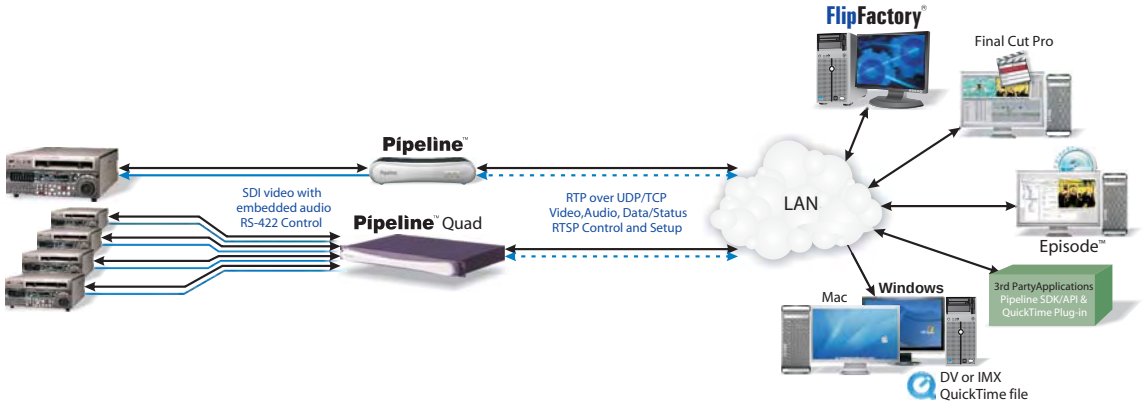
Pipeline

Pipeline™ is an industry-first, shareable network encoding device – a real-time media encoding hardware accessory – that provides real-time SDI ingest into Telestream® FlipFactory® transcoding workflow automation and Episode® media encoding applications, as well as 3rd party products, including Apple's Final Cut Pro editing system.

Pipeline is ideal for integration into a variety of broadcast, post-production, government and other professional media applications. A complete Software Development Kit (SDK) enables easy integration into 3rd party applications.

Designed into each Pipeline is the notion of ease of use for broadcasters, post-production houses, government agencies and other video professionals. To set up a Pipeline, connect Ethernet and SDI, an optional VTR, and configure your network settings – you're often up and running in under ten minutes.

Figure 2. Pipeline automates and adds value to real-time transcoding workflows



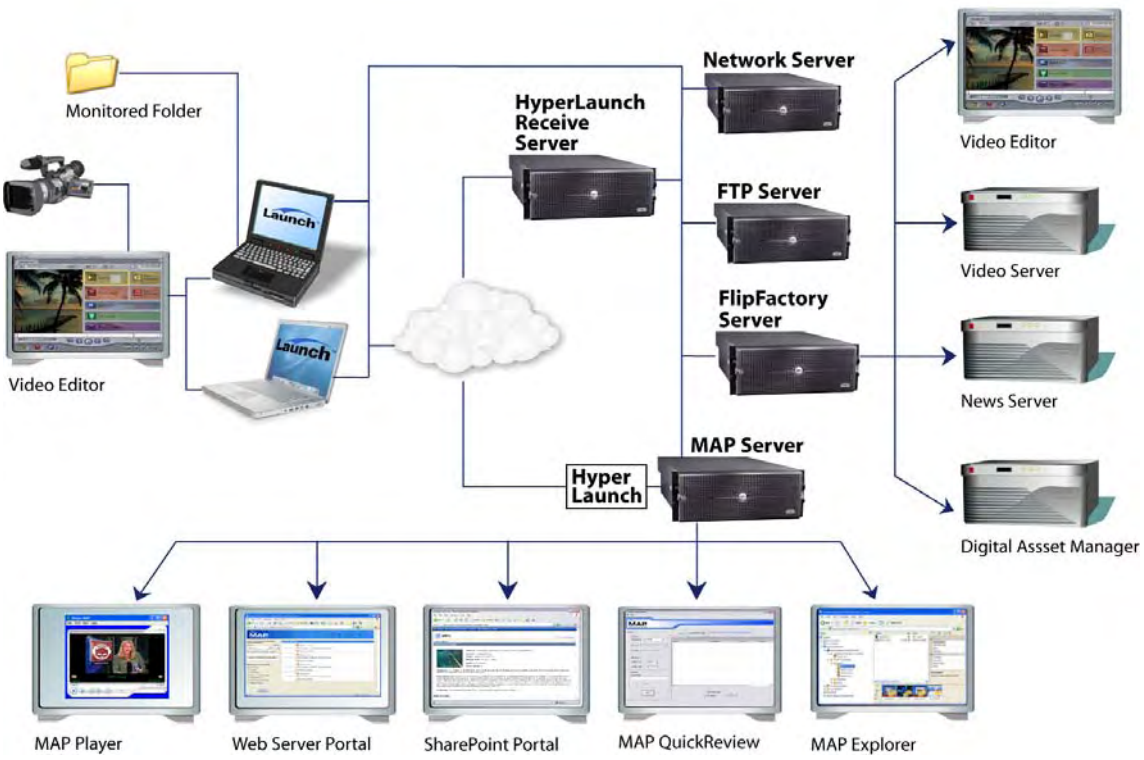
Pipeline can deliver DV25 or IMX 30/40/50 files directly to a storage location on your network. This provides a fast and easy way to ingest media from tape and store the encoded media files to an archive or digital asset management system. Launch can be used to pick up these files for dependable delivery to other Internet-based servers, with optional transcoding.

Launch

Telestream's Launch™ for Windows is a media delivery application that combines the latest compression and dependable, failure-recovery transmission technologies to offer the most flexible, affordable and timely delivery of news cuts, review-and-approvals, dailies, Telestream TIFO other media files via the Internet or LAN.

Launch simplifies broadcast-quality media delivery via LAN, Internet, or wireless connections commonly found at Internet cafes, hotels, and event sites, plus 3G wireless broadband where available in urban centers – making it easy to deliver media from virtually any location.

Figure 3. Launch automatically sends media to servers via LAN or Internet.



Media can be delivered to local and network shares, HyperLaunch™ Receive servers or FTP servers including those used in ClipMail auto-ingest FTP workflows, and ClipMail appliances. Media in MAP can be monitored by Telestream's FlipFactory monitors for automated, digital delivery to destination media servers, ClipMails, and edit systems.

Pipeline for Launch Update Requirements

Before using Launch with Pipeline in any workflow, you must download and install the Pipeline for Launch update. This application is available in the Launch section of Telestream's Web site at www.telestream.net. The Pipeline for Launch update adds a Pipeline file reader to Launch, so that Launch can open and read Pipeline files and extract the media.

Note: *If you do not update Launch with the Launch updater, Launch will be incompatible with Pipeline files, and Launch media portals with a transcoding step will fail to operate normally. Media portals that are configured to copy files without transcoding will perform correctly.*

Several examples of Launch media portals are also available on the same Web page. These media portals can be downloaded into a folder on your Launch PC, and imported for modification

and use in Launch for ClipMail workflows. For details on importing (and exporting) media portals, see the Launch User's Guide that accompanies the product.

For Further Assistance

This app note assumes that you have a working knowledge of FTP servers, FlipFactory, ClipMail, and Pipeline and Launch. Comprehensive guides, including installation, configuration, and examples, are provided with each of Telestream's products.

For more information about these or other Telestream products, please contact your account executive, Telestream partner, or Telestream customer service.

Pipeline/Launch Workflows

This app note describes four Pipeline/Launch workflows that formerly included ClipMail as the source component.

Pipeline/Launch to ClipMail Workflow (Page 6)

This workflow is a modification of a ClipMail to ClipMail via FTP server workflow. In this revised workflow, you use Pipeline in conjunction with Launch to send MPEG2 media to a ClipMail appliance via an intermediate FTP server. The Pipeline/Launch components together replace the source ClipMail in the original workflow and provide comparable functionality.

Pipeline/Launch to FlipFactory Workflow (Page 8)

This workflow is a modification of a ClipMail to FlipFactory workflow. In this revised workflow, use Pipeline in conjunction with Launch to send media to FlipFactory via the Internet to an intermediate HyperLaunch Receive server, monitored by a HyperLaunch monitor in FlipFactory. The Pipeline/Launch components together replace the source ClipMail in the original workflow and provide comparable functionality.

Pipeline/Launch to MAP Workflow (Page 10)

This workflow is a modification of a ClipMail to MAP workflow. In this modified workflow, use Pipeline in conjunction with Launch to send media of the desired format to MAP, including metadata as required. The Pipeline/Launch components together replace the source ClipMail in the original workflow and provide comparable functionality.

Pipeline/Launch to FTP Server Workflow (Page 12)

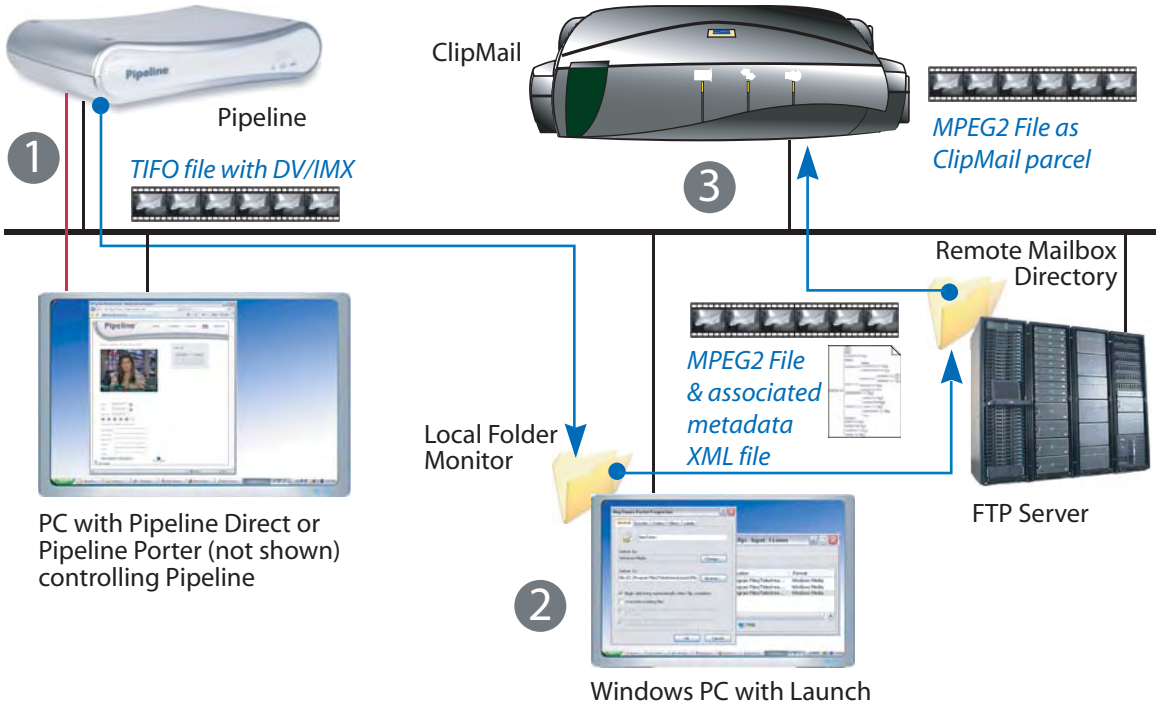
This revised workflow is a revision of a ClipMail to FTP server workflow. In this revised workflow, use Pipeline in conjunction with Launch to send a copy of the media file, or an MPEG2 media of the desired bit rate to an FTP server. The FTP server may be optionally monitored by FlipFactory for media ingest. The Pipeline/Launch components together replace the source ClipMail in the original workflow and provide comparable functionality.

Pipeline/Launch to ClipMail Workflow

This workflow is a modification of a ClipMail to ClipMail via FTP server workflow. In this revised workflow, you use Pipeline in conjunction with Launch to send MPEG2 media to a ClipMail appliance via an intermediate FTP server.

The Pipeline/Launch components together replace the source ClipMail in the original workflow and provide comparable functionality.

Figure 4. Pipeline/Launch sends IMX|DV to Launch for MPEG2 transcode & ingest by ClipMail.



Note: *This diagram depicts the workflow implemented on a LAN. However, this workflow could just as easily be implemented where the source Pipeline and Launch components are connected to the destination ClipMail via the Internet. The intermediate FTP server may also be connected to either the source or destination (or both) via the Internet.*

In this workflow (see step 1 in the figure above), you use Pipeline Direct (an embedded Web app on Windows or Mac OS X) or Pipeline Porter (Mac OS X) – both applications designed to manage Pipeline for importing media – and save the file in the target directory. The export file destination should be configured with a directory on a Windows server that Launch is monitoring.

Next, Launch (see step 2), which has been configured with a media portal to convert media to MPEG2 Program Stream, detects the new Pipeline file in its monitored folder and automatically converts it to ClipMail-compatible MPEG2. Launch delivers the MPEG2 file to a directory on the specified FTP server and directory, as configured in the media portal.

The media portal should also have the Include Telestream metadata option enabled, so that Launch simultaneously produces ClipMail-compatible metadata in XML format (called a ClipMail parcel XML file) required for ingesting MPEG2 media files, and saves it in the same directory.

On the ClipMail (see step 3), check for incoming mail. ClipMail detects the MPEG2 and associated ClipMail parcel XML file in the directory on the FTP server which has been configured in ClipMail

as a remote mailbox. ClipMail imports the media as an incoming ClipMail parcel. When ingested, it is made available to the user for viewing and/or transmission to other systems.

Note: *For details regarding the configuration of media portals for delivery to ClipMail, see the Launch User's Guide. For details regarding configuration of FTP servers as remote mailboxes in ClipMail, see the ClipMail User's Guide.*

Pipeline/Launch to FlipFactory Workflow

This workflow is a modification of a ClipMail to FlipFactory workflow. In this revised workflow, you use Pipeline in conjunction with Launch to send media to FlipFactory via the Internet to an intermediate HyperLaunch Receive server, monitored by a HyperLaunch monitor in FlipFactory. (An FTP server can also be used in this workflow, as a substitute intermediate file store in place of HyperLaunch Receive server.)

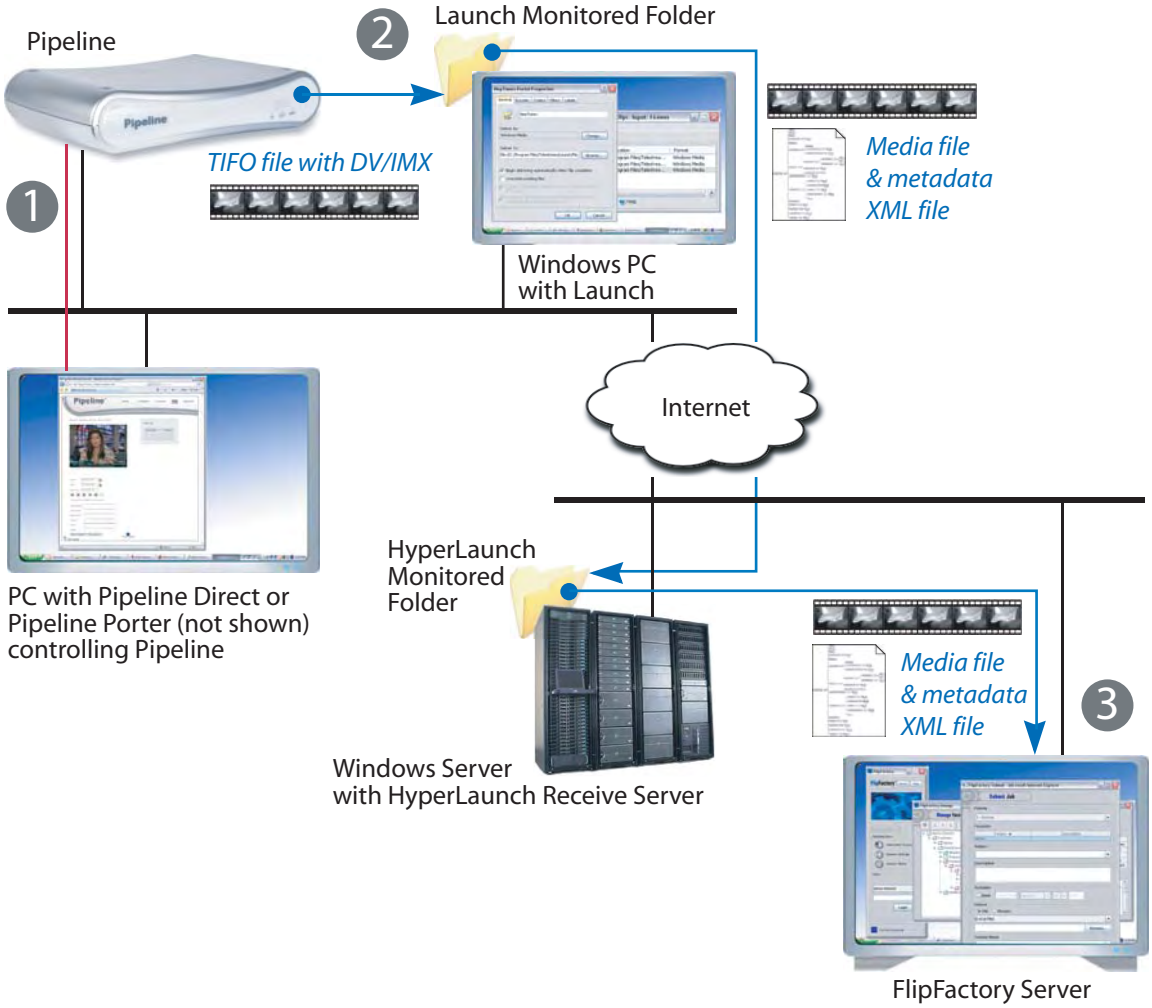
The Pipeline/Launch components together replace the source ClipMail in the original workflow and provide comparable functionality.

Pipeline/Launch in TrafficManager & NewsManager Workflows

Utilizing Pipeline and Launch is an excellent way to deliver media to FlipFactory TrafficManager and FlipFactory NewsManager along with metadata.

This workflow can be configured to include spot and news metadata, when required, for example, to replace a commercial and spot ingest workflow.

Figure 5. Pipeline/Launch sends IMX|DV to Launch for transcode & delivery to FlipFactory.



Note: *This diagram depicts the workflow implemented via the Internet. However, this workflow could just as easily be implemented where all of the components of the workflow are connected to a single LAN.*

In this workflow (see step 1 in the figure above), you use Pipeline Direct (an embedded Web app on Windows or Mac OS X) or Pipeline Porter (Mac OS X) – both applications designed to manage and control Pipeline for import – and save the Pipeline file in the target directory. The file destination should be configured with a directory on a Windows server that Launch is monitoring.

Next, Launch (see step 2), which has been configured with a media portal which specifies either a file copy or an MPEG2 encoder (configurable with the bit rate of your choice) to transcode your media to meet your workflow requirements, detects the new Pipeline file in its monitored folder and processes it according to your media portals specification.

Launch delivers the file to the target HyperLaunch Receive Server. As part of the task, Launch simultaneously produces metadata for FlipFactory in XML format and delivers it as well.

FlipFactory (see step 3) has been configured with a HyperLaunch Receive monitor and detects the media and associated XML file in the target directory that it is configured to monitor. FlipFactory ingests the media and metadata for processing and delivery to its destination.

Note: *For details regarding the configuration of media portals for delivery to HyperLaunch Receive Servers, see the Launch User's Guide. For details regarding HyperLaunch Receive Server, see the HyperLaunch Receive Server User's Guide.*

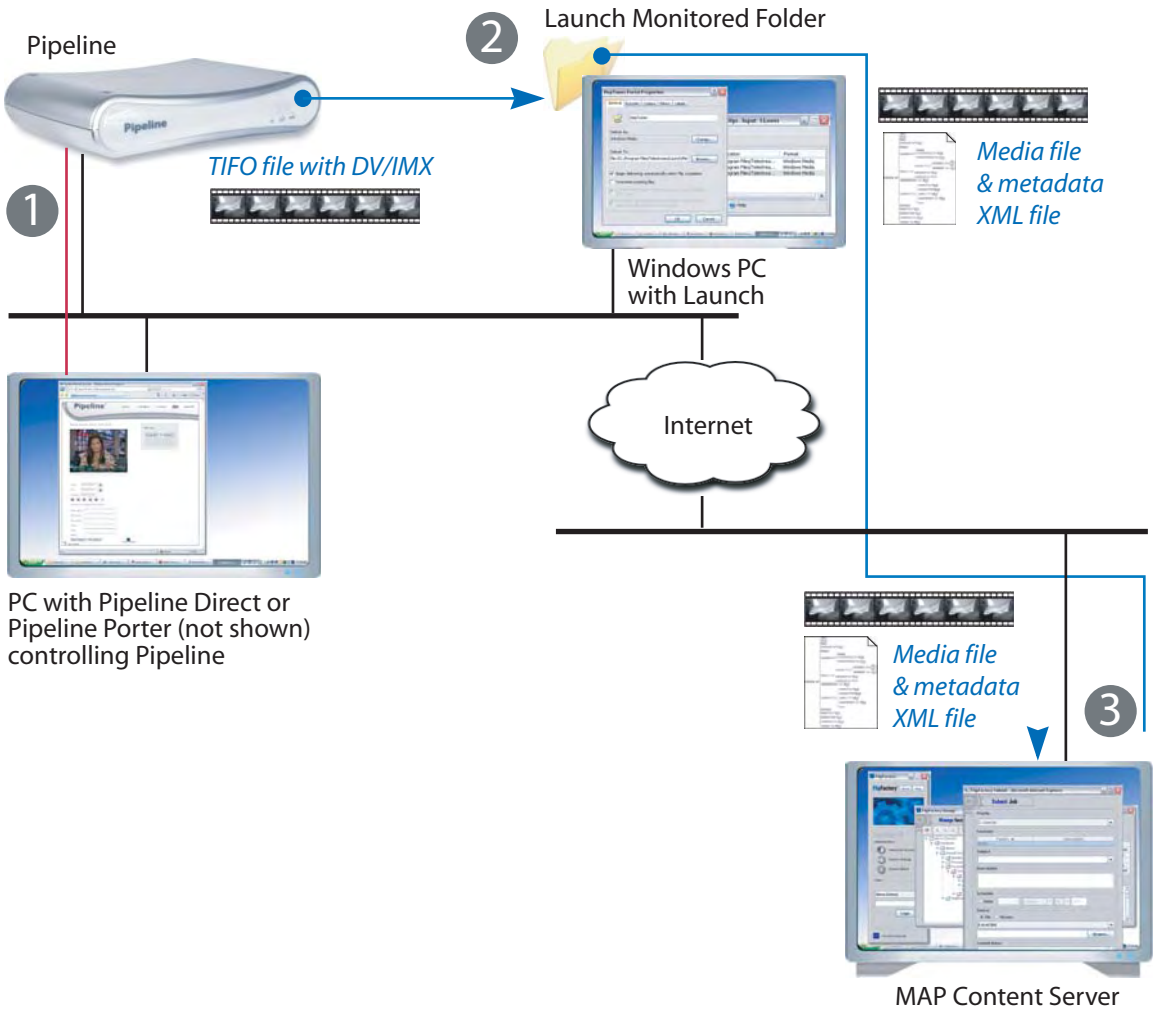
For details regarding configuration of monitors and other components in FlipFactory, see the FlipFactory User's Guide.

Pipeline/Launch to MAP Workflow

This workflow is a modification of a ClipMail to MAP workflow. In this modified workflow, you use Pipeline in conjunction with Launch to send media of the desired format to MAP via HyperLaunch, including metadata as required.

The Pipeline/Launch components together replace the source ClipMail in the original workflow and provide comparable functionality.

Figure 6. Pipeline/Launch sends IMX|DV to Launch for transcode & delivery to MAP.



Note: *This diagram depicts the workflow implemented via the Internet. However, this workflow could just as easily be implemented where the source Pipeline and Launch components are connected to the destination MAP Content server on the same LAN.*

In this workflow (see step 1 in the figure above), you use Pipeline Direct (an embedded Web app on Windows or Mac OS X) or Pipeline Porter (Mac OS X) – both applications designed to manage Pipeline for import – to capture DV or IMX video, and save the Pipeline file in the target directory. In Launch, a media portal has been configured to monitor this directory for incoming media.

Next, Launch (see step 2), with the same media portal configured to either copy media or transcode media to MPEG2 Program Stream in various bit rates, detects the new Pipeline file in its monitored folder and automatically converts it to MPEG2.

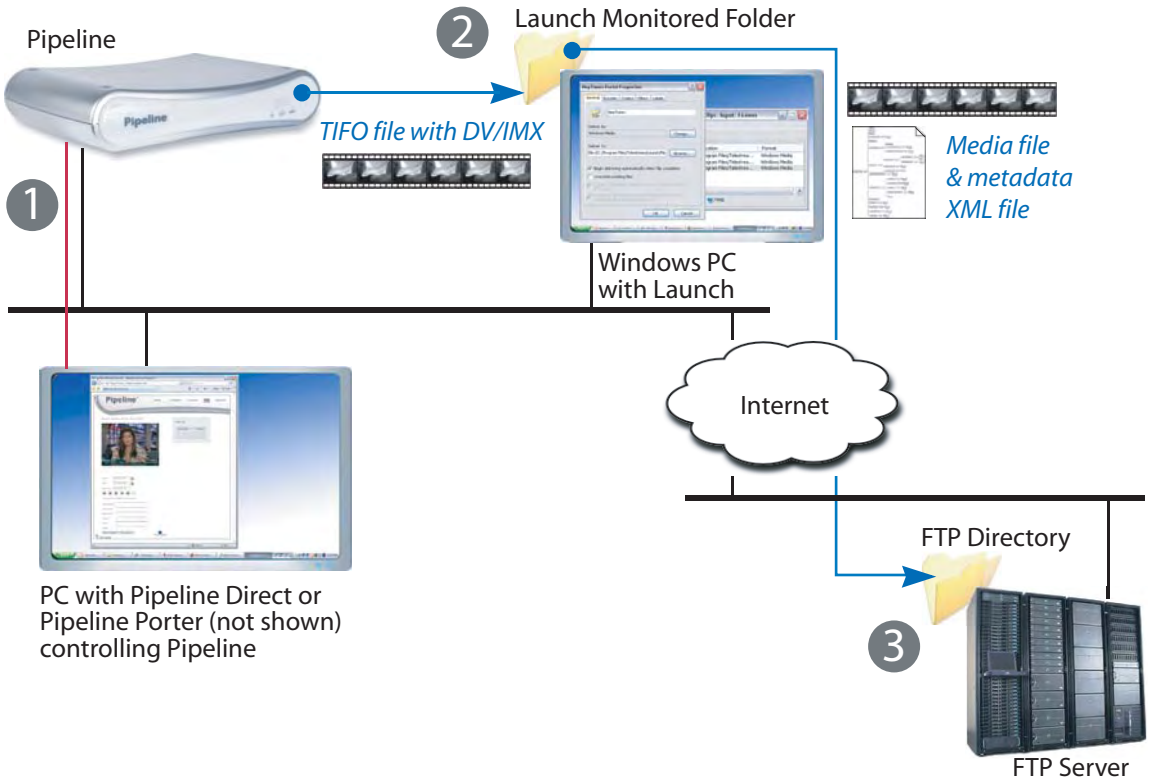
Launch connects to the Map server via HyperLaunch and saves the file in the specified directory on the target server. As part of the task, Launch simultaneously produces metadata for MAP and saves it in the appropriate MAP binder.

Note: *For details regarding the configuration of media portals for delivery to HyperLaunch Receive Servers, see the Launch User's Guide. For details regarding HyperLaunch Receive Server, see the HyperLaunch Receive Server User's Guide.*

Pipeline/Launch to FTP Server Workflow

This revised workflow is a revision of a ClipMail to FTP server workflow. In this revised workflow, you use Pipeline in conjunction with Launch to send a copy of the media file, or an MPEG2 media of the desired bit rate to an FTP server. The FTP server may be optionally monitored by FlipFactory for media ingest. The Pipeline/Launch components together replace the source ClipMail in the original workflow and provide comparable functionality.

Figure 7. Pipeline/Launch sends IMX|DV to Launch for delivery to an FTP Server.



Note: *This diagram depicts the workflow implemented via the Internet. However, this workflow could just as easily be implemented where the source Pipeline and Launch components are connected to the destination FTP server on the same LAN.*

In this workflow (see step 1 in the figure above), you use Pipeline Direct (an embedded Web app on Windows or Mac OS X) or Pipeline Porter (on Mac OS X) – both applications designed to manage and control Pipeline for import – to capture either DV or IMX video, and deliver it as a Pipeline file to the target directory. The file destination has been configured to be a directory on a Windows server that Launch is monitoring.

Next, Launch (see step 2), which has been configured with a media portal to either copy the media or convert media to another format, detects the new Pipeline file in its monitored folder and automatically processes it as necessary. Launch has also been configured to deliver the media to an FTP server, and delivers the media file to the specified directory of the server. Launch does not produce metadata when delivering to an FTP server.

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FlipFactory has been designed for professionals skilled in the art of digital media transformation and workflow automation, to facilitate the automation of complex media operations and workflow that require a multitude of input and output media formats, delivery to numerous types of media devices and file systems, and notification of media systems including broadcast automation systems and media asset management systems.

The FlipFactory architecture and user interface is designed to provide maximum flexibility in the setup and configuration of these complex media transformations and workflow. In providing this high degree of flexibility, it is possible for media transformation and workflow processes to be configured that are impractical, likely to result in unexpected or unintended results, or beyond the limits of FlipFactory to perform satisfactorily. Additionally, FlipFactory may be executed on a platform that lacks the performance or capacity to perform the media transformations and workflow you've configured, which is your responsibility to specify. Telestream has chosen to implement FlipFactory to provide the greatest flexibility without limiting its functionality to only those transformations and workflow that are known with certainty to be within its performance capabilities, including those limits imposed by the platform upon which you have installed FlipFactory.

Therefore, you acknowledge that you may create transformations and workflow that are impractical or beyond your FlipFactory installation's limits, and Telestream does not warrant that each transformation or workflow you specify or use will complete without error.

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