



## Streamlining format conversion

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Broadcasters readily acknowledge the benefits of adopting digital media production and distribution workflows. Media in digital file formats can be searched, archived, managed and distributed more efficiently and cost-effectively over now widely available broadband networks. However, the union of network-based and broadcast technologies is proving to be a more complicated process than initially envisioned. Broadcasters who have made significant investments in digital editing and production systems are finding they are still burdened with inefficient media conversion chores required to move media and metadata through content acquisition, editing, production and playout. This is caused by a wide range of incompatible file formats - such as M-JPEG, MPEG-2 long GOP or I-frame, and DV - and incompatible metadata. Even when metadata has been standardized on MXF, essence formats remain incompatible due to proprietary implementations for each manufacturer's hardware. In order to fully realize the promise of digital media production, broadcasters still need an easy, reliable way to exchange media between incompatible digital systems.

### Transcoding

Anystream's Agility 4.0 automated transcoding software enables broadcasters to enjoy the efficiency and economy of network-based media production and delivery without having to acquire specialized IT skills. Its software-based design offers broadcasters the flexibility to add emerging formats; to scale as their volume grows; or to build new revenue streams by repurposing content to new syndication, online and other publishing outlets.

The system automates the many file format conversion steps required to transfer source media among incompatible editing, playout and distribution systems. The automation is done via user-defined profiles that outline the various steps in the media conversion process, such as automated ingest, transcoding, processing and delivery of content.

For example, when transcoding a file from an editing system to a play-to-air server, the software can automatically ingest the source media, transcode it to predefined settings, and upload the output to the broadcast server for immediate on-air playback. It also translates the metadata formats used by various digital file-based systems. The result is a totally automated workflow that requires no manual intervention.

By comparison, in a tape-based process, someone has to edit programming on a nonlinear editor and then lay it back out to tape - in real time. Someone then has to add basic metadata (program name, start and stop time codes, etc.) by hand and hand carry (or courier) the tape to the intended broadcast server. Then the tape has to be digitized for ingest back into the broadcast server (with additional metadata added manually). And then, finally, the segment is ready for playout. This widely used workflow wastes valuable creative resources on mundane conversion steps and is too time-consuming and error-prone to scale or adapt for new requirements.

### Streamlined workflow

Agility can deliver cost and time savings throughout many digital media production workflows, including edit/play-to-air, electronic newsgathering, content distribution, and program repurposing for the Web and other outlets.

**Edit/play to air:** Using a software-based transcoder can bring additional efficiencies by allowing editors to use networked, file-based systems in the workflow described earlier. The broadcaster sets up profiles specifying the transcoding process from one format to another (for example, from Avid OMF to Thomson Grass Valley or SeaChange MPEG-2) and specifying which play-to-air server the content should be delivered to. He or she then sets up a "watch folder" on the network and assigns it a

particular transcoding profile. To send an edited news story to air, all the editor has to do is export a reference to the source media to the watch folder. The transcoding software finds the source media on the network and finishes the transcoding and file delivery process automatically, greatly speeding the process and eliminating the need for tape. (See Figure 1.)

**Electronic newsgathering:** Transcoding software can also expedite news file-based applications, including remote news submission via the Internet when satellite or microwave connections are impractical. Products like AP ENPS SNAPfeed let journalists create stories with a PC and DV camera and then transmit them over an Internet connection as a Win9 file. News organizations can then use the transcoder to automatically ingest the streaming media files into the newsroom production system for conversion for browsing, editing or play to air.

**Content distribution:** Broadcasters can use a software-based transcoder to streamline content exchange between networks and affiliate stations. Affiliate news stories usually come into the station in an MPEG-2 file format that is often incompatible with editing or broadcast playout systems. The transcoder automatically converts the media to the appropriate format for delivery to producers and journalists browsing content, editors preparing stories, or directly to air.

**New consumer outlets:** Now that the viability of premium online subscription service models have been proven, broadcasters are evaluating how they can repurpose digital media assets for new consumer revenue opportunities. The transcoding software allows broadcasters to set up encoding profiles to automatically convert high-quality media to Windows Media, Real, QuickTime or Macromedia Flash formats at different data rates to serve consumers on the Web. The transcoder will also convert media to other formats suitable for distribution to consumers through emerging VOD and mobile outlets.

In all-digital production workflows, Anystream's Agility software enables media to move seamlessly among a variety of servers, systems and devices. It lets broadcasters streamline operational efficiency by taking full advantage of digital file-based editing, post production and broadcast systems. This leads to better, more innovative content that reaches a wider range of audiences.

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