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'There are so many ways to get things wrong in web publishing'

Automating the web workflow

By David Stewart

The BBC was one of the first broadcasters to develop a strong web presence, and now it offers a large amount of video and audio content for download from its sites, including news stories and sports clips. More recently it has started offering podcasts drawn from some of its popular radio programmes. A glance at news.bbc.co.uk reveals the rich variety available, with around 50 video or audio stories available on the top level menu alone.

The video clips are currently offered in four variants: in Real Media or Windows Media formats, each in high and low bandwidth versions. Add in to the mix broadcast issues like aspect ratio and the conversion of stereo and multi-channel sound and it could certainly be a time-consuming task to create them all, with a very high risk of error.

"We want our journalists to monitor the various feeds in the BBC, and



Huw Edwards on set of the BBC Ten O'Clock News

commitment to our licence-payers. With FlipFactory we could build the applications we needed."

One of the big tasks the system has to handle is to take the major news bulletins and chop them up

systems and makes FlipFactory a seamless part of the process."

When a user has finished editing a package they simply load it into the asset management system and select a destination — maybe a news story for the website or a feed to an overseas syndication partner. The software decides how the piece needs to be transcoded and published, and kicks off the appropriate workflow using a standard open-source messaging system.

The central FlipFactory engine just listens to the messaging bus, and when a completed package is ready for processing it pulls it over to the host server. "This architecture also means that all the transcoding and formatting is done on a dedicated server farm so there is no load on the user's computer — they can get on with the next task," Webster underlines.

Carrying out the transcoding centrally means that all the technical issues are taken away from the journalist users. Aspect ratios and sound levels, for example, are areas where it is simple to make errors. Another potential for risk is in bitrate settings, where a mistake in completing a field can lead to a dramatic change in quality.

"There are so many ways to get things wrong in web publishing that it is easier to take the control away from the user and provide centralised, automated management," Webster says. "It means we can control prod-

uct quality by expert users who regularly monitor the output for stability and consistency. So as well as taking the load off the user's computer, we are taking the load off the user, too."

The same asset management and quality control procedures apply to the growing range of podcasts available, linked to BBC radio programmes. These, too, are now seeing more consistent quality.

This application is just one of many in the BBC which relies on Telestream FlipFactory: the broadcaster currently has in excess of 60 licences in the UK. They are used, for example, to transcode content for transfer between London and the BBC production centres in other cities. The use of an intermediate format allows content to be transferred over bandwidth-limited circuits.

The software has been largely supplied by Telestream dealer Boxer Systems, whose Marc Risby said, "The BBC treats its multimedia seriously and has done so for some years. They treat FlipFactory just as they would any other part of the broadcast chain, building in resilience and eliminating single points of failure. There is no reason for any broadcaster moving into web content to do it any differently."

For the BBC, Henry Webster agreed. "Other products are of course available, and indeed FlipFactory is easy to configure on a low level, but we have put it in an enterprise system, with full broadcast-critical resilience."

Carrying out the transcoding centrally means that technical issues are taken away from the journalist users. Aspect ratios and sound levels are areas where it is simple to make errors

splice and dice the content onto the web," says Henry Webster, the senior product manager on the project. "To let them do that quickly, efficiently and accurately, we had to develop a platform which would do all the mechanics for them without thinking."

Henry and his team elected to build their own application, using FlipFactory from Telestream as the transcoding engine, and to manage the automated workflow. "There are a number of products that can do the transcoding now," Webster said, "but Telestream was the first with the right functionality — we were looking for a product which is easily customisable.

"We regard our online content as part of our primary output, so we needed to build in broadcast-critical resilience," he continues. "We also needed full-on digital asset management. This is not an optional add-on: it is part of our

into individual stories. Following, say, the 13.00 news programme there is a big spike of activity at 14.00 as journalists split two or three minute clips out of the programme. Others will be building new packages, such as a 'news in two minutes' headline version, or a review of the week's top stories.

Rather than impose on the journalists, the system allows them to use their preferred desktop editor to do this, so while some will be working on the tools embedded in the BBC's Jupiter integrated newsroom, others will be using Final Cut Pro or Premiere to create the clips.

"The reason we chose Telestream is that FlipFactory allows us to integrate at a much lower level," explains Phil Miller, technical lead for media services. "Its plug-in architecture allows us to add our own code to the application. This code talks to our other

Publishing facts

There are over 350 users of the system that outputs a substantial amount of BBC programme packages:

- 200+ packages per day
- 1,500+ per week
- 4,000+ hours of video per annum
- 1,200+ hours of audio per annum
- 1,25000 video/audio news stories published since system launch in March 2005
- Six transcoding servers in the farm