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New ways with workflows

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Head of Production for RSI Roberto Pomari explained that the broadcaster was under increased competitive pressure, not least from across the border in Italy, and at the same time its audience was making new demands on the way the content is consumed and the devices used to consume it. This was adding to the complexity of its workflows, already seeing multiple concurrent file-based projects.

"We could either patch the sinking ship or face the future," Pomari said. "We recognised that we had a window of opportunity to improve our operational efficiency and make us more agile."

Equally, they realised that by taking an enterprise view of workflows and automating business processes they were fundamentally changing the nature of the whole operation. With that in mind they set out as the top consideration the need to de-risk the project. They chose Sony to deliver its Enterprise Service Bus solution.

Paolo di Casola, chief technology officer at RSI, added that it was vital "to reduce the impact on our users: creative people should focus on being creative. You also have to think about what processes you need to monitor, allowing you to make business decisions on the data."

RSI is a traditional broadcaster with production, post production, news, playout and archiving all in house. Phase one of the project was to replace the sneakernet linking each department with a common media bus and Isilon "in progress" storage. At this stage content is delivered using a post-box technique.

Phase two added the enterprise service bus, driving the workflow by business processes. It also saw the original Isilon server upgraded with EMC storage and full integration with the archive. Next came the direct connection of the existing traffic system onto the ESB, via a web services adaptor and the BXF file exchange format.

The concept of the adaptor is central to service oriented architectures. It is a simple piece of code that links individual systems to the common bus. At RSI, the next stage of implementation will see all areas of the broadcaster linked into the bus using adaptors, eliminating the need to exchange content through a postbox.

Already, though, RSI is seeing significant benefits from the service-oriented approach. "The ability to define key performance indicators is a big benefit," Casola commented. "It means we understand where there are capacity constraints or spare capacity. Because we can look at both system and business activities we can look at commercial decisions like how long does it take to produce a piece of content, and what does it cost."

Mediasmiths' media analysis

Steve Sharman, CTO, Mediasmiths
Measuring the real business impact of file-based workflows; workflows in the mist; practical approaches to implanting cost effective measurable content processes through open source integration technology

In the final presentation of the day, Technology Consultant Steve Sharman gave some thoughts on the processes of implementing new workflows, and measuring the impact when you achieve it. "Migration to file-based workflows is usually forced, regardless of the spin put on it," he claimed. "Even when the move is 'strategic', the benefits are not well defined, the measurement tools are not built in."

His experience, he said, is that all the projects he has looked at have run late, exceeded budget or under achieved against objectives. That raises the spectre of having to do the whole thing again to get it right.

the vendor completing the initial implementation and moving on to the next project, not leaving scope for tailoring the system based on experience.

Sharman's recommendation is that you acknowledge the vendor problem and work closely together to develop a system you can achieve together. "Ask yourself what the vendor is not so good at and put those disciplines

expression of content flows and encapsulate human as well as system tasks".

This approach allows the business data to be collected, identifying not just where the hotspots are but if it is people or technology causing the delay. Sharman suggested that this level of the system can be implemented in widely available open source technology, and



Steve Sharman: "Think business process management. Create a simple expression of content flows and encapsulate human as well as system tasks"

"Migration to file-based workflows is usually forced, regardless of the spin put on it. Even when the move is 'strategic', the benefits are not well defined" – Steve Sharman

He set out some reasons he saw as causing the problems. Chief among them is that a typical project maps processes and workflows as they currently are, then chooses a system and modifies it extensively to make it fit. That makes it hard-wired, so upgrading and adapting for vital business needs is difficult.

He also pointed out that this technology is typically supplied and implemented by small vendors. Even when they are large vendors, such as the big IT suppliers, their broadcast teams are small. This manifests itself by

in place yourself," he said. "What is it that only this vendor can do? Focus on their strengths within a managed scope."

Workflow projects tend to be ultimately about business processes, so he suggests it is unreasonable to expect one technology solution. "Do not lump them all into one big box," he said. "Look at the SOA approach, where the integration platform is an enterprise service bus and each system has a single point of interface."

"Think business process management. Create a simple

need not, perhaps should not, be part of the broadcast system.

His conclusion is that "the 'one system to rule them all' approach is still prevalent — one system should not rule. Layered systems are agile implementations which look to the future." The interfacing and business processes should be on the integration platform, and that integration platform should include the tools to measure effectiveness.

Finally, he reinforced the message from other speakers that you have to take the people with you and said, "remember, it is a business project not a technology project. This is the point where projects fail: because they are treated as technology, not business transformation." — Dick Hobbs

He also set some lessons learned from the project, of which the first is that you must consider the metadata schema as soon as possible. Similarly, because the new architecture embraces legacy systems, you

must involve those legacy partners early. Invest in a separate test platform so everything is proven before it goes anywhere near the on air system, and plan system governance — including version control — from the start.

In an echo of an earlier presentation, Casola urged those planning such a project to consider the disaster recovery options: "remember that in a tapeless environment you cannot simply grab a tape..."

Finally, Roberto Pomari underlined a point made by Casola. "Invest in change management to keep users onside. Invest as much in your people as in your technology." — Dick Hobbs

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Reuters Television
- Philip Thomas, TV technical specialist, Reuters Television
- Bruce Devlin, CTO, AmberFin
Workflow in news operation; the reasoning behind transforming TV news agency satellite delivery from linear to file-based video

Going tapeless may mean less tape, but it does mean more formats. There are a huge number of variables to taking into account

with files — so many that when AmberFin's CTO, Bruce Devlin, calculated how long it would take to test a pop promo in every combination of every file format, audio format, frame rate, resolution and wrapper that its systems could handle, he found it would take nearly 62 years to play them all back in realtime.

This meant that for Reuters, AmberFin had to spend a lot of time just writing the specification for its standards conversion software, which is the latest stage in the news agency's push to move to a file-based delivery system.

Its problem was how to link the metadata with the video without requiring human intervention. It did try various methods over the year, such as using MOS messages in 1999 to control the server ingest, but it was imprecise and could create chaos if there were changes to its schedule.

The only practical solution was to deliver files from the start, but many TV stations didn't then want files, so Reuters decided to build client-side servers so that the client just pressed play as if they were linear video. They also used internet back channels to

experimental service, which was, Thomas admitted, "a little unstable."

Several years later it decided to deliver the bulk of stories as a linear digital feed (Reuters Live Service). Some clients struggled with this approach initially, and usage dipped for the first couple of months, but then rose higher than before.

It used variable bitrate encoding of the linear video, then inserted files for its World News Express service in any available additional bandwidth. It runs the live video stream at up to 6.5Mbps for about 30-40% of the day, and the rest of the bandwidth is available for files. This means it can now carry live streams for a long time (it had one client in Argentina that carried live video from the Chilean mine collapse for 18 hours).

Some 80% of Reuters' sales are to broadcasters and it delivers both live and file feeds via multiple satellites to 750 clients (who between them have more than 1,500 channels worldwide). The file-based service is also available via a content delivery network. It carries up to about 350 stories per day, averaging between 500 and 700 minutes of file-based content daily.

Problems include the fact that almost every client has a

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Philip Thomas: "We've been doing metadata since long before it was even known as metadata"



AmberFin's Bruce Devlin calculated how long it would take to test a pop promo in every combination of file format, audio format, frame rate, resolution and wrapper... 62 years to playback in realtime

"Invest in change management to keep users inside. Invest as much in your people as in your technology" – Roberto Pomari

Reuters has about 100 years of archive (some 35,000 hours), which is handled by ITN Source, and its pictures reach about 90% of the world's TV sets each day.

"We've been doing metadata since long before it was even known as metadata," said Philip Thomas, TV technical specialist, Reuters Television. All that information was once on paper, and includes rights, translations, names of anyone seen in its clips, statistics related to the story, and a very detailed shot list.

repair incomplete files and to monitor performance. This provided a cache of about two weeks worth of content, which was ideal as after that it becomes archive material and requires a new licence. It set up its content delivery network as a backup protocol, which then became the secondary delivery platform, and it could become the primary delivery platform in future — it already is for some of its customers.

It had an implementation of this by the end of 2004 as an



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NEWS IN BRIEF

Voice Technologies selects Canford UK

Canford has been announced as the exclusive UK distributor for Voice Technologies based in Switzerland. VT manufactures high-end miniature microphones and headsets. The performance and design of the mics and the comprehensive range of high quality accessories has already seen Voice Technologies products grow in popularity with major UK and US broadcasters and the film and theatre sectors. The VT range includes highly water resistant capsules sealed in single piece stamped mouldings. This technique of manufacture also ensures the cable to the capsules is exceptionally strongly fixed. The water resistance of the mics has been tested in extreme conditions such as white water rafting, yachting and water skiing. Canford's Director of Strategy, Iain Elliott commented, "These are unquestionably ultra high quality products whose performance emphasises all that is good about Swiss engineering and manufacturing." www.canford.co.uk

New ways with workflows

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different workflow (some even have different workflows for different shifts), and many clients have IT departments that don't want any equipment connected to the internet.

Its current file production workflow is linear, to allow for high-quality standards conversion and watermarking of content — the files are output as SDI, standards converted, and then encoded for 50/60Hz versions.

It is now moving to a new file production system that doesn't revert to baseband, using an AmberFin Video Feed Handler, which will do standards conversion, watermark insertion and any file transcoding digitally.

"We spent a lot of time looking for file-based standards conversion, but most were of poor quality," he said. It wasn't just a matter of good motion rendition, but also whether the still image quality was good enough. It also wanted high-speed processing and ease of integration with the rest of its equipment.

It is now looking for a reliable quality assurance tool, as it works

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really hard to avoid field order errors, but these are hard to spot and difficult to correct. About 80% of content comes in as files, but it has to go to linear video to do QA.

Not many clients are asking for HD content yet, "and are certainly not willing to pay for it," but all acquisition systems are HD capable, as are most

bureaux. Everything is shot 16:9 (4:3 protected), and it is adapting its headend to ingest HD and output higher quality SD. — David Fox

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