Difference between US and international content perspectives

Still up in the air with the channel in a box?

Guest Opinion

Our February issue took a broad look at the trends and progress so far in what many have called the 'channel-in-a-box' sector of the business. Following NAB developments, **Russell Grute** of Broadcast Innovation looks at the bigger picture and examines further the opportunities offered by this emerging concept

Recent feature articles examining the business of broadcasting have looked at the changing business models for profitable content distribution. From traditional playout to the opportunities of on-demand and mobile distribution, channel-in-a-box may have a pivotal role to play in achieving the new efficiencies required for broadcasters to survive, compete and expand. It may be driving the transition to a more streamlined supply chain approach for the efficient and profitable distribution of visual entertainment.

So just to recap...what is it? Is it, as one respondent suggested in February's issue, a 'super video server' or is it part of a wider solution? Some saw it as a product whilst others viewed it as a new component in a better end-to-end architecture. Either way, in February's extensive section there were many points of view.

Perhaps the answer lies in the scale of the problem. Originally conceived as an answer to launch simple channels 'in a box', there is also a strong case for high volume content workflows and sophisticated channel presentation. Looking at many of the current installations already in action using a channel-in-a-box approach for more than just low cost playout, there are three key areas to look at further that may lead to some clearer answers and reveal the real advantages.

At a high level, gaining efficiencies to improve the content throughput for increasingly complex file-based content preparation and also to streamline the content assembly at the point of delivery are key challenges. Many broadcasters, particularly those delivering multi-lingual content and with multiple regions to 'entertain and retain', have complex content preparation workflows. From the library to ingest, QC and compliance review through to subtitling and promotions, each movie or episode has to be processed many times. Multichannel broadcasters seeking to expand to new regions, launch HD and go on-demand now need, more than ever, to do more with less.

Russell Grute: 'I don't believe IT technology has all the answers just yet'

Talking to many customers at NAB this year revealed more clearly than ever, the difference between the US and the international perspectives. Content preparation and assembly is more complicated when preparing multi-lingual file-based content and when managing multichannel distribution across multiple regions. To address these challenges, channel-in-a-box approach offers some advantages.

Streamlining content assembly

Firstly it offers a single final point of assembly for even the most complex content; a content assembly engine. It is probably not yet possible for any current channel-in-a-box to match the overall performance of a discrete component transmission air chain.

Using best of breed components for servers, graphics, keyers, subtitle management and particularly audio currently provides superior flexibility and performance when properly integrated with a good automation system. For highly reactive channels such as news and sport this is still often the better 'technical' solution.

But, for the increasing number of thematic channels such as movies, comedy, children's programming, shopping and beyond to on-demand there are many advantages in accepting the compromises of channel-in-a-box. It can provide streamlined content assembly at a lower cost when coupled with upstream media management using a more supply chain type approach to content preparation.

Improving channel presentation

Channel-in-a-box can offer clear advantages when creating and maintaining a compelling channel identity. When you look at what's on-screen these days for both television and increasingly on-demand, you can see that in between each programme there is now a lot more going on.

Every frame in the break is hungry for secondary events, with multiple promotional elements moving on the screen simultaneously. Movies and episodes are separated by complex break structures which have strong on-air graphics to keep the viewer watching 'now and next' or to guide them to another affiliated channel or increasingly, to a multimedia service.

The on-screen identity is now every bit as important as the content and is much more than just a bug. Each channel requires a rolling marketing promotion campaign which creates a more complex upstream graphics workflow and challenges in playout too.

This is technically expensive to create, deliver, schedule and control. Most new channel-in-a-box devices offer automatic graphics assembly with some compromises depending on the capabilities of each particular box. 3D graphics in particular is an area where few manufacturers excel cost effectively at the moment.

Better workflow

It's in the area of joined up workflow where channel-in-a-box may provide the biggest advantage in larger systems. Each 'super video server' provides an easier to manage, single logical destination for each channel, enabling the upstream media management and the automation to work together optimally.

Once content preparation is complete and the many preparation workstreams and media asset components that now make up long-form content and on air graphics are ready for air, they are now often held on shared central storage. Media management can automatically push this content to the appropriate 'super video server' based on transmission priority.

Here the automation takes over to manage the playlists and any final intervention. This approach works well for large quantities of complex file-based content if the schedule is stable ahead of air and if the transfer management and storage systems are suitably aligned. Playout could be monitored only for errors using a 'by exception' basis with less manual checking, enabling transmission operators to manage a larger number of complex channels.

In other cases the more advanced automation systems now have the capability to pull the file-based content across from central storage. This may be preferable to a separate media management system and if the schedules and playlists are still changing, closer to air. In this case automation can manage the intervention required for live events and regional programming, if required.

Either way the 'content assembly engine' may provide a better solution. If it really is less expensive (at an acceptable level of performance), then n+1 and n+n failover architectures using additional channels-in-a-box also become less expensive.

Looking ahead

It's still early days but a trend is emerging. For many types of thematic linear broadcast and also especially for on-demand, this new concept of streamlined content preparation driving automatic content assembly using channel-in-a-box does — with a good workflow and solution architecture — give higher levels of efficiency.

In the longer term such devices could be directly integrated with the scheduling, channel management or media management systems and this integration could eliminate the need for automation altogether. This has already happened with some shopping channels for example.

Here, channel-in-a-box provides an automatic realtime overlay of price and availability displayed over the main studio production. This data is extracted directly by the device from third-party ERP systems.

Maybe it will go even further where the files themselves can increasingly govern how they are handled using encapsulated metadata for processes such as format conversion, multiplatform delivery and user interactivity. This is already happening with audio tagging in broadcast for example, where the play out device makes decisions about international language play out, stereo or Dolby and audio substitution if the desired audio is not available.

For this future vision to succeed, new 'super-video-server-channel-in-a-box-devices' will have to offer higher performance in areas like HD, audio, graphics and maybe 3D — and be very robust indeed. I don't believe IT technology has all the answers just yet and specialist broadcast technology manufacturers still have a key role to play.

Better integration with automation and media management, coupled with the correct balance of IT, broadcast technology and experience are required. There are some early players in the market already, and the correct use-cases are becoming clearer. There's still plenty of innovation still required to increase efficiency and reduce costs using channel-in-a-box.

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