



Is it all just 'Cloud-Wash'?

Is the activity in cloud broadcast over-hyped, which may be occluding the real benefits to be had by exploiting cloud computing for media production, asks Julian Wright

Amsterdam in early autumn will be cloudy - but these clouds will be inside the RAI and adorn many of the exhibition stands at this year's IBC. The use of cloud computing in broadcast and video production is slowly gaining momentum - certainly on the supply side - but is there real value to the broadcast and media industries in the cloud, or is it just vapour up there?

The Cloud or cloud computing means different things to different people and is largely dependent on perspective - technologist or user. Broadly, cloud computing is the provision of computing as a service rather than as a product and is usually accessed directly through an internet browser or internet-enabled applications through web services. The cloud is commonly subdivided into three variants: Infrastructure as a Service (IaaS), Platform as a Service (PaaS) or Software as a Service (SaaS) but in broad terms it allows for ad-hoc access to computing and software services provisioned by a specialist service provider.

Cloud computing has allowed a pay-per-use/ pay-as-you-go model to be employed for many computing functions and has acted as an enabler - particularly in these difficult economic times - for many businesses to tightly control budgets and incremen-

tally scale computing resources based on business activity. Using the example of a technology implementation project, such as the build of a broadcast facility, cloud-provisioned software and systems can be particularly helpful. Software and services such as document management, and technical and financial approval workflows are provisioned from web-based providers on a per user basis and are 'stood-up' only for the duration of the project.

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The cloud, by its nature, is omnipresent, meaning that disparate teams, perhaps working in different countries, can easily collaborate. When a project is complete, the relevant final project doc-

uments are archived, intermediaries or work in progress documents purged, and access to services closed down.

Software and hardware cost savings are significant if com-

pared to purchasing these systems outright and deploying them at the project office(s). All service costs are also directly attributable to a specific project, thereby allowing for accurate recharging if appropriate. The cloud model works very well in this context by simplifying daily work functions and speeding up tasks - particularly the sharing of material. The necessary 'up front' capital investment in equipment and software is greatly reduced and when the project is complete, demobilisation is low cost, tidy and rapid.

A technology implementation project is a piece of work with a defined set of deliverable outcomes over a finite period. A comparison between a technology project and television production may be loose but there are similarities. Productions are temporary pieces of work, requiring many contributors at different times during the process. These contributors may be disparately located but require shared and possibly simultaneous access to material such as scripts or rushes. There is an inherent requirement for the ability to review and approve material as it makes its way through the workflow. When the finished program is ready, unimportant material is purged, the useful rushes or intermediary content archived, and the project is wound up. The cloud is almost a natural place for production to 'live', particularly in respect of the collaborative working requirements of geographically separate contributors.

Why the slow adoption in broadcast?

The utilisation of cloud-based computing services in the broadcast and video production industries has failed to take off in the same way that it has in other sectors such as print media. The reasons behind this are many, but of particular significance is that research has shown that producers fail to see the benefits right now. The term 'cloud' is simply too nebulous to sufficiently describe its benefits. Clearly, the proponents are failing to make a compelling case.

Content is extremely valuable and production schedules are usually tight. That being the case it is a brave producer indeed who will cross the chasm to an entirely (or partially) cloud-based production workflow with the option of a more predictable, if inefficient and expensive, alternative already in place. This is particularly the case if a producer has been wrestling with a poorly implemented tapeless workflow that promised a more streamlined operation yet delivered the all-too-frequent shock of 'Media Offline' or frozen interface followed by a panicked rush to a (soon-to-be-decommissioned) linear suite.

Broadcast systems manufacturers must take some responsibility for the overly cautious nature of their customers and position cloud-based offerings on the basis the business and operational needs of the producer/broadcaster or content owner. In design and implementation, the overall offering should also focus on the business and operational benefits rather than the implementation fashionable technology or else cloud is in danger of being characterised as an IT (supplier side) driven fad.

To date there have been relatively few cloud provisioned production platforms brought to market and, as we have already discussed, user take up has been extremely cautious. We are certainly still in

the 'innovators phase' of the adoption lifecycle. Some very early offerings were over-engineered (by engineers, for engineers of course) which in turn made them inflexible. It also made adaptations required to 'fix' the situation prohibitively expensive. Some of these offerings have already been, rather unceremoniously, retired.

Cloud provisioning can transform video production

The cloud has the potential to be a truly transformative innovation in video production, but there are barriers. Most obvious is the bandwidth requirement and related costs. Transporting video content from a production office or location to the cloud for processing (eg, editing or transcoding), or storage and back again, is cost prohibitive even with UDP based accelerators. The bandwidth requirement, particularly for HD content, is so large that the cloud model begins to become unattractive in internet connection costs alone.

Another likely benefit of the cloud is on-demand, pay-per-use storage but, again, what works well for storing a large number of documents/drawing doesn't really work for a production in which the content that needs storing is long form video. A fairly modest 100 hours of DVCPRO HD content is close to 5TB. Within a few months the cost of storage would become prohibitive for a single production budget and would be near parity with purchasing the storage outright and deploying at the facility. Certainly for long-term archive storage the cloud model makes little sense for large amounts of content when compared to an in-house storage solution with an LTO or disk-based deep archive.

The answer probably resides in hybrid implementations in which light-weight functions such as asset management and browse editing are provisioned in the cloud, with the more cumbersome tasks such as long term storage and rendering performed on the ground at the production facility.

My advice is that when considering cloud provisioned services for your next production, take an approach as you would with any other cloud service. Upfront set-up costs should be low; there shouldn't be an unreasonable minimum term or early termination fees; and all costs should be based on usage. Any software deployed at a facility as part of the provision should follow a similar pay-per-use or lease licence basis as the access to the cloud. Value-add services should be incrementally priced and not bundled. In terms of video technologies, these should be entirely non-

proprietary. At the end of a production it should be possible to archive and transport projects so that they can be used in other systems, be they cloud-based or deployed.

As broadcast systems manufacturers race to conquer the cloud, users (finally) have the advantage. It is a low risk venture to trial a given cloud offering, and the focus is now very much on needs of the user rather than the underlying technology.

As the production industry inexorably (if slowly) moves to service provision of whatever flavour, the providers to watch are likely to be those who have experience of working at the sharp end of television production (not in a technology development lab). These offerings will use open technology standards and be operationally focused in the broadest sense. The implementation of technology is no longer a barrier to broadcast video processing or control and as such the industry is (at last) seeing technology as the supplier to the business needs rather than the other way around.

The real value in the cloud is for the content producers. At the end of the day, it is the suppliers' responsibility to convincingly demonstrate its capability to an increasingly discerning, savvy customer. **CSI**

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Proprietary clouds at IBC?

I expect that IBC 2012 will see a significant increase in the use of 'cloud' in presentations and marketing. It may even be one of the key themes. In my view, this is a supply side focus rather than one derived from the genuine needs of production companies and broadcasters.

I also suspect that many will be 'cloud-wash', ie, cloud in name (and possibly architecture) only that do not deliver the economic benefits seen in other industries. An even more sceptical view may be that the cloud is simply a convenient buzzword that provides cover for the sale of more proprietary hardware at the back end. Vendor lock-in remains a very big issue in the industry, and established manufacturers will do all they can to hold onto their corner market for as long as possible. Proprietary clouds? Don't bet against them in broadcast and media tech. This will occlude the genuine advantages of cloud-based production and stymie adoption in the same way the integration issues have plagued IT-based workflows since the early 2000s.