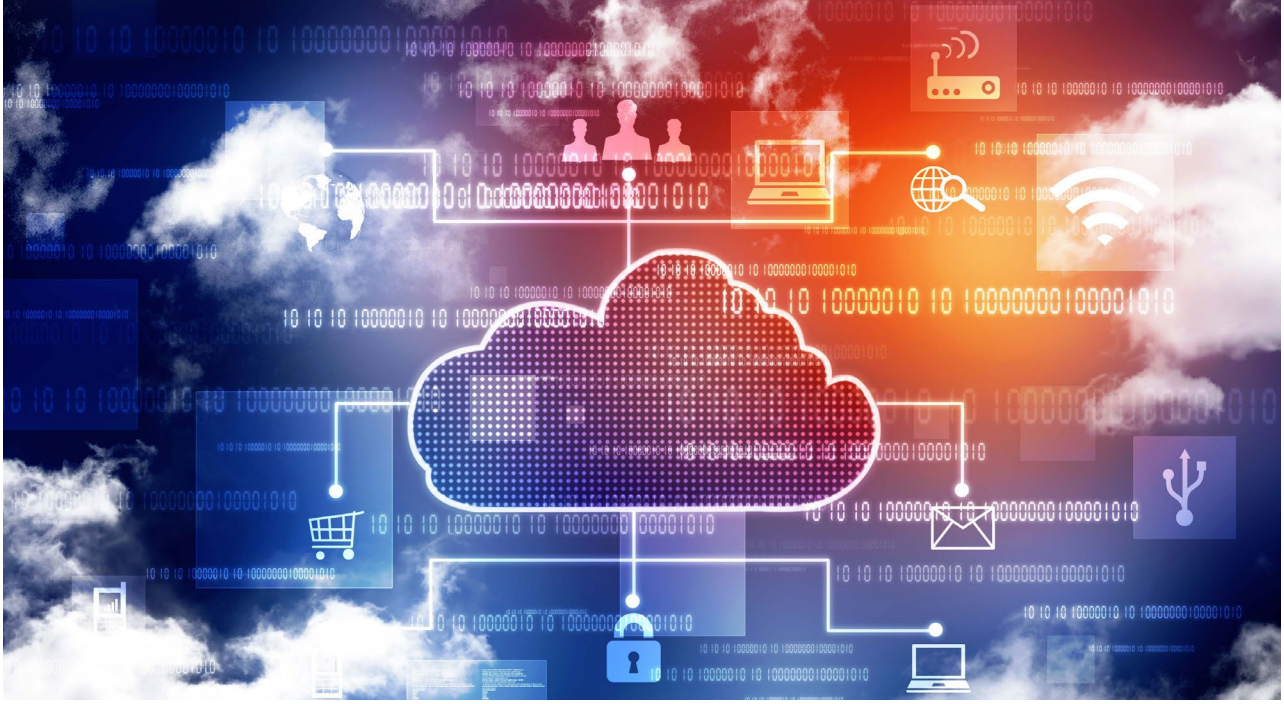


HOW CAN BROADCASTERS AND CONTENT OWNERS **MAXIMISE VIRTUAL WORKFLOWS?**

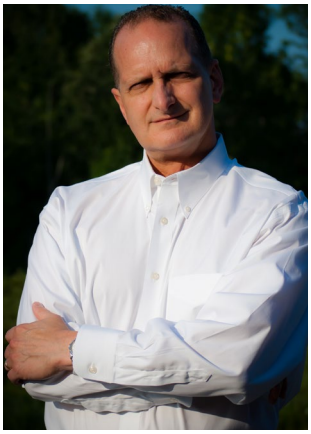
By **Jay Batista**, general manager US, Tedial

Over the last couple of years, 'virtualisation' has become a common theme. But what is virtualisation and what does it mean for broadcasters and media? The shift from SDI to IP means that traditional library functions, workflow engines, automation, linear channel playout and storage archival workflows have been redefined so that broadcasters can be a lot more flexible about how they shoot, edit and distribute their content. Modern software development can leverage the innovations in virtual server environments, allowing the migration of systems that 10 years ago required physical server hardware to be deployed in a simulated environment, often referred to as 'virtualised' systems. This, coupled with the rapid growth of public Cloud infrastructure, means that metadata, monitoring tools and workflows have moved human interaction away from physical machines, and the media itself away from local hardware into a virtualised environment.

The shift towards virtualisation began years ago. Prime examples of its first applications in video systems are the weather presentation green screens with digital graphical overlays, and efforts to automate workflows and standardise delivery/transmission methods. Innovations in IP technology have reached the point that they can support the speed and quality of service requirements of broadcast media. Moving to an all-IP infrastructure supports Studio-Video-Over-IP (SVIP) and can virtualise every aspect of the broadcast chain, from simulated studios for on-air personnel, to computer-generated channel creation for special events.

As we know, the public Cloud infrastructure plays a huge role in the virtualised TV world. When everything is digitised in virtual systems, broadcasters generate a massive amount of data, especially as more consumers demand UHD media (4K and 8K).

Cloud infrastructure is a natural way to extend storage capacity and build deep archives. These



PICTURED ABOVE:
Jay Batista

workflows allow the high-speed launch of new channels, which is a major advantage for fast monetisation through advertiser support. Monetisation of many applications requires broadcasters to take advantage of an IP infrastructure to enable them to participate and benefit.

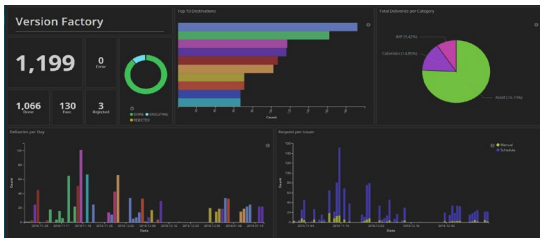
CUSTOMER CHALLENGE

Tedial provides solutions that enable broadcasters and media companies to take full advantage of virtualised workflows. We recently completed an installation for one of the world's biggest television content brands which includes over 27 years of weekly short-form television productions, full feature-length cinema releases, YouTube channels, video game cinematics and esports.

The customer's former operation was quite manual and de-centralised due to the global nature of the company. Its content, which is produced in its main studios, has to be localised and approved in other sites and distributed to more than 60 foreign language partners around the world. The company elected to place its entire system in the AWS Cloud and modernise its processes as part of the migration.

After an analysis of the existing operations and establishment of a road map for successful migration, Tedial supplied its Evolution Version Factory solution, a single automated workflow which leverages the SMPTE IMF methodology to manage creation of the complicated media versions and distribution chores for international language versioning as well as OTT and VoD version support. Components and supplemental files are selected for collection and are identified as Composition Play Lists (CPLs), which define a particular set of media constituents and meet specific end-user requirements. For example, the version for Montreal, Canada VoD may require the video plus French audio and French subtitles. The receiving locations all require separate media version preparations including edits, specific video formats for playback, audio levelling requirements, automated quality control reviews, forensic watermarking, distribution via special content distribution networks and archive requirements.

These location specific requirements are described by a collection of Output Profile Lists (OPLs) and named in simple text so that they can easily be recalled and employed by the user. Because the OPL definitions for a location can sometimes include additional items outside the transformations required, Tedial calls these enhanced-OPLs 'Destination Instruction Set' profiles or DIS profiles. A command can be as simple as "send the Montreal VoD CPL to the Quebec Cable TV OPL," or it can be more complex based on the end-site requirements. This approach drastically simplifies the content distribution process, as the customer simply needs to define the template to be generated for each partner and from that 'copies and pastes' adjusting the CPL (for languages



PICTURED LEFT
Tedial's Version Factory solution

selection) and delivery options in a simple GUI.

THE RESULTS

The primary task of the virtualisation was to move media libraries scattered across multiple continents into a single, managed archive with two key access points; an office in Europe and an office on the US West Coast. Employing the AWS infrastructure allowed the media to be collected in a secure archive, with a reliable disaster recovery plan for the archives. Tedial worked closely with the client to ensure the new business processes orchestrated the staff daily chores in new and efficient manners, and the modernisation of the operations introduced some exciting innovations. For example, assembling new 'Edit Decision Lists' (EDLs) for OTT and VoD distribution versions allows the company to add pre-roll media such as colour bars or black segments, mid-rolls for commercial or promotion insertions, or post-rolls for end credits, etc.

The Tedial Evolution MAM allows the client to relate non-video/audio assets to the CPL collections, so the artwork that applies to a season of programming, like poster art or photography can employ a 'relationship' in the Version Factory DIS package assemblies. In other words, a single 'art' asset can be applied to a season of episodes without re-copying the asset and attaching it to every episode. Also, the Version Factory leverages conditionality to allow distribution of partial media versions to meet contractual requirements. For example, if a contract states that a French version with French subtitles must be delivered by a specific date but it's acceptable to supply the version with English subtitles to meet the due date requirement, the Tedial solution can support this conditional delivery mode.

The result of this new virtualised operation is that the Tedial client can now schedule tasks and activities across their European and US-based operation centres, manage their deliverables to meet their contractual commitments and leverage the virtualised environment and security supplied by a world leading Cloud infrastructure supplier.

Any broadcaster or media entertainment company should consider a move to a virtualised environment and take the first steps of analysing the options, costs and the expected return for a successful deployment. There are multiple steps to ready an existing facility for a virtualised future and to reap the rewards that it brings. ■