



SOLUTION AT A GLANCE

The Omneon media storage and processing platform at HBO Asia has allowed the broadcaster to establish a versatile, efficient and cost-effective file-based model of multichannel, multilanguage broadcast playout in SD and HD. With powerful processing capabilities, high bandwidth and capacity and interoperability with other leading broadcast systems, the Omneon systems enable a comprehensive yet straightforward approach to managing complex assets across the entire workflow, from ingest to playout.

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Box Office Success at HBO Asia: Multichannel, Multilanguage Television Playout

The Challenge

HBO's success in winning and keeping new viewers is the result of its ability to deliver compelling programming across a diverse market while continuously improving back-end processes to expand channel volume cost-effectively. HBO Asia has long excelled in providing exemplary picture and sound quality with uncompromising reliability from a very streamlined operation, but the impending obsolescence of the broadcaster's first-generation playout systems presented a new challenge – that of establishing a whole new infrastructure both to support multichannel, multilanguage playout operations and to ensure improved efficiencies and service quality.

Because, at times, HBO Asia must create five or more different versions of each movie to localize content, meet censorship requirements and satisfy the differing tastes of viewer markets across India, China, Malaysia, Singapore and Hong Kong, the implementation of a new playout system was neither a small nor simple task. The broadcaster's practical goal in building this new multilanguage playout model was to take a comprehensive yet streamlined approach to scheduling and planning for each piece of content throughout the workflow. In establishing this model, HBO sought to institute both the workflow and the technical architecture necessary to expand its channel offering without increasing its operational overhead.



■ CASE STUDY

The Solution Implemented

More than just a replacement of the playout automation was required to pull together HBO Asia's new delivery model. At its Singapore facility, HBO Asia built its new playout system and workflow on an Omneon storage and processing platform including Omneon Spectrum and MediaDeck media server systems, the Omneon MediaGrid active storage system, and the Omneon ProXchange transcoding engine.

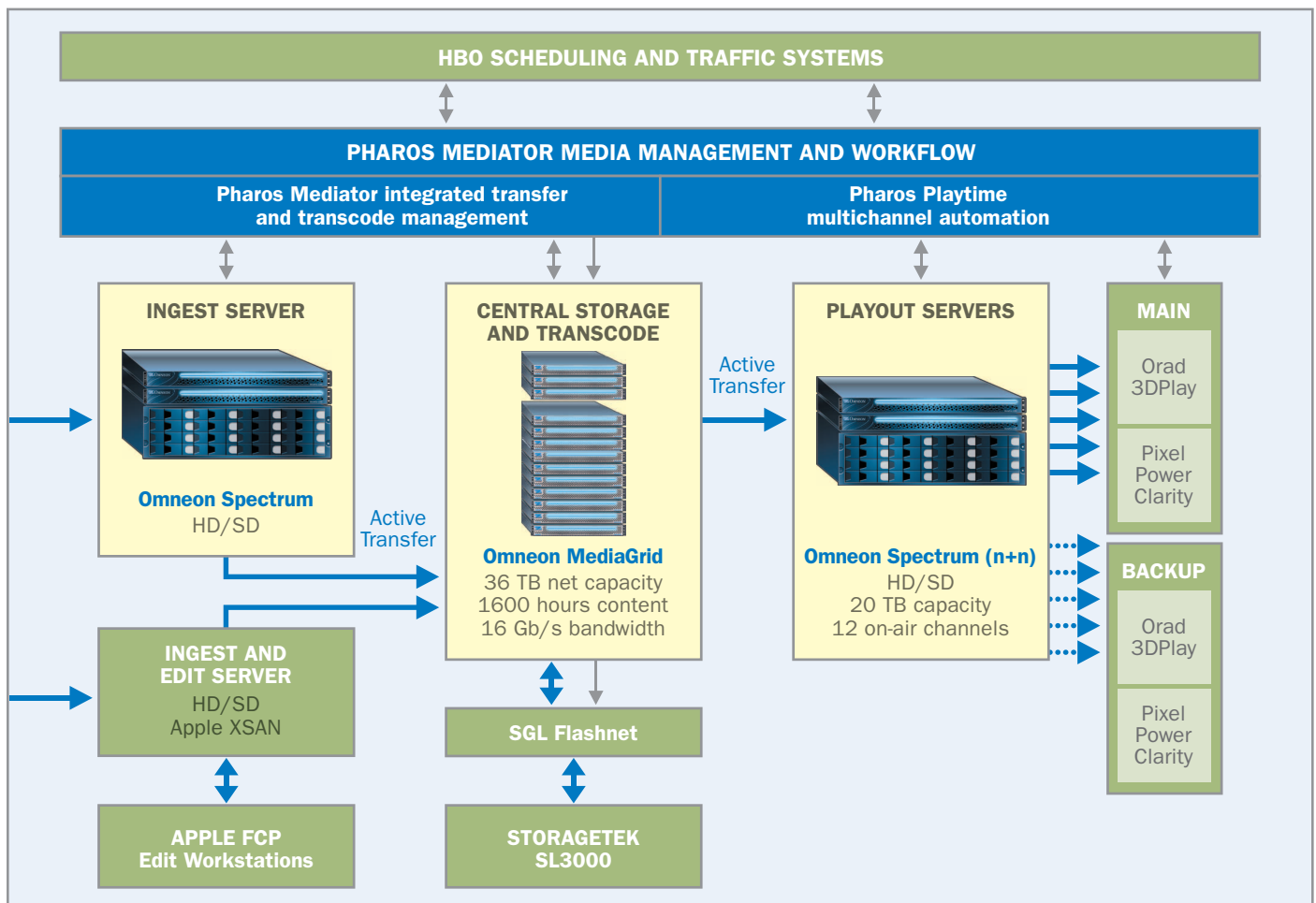
The Pharos Mediator media management and workflow system manages the Omneon storage and processing platform, provides upstream media asset management and workflow automation, and controls multichannel playout automation via the Pharos Playtime software layer. The integrated system also incorporates Pixel Power Clarity production graphics and Orad 3DPlay channel branding. Editing is performed on Final Cut Pro systems, which are tied to a Final Cut Server. A Cavena subtitling system inserts appropriate subtitles into outgoing program streams. A Sun StorageTek SL3000 data tape library under SGL FlashNet management comprises HBO Asia's long-term archive for movie assets.

The Result

HBO Asia's tapeless playout model places high-bandwidth storage at the heart of a highly integrated MAM, workflow and playout system in which one set of operators can efficiently monitor and control the whole end-to-end flow of material. This true multichannel workflow makes a single stored copy of any material and all of its components (audio, subtitles, etc.) available for playout on any channel.

At the front end of this workflow, newly arriving SD and HD programs are ingested by the Spectrum server systems and actively transferred into the Omneon MediaGrid, which features a 36-TB net capacity for 1,600 hours of content, as well as fast throughput of 16 Gb/s. SD and HD material also is ingested into an Apple Final Cut Server editing platform.

HBO editors use Final Cut Pro to edit movie content for compliance with the censorship standards for each target market within HBO Asia's territory. Using shots selected from each ingested movie, editors also create numerous promos. Both master and edited files are transferred from ingest and the Apple systems to central storage on the Omneon MediaGrid system.





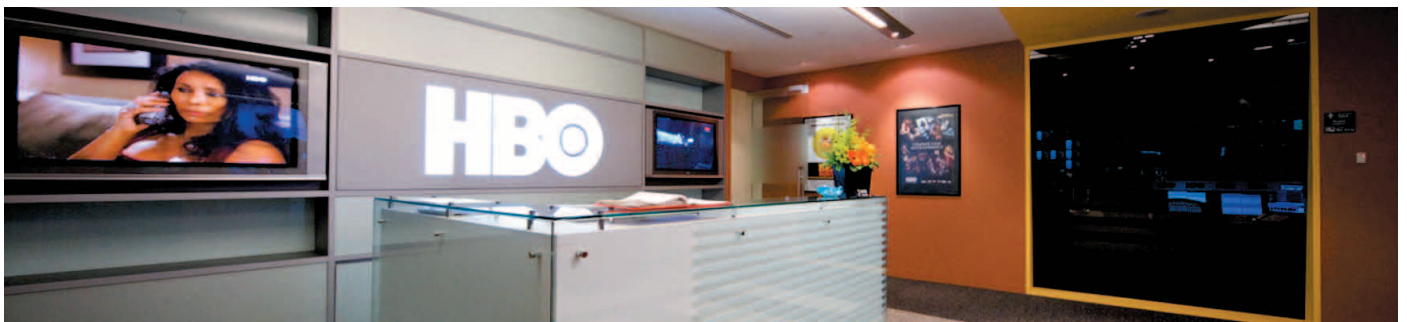
In the HBO model, most devices are controlled via the manufacturer's API using the device's Ethernet interface. Pharos and Omneon worked closely to enhance the API interface connecting their systems and, in turn, to achieve very rich functionality. The Pharos Transfer Management Subsystem manages file transfers through the Omneon ProXchange transcoding facility on the Omneon MediaGrid to render the XDCAM HD files directly for HD playout from the ProRes422 edit master files in the Omneon MediaGrid. Preparing SD content for playout, Omneon ProXchange transcodes files from 50-Mb/s IMX MPEG-2 files to 10-Mb/s long GOP MPEG-2 files in one-third of real time. SD and HD content from the Omneon MediaGrid is actively transferred to the Spectrum servers, which are configured in main and backup systems that provide 20 TB of capacity to support delivery of 12 on-air channels.

Thousands of transfers a day are required to feed HBO Asia's SD and HD services, and those transfers translate to more than a terabyte of data being processed daily. In addition to supporting fast transcoding, the speed of the Omneon MediaGrid as a host for the transcoding engine enables HBO Asia to manage this high volume of transfers effectively. Integrated with the Omneon MediaGrid, Interra's Baton automated content verification system takes full advantage of the storage system's enormous parallel processing capability – spread over about 32 CPU cores – as it rapidly reads and checks the data in every media file nominated by the workflow engine, subsequently reporting the results to the MAM system.

Rather than rely on a master control switcher, HBO Asia has automated channel branding by putting Orad 3DPlay channel branding devices on the output of the Omneon Spectrum servers, all under Pharos Playtime control. The promos are automatically given text tags from the Orad 3DPlay built-in CG in the closing 10 seconds or so to indicate the on-air date and time in each target market for the upcoming program featured in the promo. Several languages of subtitles are authored for every movie, and a Cavena subtitling system controls their insertion into the outgoing MPEG-2 transport streams as DVB subtitle text data.

Omneon MediaGrid and its Spectrum and MediaDeck servers provide HBO Asia with the performance, stability and local support the broadcaster required for its new playout model. In conjunction with Pharos workflow automation and playout systems, the Omneon systems have allowed the broadcaster to meet its goal of taking an end-to-end approach to the scheduling and planning for the life cycle of each media asset.

The interoperability of the Omneon systems enabled continued use of house traffic and channel management processes and workflows; allowed the broadcaster to adopt multichannel channel branding management and, in turn, template-driven autonomous playout; and facilitated simpler management of complex assets with many versions and many subtitle languages for many markets. As HBO Asia continues to extend its channel offering, the open control architecture of the Omneon media storage and processing platform will ease the addition of new broadcast hardware devices.



■ CASE STUDY



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