Dramas and Entertainment Production

Case Study

Native DNxHD® Workflow

Customer >

“TVB wanted to establish a start-to-end High Definition tapeless production network to fulfill the production requirements for our new HDTV programmes. EVS’ field-proven recording and playback server technology was chosen for its flexibility and total system integration features with the HD NLE and archive system.”

Bruce Kruger
Controller
Head of Engineering Division
Television Broadcasts Limited

Television Broadcasts Limited, commonly known as TVB, is the major commercial broadcasting television station in Hong Kong. The main activities of TVB are television broadcasting and programme production, as well as other broadcasting-related activities like programme licensing, video distribution, and satellite broadcasting. TVB transmits over 16,000 hours of programming on its Chinese Jade channel and English Pearl channel free of charge to 2.22 million homes in Hong Kong. TVB is one of the largest producers of Chinese-language programming in the world. Many of the Chinese programmes are dubbed into other languages and are distributed to more than 30 countries, accessible to more than 30 million people every day.
On 31 December 2007, TVB officially launched its 24-hour HD channel, HDJade, providing diverse and brand new audio/visual entertainment in the digital era. In addition to the simulcast of the digital Jade and Pearl channels, two more channels, the J2 and Interactive Information channels, will be launched tentatively in the first and second quarters of 2008.

TVB provides a wide array of programmes, both self-produced and acquired, including HD dramas, documentaries, and live broadcasts on events of public interest, such as national and international sports events. The 2008 Beijing Olympics coverage available in High Definition format will be another driving force in stimulating DTT adoption.

Striding into the free digital era, not only has TVB invested large resources in the implementation of this new technology, but TVB is also the first free television station in Hong Kong committed to providing interactive, enhanced features and data services such as Electronic Programme Guide, programme synopsis, programme content, breaking news, financial news data, weather forecast, games, TV shopping, voting and survey, and more, embracing the benefits of DTT to the fullest.

### TVB’s New Digital Terrestrial Television Broadcasting

<table>
<thead>
<tr>
<th>TVB Digital Channel</th>
<th>Launch Date</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Definition Jade</strong></td>
<td>31/12/2007</td>
<td>24-hour broadcast of TVB HD programmes and first-run acquired HD programmes</td>
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<tr>
<td><strong>Jade</strong></td>
<td>31/12/2007</td>
<td>Jade simulcast</td>
</tr>
<tr>
<td><strong>J2</strong></td>
<td>First Quarter, 2008</td>
<td>Entertainment, lifestyle, travel, music, popular Asian drama series</td>
</tr>
<tr>
<td><strong>Pearl</strong></td>
<td>31/12/2007</td>
<td>Pearl simulcast</td>
</tr>
<tr>
<td><strong>Interactive Information Channel</strong></td>
<td>Second Quarter, 2008</td>
<td>Interactive information</td>
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</tbody>
</table>

*XT[2]*: The XT[2] delivers a full range of applications for live/studio production, post content management, and playout. The XT[2] platform allows full HD/SD compatibility in order to make a seamless transition to HD.
Challenge

To cope with the worldwide demand for programme production and the requirements for the new HD channel, TVB decided to adopt HD non-linear editing technology and expand to a full server-based HD tapeless production network, including digital archiving and media asset management system, which would be the first of its kind in Asia.

The new HD Production Network required the following key features and enhancements:

• a start-to-end system with no transcoding for HD media;
• networked server-based system, with bandwidth/throughput capable of handling a minimum of 50 workstations;
• video and audio editing within the same network under simultaneous real-time process;
• one video channel carrying minimum eight discrete audio channels;
• near-instant playback and slow-motion;
• system-generated low res for production support and browsing;
• metadata with user-adjustable/definable structure;
• metadata exchange/interlink with TVB Corporate Programme Library;
• metadata flow from studio recording to editing and archiving;
• basic MAM with user/access rights hierarchy;
• improvement on workflow efficiency;
• guarantee of high-quality HD media.

IPDirector is an integrated suite of video production management applications that gives you total control of your production via EVS’ XT[2] servers integrated into any workflow. The IPDirector Suite allows ingest control, metadata management, on-the-fly editing, and playout scheduling, all managed from a single interface. Running on a Windows-based workstation, IPDirector is easy to learn for every member of the production team, so everyone on the network can instantly share content, edits, and metadata. The software suite integrates transparently with any third-party system, simplifying transfer of your media to post production tools or archiving. IPDirector expands your horizons by increasing your workflow’s organization and accessibility.
EVS proposed a production workflow based on its XT[2] production server and related content production solutions fully integrated with Avid post production stations. The system that is being put in place for TVB can be presented in three main segments dedicated to drama, entertainment, and live OB productions. In addition, the EVS system proposal was configured to offer maximum integration with Avid post production and network access, guaranteeing an optimized HD tapeless workflow.

In each workflow, EVS deployed the following hardware and software systems and equipment:

- XT[2] production server recording footage natively in Avid DNxHD® codec and also used for playback.
- IPDirector content management system for control of the XT[2], for logging, edit, and rough cut.
- XFile software acting as a gateway from the XT[2] to the Avid world.
The EVS segment of the TVB HD production network project consists of independent production islands, which are tied together by a 10G network, or by the manual exchange of removable media.

In each studio, the operational workflow is based on the XT[2] production server, recording the director’s cut HD feed in “always on” mode. The studio operators use the IPDirector to manage the following operations during the production:

- While recording, log the incoming feed (identify cue points and associate metadata);
- During or after recording, review the footage (based on cue point points) and create clips (by selecting in and out points);
- Associate comprehensive metadata to these clips;
- Select clips and create playlist for rough cut editing or live studio playback;
- Send selected clips and associated metadata from the XT[2] to the Avid world via the XFile gateway.

Thanks to the architecture of the IPDirector, any IPDirector station in any of the networked studios can access any channel of any XT[2], depending on user rights allowance. Avid editors are able to retrieve clips created with the XT[2] along with associated comprehensive metadata on their NLE platform. Once created, highlights and edits prepared by Avid editors can be sent to playback on an XT[2] server along with selected metadata. The XF[2] removable hard disk drive storage platform is used to load the removable media from the OB van, equipped with an EVS XT[2] production server, and to restore it to an EVS XT[2] or push it to the Avid side.
“EVS’ server solution enables a seamless and efficient production workflow within our HD tapeless production network, to support the increasing programme demand. EVS provides near-instant playback/slow-motion as well as the same HD codec with the selected HD post production system. This also forms an integral part in the telecasting of live international sports events such as the Olympics, World Cup, and TVB’s renowned live variety shows such as TVB Anniversary Gala, etc."

K L Yeung
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