Application

OMNEON VIDEONETWORKS

Program Duplication

Omneon and Tele-Cine

Background

Customer: Tele-Cine Ltd.

Location: London, England

Description: Established in 1979, Tele-Cine is London's largest TV post-production and broadcast facility, offering a full range of services including the transfer of film rushes, editing, duplication, digital encoding, computer graphics and program transmission. Tele-Cine's "Short Form" department specializes in mastering and duplication for the commercial and music video business sectors, with a client base that includes many of the UK's major record labels. Tele-Cine is part of the Liberty Livewire Corporation.

Challenge

Duplication plays an important role in a video facility's revenue stream, therefore any ability to increase workflow can lead to immediate and tangible benefits. In its simplest form, all tape dubs require two VTRs — a player and recorder. Departing from this tradition, Tele-Cine sought a server-based solution that would minimize the number of VTRs used per dub and simultaneously increase the dubbing area's overall workload and efficiency. Concurrent with improving workflow, the selected server must also be capable of readily and cost-effectively expanding to support a variety of concurrent applications such as transmission.

Solution

Hardware: Omneon Media Server System consisting of two MEDIASERVERs, five SDI/SDTI MEDIAPORTs, five DV/MPEG MEDIAPORTs, three MEDIASTOREs and one MANAGER.

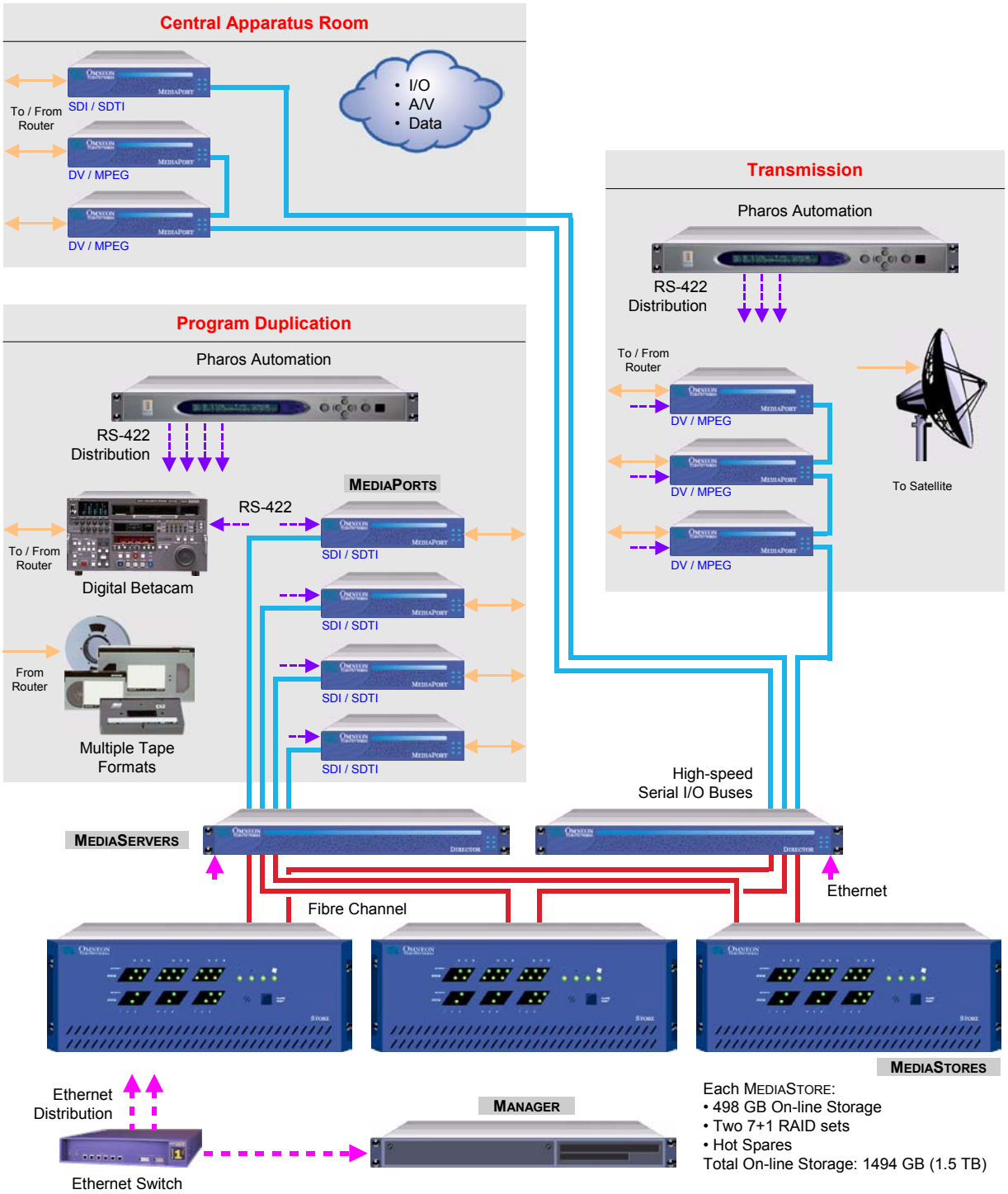
Automation: Pharos® Automation systems.

Peripherals: Routing switchers, Digital Betacam® recorder.

Integrator: Tele-Cine Ltd.

System Configuration

The figure below illustrates a simplified block diagram of Tele-Cine's combined duplication, transmission and communications system.



The Omneon system consists of two MEDIASERVERs, five DV/MPEG MEDIAPORTS, five SDI/SDTI MEDIAPORTs and three MEDIASTOREs, each of which includes two 7+1 RAID sets and 498 GB of available storage. Total system capacity is 1.5 Terabytes. Each MEDIASERVER connects to each MEDIASTORE via three Fibre Channel loops for maximum bandwidth. All MEDIAPORTS connect to the MEDIASERVERs using high-speed serial I/O buses that each provide up to 400 Mbps of bandwidth.

Within the Tele-Cine facility, three different areas of functionality connect to the Omneon Media Server System's central storage pool — each area functioning independently.

- The "**Program Duplication**" area uses four SDI/SDTI MEDIAPORTs for high quality ingest and playout in uncompressed ITU-601 format. Each MEDIAPORT is controlled via RS-422 from a specialized Pharos duplication automation system. Using the Omneon MANAGER, MEDIAPORTs can be assigned as either ingest or playout for maximum utility.
- The "**Transmission**" area uses three DV/MPEG MEDIAPORTs to broadcast completed programs to satellite. Each transmission MEDIAPORT is also under automation control, using a second Pharos system that is "control" isolated from the duplication system — yet sharing common storage.
- The "**Central Apparatus Room**" (C.A.R.) uses two DV/MPEG MEDIAPORTs and one SDI/SDTI MEDIAPORT for data and audio/video input to the overall facility from a variety of sources and formats. Each MEDIAPORT is controlled manually using Omneon's CLIPTOOL application.

Workflow

At Tele-Cine, there are in fact *three* independent workflows originating from the Omneon Media Server System. The system was originally installed for duplication purposes, but its capability and performance have been expanded based upon customer demand — simply by adding MEDIAPORTs and an additional Pharos automation system.

- For the "**Duplication**" workflow, clips are ingested from Digital Betacam under Pharos control. Once ingested, the source VTR itself is free to record, adding to each job's capacity. Clips are dubbed from the server (via routing switcher feeds) to a variety of tape formats on demand. Depending upon the content, clips may reside in the server for a number of weeks — as quite often dubs of popular music video clips are required on an on-going basis. When demand for a particular clip subsides, that clip is deleted freeing up space for others.
- For the "**Transmission**" workflow, the Omneon server was expanded to support a new revenue stream. A dedicated transmission suite was purpose built to house the automation and transmission consoles, but a dedicated server was *not required* because of Omneon's inherent expandability. The program "Go Barking Mad" (a gaming channel dedicated to dog racing) is ingested from tape and played out from the server using a completely separate Pharos automation system (with separate RS-422 control).

  Of the three transmission MEDIAPORTs, one is dedicated to ingest, with the remaining two assigned as the preview and primary playout channels. The program feed is transmitted via the BSkyB digital satellite platform per broadcast schedule.
- Independent of duplication and transmission, the **C.A.R.** workflow provides Tele-Cine with a highly versatile gateway in and out of their London facility. The Central Apparatus Room includes telephones, network connections, ISDN lines, audio/video circuits and high-speed data links that are used "on demand" based on client and facility

needs. Under CLIPTOOL control, three MEDIAPORTs (two DV/MPEG, one SDI/SDTI) can ingest or playout any form of content to or from the Omneon Media Server System — either compressed MPEG or uncompressed 601. In this manner, clips can be routed within London (from facility to facility) or to any distant location as required.

Summary

Tele-Cine selected the Omneon system for a number of key reasons:

- The Media Server System's versatility, format independence and expandability played a fundamental role in the decision. Expansion was the goal from the outset, rather than an afterthought. Once Tele-Cine's duplication workflow was proven, the server was scaled to support the transmission and C.A.R. functions. Each area maintains its own independent workflow, yet shares media from a central, common pool of storage.
- In economic terms, a large increase in functionality was accomplished for a relatively small increase in equipment cost — by adding MEDIAPORTs and a second Pharos automation system. An entire second (dedicated) server was *not* required. This flexibility in terms of "channel" scaling allowed Tele-Cine to go to air in a short period of time with an entirely new client service.
- Omneon's flexibility in terms of multiple video formats was also vital. The ability to mix and match formats on the same server meant that Tele-Cine could simultaneously utilize uncompressed formats for dubbing and compressed formats for transmission — without purchasing separate servers.

Overall, the Omneon installation at Tele-Cine sets down a foundation for sharing program assets, improving production workflow and reducing production timescales — all in a very cost effective manner. Additional expansion of the Omneon server can be accomplished with ease, based on new client opportunities and new revenue streams.

OMNEON VIDEONETWORKS

HEADQUARTERS:
965 Stewart Drive • Sunnyvale, CA 94085
Phone: 1.866.861.5690 • Fax: 408.585.5090

EUROPEAN OFFICE:
20 Campbell Court, Bramley • Basingstoke, Hampshire RG26 5EG • United Kingdom
Phone: +44 (0) 1256 884 450 • Fax: +44 (0) 1256 880 900

www.Omneon.com