Astana Media Center

CASE STUDY

Kazakhstan's Ultra-Modern Astana Media Center Builds Production and Playout on Harmonic Media Server and Storage Platform

The Challenge

The new Astana Media Center (AMC), officially named Kazmedia Ortalygy, is one of the most spectacular modern technological centers within CIS, the Middle East and Europe. Situated in the Republic of Kazakhstan's capitol, Astana City, this 22-story, 246,000-square-foot TV and radio facility has 14 TV studios, a cinema and concert hall, video and audio editing suites, machine rooms, and offices.

To ensure simple, reliable playout for all channels broadcast from the facility, Kazmedia Ortalygy wished to establish a single media server and storage platform that would be easy to use, maintain, scale up, configure, and reconfigure. Because the volume of media and metadata to be processed by the platform was high, and because the media files themselves would be acquired and stored in different formats, it was necessary for the unified storage platform to be versatile and compatible with various vendors' equipment, including production and broadcast automation systems.

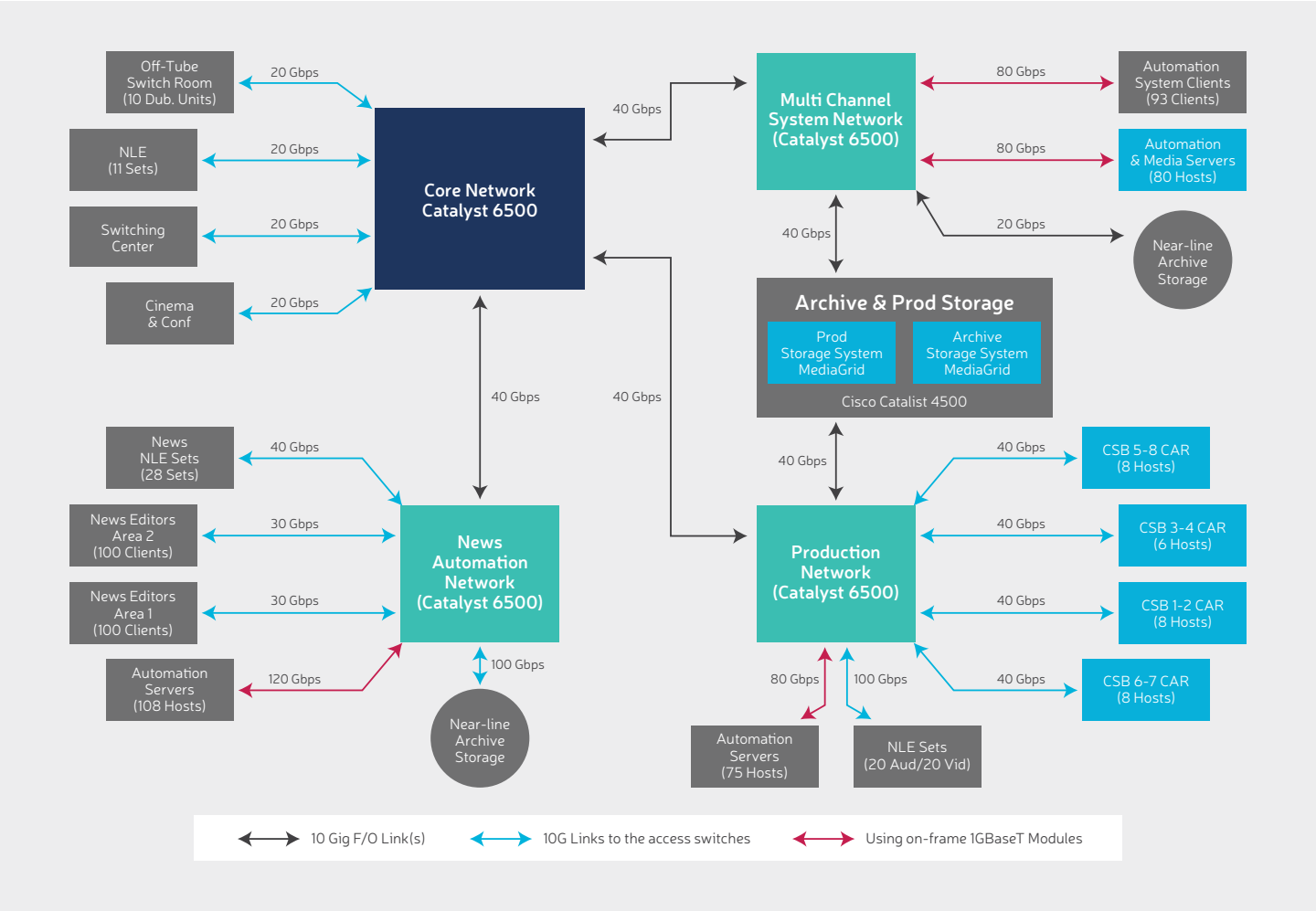
Kazmedia Ortalygy's division into several technological areas meant that there would be massive exchanges of media both between those areas and with external partners and sites. In addition to providing bandwidth to support this exchange, the new storage platform also needed to support a large number of editing stations, media servers, and other clients simultaneously. Considering these key requirements, Kazmedia Ortalygy took on the challenge of building a robust storage platform that could deliver both the simplicity of a NAS and the performance of a SAN.

SOLUTION AT A GLANCE

CHALLENGE:
The Astana Media Center (AMC), a TV and radio broadcast facility located within the Republic of Kazakhstan's capitol, wanted to establish a flexible, reliable SD/HD media storage system that would support processes ranging from ingest and editing to playout and archiving. The company's challenge was to implement a media server and storage infrastructure that would handle not only the SD/HD TV programming created in Kazakhstan, but also the multiformat syndicated content produced abroad and rebroadcast in the country.

SOLUTION:
Harmonic provided AMC with media servers supporting ingest and playout, as well as a centralized and secure media storage solution that handles all media formats edited within the facility. The high bandwidth of the Harmonic MediaGrid central storage system ensures that editors and other users can access stored content quickly. The flexibility and interoperability of the facility's new Spectrum media servers assures support for all incoming content and internally produced programming, and the systems' scalability enables easy reconfiguration to meet the demands of current and future tasks.

APPLICATIONS:
- Ingest of media data
- Editing using Apple FCP
- Playout
- Online storage
- Files transfer to/from Xendata Archive and QualStar tape libraries



The Solution and Workflow

In less than a year, Kazmedia Ortalygy and Turkish systems integrator Akfa Teknoloji installed a Harmonic platform including Harmonic Spectrum and MediaCenter media servers, which supply the facility with a minimum of 228 SD/HD video channels, as well as four large-scale MediaGrid storage systems that provide 540 TB of usable storage capacity. The installation represents one of the largest single deployments of Harmonic media processing and storage systems.

The Kazmedia Ortalygy facility consists of four main areas—news, program production, archive, and broadcast control—built to support playout of nearly every TV channel broadcast across Kazakhstan. The facility contains 14 1080i HD studios including four news studios, eight studios for other programs, and two studios for producing TV dramas (1080p). Each studio is equipped with a Spectrum server system including a MediaCenter 2200 system with a two- or four-channel MediaPort supporting the full format range required.

The MediaGrid storage systems installed across the facility include a 180-TB system for news, a 130-TB system for program production, a 120-TB system for multichannel rooms, and a 110-TB system serving as an archive. In the MCR area, Kazmedia Ortalygy and Akfa also installed Harmonic gear including eight MediaDirectors (each with two fiber 10GBE interfaces), 76 two-channel MediaPort 7000 systems, a MediaStore disk subsystem based on fiber channel interfaces, and a notebook-based control system. Control is provided by a Pharos automation system, and Dalet automation is used for news production and overall content management. An additional Spectrum server system—a MediaCenter 2200 with 12 TB of cumulative capacity and a two-channel MediaPort 7000 and control system—is installed in the facility's concert hall. The upgrade has equipped Kazmedia Ortalygy to produce up to 20 TV channels and up to 10 radio channels.

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Today, Kazmedia Ortalygy operates nine TV channels including Khabar, the state information channel; the 24KZ 24-hour news channel; the Bilim educational channel; the 24-hour national satellite channel Kazakh TV; Kazakhstan, the first domestic national TV channel; Balapan, the children's channel; Madeniyet, a channel dedicated to Kazakhstan and world history and culture; and Channel One Eurasia and Mir, which focus on informational, socio-political, cultural, educational, documentary, and sports programs, as well as movies. Kazakh TV is broadcast in 93 countries throughout North and Central America, Western and Eastern Europe, North Africa, the Middle East, Central Asia and Transcaucasia.

At the present time, Kazmedia Ortalygy uses XDCAM HD-50 and DVCPRO-HD formats for production and broadcast, and MPEG-2 soon will be added to this list. Editors work with Apple Final Cut Pro systems, dozens of which operate simultaneously. Each MediaGrid system is used by more than 30 of these NLEs. The Harmonic central storage systems also are linked to a QualStar tape library with Xendata archiving software.

The Result

Equipped with a range of best-of-breed broadcast systems, the Kazmedia Ortalygy has become one of the region's most advanced production facilities. Opened in May 2012, the facility has the capacity to operate 20 TV channels, 50 video edit suites, 10 radio stations, and 35 audio production suites. All of Kazakhstan's national TV and radio stations, as well as the National Media Archive and various international broadcasters, eventually will operate from the state-of-the-art facility. Live programming from the TV channels produced within the facility is displayed on giant multimedia screens affixed to the building exterior.

Supported by Harmonic media server and storage systems, all workflow areas are unified in terms of infrastructure, equipment, and software. The platform provides uninterrupted and reliable operation for HD content production, editing, and broadcast. Together, Harmonic systems have simplified maintenance and increased operational reliability while enabling easy scalability, and their high interoperability has assured compatibility and smooth integration with third-party equipment and software.

Implementation of a fast Ethernet interface for data exchanges with the MediaGrid systems has not only facilitated a significant decrease in the cost and complexity of the installation, but also provided superior performance comparable to that of best-of-breed SAN systems. Because it is based on Ethernet data transfer technology, the MediaGrid system communicates easily with third-party hardware and software and can be scaled easily and with no interruption to ongoing operations. The storage system bandwidth is sufficient for both current and future tasks including ingest, editing, internal and external file transfers, and playout.

As Kazmedia Ortalygy specialists had anticipated, the unified Harmonic platform yields extremely high performance in terms of media storage and processing. The flexibility and scalability of the system will allow the Kazakh facility to expand as needed to continue serving as a uniquely sophisticated media production and broadcast center.