

Globecomm Keeps Showtime Networks On the Air

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In March 2005, Viacom Chairman and CEO Sumner Redstone made headlines by announcing that his company would spin off CBS, the network it had acquired only six years earlier, in order to revive a stagnating stock price. Analysts applauded the move, then went on to cover the next big deal. But down inside the Viacom organization, the decision had a big impact on one of the most storied names in cable television.

Showtime Networks went on the air in July 1976 on a single cable system in Dublin, California. Two years later it went national, before becoming a subsidiary of Viacom in 1982. Over its 30-year history, Showtime acquired or launched a total of 14 channels of feature films and original programming, including The Movie Channel, and was one of the first cable networks to broadcast one of its channels in HDTV.

In 2005, Showtime was originating its programming from a Viacom-owned broadcast center in Hauppauge, New York. Decisions in the Viacom executive suite, however, had bundled Showtime into the CBS spin-off. That meant the company could no longer turn to Viacom for program origination.

Fortunately, Showtime had friends in the neighborhood. In 2003, the company had gone looking for a vendor to provide the origination and satellite distribution for a video-on-demand (VOD) service. After a thorough bidding process, Showtime vice president of broadcast engineering Jim Occhiuto selected Globecomm to design a VOD network from content ingest through distribution to servers located at cable headends. Once Globecomm's Broadcast Lab completed the design, he asked the company to build and operate the system from its Long Island International Teleport in Hauppauge. By 2007, Globecomm had

been successfully running the custom-designed VOD network for four years.

When Showtime issued the RFP for a new broadcast center, it was natural for Jim's team to include Globecomm among the bidders. And in June 2006, they awarded Globecomm the contract, based on technical capability, depth of engineering support, proximity to New York City and competitive pricing. The fact that Showtime's staff would find themselves working in the same Long Island town was an added bonus.

The Clock is Ticking

Once the contract was awarded, however, the clock started ticking. "We had only 12 months to design, integrate and go on-air," said Globecomm vice president for broadcast technology Tom Parish. "We simplified the design by building it at our teleport. But that still meant major additions to power, HVAC and the total square footage of the facility. Once construction started, we were running multiple shifts around the clock laying over 20,000 wires and cables connecting control panels, ingest equipment, routers, servers and the transmission systems at the teleport."



Tom assigned the job of designing the broadcast center to principal engineer Augusto Villasenor. It was the beginning of a highly productive partnership among Villasenor, Showtime's Occhiuto and the broadcast center staff.

"Jim wanted a new approach to master control, something that would reduce wear and tear on the operators and improve their ability to make good choices," said Villasenor. "I started by talking to everybody, from managers to operators, to find how their workflow went and what problems they had had with their previous systems. Then

Executive Summary

Globecomm designed, built and began supporting the 24x7 operation of the national broadcast center for Showtime Networks, collocated at Globecomm's headquarters in Hauppauge, New York. Through a close working partnership, the companies moved the project, based on a new workflow model, from concept to air in only 12 months. The flawless cut-over from old to new facility was accomplished in a matter of hours. ■

we designed a set of "pods," each controlling two or four services, instead of cramming everything into one big room. Each pod was equipped to manage all of their services, so that there would never be a need to run to another console. Though it complicated the design, Jim considered it well worthwhile."

Reducing Cost and Complexity

While the pod system made the design more complex in some ways, Augusto worked to reduce complexity and cost elsewhere. The traditional design for a digital broadcast center sends all incoming and outgoing signals through a single big router. Augusto designed a modular system with two paths for every signal. Inbound signals could go either to the router or direct to the ingest system; outbound signals could go to the router or direct to the uplink.

The modular approach eliminated the router as a single point of failure and reduced the total amount of cabling required. It also made possible the use of a smaller router. When the Showtime staff found a suitable one sitting in their warehouse, Augusto integrated it into the design.

In addition to designing and integrating the broadcast center, Globecomm agreed to operate the underlying infrastructure. Responsibilities included uninterruptible power, HVAC, technical operation of all equipment (with SLAs for uptime), uplinking and distribution to cable headends.

"Globecomm stepped into the same role that Viacom had played in the days before the split," said Keith Hall, Globecomm's vice president for network services. "Showtime personnel ingest the content, do the scheduling and handle day-to-day operations. We make sure that the decisions made in the broadcast center are executed across the cable and DTH universe."

Managing the Transition

The most nerve-racking part of any broadcast center deployment is putting it on the air. In just a couple of hours - instead of weeks or months - Showtime transitioned 25 standard digital channels, 3 HD channels and 1 analog channel to the new broadcast center. (There were 29 channels because of the need for separate East and West Coast feeds.) But like the duck that glides serenely across the still water while its feet paddle furiously underneath, that smooth transition was the product of intense planning as well as on-the-spot improvisation.

"I was concerned," said Augusto Villasenor, "about having everything working on Day One. So we raised the issue with Jim Occhiuto. Naturally, he was thinking about the same issue and came up with the solution. We commissioned the ingest server early, set up a small ingest operation and put content on the new media servers so that we could work out the bugs. That quickly led us to issues concerning the content database management. To make sure that each ingested file was accompanied by complete metadata, Jim and I decided to integrate the digital asset management system right into the ingest operation.

"Our design made use of the same Harris Automation system that they were using at Viacom," Villasenor continued, "so interoperability was no problem. But just to make sure there was a flawless start, Jim set up network connectivity to Manhattan and the existing Viacom NOC using private fiber links. Days before the on-air transition, we were already transferring digital assets via secure file transfer to our new video servers. We had our Invenio digital asset management system running in parallel with theirs, with all assets synchronized, before we went live."

No Match for Mother Nature

Even the best preparation, however, is no match for Mother Nature. "Right after we went live," said Keith Hall, "there was a huge rainstorm with gale force winds. It made headlines by knocking out part of the New York City subway system. Here in Hauppauge, we had a major flood with an inch of water throughout our building and three feet of water in the teleport. Five of our guys were outside digging ditches while the rain was pouring down. But if you were a Showtime viewer, you never knew it happened. We were very proud of that."

"It was amazing to see how everyone banded together to ensure the services would not be impacted," says Jim Occhiuto. "From administrative assistants to presidents, everyone chipped in."

"We're very grateful for the trust that Showtime Networks has placed in us," said Globecomm CEO David Hershberg. "Their entire business rides on the signals coming out of that broadcast center. Our commitment to reaching their viewers has to be as great as their own." ■



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