

Safe Bet on Big Fiber

Is installing fiber-optic cabling a risky bet? Not if you're a contractor upgrading the AV network in this huge Las Vegas hotel and casino.



When Advantage Electric in Las Vegas won the job to upgrade the property-wide video distribution system for Westgate Las Vegas Resort & Casino, Advantage Electric's senior on-site technician Evan Zucker knew he and his crew would have no simple task.

The Westgate is not just any hotel—even by the colossal standards of sprawling Las Vegas casinos. With 30 floors, nearly 3,000 rooms, and 225,000 square feet of conference space, the Westgate hums 24/7 with countless video displays that provide information, advertising, and directions to guests and visitors. In addition, its towering LED marquee features north- and south-facing screens.

But the screens were just the beginning. The new network would also serve the property's conference center, extensive surveillance system, corporate data, and automated parking lot systems. And this serious AV network upgrade would need to last for years, if not decades.

So how do you upgrade a network that requires hundreds of cabling runs covering thousands of feet? In these bandwidth-hungry times, there is only one viable option.

FIBER-OPTIC CABLING. MILES OF IT.

The glass strands of fiber-optic cabling transmit data as light and offer nearly unlimited bandwidth. As a result, fiber can carry bandwidth-heavy video for the hotel's displays and

surveillance systems, content for the property's giant roadside marquee, and much more.

Advantage Electric wouldn't specify just any ordinary fiber-optic cabling for this job, though. The glass strands of typical fiber-optic cabling are known to be fragile and difficult to terminate in the field without calling in experts and incurring additional costs.

Advantage and Zucker know a technology that clears these hurdles. They specified Cleerline Technology Group's SSF fiber-optic cable, which has been tested to be more durable than other fiber and Category Ethernet cable. In addition, technicians require only brief training to be able to terminate Cleerline's SSF fiber-optic cabling in the field safely and effectively.

The biggest selling point for the new fiber network was the distances of cable runs. Covering distance is critical in a large property like the Westgate. Long runs of Category cabling or HDMI simply can't cover these distances without incurring critical signal loss. "We had cabling distances of over 2,000 feet," says Zucker, "and about 4,000 feet of fiber ran to some parking lots and garages."

The Westgate property was built in 1969, so Advantage had to work within the existing infrastructure. As video has become more prevalent, hotels like the Westgate that distribute it have had to expand from



one central hub to many Internet Distribution Systems (IDS) rooms to reach displays with shorter cabling runs. Still, HD video and other network demands stress those networks and their bandwidths to the max.

With its previous system, Westgate used media devices connected to every display via HDMI to distribute video. Media devices were overtaking IP closets. Now, all that content is stored on a server and simply sent to the displays via Cleerline's SSF fiber, using TechLogix connectors. This upgrade reduced the number of components and failure points, in addition to eliminating media device problems and syncing issues with HDMI connections.

Advantage ran a combination of 48-strand fiber, 90 percent of which was in multimode, which is better for shorter distances. The conference center and the marquee, however, are fed by 48 strands in single mode, which yields better results with long distances of cable runs. The marquee needs about 20 strands, Zucker explains, so the extra strands allow it to swap to a redundant infrastructure if necessary.

Advantage Electric also built a new rack system in the main IDS area. In the demo phase, it connected with the older system via jumper cables. That way the systems migrated smoothly from old to new.

The Cleerline SSF cable offered distinct advantages when it came to "pulling" the wire through conduit pipes that often don't provide clear paths. Because of the large scope of the project, in addition to Advantage's low-voltage technicians, who are trained in "pulling" wire that is more fragile than high voltage, Zucker had to use electricians as well. Cleerline's SSF fiber is rated with up to ten times the pull strength of Category and other cabling. "We have yanked the s**t out of this stuff and not hurt it," Zucker says.

Perhaps the biggest benefit for Advantage Electric and the Westgate was the time and money saved. A project that could have taken many months of painful and staggered upgrades was completed in just three months. "If it wasn't for their ability to terminate fiber in the field, the project would have run much longer," says Dan Sano, Senior IT Operations Manager, Western Region, for Westgate Resorts.

The Westgate isn't saying how much it saved, but a huge Las Vegas hotel and casino surely knows the books. Cleerline's SSF fiber turned out to be a good bet. Sano reports there

CUSTOMER NAME:

Westgate Las Vegas Hotel

LOCATION: Las Vegas

SCALE: 3,000 guest rooms, plus 225,000 square-foot conference space

BUSINESS IMPACT: Long-distance data/video runs operate more smoothly and fast

FIBER RUN SNAPSHOT:

- Miles of fiber-optic cabling were run, in a combination of 48-strand fiber, 90 percent of which was in multimode, which is better for shorter distances.
- The conference center and the marquee are fed by 48 strands in single mode for better results with long distances of cable runs.
- The marquee needs about 20 strands, so the extra strands allow it to swap to a redundant infrastructure if necessary.
- Some runs to the parking garages and lots ran more than 1,000 feet.
- Fiber is run to video displays for directional signage. Many installs are presently transmitting only on Full HD 1080p video, but are set up for the transition to 4K and beyond.

At the Westgate in Las Vegas, the convenience of Cleerline's fiber-optic cabling was a bottom-line difference-maker as well. "If it wasn't for their ability to terminate fiber in the field, the project would have run much longer," says Dan Sano, the senior IT Operations manager, Western Region for Westgate Resorts.

have been no issues with the new Cleerline fiber-optic AV infrastructure.

Cleerline's SSF fiber-optic cabling has been a good bet for Advantage Electric, too. The firm has learned to use it well. Zucker has been able to train his crews in pulling and terminating Cleerline fiber, and as a result Advantage has fiber upgrades in sprawling Las Vegas properties down to a science.

