

Hurray for *Hollywood* *Casino's* Video Solution

What happens when an educated end user sets out to design its own 2,100-camera surveillance system? In the case of Indiana's Hollywood Casino and its new superboat, tremendous success — thanks to a cohesive partnership among end user, integrators and suppliers.

BY THE EDITORS OF SECURITY SALES & INTEGRATION

The crown jewel of Penn National Gaming's 15+ property portfolio, Hollywood Casino in Lawrenceburg, Ind., opened its \$336 million gaming "superboat" this past summer. The gaming vessel's 1930s Hollywood-themed, art deco design serves as a backdrop for the events captured by its \$7 million state-of-the-art video surveillance system.

As the largest gaming facility in a 1,000-mile radius, the Hollywood Casino craft's two decks (each wider than an aircraft carrier and almost as long as a football field) can accommodate nearly 9,000 guests. Among the casino's major attractions are an expanded high-limit gaming area and a 41-table World Poker

Tour® poker room, the largest room of its kind in the Midwest.

The casino brings classic Hollywood to life with a 60-foot serpentine video wall, nine large billboards, more than 300 flat-screen displays, and a movie set back-lot depicting Central Park (complete with trees and foliage sprinkled among slot machines). At the center of it all is "Hollywood on the Roof," a performance area and high-energy circular bar with a panoramic screen resembling the Hollywood Bowl.

Monitoring more than 3,200 electronic games, 88 live table games and six electronic tables amidst a complex interior design environment, the 2,100-camera surveillance system also covers the hotel, skywalk and parking garage. From a lengthy evaluation process to major interior design changes to challenges posed by recording in two separate control rooms, this was a complex



The Hollywood Casino video surveillance project involved connecting the system from the main building above to a new "superboat" (inset, upper right).

project involving a diverse and skilled team of players.

CASINO'S DUO TAKE THE LEAD

With Indiana Gaming Commission (IGC) agents on property 24/7 to monitor gaming operations for compliance,

Inc. was asked to oversee the surveillance upgrade. For nearly 40 years, Dallmann Systems has handled a range of projects for clients such as Louisville Int'l Airport and National Amusements movie complexes in Ohio, New York and Massachusetts.

portance was choosing a system that would be user-friendly for anyone from entry-level operators to IGC agents who require their own onsite review station. "I wanted to be assured that we could get the system installed and running quickly, and that our operators could start actively using the system without having to memorize all the camera numbers," he says.

After evaluating the range of surveillance and technical needs, Burnett assigned Krabbe to conduct initial research and compile equipment lists, quotes, integrator information, etc. The duo then reviewed the findings and Krabbe prepared a master list of pros and cons for each integrator and solution provider.

"A large portion of our decision was based on using the systems during 10 live demos, as well as during site visits to other casino properties where we considered the range of their systems," says Burnett. From the technical side, Krabbe notes, "We were looking for a stable system that was simple for operators to use and also easy to maintain. It also had to be cost effective and deliver high quality video to meet the regulatory recording requirements of the IGC."

Of particular concern for Penn National Gaming is the ongoing pressure to maintain IGC compliance. If Hollywood Casino steps out of compliance, the property may be assessed substantial fines. Manny Becker, supervising agent for IGC, is located on property to oversee agents assigned to 24/7 watch of the casino's gaming activities.

"The new surveillance system meets the most updated requirement for gaming establishments to go to a digital system," says Becker. *(For a complete list of the equipment used in this project, view the online version of this story at www.securitysales.com.)*

As Hollywood Casino would be adding more Pelco equipment, the new surveillance system had to work seamlessly with the manufacturer's cameras and matrix, as well as integrate with the casino's Micros point-of-sale (POS) software. Nearly seven years of research led Burnett and Krabbe



Photos by Patrick Banfield

Penn National Gaming was highly invested in choosing a best-of-breed surveillance system. Hollywood Casino executive management assigned two of its top surveillance personnel to select the right solution.

Surveillance Director Mike Burnett and Lead Technician Chris Krabbe not only led the process of evaluating systems but were hands-on in every aspect of the project. Both profess to be dedicated SSI readers and keep stacks of the trade magazine on hand for reference.

Based on his long-standing relationship with Penn National Gaming, Tom Dallmann of Jeffersonville, Ind.-based systems integrator Dallmann Systems

To round out the team, Todd Pulver and Tim Lyvers of New Albany, Ind.-based Advanced Digital Systems (ADS), a casino specialist, were brought in to complete the land-to-vessel surveillance system installation. "Because of the complexities involved in an installation of this size and scope, it was mission critical to bring on additional expertise," says Dallmann.

FLEXIBLE SOLUTION IS SOUGHT

Confronted with a property expansion and plans for future growth, Burnett knew the new solution had to be scalable and compatible with the casino's existing systems. Also of great im-



Courtesy Penn National Gaming

Hollywood Casino's "On the Roof" projection dome area is monitored by cameras strategically placed 31 feet above the circular bar and performance area.

to recommend the casino purchase a digital recording system from Synectic Systems Inc. (Synectics), a U.K.-based supplier with U.S. headquarters in Carpinteria, Calif.

"When the first Synectics demo was brought in, it was an eye-opening experience for us because of its ability to integrate to analog and third-party systems. We knew this kind of hybrid solution was exactly what we needed," says Krabbe. Burnett adds, "Synectics' Synergy video integration software has the easiest mapping system and most user-friendly interface of those we evaluated. The system is very reliable."

BUILDING THE SYSTEM'S BRAINS

Hollywood Casino's new control room is one of the country's largest. Access is monitored by IGC, so a mantrap and separate review room was built to streamline the process. The round-the-clock demand placed on agents led Krabbe to design a comfortable, user-friendly work environment.

Also taken into account was the casino's anticipated 60,000-square-foot expansion of undeveloped space. Thus, the control room and neighboring equipment room plans changed about 10 times to accommodate the best configuration.

Krabbe worked with ADS to design the functional flow and layout of the

room, utilizing the latest technology available from the manufacturer. The team had planned to use analog outputs to projectors for the monitor wall but instead decided to install Synectics' IP Video Wall, a solution enabling the functionality of a unified monitor wall at a fraction of the cost.

"While in concept we understood what the IP Video Wall could do, now that it's installed and working we are very pleased we went this route and were able to save money through this innovative solution," says Krabbe.

ADS' Pulver adds, "By learning about Hollywood's functionality requirements, then applying leading technology to the best of its ability to meet those needs, we were able to maximize the value proposition. This is how we bring power to the solutions we install and the greatest benefit to the end user." (*For an exclusive sidebar on how to combine video and other alerts to generate actionable "dataveillance," see the online version of this article at www.securitysales.com.*)

A spacious equipment room was built to accommodate the DVR equipment as well as four UPS units for backup, and three HVAC units that cool the room and protect against equipment failure. In addition, 10 intermediate distribution frame (IDF) closets were added on the casino floor. While most are currently used for existing analog equipment, they

will eventually accommodate future migration to IP cameras.

So quickly is technology changing nowadays that the manufacturer's encoding method evolved between the planning and installation phases. Synectics introduced a new internal architecture for encoding and storage that accommodated more cameras and superseded its originally specified external eight-channel H.264 encoders.

The internal 16-channel PCI-e encoders enabled up to 32 channels of 4 CIF, 30-frames-per-second recording for each networked server. This reduced the number of chassis and saved more than 30 percent of the rack space, which is a plus considering the anticipated system expansion.

"The density of Synectics' solution enabled us to fit all 1,800 cameras on the vessel into eight racks. This saves a great deal of space and power, while reducing the end user's overall operating costs," says Pulver.

CUSTOMIZING HELPS CUT COSTS

Through extensive planning between Dallmann Systems, ADS, Synectics and the end user's surveillance team, a host of challenges were successfully managed. There were at least 100 revisions to the camera layout, in large part due to a complete redirection of the new casino's interior design theme. Complex design elements on the casino floor created a challenging environment for determining camera locations that would meet regulatory viewing requirements for slots and table games.

For example, The Hollywood on the Roof projection dome reaches up and stretches across the ceiling over the stage and bar, which limits where cam-



Photo by Patrick Branfield

Synectics' project manager, Daniel Gold, configures the Synergy video integration software platform through a networked keyboard/visual display mouse (KVM).

eras can be placed to monitor video slots and POS activity at the bar. Creative solutions were developed to strategically place cameras in the ceiling grid at the edge of the dome — 31 feet above the ground. Pan/tilt/zoom (p/t/z) cameras were mounted to the bar backdrop, then faux painted to camouflage their bases.

Midway through the project flexibility was called for when automatic failover for cameras and DVRs had to be implemented to accommodate the multiroom recording environment (landside and vessel) and specified functionality parameters of the new Pelco 9700 Series matrix switch. If hot-swap had been enabled in just one of the two rooms, the amount of tie-lines would have had to double to ensure there was no impact on viewing video.

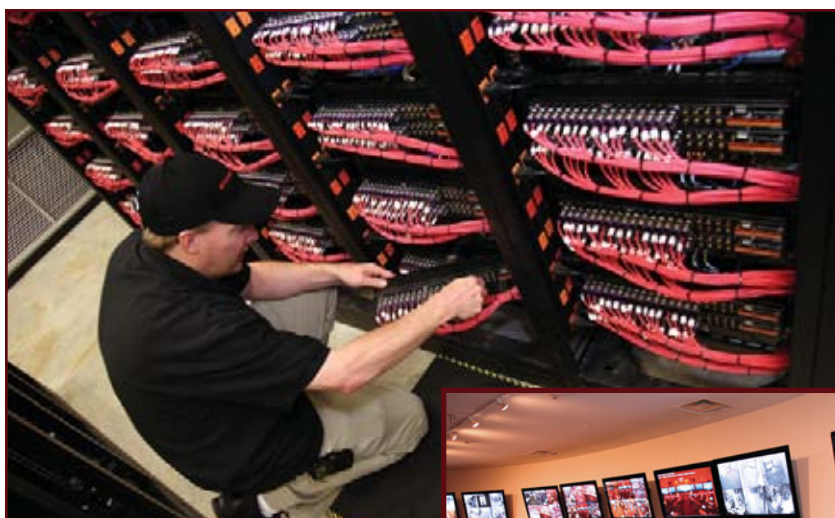
Faced with adding tie-lines or running coax the old-fashioned way — both very expensive options — the integrator asked Synectics to develop an alternative solution. The result was a custom, full duplex alarm management application to allow multisite hot-swap between the two recording locations and eliminate the need for more tie-lines.

A 2-PHASED INSTALLATION

In May 2008, Krabbe's technical team began the first phase of installing 300 digital channels on the landside of the casino and integrating to the existing Pelco matrix switch.

The property's new digital system was originally controlled from a small room on the landside of the property and featured a combined Synergy server (the software controlling third-party integrations, user customizations, management reports, etc.) and incident locker that stores long-term events for review and evidentiary use. Combining the Synergy server and incident locker enabled a relatively small footprint to monitor the initial 300 cameras.

In November 2008, the second phase of the project focused on connecting the landside and vessel surveillance systems with the addition of 1,800 analog cameras. Because the surveillance incident growth pattern would increase dramatically when the new ves-



Photos by Patrick Banfield

Hollywood Casino Lead Surveillance Technician Chris Krabbe works on the placement of paddleboards — the 1U cable connection component of Synectics' eSynx-16 PCI-e internal encoders.

sel casino opened, the Synergy server and incident locker had to be separated to accommodate these new channels of high demand recording.

ADS had to physically move the critical infrastructure components from the small landside room to the new room on the vessel, and did so with very little downtime. It took just 20 minutes to transport the server from one side of the property to the other, and there was no loss of recording at any time. ADS set up the new incident locker in the vessel control room, seamlessly changing combined-function hardware into a single-function piece.

Once the existing incident locker was migrated to a new server, its physical resources were repurposed to turn the data capability of that box into a separate incident locker required for IGC's review station. This enabled Penn

See this story online at www.securitysales.com to access a special sidebar on "dataveillance," and a complete project equipment list.

National Gaming to satisfy a regulatory requirement without substantially investing in additional hardware.

C-Cat, an Indianapolis-based communications company, worked with ADS to pull the necessary network and video infrastructure cable (both copper and fiber) to accommodate the intricate land-to-vessel environment. To ensure seamless labeling of pairs and routing of camera locations, a tightly coordinated



Hollywood Casino's new control room, one of the most advanced in the country, supports up to nine operators and two supervisors at any time. The command center features a touch-screen control interface and IP Video Wall.

effort and testing process was deployed for the Cat-5 runs from the IDF closets to the actual camera cutouts.

The significant size of the property and its ongoing interior design changes and adjustments made camera placement one of the project's most tedious elements. Cameras were mounted in ceiling tiles or hard ceilings, located anywhere from 25 to 31 feet in the air.

"Just when we'd think we had cameras placed, changes would be made to the layout of slots or interior design, which would require us to relocate them," says ADS' Lyvers. "With a tight deadline on our heels, we had to really be organized and work as a team to complete the install in time."

Synectics was onsite throughout to assist ADS in the implementation of the digital recording components and video integration software. "We were bringing together a range of disparate systems from analog cameras to the Pelco switch to point-of-sale integration. Having Synectics' engineers onsite was crucial," adds Lyvers. In the end, extensive planning and cooperation between the Dallmann, ADS, Synectics and Hollywood Casino teams kept the project on track. ■

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