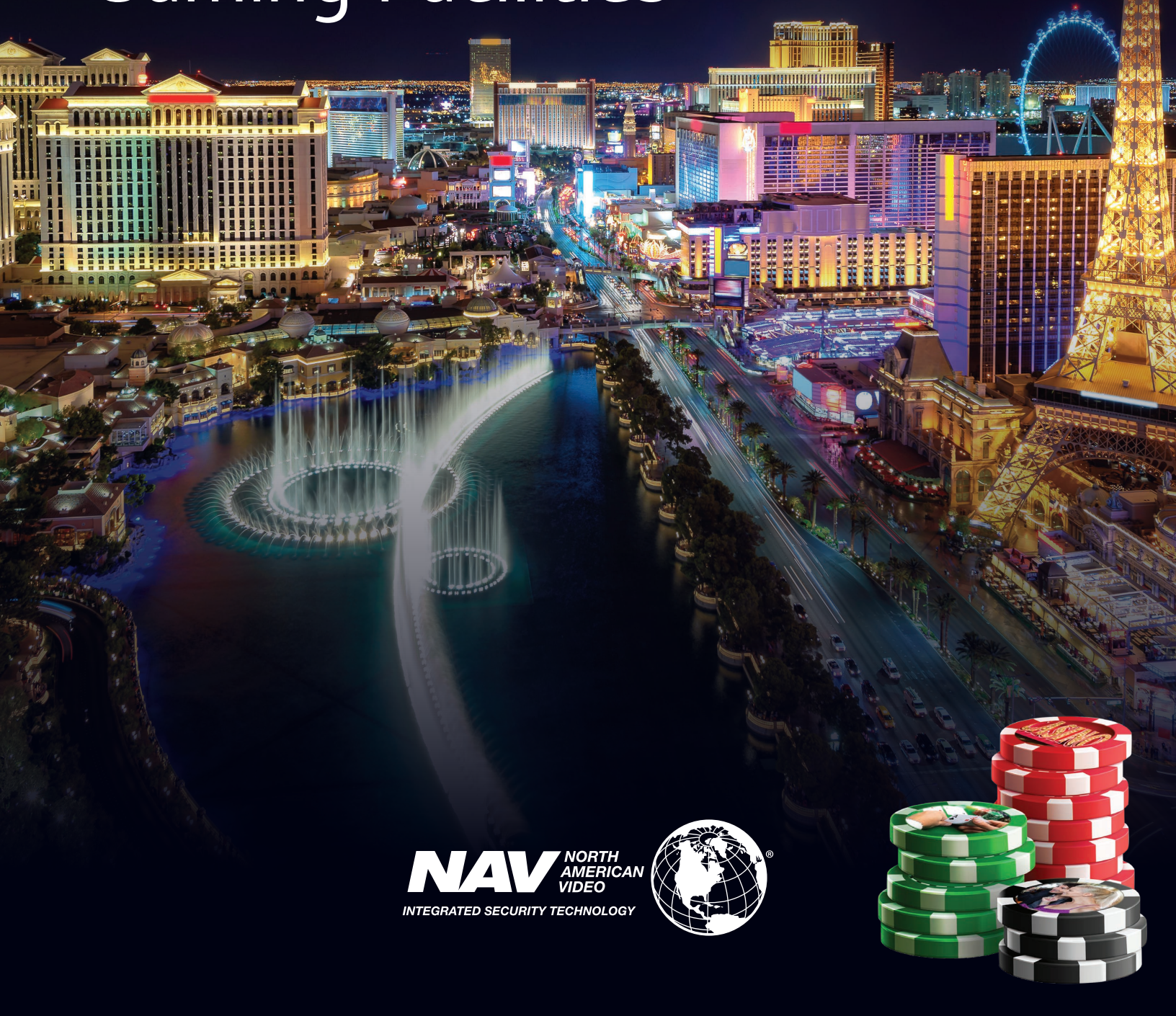# Identifying Surveillance and Security Requirements and Performance Criteria for Gaming Facilities

NAV NORTH AMERICAN VIDEO

INTEGRATED SECURITY TECHNOLOGY

Introduction

Casinos and gaming resorts have multiple points of egress that are open to the public virtually 24/7. The safety and security (and peace of mind) of customers, employees and vendors are a top priority, along with compliance standards and the ability to protect people and assets. Video surveillance and various electronic security systems have proven to be an effective tool for the gaming industry, and are mandated for operation by federal and state gaming authorities. However, the deployment and management of surveillance and security system operations fall under the responsibility of different management entities within casinos. The scope of operations for each system can also vary greatly depending on the physical makeup of the facility, which can be for gaming–only operations or a much larger scope of combined gaming and hospitality operations.

Whereas surveillance operations for casino–only facilities need to closely monitor activities on the gaming floor and areas where cash is handled, properties with both gaming and hospitality operations need to deploy dedicated security measures to cover a much broader range operations, including; peripheral facilities such as golf courses, race tracks, spas and pool areas; as well as entertainment and sports complexes which can be embedded in the larger facility area (think Caesar's Palace in Las Vegas), or be stand–alone facilities. In addition, peripheral areas common to both casino–only and casino–

hospitality facilities typically include parking areas and garages, food and retail operations, and transportation hubs (ex. Las Vegas monorail or shuttle busses, taxi/bus areas…).

Surveillance for Gaming Areas

With casino operations being the core revenue generator driving gaming facilities, surveillance operations typically take top priority relative to budget allocation, levels of performance, and scope of operations. Advanced surveillance systems are typically deployed to address the following primary areas in casino environments:

Table Game Surveillance

The expression, "the hand is quicker than the eye", holds special meaning for casino security personnel as professional cheats have engineered clever ways to conceal means of stealing chips, manipulating cards, changing bets and so on. But cameras don't blink, especially high resolution IP fixed and PTZ cameras designed to meet specific gaming regulations that combine fast frame rates, high resolution and low light capability. New multi–sensor megapixel cameras with panoramic viewing capability or multiple independent adjustable lenses that can also be focused on specific coverage areas provide an extremely efficient, high performance solution to augment table game

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surveillance. These technologically advanced imaging solutions have proven to be very cost effective, often doing the work of several lower resolution cameras, reducing both equipment and installation costs.

Recorded images from high resolution cameras can also supply valuable meta–data to help casino security personnel locate video recordings associated with specific incidents. In addition to the forensic advantages this provides, data–mined video can also help with predictive analysis by correlating otherwise unrelated events to warn security personnel of abnormal behaviors that may indicate an impending situation.

Slot Machine Areas

Slot games generally do not require any casino attendant interaction for customers to play, making them highly profitable, but these gaming areas also need to be monitored very carefully to meet compliance regulations, and to best protect customers from unscrupulous individuals. Surveillance cameras in slot areas can also assist with service issues and identifying persons of interest — either high rollers or known threats — so they can be dealt with appropriately.

There are numerous imaging solutions available to monitor activities in slot areas. A combination of pan/tilt/zoom (PTZ) cameras, 360 degree

> **"Surveillance cameras in slot areas can also assist with service issues and identifying persons of interest — either high rollers or known threats — so they can be dealt with appropriately."**

panoramic cameras or dome cameras with fixed lenses are typically deployed to deliver the necessary coverage. But finding the right economy of scale for camera selection and placement is most critical, and often a judgement call beyond the specific imaging requirements dictated by federal and state compliance regulations. Simply put, tighter coverage areas will require more cameras, which leads to higher expenses. Yet, as casinos look to fully maximize gaming floor space, slot machines areas are often densely populated.

New High Definition (HD) and Ultra High Definition (UHD) cameras can provide a highly effective and cost–efficient solution, providing they can be mounted in locations that allow for wide area coverage across the desired image area. Available in many different form factors, the electronic pan/tilt capabilities found in many of these cameras (or facilitated through a VMS) can

provide simultaneous, real–time surveillance monitoring and recording of a specific coverage area, while allowing an operator to manually pan or zoom electronically across the camera's set field of view.

A wide selection of intelligent video analytics can also be applied to better secure and monitor slot machine areas. This includes, but is not limited to: object left behind detection to spot suspicious packages, including personal belongings left unattended by customers for extended periods of time; people counting analytics to gauge traffic in specific slot areas for both security and business intelligence data gathering; and facial recognition to detect known individuals, such as pickpockets, who may have evaded detection at casino entrances.

Cash Handling Areas

Cash cages, ATMs, ticket/cash redemption kiosks and back areas where chips and cash is handled all require the highest levels of surveillance. ATMs and ticket/cash redemption areas require pretty straightforward surveillance measures with dedicated, fixed cameras monitoring all activity 24/7. Cash cages demand more attention with dedicated cameras surveilling all activities from both the customer's and cashier's perspectives for documentation of each and every transaction, as well as identification of both the cashiers and customers partaking in these transactions.

> "These areas can involve several layers of access control technology from card/proximity readers to biometrics such as facial, iris and/ or fingerprint recognition, or some combination of these elements for dual authentication."

Surveillance and security for back areas requires much more complex and stringent measures beginning with identity management and access control. These areas can involve several layers of access control technology from card/proximity readers to biometrics such as facial, iris and/ or fingerprint recognition, or some combination of these elements for dual authentication. Additionally, the physical entry/egress to secured back areas should include the deployment of door interlock systems. Commonly referred to as mantraps, door interlock systems contain individuals in a secured area before permitting

access to sensitive areas until their identity has been verified electronically and/or by visual authentication. Surveillance cameras are typically deployed on both sides of these entry points as well as in the interior of any mantrap solution and can be integrated with access control systems. Analytics may also be applied to these cameras for an additional layer of security.

Once inside secured areas, particularly those where cash and chips are handled, surveillance cameras must be deployed to monitor all activities to capture any misappropriation of assets, and for documentation in the event of discrepancies.

Identifying Persons of Interest at Entrances

One of the primary objectives of casino surveillance operations is to quickly and easily identify persons of interest. This can include known gaming cheats, individuals banned for unacceptable behavior or theft, and worse. But given the volume of traffic in gaming properties and the multiple entrance/egress points to these facilities, the ability of security personnel to memorize known offenders' identities is all but impossible without some form of assistance. Yet, there is a relatively simple and effective approach to assist with this process. Using advanced Video Management System (VMS) solutions, high priority persons of interest can be put on a display in the form of a digital slideshow next to a live surveillance feed. This serves as a constant visual reminder to look for these individuals, while making the likelihood of identifying them much higher.

Taking this a step further, advanced facial recognition software can be added to cameras covering entrances to identify persons of interest and automatically notify security personnel. Facial recognition software can be centralized and applied to specific cameras across the network, or implemented on the edge, as several popular brands of IP cameras feature embedded facial

recognition capabilities. These cameras can also be used to identify high-rollers who may arrive at a facility unannounced, alerting casino and hospitality personnel that they are on-premise, further elevating the level of customer service these important guests deserve.

> **"Recording requirements may vary from one gaming location to the next, and significantly impact the design and costs of gaming surveillance operations."**

As with any form of image-based analytics, image quality and consistency are critical contributors to the performance of the system. High-definition cameras with features like Wide Dynamic Range (WDR) can provide extensive scene detail and expanded coverage, even in challenging lighting conditions such as casino entrances where lighting conditions change throughout the course of the day. The combination of VMS digital slideshows, facial recognition analytics and cameras designed for challenging lighting conditions can prove to be a most effective identification solution.

It's important to note that ALL activities in gaming areas need to be recorded and archived for predetermined periods of time, according to federal and state gaming regulations. Recording requirements may vary from one gaming location to the next, and significantly impact the design and costs of gaming surveillance operations. Consultation with a knowledgeable systems integration company is recommended to navigate specific compliance requirements. This will help to ensure that the new system you are installing or upgrading meets those requirements, and that you remain on budget while maintaining gaming operations.
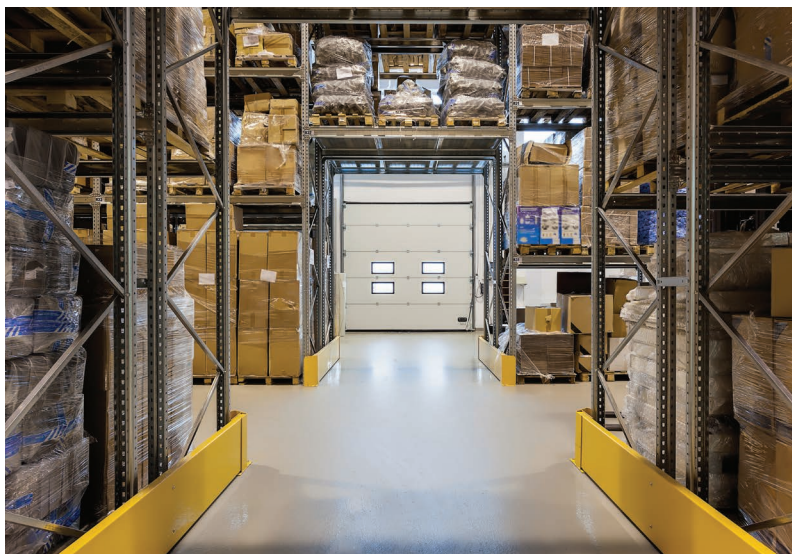
Surveillance for Hospitality Areas

Surveillance cameras deployed outside of designated gaming areas can fall under the jurisdiction of either casino surveillance or security operations. Non-gaming cameras deployed by casino surveillance are typically integrated with the gaming surveillance system and are maintained, controlled, and monitored by surveillance staff. Access to cameras relegated for non-gaming areas can be granted to individual security operations members on a permission only basis. Conversely, non-gaming surveillance and security systems that fall under the purview of security operations, or other entities outside surveillance, are typically standalone systems that are not integrated with the main casino surveillance system. These non-gaming surveillance areas can include many different locations of a gaming and/or hospitality facility such as restaurants and retail stores, warehouses and loading docks, parking lots and garages, entertainment and sports venues, transportation hubs (ex. Las Vegas monorail or shuttle busses, taxi/bus areas...), and even marinas.

> "Integrating video cameras with Point of Sale (POS) systems has become a refined tactic to help combat both shoplifting and employee theft."
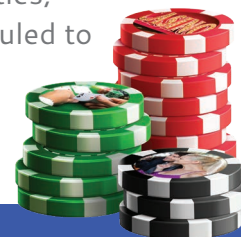
Restaurants and Retail Stores

While customer crime is a major concern for casino management, employee pilferage is also an issue. Integrating video cameras with Point of Sale (POS) systems has become a refined tactic to help combat both shoplifting and employee theft. Cameras strategically positioned on a cash register can capture transactions when a sale is voided or is suspect, providing a strong deterrent and irrefutable documentation of a crime. This includes "sweetheart" transactions where an employee may be passing goods to an accomplice for an insufficient sum of cash. Integrating POS systems with surveillance can help prevent both external and internal theft, limiting a facility's liabilities and preserving revenue streams.

Warehouses and Loading Docks

It's also important to extend the reach of surveillance to track goods and service providers from their point of entry to a facility, such as warehouses and loading docks. A basic application may include implementing motion detection activated cameras positioned on loading docks to alert security personnel of activities, especially when no activity is scheduled to be taking place.

Parking Lots and Garages

Public parking facilities are magnets for petty criminal activity, and the source of most gaming facilities' on-premise accidents, both of which open up gaming facilities to potential losses and liabilities. There are numerous surveillance tactics to protect parking areas along with ancillary systems such as license plate recognition systems (LPR), panic buttons, call stations, and audio monitoring analytics capable of detecting possible situations occurring beyond a camera's field of view. The ability to supplement surveillance with additional technologies greatly expands the aggregate reach of the system.

> "Facial recognition analytics can identify known individuals; people/vehicle counting analytics can help ensure that occupancy limitations are not exceeded and help manage pedestrian and vehicular traffic."

Entertainment and Sports Venues

Large gaming establishments derive considerable revenue from sports and entertainment events that are staged in fixed structures or temporary event areas. But such events, whether regularly scheduled or for special events, require extensive security measures as they draw large volumes of people in very consolidated time periods. Surveillance cameras can help resolve a multitude of challenges above and beyond conventional security monitoring. Facial recognition analytics can identify known individuals; people/vehicle counting analytics can help ensure that occupancy limitations are not exceeded and help manage pedestrian and vehicular traffic; and under vehicle surveillance analytics can remotely monitor all vehicles entering a facility. Such proactive surveillance measures are possible today using off-the-shelf analytics solutions that easily integrate into new and existing networked surveillance infrastructure.

Transportation Hubs

Large gaming destinations like Las Vegas, Atlantic City and Reno accommodate visitors from a wide variety of origination points, whether from nearby hotels or day bus and car excursions. Many visitors may also arrive by taxi, car service or an App-based ride service. To accommodate this diverse range of vehicles and visitors, many gaming facilities have designated transportation hubs aside from traditional valet and public parking operations. Such designated transportation areas need to be continuously monitored for safety and security reasons, but also to protect facilities from liabilities and other possible threats such as terrorism.

in conjunction with vehicle counting analytics systems to help personnel better manage vehicular and pedestrian traffic.

As with gaming surveillance systems, it is important to set specific video recording and archiving parameters for hospitality and non-gaming areas. This will determine how much storage you need, where it will be physically located, and how much it will cost.

Basic video surveillance of all boarding, entry and egress points to the facility are essential. Extending the scope of surveillance operations to peripheral roadway entrances or checkpoints to a facility also provides security personnel with the opportunity to spot and address potential problems before they breech the facility's perimeter. Cameras supplemented

"Extending the scope of surveillance operations to peripheral roadway entrances or checkpoints to a facility also provides security personnel with the opportunity to spot and address potential problems before they breech the facility's perimeter."

with intelligent analytics such as License Plate Recognition can automatically identify vehicles using internally compiled or externally maintained law enforcement and government watch lists, and automatically alert security personnel to take action. These same cameras can be used

Summary

We've only scratched the surface of all the possible areas within a gaming and hospitality facility that need to be covered by surveillance cameras. Every facility has its own unique nuances and potential challenges based on the nature of the clientele, physical location, and of course, federal and state compliance regulations. Each property requires an individual analysis by a professional security consultant or systems integration firm who specializes in gaming surveillance and security -- like North American Video.