At a Glance:

Market:
Cities

Location:
New Jersey

Application:
"Beast," a nickname for a large NVR for managing several IP network cameras at a major gym.

Case Study: Powerful Bandwidth Needed for Large Solution at Gym

Introduction

LA Fitness is known all over the United States as one of the premier health clubs. It started in 1984 in Southern California and opened sports clubs across the country offering members free weights, cardio machines, group aerobics, basketball, and swimming as each club has a large size pool. Today, there are more than 171 clubs across the country. Since the clubs are growing in popularity, managers for 12 clubs in the North New Jersey area had a growing concern to keep members, staff, and their personal belongings safe in the facility. They needed a system with a powerful bandwidth for the large number of cameras throughout the gymnasium.

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Featured Products:

(CMIP7243W-S) Platinum Varifocal Vandal Dome Network IP Camera 4.1MP

(CMIP7422) Platinum Fixed Lens Dome Network IP Camera 2.1MP

(LTN8932-P16) Platinum Enterprise Level 32 Channel 4K NVR 1.5U

(LTN8916-P16) Platinum Enterprise Level 16 Channel 4K NVR 1.5U

(POE-SW2402A) PoE 24 Port + 2 Port GE Switch

(DHWD50PURX) Western Digital Purple Surveillance Hard Drive – 5TB

Challenge

The installer was new to surveillance solutions. His background was in telecommunications, installing phone systems for corporations. He was confident about doing the job with the assistance of LTS technical support and specialists. However, his biggest concern was with bandwidth because the number of cameras involved. Bandwidth is the amount of bits transmitted in a second (bitrate). Bitrate is the measurement of the size of a video stream, depending on the resolution and frame rate of the video, compression codecs, and how much motion there is in the video. Bitrate decides the storage and bandwidth requirements. If the bitrate is not enough, the end-user will have poor video quality. If the bitrate is too much, it will waste bandwidth and storage. The installer had to make sure the system had the perfect bitrate for the project. He nicknamed the NVRs

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"Beast" for the power to control the number of cameras without sacrificing the video resolution.

Solution

The installer pre-planned for all 12 locations. Since managers wanted the employee breakroom, nutrition bar, small retail shop, reception and sales areas monitored, the installer placed three Platinum Varifocal Vandal Dome Network IP Cameras 4.1MP, CMIP7243W-S, in each of those locations with the exception of sales. Two cameras were installed in that department.

In the employee breakroom, the cameras were mounted along the wall of the room to maximize the surveillance area and monitor employees. One camera was focused on the doorway to capture who walks in and out, another focused on the middle of the room where the refrigerator is, and the third on the other end of the room where the TV is.

The nutrition bar also had full situation awareness with a set of three CMIP7243W-S cameras. One camera was over the actual bar to observe the register to prevent sweethearting and make sure members do not steal. A second camera was installed for added safety to the small sitting area for gym members, and the third camera monitored the back area where nutritional products are stored for the bar. The retail shop is tied to the nutrition bar. The shop offers gym members fitness apparel and accessories. Three cameras were also used to monitor the racks of clothes in the shop and also the register to deter any theft. A third camera was left on a full view of the shop for full coverage.

The sales area has two CMIP7243W-S, there is one in the back and one up front where crisp details of members and visitors are captured when they walk in the area to meet with sales reps. That area is attached to reception, and has three CIMP7243W-S. There is one mounted overhead the main reception desk from the ceiling to capture all forensic evidence of transactions between members and staff. One camera was mounted to a cement pillar in the back of the desk area to capture the entire scene. A third camera mounted to the front wall above the doors to capture a different view of the entire front desk area for full situational awareness.

These cameras were plugged into the Platinum Enterprise Level 32 Channel 4K NVR 1.5U, LTN8932-P16. The installer called it "Beast" because it supports live view,

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playback up to 12MP IP Camera, Quad-core CPU, and takes care of the installer's bandwidth concern, as it offers 256MB bandwidth. It's also capable of 4K (3840x2160) HDMI video output.

Five Platinum Fixed Lens Dome Network IP Cameras 2.1MP, CMIP7422, captured all the basketball action on the court in high definition.

One camera was pointed at the door to capture people walking in and out of the doorway and one was monitoring the left side of the court. For a different view, the installer mounted a second dome camera on the right side of the wall for better situational awareness. With the assistance of LA Fitness, he borrowed a small indoor scissor lift to mount three separate domes overhead and down the middle of the gym ceiling to monitor members as they played basketball.

Since the five dome cameras are more than 100ft away from a power source and the NVR, they were plugged into a PoE 24 Port + 2 Port GE Switch, POE-SW2402A.

Three Western Digital Purple Surveillance Hard Drive – 5TB, DHWD50PURX, were used to record the video information from the NVRs.

Results

Even though there was some concern about the bandwidth, the installer worked through it with the help of LTS technicians who set the bitrate. The bitrate was adjusted and the NVRs work great. LTS is great at resolving problems customers face, going the extra mile.

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