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Western Kentucky University Grows with Milestone Video Platform

Open platform enables Software-as-a-Service for multiple campus initiatives; IT network team performs the roles of consultant, integrator and central system management.

Spread across 200 acres with dozens of buildings and thousands of students, Western Kentucky University, located in Bowling Green, Kentucky, is like a small city. The university has numerous departments, each with a unique set of requirements for a video surveillance solution. Meanwhile, a single small team in the IT division must be able to plan, deploy and manage all these different surveillance solutions.

The IT division's network team at Western Kentucky University implemented Milestone's top-of-the-line open platform video management software, XProtect Corporate. Over time, they have deployed cameras as needed and now have roughly 300 IP video cameras around the campus.

The team uses various XProtect add-ons, such as XProtect® Smart Wall, for additional advanced features and leverages Active Directory® for managing permissions of users in various departments.

Organization
Western Kentucky University

Location
Bowling Green, Kentucky, USA

Industry Segment
Higher Education

Solution
Milestone XProtect VMS

Dell Servers, Storage Arrays, Workstations

Axis Communications IP Cameras, Camera Encoders

Pelco Analog Cameras

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XProtect Corporate has allowed the network team to deploy custom solutions for different departments throughout the university. Thanks to the Milestone open platform, they have been able to tweak their solution, install add-ons and create specialized integrations with the Milestone Integration Platform (MIP) to support different scenarios. The central management application allows the team to perform most management tasks from a central location, making it possible for a small team with limited resources to maintain such a large deployment with ease.

Clients Within Clients

This makes Western Kentucky University (WKU) a very interesting case for Milestone XProtect Corporate. Rather than being a single client with a single scenario, the university is made up of many different clients for the IT department to service, each with a different scenario and a different set of requirements. Fortunately, the flexibility and simplicity of XProtect Corporate's open platform makes it easy for a small team with limited resources to deploy and maintain a system that is tailored to each department's needs.

WKU is like a small city, with more than 21,000 students and 3,400 employees. Its main campus covers approximately 200 acres with dozens of buildings for academics, residence halls, recreation and entertainment. The university also has several smaller satellite campuses. Like a city, WKU has a vast infrastructure, which includes a heating plant, health services, road system and police force.

Finding a Scalable Solution

Several years back the IT division at Western Kentucky University decided to deploy and manage its own video surveillance system. The project started out as a single target solution— IP video surveillance for the IT division— and they assigned the management of the new system to the IT division's Network Team.

Jeppie Sumpter, Lead Network Engineer, says the university surveyed the market and evaluated the candidates in-house. While there were other video surveillance solutions available, the team decided that XProtect® Enterprise (XProtect Corporate did not yet exist) offered the features and ease of use they desired. At the time, they had no idea of the extent to which XProtect would soon grow to cover so many departments.

A few years after the initial deployment and subsequent upgrade to XProtect Corporate, once it was available, it was soon realized that they could easily scale out the solution to support the needs of other departments. Their XProtect solution is currently used by nearly 20 different departments, each with different requirements. WKU has about 300 cameras deployed, with several new projects in the works and regular requests from around campus.

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> Milestone XProtect software is very stable and reliable, allowing us to focus on the design and field work. We can expand the solution and support our clients without worrying about having to babysit the software.
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> **Jeppie Sumpter,**
> **Lead Network Engineer,**
> **Western Kentucky University**

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IT Team Consultancy, Integration and Hosting

Today the network team acts like a third-party integrator. "We're essentially providing a hosted and managed service for the diverse groups within the university," says Sumpter. "It is all taking place under a unified system, a single federated solution, where we can keep things separate where they should be separate."

When a department expresses a need for video surveillance, the network team arranges a meeting to discuss their objectives and consult on possible solutions. They discuss the prospective client's procedures and make recommendations for the best overall solution, taking into account the full spectrum of the situation. The team develops a design and performs field surveys using the actual camera models in the proposed installation.

"We have developed a mobile field survey kit that allows us to capture images, showing the client exactly what they would see with the finished product, including the viewing angles, matching resolution, etc." Sumpter explains.

Once the client is ready to proceed with the project, the network team implements the solution, placing cameras, configuring the server and storage backend, and setting up the user permissions. "We want our client to be able to use the system and not worry about all the things that go into maintaining it. We make sure the solution works for them and continues to be reliable."

The network team at Western Kentucky University has been impressed with how easy it has been to train new users of Milestone. As part of each deployment project, the team sets aside time for users working with the XProtect® Smart Client software. They found that anyone who has used a computer before is comfortable right away. In fact, Sumpter says the software is so intuitive that many of the new users could get started without any training.

Easy to Control, Cost Effective Storage

Demonstrating the flexibility of both XProtect and Sumpter's team, IT handles the video surveillance projects end-to-end in-house, leveraging existing IT division functions. The backend pieces in use are common, off-the-shelf hardware, using direct attached storage for each recording server.

According to Sumpter, using their existing server/storage vendor relationships has been cost effective while still retaining critical qualities of performance and scalability.

Additional high availability is something they would like to expand upon in the future. For now, however, they have one recording server configured for failover purposes. If one of the main recording servers fails, the backup server automatically takes over. This is a native function of the software Overall, the system is very easy to manage. In fact, the network team currently only has one dedicated person assigned to handle its daily operations and support.

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"The software is stable and reliable. XProtect Corporate allows us to focus on the design work and fieldwork, which is especially important given our limited resources. We can focus on our services and support our clients without worrying about having to babysit the software."

Sumpter cites the central management application as a key feature for allowing such a small team to manage a large video surveillance deployment, in addition to all their other roles on campus. He notes they can do just about everything they need to do with regard to management from one spot. The Milestone Federated ArchitectureTM is helpful for managing remote campus situations.

"We don't need to move around to different boxes, bounce between different apps and RDP into servers. Milestone provides a nice management tool for a system that is designed to scale flexibly."

Active Directory® for User Management

The software allows WKU to easily organize users and departments into different groups and profiles, each with potentially unique permissions. This is an environment where many separate clients with diverse needs run off the same backend. A user can be assigned access to a very specific set of cameras, and they do not have to be aware of the other users and cameras on the XProtect deployment.

The software leverages Active Directory, allowing the roles to rely on user credentials that have already been created in Active Directory. "It's extremely easy to organize these roles," says Sumpter. "We don't have to create and maintain users because they are already in our Active Directory implementation and it all ties together very efficiently."

Each internal university client typically has between one and three people assigned to operate XProtect for their group. In this environment, many of those clients have limited need or resources for live monitoring; video data is stored in case there is an incident that requires the department to go back and review the recording.

Integrations Provide More Than Security

As the network team rolls out more IP surveillance solutions around WKU, they continue to see people find different ways to leverage the system. One of the major clients is the campus police department. They have gone beyond basic surveillance to add a range of automated features that vastly improve usability to aid in their mission to provide campus safety.

For instance, XProtect has been integrated with the campus emergency phones. Pan-tilt-zoom (PTZ) cameras are placed in strategic locations, with presets defined for the areas surrounding the "e-phones." When someone activates an emergency phone, XProtect automatically displays the live camera feeds for that location on the monitor wall, leveraging the XProtect® Smart Wall add-on.

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As the police operator takes the call, they can monitor the situation while officers are being dispatched. For one of the remote campuses that uses the local city's police force, activating the emergency phones also triggers instant notifications to key contacts within the facility, alerting via emails with image snapshots and text messages.

In testing facilities, on the other hand, XProtect is used for proctoring tests. A proctor can leave the room and use the cameras to monitor the room in real time. Or, if there is any indication that a student may have cheated, the proctor can analyze the video to assist in resolving it. In this environment, XProtect can be configured with system rules to record all the time during business hours and only record on motion detection after hours.

Here is another interesting scenario: the university and local city planners recently expressed a need to gather data for traffic planning purposes. They wanted one week of video covering specific locations around campus so they could evaluate the use of certain crosswalks and intersections. The network team used temporary mounts and spare cameras to quickly set up the solution, essentially at no cost.

After a week of recording, they simply exported those video feeds so the planners could analyze the video and decide whether certain areas should or should not have crosswalks, stoplights, etc. The team has also set up similar solutions to monitor construction projects.

This is just a sampling of the many ways Western Kentucky University is using Milestone XProtect Corporate today, and they are not stopping there. For example, explorations have taken place concerning mobile video surveillance on campus buses and in police cars. Currently in the works, the team is adding interactive maps to afford operators an intuitive way to monitor activity across the campus.

Western Kentucky University continues to find new uses to expand and grow with Milestone XProtect Corporate. Jeppie Sumpter and his team have been able to meet all these needs without slowing down, thanks to the flexibility, reliability, power and simplicity of XProtect. According to Sumpter, "Milestone XProtect Corporate is exactly what we need for our university."

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**Jeppie Sumpter,
Lead Network Engineer,
Western Kentucky University**

**MAKE THE
WORLD
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