

## Wireless IP video ensures pro-active suburb security from ADT, delivering more than just traditional reactive guard services.

*Camsecure designed the Milestone-Axis surveillance solution to provide central, local and mobile monitoring for faster response and improved safety of residents and property. The open platform technology sets a standard for ADT's IT Department to roll out the solution most effectively to all of their national data centres.*



**Challenges:** ADT central offices lie over a mountain ridge from the suburbs of Parkhurst and Parktown North, and they wanted both central and local monitoring for a new video surveillance system to be a proactive tool to ramp up their guarding services of foot patrols and mobile armed response vehicles.

**Solution:** Camsecure specially designed a wireless solution using Milestone XProtect Enterprise IP video software as the platform to manage the latest models of network surveillance cameras from Axis Communications.

**Advantages:** With IP video as the active tool, ADT increase security visibility and response levels, lowering the margin for errors and false alarms. The bottom line is better service for the residents of these suburbs with improved safety for people and property. ADT's IT department simultaneously have adopted a flexible, scalable surveillance software platform for leveraging their national data centres most efficiently over the long-term.

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Parkhurst and Parktown North are adjacent suburbs of Johannesburg, split down the middle by one road. This up-market residential area of 4,000 homes, schools, churches, shops, restaurants and businesses has become a paragon project for ADT Security in South Africa.

ADT have demonstrated vision and leadership in the industry by making a strategic investment to create a new business model that breaks the mould of traditional reactive security. In mid-2007, they initiated a security project financed by ADT initially with the plan to sell it in to residents and businesses as a service. The strategy from the outset has been to use the newest surveillance technology as tools for proactive security response, designed for central, local and mobile control.

After months of planning, Camsecure devised and implemented a completely wireless IP video surveillance system to cover 13 main egress points with two main control rooms: a central one at ADT headquarters, a local one in Rosebank, and another mobile monitoring station based out of the active neighbourhood sports club. ADT uses this together with their guards at neighbourhood street stations patrolling on foot, guards on bicycles and in roving cars.

"The Milestone-Axis video system is live and monitored on a 24-hour basis," says Mike Kidson, General Manager and Head of Community Security Department (CSD) at ADT. "It forms an integral platform for the area's security network, greatly enhancing ADT's resources in the suburbs, alerting us to more proactive and faster responses. All of ADT initiatives are integrated through the use of this very sophisticated management tool."

The Axis cameras have been strategically placed to monitor all entry and exit points, and the crystal clear images are closely monitored in the Milestone software interface displayed in the remote and central command centres. The expert Camsecure method used to mount and power the cameras over ethernet maximises the quality and effectiveness of the images, as well as preventing vandalism of the units. With the main monitoring centre in Sandton at ADT's central control room, Rosebank acts as a back-up to ensure zero downtime in the event of any possible technical interference.

The total security solution includes a highly developed pro-active communication network with two-way radios and mobile phones connecting all foot patrols, response vehicles and patrol units. This creates a security ring in these suburbs proven highly effective in fighting crime.



"Our goal is to provide the most optimal resources for securing suburbs, and we believe residents benefit from this important investment in their safety," concludes Kidson.

### **Two suburbs' security controlled as one**

These two suburbs effectively can be controlled as one area in their geographical layout, specifically on this surveillance system project. Both are very high density ADT activity areas with the majority of their clients here to begin. In the past there has been a relatively high crime issue here, and ADT has assigned a large number of resources to pro-actively combat the crime.

"Our business has changed from being a purely reactive model when there's an alarm, to being more pro-active in managing crime. We have large imposing patrol vehicles, street guards deployed in guard huts, bicycle patrols in action, and they are all integrated services talking to one another on the same frequencies so we are aware of situations that develop and we can control our resources to respond fast," reports Kidson. **"The market dictated that we needed to find some additional resources to manage crime. We looked around at the suburb surveillance methods being used but we wanted something of a higher standard. We acquired this Milestone-Axis technology system to integrate with our human resources deployed on the ground."**

ADT Managing Director Roy Rawlins, who was the brainchild behind this project, spent a lot of time with Kidson in the suburbs establishing that it is logistically difficult to cover every square inch of the area – and financially crippling. ADT was financing this as a Research & Development project to learn from, to raise exposure as a leader in the industry, and to use it as a backbone to sell into the suburbs: people can piggy-back onto the system by adding more cameras on their streets or property, individually or as groups.

It took about 18 months to get the project in full operation, establishing the best locations, getting permissions for the site installations, design of the implementations and carrying them out.

“We started with existing clients to set up cameras on their premises to face out on the roads, strategically covering the main 13 egress points for the region. Camsecure’s Francois Malan and ADT’s Clint Oodendaal spent months setting it all up and testing it, especially the signal strengths with the wireless setup,” relates Kidson.

### **Wireless network gives remote and central access**

ADT headquarters in Sandton are about 15 km away from the Parkhurst/Parktown North suburbs, further challenged logistically by the mountain ridge in between.

“We utilised a building in Rosebank for a local recording centre on the top that gives a direct line of sight to the cameras, whose images are transmitted to the Milestone software. Due to the building's height, we are able to relay the images back to our central control room. The Rosebank centre also acts as a back-up for continuous, uninterrupted operations in any event,” says Clint Odendaal, New Business Development at ADT.

“The video images are relayed wirelessly from the localised clusters of Axis cameras to the central point in Rosebank where they are recorded in the Milestone software, and viewed in Sandton over the internet. If the internet goes down or there’s a system crash, the video is still recorded locally. The entire system has back-up power, too. The performance will be further increased by the mobile unit at the sport club,” adds Francois Malan, Technical Director at Camsecure.

Odendaal adds: “Residents can also see the system overview from the club for demonstrations of the constant monitoring. With the images recorded 24 hours a day into the Milestone, we can share evidence with the police, and analyze the video to discover crime patterns. With the live video we can identify anything that looks suspicious and respond faster.”



The archived recorded video is locked up and secure, only accessible by appointed ADT personnel. All the viewing stations are looking at the live video.

“The quality of the Axis images is fantastic. Our technical challenge was getting the images from Rosebank in high enough frame rates back to the ADT control room. We had a bandwidth challenge with the required frame rate for live video, which we were able to resolve,” says Odendaal.

“When we started this project, things like H.264 camera compression rates were not yet available to us. But the beauty of the Milestone system is that it's open and scalable to allow the addition of such new technologies as they become available. ADT will be able to constantly upgrade and improve their services through the use of the latest innovations,” explains Malan.

The project was planned in stages, and the Milestone platform and IP network approach means it will be easy to expand the solution over time.

The Milestone interface for viewing the camera images can show all of them at once on one screen, and simultaneously pull up a Hot Spot Window for a larger view of a critical area. Operators can also rotate all the cameras through the HotSpot Window for a constant overview in closeup. In addition, the software provides digital zoom in any image to look more closely at certain details.



Odendaal relates an example of where the video captured an incident for more proactive response: an armed robbery alarm at night where ADT personnel were able to see the vehicle and which direction it was going to send armed patrols the right way. In the central control room he smiles as he sees live video of a woman going safely into her home from her driveway where a camera is mounted, which also has powerful views of the street, other driveways and homes.

“We want to increase the number of cameras per area to extend our capabilities and that’s simple to do with the Axis network cameras and Milestone platform. We can also utilise analytics at a later stage and be able to get license plate recognition to trace in the police database,” he says.

**Installation challenges overcome**

“We found that installing camera poles on the sidewalk can lead to vandalism of both the cameras and the property, so we custom-made the poles for each property on their premises and walls. No two poles are the same in this entire installation. All equipment has UPS back-up,” states Malan. “Radio units for the wireless capacity are installed in a complex network we’ve designed, tested and developed. It works in clusters with a back-up radio sending the video data to the control centre Milestone database, sometimes 2-3 km away.”

On one property, a client requested ADT to add his own analogue CCTV camera input to the Camsecure infrastructure, so they mounted his own camera above the ADT Axis camera. He has a screen in his garage so he can monitor if there’s anyone on the site as a potential threat before he goes outside.

Another challenge to the wireless installation in this project was the lush vegetation in the area, which can block the wireless signals. It is one of the oldest suburbs in Johannesburg that has very large trees. The cameras at each of the intersections are installed very discreetly according to different requests from the individual residents. This was an additional challenge for Camsecure in the implementation, to make sure the cameras were set up in a way that is not obtrusive and that suits each property. Camsecure even colour-coded them to match each location.



The sports club has a cricket ground, rugby, soccer, field hockey, indoor swimming, squash, lawn balls, running clubs and cultural clubs like wine tastings. Cameras here are strategically placed to monitor the exit point of the suburbs, but also the entrance to the club itself.

## Setting new standards in security

"This installation is unique in that ADT have gone out of their way to find a better model. They have involved the community to give the residents extra coverage, using the surveillance as a comprehensive tool in combination with their armed services to pro-actively address crime," states Malan. "And it's not just a security tool, the surveillance is also a management tool for ADT to be able to see where their street guards and armed patrol cars are at all times, to manage them better from the central overview and to ultimately provide better services to the benefit of their clients."

"It's an ideal scenario and the way Roy Rawlins wants to go – a fully integrated alarm and surveillance solution. It will assist us by linking alarms to video with instant access to what's happening. We can give patrols the information they need to respond faster and more appropriately – are there two or three suspects, do we need to call in more resources? The ability to identify false alarms also means we don't have to waste resources, we save costs, and we ultimately provide better service because the people who really do need our services will get them quicker," concludes Kidson.

"We are building this into a commercial model to offer residents and associations to enhance what they have privately. It's been a substantial investment on our part but we've done it because we believe the future of security demands a pro-active solution. We wanted to break the old mould and the clients' perceptions that we were only reactive. We want to also use this same model in other crucial high-density crime areas," states Kidson.

## Full buy-in from IT at ADT

Oodendaal remarks that the ADT IT Department were fully involved with this project. "They've been working with the network and wireless infrastructure, given us feedback on the status of the equipment, and their reporting is an integral part of the solution itself. With the system based on an IP-backbone, it made them really keen to get involved."

Malan adds: "Since the Milestone system is an IP software product for both viewing the video from the cameras and a management tool for handling the cameras and setting up the system, the IT guys can maintain the system as part of their regular duties. This is very efficient re-use of existing resources, both network and staff."

Ken Wood, ADT Group IT Manager clarifies: "We have a lot of different challenges from the rest of Europe - specifically bandwidth. It's very expensive. You are penalized financially to implement back-up links that guarantee up-time in your environments - almost double the cost."

To save on bandwidth use in this first project in Parkhurst and Parktown North, Camsecure has set up the Milestone software to send lower frame rate images to the central command center for live viewing, while the local Rosebank centre is recording at a higher rate for clear details for police evidence. The lower frame rate images for live monitoring at ADT are fine to show what is happening for response purposes.

"We're using the Milestone Smart Client interface to de-compress the images from the cameras for the remote views over the internet which further cuts down on bandwidth use," explains Malan.

"I've been tasked to come up with a strategic vision for how we can build a good, solid IT structure that will allow all our clients to come on board and we don't want to penalize them with extra costs. We've got five geographical data centres with each major branch office here in South Africa, where we've built quite a robust infrastructure with a lot of investment in servers. So I'm looking to leverage these as best possible, in a step approach," says Wood. "On the video side I'm going to push hard on IP solutions for just these reasons. We're driven right now by the Milestone system."



"Looking at our five data centres, we created 3-10 corporate clients for Port Elisabeth, 5-15 for Durban, 10-20 for Pretoria, 20-50 Johannesburg and Capetown – so I'm looking to manage that kind of volume. My focus is long-term for nationwide roll-out with our full IT infrastructure," states Wood.

"Milestone makes it easy to scale out, and can manage unlimited numbers of cameras, sites and users," adds Malan.

### **ADT, part of Tyco Group, has goals to lower crime**

As part of the worldwide Tyco Group under EMEA, ADT in South Africa reports directly to ADT in the UK. They run five major branches in Johannesburg, Pretoria, Cape Town, Durban and Port Elizabeth. The core ADT business is armed response from highly trained individuals. Many clients also pay for full-time guards who are unarmed.

"It's all good and well that we provide these dedicated services, but the market has now asked the industry to try and stop the crime, not just respond. We work very closely with the police and have a great relationship," says Kidson, who chairs monthly meetings to review community crime activities. "One of our key performance areas is to determine patterns and trends, to analyze statistics and strategize the nature and methodology of crimes occurring, to effectively combat any increases we pick up and how to change our resource allocations to affect that. If there's a decrease, how did we do that to keep improving?"

ADT has more than half of the customers in 52 suburbs of South Africa, so although they do not have access to other security service companies' statistics, nor those of the police, they do get a very good idea of the major crime activities going on.



"The goal is to keep crime as low as possible, and we do have months where the key target suburbs in our client base have zero crime. Our customers are starting to measure us. We release statistics monthly, email them graphs of the activity. We offer comments on what took place, or tips and tricks based on the nature of crimes, to assist our clients on how to be safer," says Kidson.

There are about 18 different crime classifications that follow the police standards: murder, rape, burglary, armed robberies, driveway hold-ups, hijackings, break-ins, car theft, assault, etc. ADT have about 300 armed reaction vehicles on the road at any one time in Johannesburg. Three people are assigned individually to each car in rotating shifts throughout a 24-hour period. There are several hundred un-armed physical guards in addition to that. ADT provide training programs for those who do not come from the military.

<http://www.adt.co.za>, [www.camsecure.co.za](http://www.camsecure.co.za), [www.axis.com](http://www.axis.com), [www.milestonesyste.com](http://www.milestonesyste.com)

