Security
Commandment

Cardinia Shire Council has upgraded its existing Challenger access control and alarm system with UTC's new Security Commander management software and a TruVision DVR. The system was integrated by KTR Group with assistance from UTC Fire & Security and Council's own IT team.

COUNCILS are big users of access control but there's something about the nature of their electronic security installations that's guaranteed to test access systems and their management. The issue is that councils are not tucked up neatly in centralised administrative buildings.

Instead, like Cardinia Shire Council in Melbourne, they sprawl across multiple suburbs and comprise dozens of large and small community facilities supported by thousands of staff. There are swimming pools, daycare facilities, healthcare centres, libraries, cultural centres, recreational centres, as well as infrastructure around railway stations, parks, depots and remote administrative offices.

Compounding the challenges, staff members move between sites as they go about council business and this means they must carry multiple cards or at remote sites security must be bypassed. Neither option is acceptable.

Along with this core issue, there are challenges relating to the administration, monitoring and maintenance of a siloed electronic security system. A network of disparate access control panels situated in remote sites must be monitored locally as well as being maintained locally. That means a site visit each time there's an upgrade to the overall solution – torturous for techs and expensive for end users.

If all that wasn't enough, managing thousands of cardholders across multiple sites is equally challenging. Cards for remote sites must be programmed and collected from a central location. And overarching all these issues is the fact that admin staff cannot see what is going on with the systems outside their own building.

The answer to all these dilemmas is UTC Fire & Security's new Security Commander, a Windows-based software solution for the highly respected Challenger security system. While this case study is a beta installation, Security Commander will be available to the wider market in February through Direct Alarm Supplies, which has been busy gearing up for the release with technical training for installers and preparation of comprehensive support.

CARDINIA SHIRE COUNCIL

The beta application I looked at is Cardinia Shire Council's big administrative facility at Pakenham in Melbourne, Victoria. Cardinia Shire Council is the ideal test bed for Security Commander. The Council has 7 sites in its area with most running Challenger panels. Important for Cardinia Shire Council, Security Commander is a scalable multi-site application that can support up to 128 panels, comprising 6,000 intelligent doors and 32,000 alarm points. That means lots of headroom.

My guide for the visit is UTC Fire & Security's marketing manager, Julian Glatt, who's enthusiastic about Security Commander and its potential for expansion across multiple sites in Cardinia Shire.

According to Glatt, the way to look at Security Commander is as a solution that fills the gap between TITAN and Forcefield.

"In the past users had to choose between TITAN, an inexpensive yet basic entry level panel management application and Forcefield, a full featured enterprise system. What customers had been asking for was an affordable yet powerful Windows-based head end suitable for many small to medium sites that can scale to a large system – and this how the new Security Commander will benefit our customers." Glatt says.

"In this instance, Cardinia Shire Council's administration building has a single Challenger panel that has now been upgraded so it's running on the new Security Commander management software.

"It's a beta test site so there's been a lot of interaction between UTC as manufacturer; the integrator, KTR Group; and the Cardinia Shire Council's IT Department," he explains.

"KTR Group is the ideal integrator for a site like this because of its depth of experience with the Challenger product and its high standard of professionalism. At the same time, Cardinia Shire Council's current system and plans for expansion makes it the perfect beta application to show what can be achieved using Security Commander."

Glatt says that along with Security Commander, Cardinia Shire Council has installed an integrated 4-channel UTC TruVision DVR. The surveillance installation is simple but gives operators the ability to see what's going on in the event of alarm events around the administration building at Pakenham.

"The surveillance side of Council's system is simple but the key element is that the DVR is integrated easily with Challenger inputs through Security Commander software," he explains.

"At Cardinia Shire Council, when an alarm is stored in association with an alarm event, the video comes up in the alarm list of the alarm monitor software along with the priority and the details of the camera – you click on it to play.

"Video is tagged as an alarm or access event. You can bring the video up on the alarm monitor or click on a camera icon on a map. This is exactly what a lot of users need," Glatt says. "Most importantly, it's affordably priced and there many license options depending on changing needs."

THE INTEGRATOR

KTR Group is a key integrator of Challenger solutions in Victoria.

The company was founded in 1968 by Ken and Trudy Hart and is now managed by their son, Duncan Hart and daughter, Michele Birtchnell. The brother and sister team is highly focused with a noticeable customer-service orientation and it's immediately obvious they've enjoyed being part of the Security Commander beta process at Cardinia Shire Council.

KTR is a solid business specialising in end users including healthcare and state government facilities like police stations, court houses and prisons, and councils. Hart says KTR has 13 full-time A Grade electricians including 3 apprentices.

"We've been in this industry with the UTC Challenger product for 7 years and we have hundreds of installations, including large, multi-site council installs," Hart explains. "We are committed to the UTC product and are very happy with the quality and features of the UTC Challenger.

According to Hart, Cardinia Shire Council is a new council and he says in terms of development and growth it's one of the largest and its about to experience enormous population growth.

"At 1300 square kilometres, Cardinia Shire Council is one of the biggest council areas in Victoria," Hart says. "Cardinia is also about to grow exponentially. Council is expecting the building of 18,500 new homes in the next 5 years, with 3 incoming train lines and 3 outgoing train lines. Obviously a lot of infrastructure needs to be built and Council is looking for an access control system that's able to cover all its facilities as it grows.

As Hart explains, Cardinia Shire Council wants the infrastructure in place prior to development so when a new facility is built they can immediately get all the solutions they need.

"Prior to KTR coming on board, Council was unsure which way to turn and was looking at other systems but once management saw Security Commander and realised it would allow them to do all they wanted to do with their existing hardware they were sold on the spot," says Hart.

"Cardinia Shire Council is a new client for KTR and this is an existing Challenger site which was installed by another company. In terms of our involvement, we have upgraded Council's existing Challenger panel with Security Commander software. We've also installed a DVR with 4 cameras and integrated the surveillance system with the access control solution."

KTR Group's Michele Birtchnell says Cardinia Shire Council was genuinely surprised by the capability Security Commander gave its legacy Challenger hardware.

"I don't think they realised the potential of what they had installed with Security Commander," she explains. "When they actually began to get a grip on the things they could do with Security Commander, they were really excited by it.

"They love that Security Commander system. It's affordable and it gives them a foundation on which to expand. Budget is a big deal for many end users, especially councils, and Security Commander is sellable from an integrator's point of view when it comes to cost.

"It makes use of the existing Challenger systems and allows expansion and control from one site and it's very competitively priced," says Birtchnell. "Important for end users, with Security Commander it's also easy to move cardholders from an existing system – and councils have a lot of cardholders. It's

also simple to operate the rest of the functionality as it's on a Microsoft format that everybody uses all the time.

"Obviously the big advantage is that Security Commander allows all the Challenger panels to be brought back to one place and managed by one department – usually the Assets Department once IT has got the system going on their network," she says.

"Generally, IT is involved at the beginning but they then slip away to other things and the Assets Department runs the system day to day."

Meanwhile, Hart says the simplicity makes Security Commander easier to sell and easier for end users to learn.

"As an integrator we are directly involved with customers and what we really like with Security Commander is that for the end user the software is brilliant. It's easy to navigate. Report generation is simple – so is opening doors. That's what you need for your end user," he says.

"When you hand management of an access control product over to the receptionist at a busy council it's the system's ease of use and reliability that will get you the wraps. Obviously, as an integrator, we can use the product because we have the knowledge but a system also needs to be usable by end user staff with other responsibilities. Security Commander fits that bill."

INSTALLING SECURITY COMMANDER

As soon as we start talking about the installation itself, Birtchnell points out the importance of an integrator's IT capability when it comes to installing systems of this type. Her forthright position on an issue that's confronting for many installers is highly instructive.

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>
> *Michele Birtchnell, KTR Group*

installation and that's the way this business is now," Birtchnell says. "If your system does not easily run on an end user's network and you are not talking to your customer's IT Department then you are not going to sell anything to that client."

Hart agrees.

"Cardinia Shire Council's IT Department was heavily involved in the installation and now the system is running they inform us of any issues and adjust and improve mapping, as well as managing the system requirements onsite."

According to Hart, the Security Commander software is installed on an off-the-shelf Dell server on the Council network and the legacy Challenger panel

is linked to Council's network through a remote switch. Hart says the system is very stable and has not faulted once – impressive for a beta software install. He says that overall the installation was very simple because there was no need for additional hardware.

"Important for us, this installation of Security Commander was much faster than using the TITAN system and that was despite the fact this is a new product we've never installed before. The installation also involved bringing data over from the old system into the new one – usually a long process.

"In this case it was really effortless," he says. "In terms of getting Security Commander up and running (not including the DVR) we spent ten hours. On Day One there were a couple of network issues and then on Day Two the network communication issues were resolved by Council's IT department and after a couple of hours we were up and running.

"It was very easy but we did have a lot of fantastic support from Council's IT manager David Orr and from UTC Fire & Security," Hart explains. "As a result of the support and the simplicity of the upgrade there was minimal downtime for the client – too little to notice. The system worked pretty much as normal throughout.

"In my opinion nothing really compares to Security Commander. I did the configuration on the system myself after a one day course and it was no problem at all."

Something else Hart is pleased about is the suitability of Cardinia Shire Council's system and future needs to a beta test of a management system that facilitates such significant expansion.

"The Cardinia Shire Council site is perfect for an installation like this one," says Hart. "It's small enough for us to easily manage as a beta site yet there's an enormous amount of future growth built in. Council may have dozens of sites on this system over the next 5 years.

"Importantly right now, we have one panel working flawlessly on the system and a strong relationship with council that means as the system grows we will be able to engineer the expansion so we know it's going to work properly.

"In the near future Council will have a new administrative building and there will also be daycare centres, child health services – all the usual community facilities," Hart says.

"Meantime, Council already has a recreational centre and a culture and arts centre and both these are running Challenger panels and will be brought online with Security Commander soon. We are working on proposals for these. Security Commander can manage 128 Challenger panels so there's no problem accommodating future needs."

You'd expect there to have been some challenges when installing a completely new management system with legacy hardware but there were none relating directly to the access control system.

"The challenges we faced with installing Security
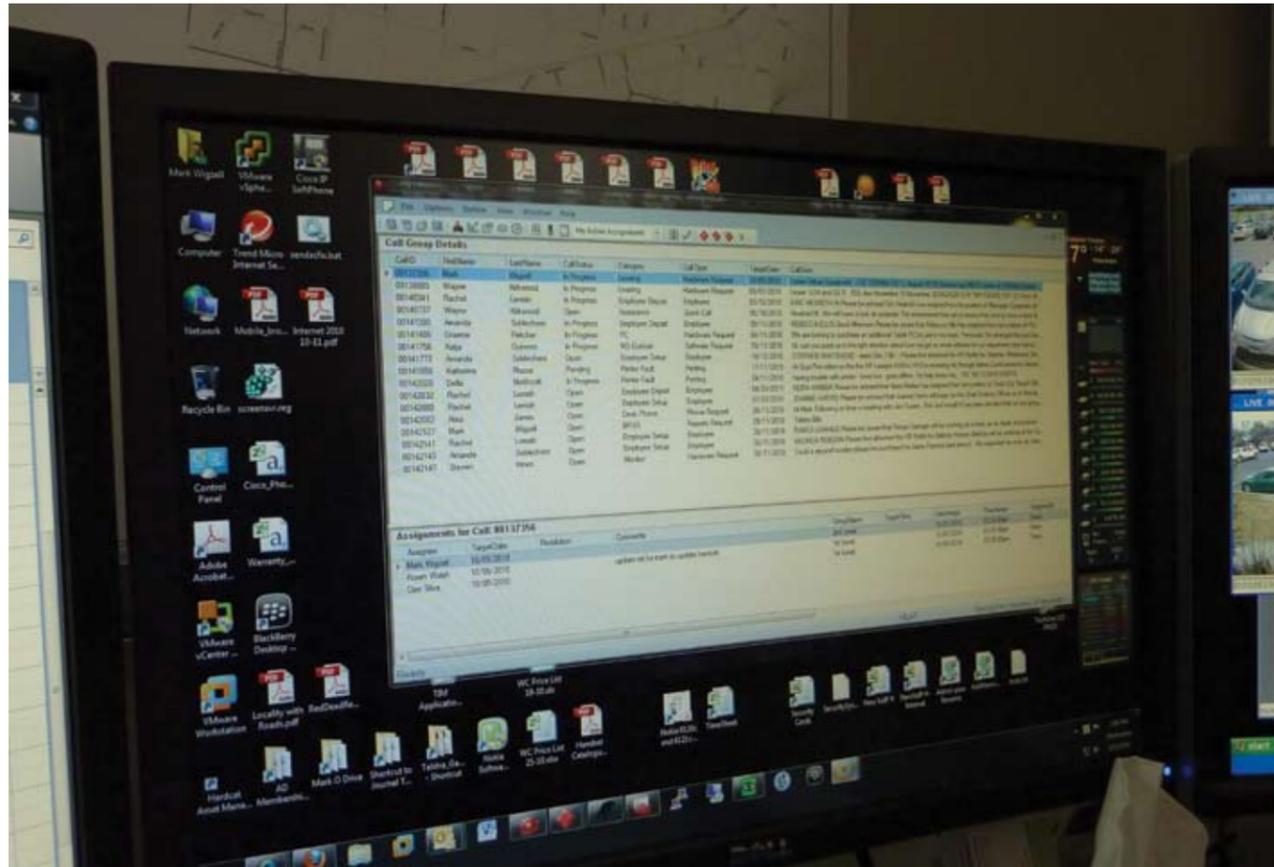
Commander at Cardinia were primarily user name and password access to Council's network. They were sorted out by the IT Department," explains Duncan.

Meanwhile, UTC Fire & Security's product manager Chris Cunnington says part of the simplicity of expansion of the installation related to the fact the Security Commander software was designed by UTC Fire & Security to easily and quickly upgrade Challenger hardware installations.

"We saw speed of upgrade as being an issue so with Security Commander we put in a conversion utility that will take the old information from the existing system and put it into the new one," he explains.

"Security Commander doesn't do the entire upgrade automatically but it does handle the bulk of the work with descriptions and names. The database is Microsoft's SQL Server and we allow people to access the database if they want to or need to – we don't shut the database down with a master password."

According to Cunnington, along with being designed to upgrade Challenger, the system is also designed to make expansion very easy.

"One of the great things about the Security Commander software compared to its forerunners is that it manages multiple panels very easily. It's not like you dial into one panel and then dial into another," he explains.

"Instead, by default, you save the access record of a single cardholder and the software manages the saving of that cardholder's record to all the panels in the system. Security Commander does all that for you.

"You might max out one Challenger but it doesn't mean much from an access control point of view because the system keeps saving to other Challengers in the back end. It's not limited in scale and it works nicely."

In terms of client-server architecture the Security Commander system allows up to 10 operator workstations and is based on industry-standard MS SQL database. An XML-based API allows integration to third-party HR or payroll systems – it's all well-proven and highly reliable stuff.

And importantly, while Cardinia Shire Council has gone with analogue cameras and a DVR, Cunnington says there's support for IP Video coming in the next release.

VIDEO SURVEILLANCE

Another important element of the installation was the integration of video surveillance. There are 4 cameras at Cardinia Shire Council's administrative building – too few to integrate in a typical electronic security application but thanks to Security Commander, this was a snap.

"The DVR integration went well," says Hart. "It's a

4-channel TVR-10 TruVision DVR that's being trialled and it took about 15 minutes to configure although it was the first of its kind we had ever installed.

"Video storage is in the DVR, the DVR is installed in a rack in the network room - it's a simple but effective solution. The cameras are analogue with coax to the DVR which is carried onto the network via RJ45.

"The compression is H.264 and images are sent directly to the Security Commander head end itself. This means that all the control, monitoring and administration of the system is via IP."

Hart says he was pleasantly surprised by the performance of the TruVision TVR10 DVR.

"The picture quality of the DVR really surprised us – it's been really good. From KTR's point of view – we install some quite substantial IP video surveillance solutions and the performance of the 4-input TVR10 TrueVision DVR was impressive."

Specifications-wise, the TVR10 has more than enough capability to support its 4 inputs, including storage of up to 1TB, dual streaming, recording resolutions of QCIF, CIF, 2CIF, DCIF, 4CIF, and a recording rate of up to 100fps at CIF.

END USER'S PERSPECTIVE

According to Cardinia Shire Council's network support officer Mark Wigzell, the system's function is currently access control and security in the main Cardinia Shire Council administrative building. But he says Council is in the process of integrating remote facilities onto the network so they can be managed from a central location.

"We have a number of remote sites and security and access control of our remote sites has become a big concern - from creating cards to getting them to remote users and then having cards function on the remote sites – facilitating this process is not easy," Wigzell says.

"Ultimately, the idea is to monitor multiple sites from a central location. Our sites are connected by a wireless LAN so the network itself is already in place. The network ranges from 30-meg half-duplex all the way up to 150-meg half-duplex," he says. "Most our buildings also have Challenger installations so we are most of the way there, thanks to Security Commander."

Wigzell says that Council's access control solution has a number of key functions that management wants to see extended across all sites but installing the Security Commander at Pakenham was Stage One.

"As far as this location is concerned, we have a multi-user Tecom system that's about 20 years old – it works well but we need to expand and we were aware of this. As a result, when we were offered the chance to be a beta site for Security Commander and we jumped at the opportunity," he says.

"In terms of installation, the process was very quick and very efficient and it was very easy to install

> "As far as installation was concerned, because Security Commander recorded everything from the old system to the new we were up and running in no time. I was actually amazed. I could not believe how quickly I could just switch on and I was away"
>
> *Mark Wigzell, Cardinia Shire Council*

and get up and running and to import the cardholder records.

"From a user perspective we want to be able to issue cards to staff that allow them to go from the main site to our depot or chapel and just swipe on the door with one card - that's the idea behind the upgrade.

"At the moment we have standalone systems at each of our sites and staff will visit one of our 7 remote sites and find their access control cards don't work," he explains. "It's not ideal.

"Now the Council's administration building is up and running we have an initial site we would like to do next which is one of our Child Maternal Health sites – we want access control and alarms in that site managed from our central location."

Wigzell says Cardinia is a growing area so Council needed potential for expansion and because the administration building will soon move, Council needed something portable.

"We wanted the system to work over a WAN – and Security Commander does that. Having a Telstra cloud that allows us to access data and send data back and forth is going to be beneficial to us in terms of monitoring access and alarm events and handling system admin centrally in the future."

Wigzell says Council's IT Department was directly involved in the installation.

"We learned how to install the system ourselves. We wanted to know what was running on the back end and whether the system needed special software, special hardware," he explains. "We ticked all those boxes at the get-go.

"Importantly, the license we needed for Security Commander was given to us as one of the benefits of

being a beta site. Another benefit of being a beta site was that it gave us an opportunity of looking closely at the product and, with the help of UTC and KTR, getting every possible benefit out of it."

Wigzell says that after the main install of Security Commander software on the Dell server, the next step was getting the clients installed on 2 workstations.

"Because we do our own cards at Cardinia Shire Council this was an important second phase," he says. "As it turned out, the job was easy. The Security Commander clients were very easy to install. Next, we wanted to know if the system could integrate with a card reader we'd had for five years and again it was very quick and easy.

"We manage our own cards for reasons of security – we don't want our cards duplicated – we don't want other people using our codes," explains Wigzell.

"That need is what sold self-management of cards to us – our code is unique to our site. What this means is that instead of ringing someone up and asking for another 1000 cards, we have blank cards, and we can reprogram cards for other users.

"As far as installation was concerned, because Security Commander recorded everything from the old system to the new we were up and running in no time. I was actually amazed. I could not believe how quickly I could just switch on and I was away," Wigzell explains.

"The Security Commander software went straight onto our existing hardware which is about 5 years old – I was expecting there'd be a need for new hardware but no – the software worked on our servers. As the client, everything I have looked at in relation to the system has been very easy."

Wigzell says that the latest addition to the system has been the Ultraview TVR10 DVR and cameras.

"From my point of view to get to camera views, or to see if there's a camera fault it's very easy. I just pull up a map of our building with the camera locations on that map and just click on camera icons and looking at the live feeds if there's an alarm event – this works very quickly," he explains.

"The overall installation itself – access control and video surveillance – was very smooth," Wigzell says. "If there were any challenges they related to the nature of our system – the hardest thing was the complexity of passwords. That was the only hiccup. We installed the system on the server but could not get it onto the client. It came down to password complexity and once we figured that out we were home and hosed – we reprogrammed and away we went.

Wigzell has praise for manufacturer and installer.

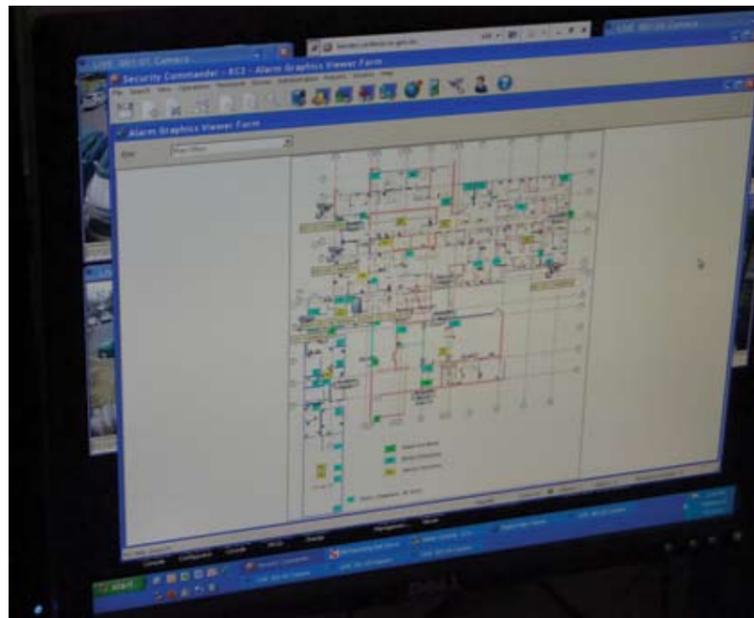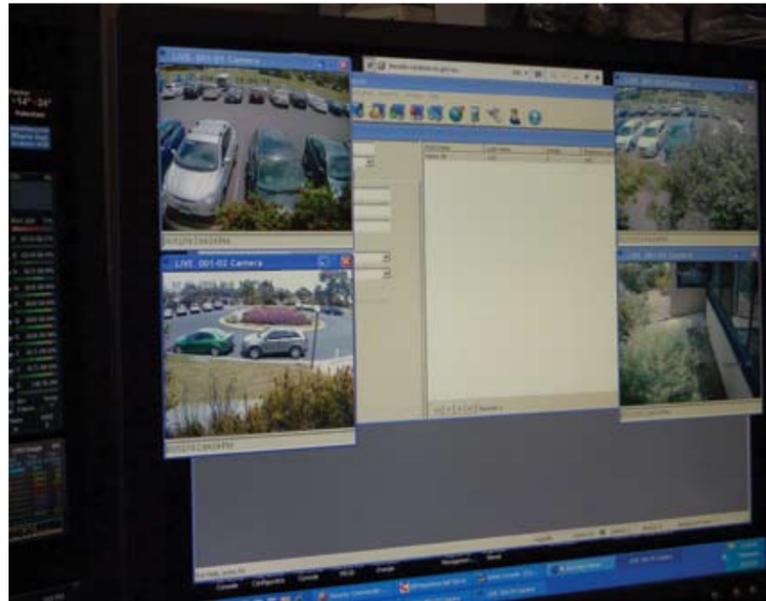"We worked with David from UTC on the installation and he was brilliant – he knew the stuff

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Chris Cunnington, UTC Fire & Security

backwards. He also had me involved as far as tweaks and improvements to the setup that I might have wanted," says Wigzell.

"KTR was also right on the ball, too," he says. "Any issues and they were all over them. When we had a problem with a camera that was indicated on Security Commander, I got an immediate reply to a message and a tech the next morning. That sort of support is very hard to find these days. Between KTR Group and UTC Fire & Security, the support has been phenomenal."

DRIVING SECURITY COMMANDER

As might be expected, steering Security Commander is very simple, despite the depth of functionality

available. When we took a close look at the system running on Wigzell's workstation it was immediately obvious that Security Commander's layout is simple and crisp and the map and its icons make for easy navigation of the surveillance system. Meanwhile, reporting functions are straightforward and at a glance you can see alarm events and associated video footage.

Managing a Challenger system with Security Commander is easy. You get a simple menu system and intuitive control from real-time graphical map displays. The system features complete Challenger panel management, alarm monitoring, video management, access control badge/user management with photo ID, system device monitoring, access monitoring and comprehensive reporting.

Video integration with supported DVRs allows Challenger alarms and other events to be linked to video footage for improved operator response and easier post-event investigation. This includes features like video pop-up on event and automatic text insertion into video footage to allow for additional search capability.

Cool too, Security Commander has a number of powerful features such as time and attendance reporting for shift workers or contractors and a swipe-and-show photo ID verification for guards at reception desks, monitored doors, gates or turnstiles.

Chris Cunnington points out that one of the things with the CCTV side of Security Commander is that

not only can you view the video and monitor the status of the DVR - you can assign and tag event logs and alarms and bring up recorded footage from your archive as well. You can also set camera presets and fine tune them within the GUI through the Security Commander GUI. That's all big system stuff.

"Security Commander is designed for alarm management with video associated as a window but you can see images in different sizes if this functionality is programmed in," Cunnington explains.

"The way the system works is the video comes up in a window that's large enough to allow easy viewing for responding to alarms and viewing what's going on in an alarm event."

The system performs as well from the driver's seat as it does on paper.

"As operator, having the entire security system all on one monitor is great – just so much easier to handle," Wigzell says. "I also really like the fact the Security Commander interface I am working with is Microsoft-based.

"And in terms of managing users I like the SQL backend – it's good for reporting – we love playing around with that side of things," he says.

"When monitoring events the connectivity of getting to the video, getting to the smart card programmer – it's excellent. You are not jumping from one program to another – all functionality is included in the product – that's another thing I really like. It means when I'm operating the access system the image streams are easy to find."

According to Wigzell, Security Commander client is Windows 7 and he runs it on a Virtual PC on an existing workstation.

"I use one of the monitors to monitor the virtualised system running Security Commander. As we go along I am continuing to configure the operating environment to make it better and easier to operate. Especially the map of the building, as this is an interactive map showing changes to the system in real time, meaning the icons change with the door states – so if a door opens you get an open door icon.

"When an alarm occurs it pops up in a window. If there's video footage associated with an alarm, there's an icon that appears beside the alarm event – it couldn't be easier.

"With the cards – there's a badge designer integrated into the system and you associate cardholders with their cards. It's very simple and easy to handle. The images are uploaded by the HR Department. You can also program many at once when you are programming and coding cards," he says.

"I do batches of ten cards at one time. It takes less than 5 minutes to create them. If a card is lost, the user is still in the system and I can associate the user with a new card in an instant. This was different in the Titan system, as you would have to create a new user number and then assign a card. It had to be done this way as you could not create a new card

for the user without keeping the lost card active. Security Commander does not use numbers at all just names and you can disable the security cards that have been lost without impacting the security of the organisation and leaving them active."

After a few hours at Cardinia Shire Council it's obvious that UTC Fire & Security's Security Commander management solution is a major step forward. In simple terms, Security Commander allows multiple Challenger panels to be linked to a central server over a WAN. The composite system can then be managed, with alarm and event monitoring, as well as central maintenance - including the application of global cardholder access rights - from a single central workstation.

Importantly too, it was not just easy WAN-based integration of Challenger panels UTC Fire & Security's engineers had on their minds when designing Security Commander. The focus of this system is ease of use for installers, ease of installation and maintenance for the IT department and ease of operation for end users.

When you see the system's Windows 7 client in operation, it's obvious the designers succeeded in meeting their specifications. In fact, it's not going too far to say that Security Commander turns the vast legacy base of Challenger panels, a system we all know for its profound reliability and longevity, into an affordable enterprise solution. Most surprisingly this is achieved with no additional hardware at all.

All things considered, Security Commander is an exceptional piece of work from UTC Fire & Security.