

Swift and Safe Freeway Travel Enabled with No Delays

The EastLink tollway in Melbourne, Australia, gets a new transport video surveillance network for increased visibility, with Allied Telesis.

Customer: EastLink

Industry: Transportation
Location: Melbourne, Australia
Web site: www.eastlink.com.au



“With Allied Telesis, we now have greater network insight, improved reliability, and ease of maintenance.”

Stuart Lindsay

Engineering & Project Delivery Manager for EastLink

The fastest and safest freeway in Melbourne

The 39-kilometer EastLink tollway is the fastest and safest freeway in Melbourne. Connecting the four other freeways in Melbourne’s east—the Eastern, Monash, Frankston and Peninsula Link freeways—EastLink is a vital part of Melbourne’s transport network.



High traffic

250,000 vehicles per day make EastLink the second-busiest tollway in Australia.



Fastest freeway in Melbourne

96km/h average vehicle speed measured in the 100km/h zones.



Safest freeway in Melbourne

Casualty accident rate just 2.58 per 100 million vehicle kilometers.

Designing a future-proof surveillance network

With IP video surveillance technology advancing at a phenomenal rate, transportation networks must support new levels of speed, reliability and scale. When EastLink decided to update its video surveillance network, only the very best would do. “EastLink’s prior network was a dedicated and proprietary analogue video distribution system, relying on fixed input and output cards for cameras. We needed more room to allow for expansion and improvement,” says Tim Hartfield, Systems Engineer at EastLink.

The new IP surveillance network would replace the no-longer supported analog system, to monitor 39 kilometers of freeway (including twin 1.6-kilometer road tunnels) and an additional one kilometer of un-tolled divided highway, using over 200 brand-new digital video cameras linked to EastLink’s 24/7 control room.

The network needed to be high performing—to carry multiple video streams, and enable real-time analytics from all cameras to detect hazards such as a stalled vehicle in one of the tunnels.

“A number of features were critical to the success of this project. We needed very high availability—at least 99.95%. We also required strong security, improved failure response times, total redundancy for business continuity, and to ensure drivers have a smooth and safe transit through the tollway system with no delays,” says Stuart Lindsay, Engineering & Project Delivery Manager for EastLink.

Leading the world in transport infrastructure sustainability



EastLink is a global leader in road infrastructure sustainability. In 2019, EastLink was awarded the top "5 star" sustainability rating for the fourth consecutive year by the internationally recognised GRESB Infrastructure Assessment.

A total solution—from a single vendor

To fit with the tollway’s physical infrastructure, the new network features a topology with multiple high-speed rings and ultra-fast failover in the event of any problems, spanning the 40 kilometers of open road and tunnels.



“The Allied Telesis product range covered all the bases. From clean, climate-controlled server rooms, to high temperatures outside, and cool but dirty tunnel environments. Selecting the right products for each type of environment while keeping in line with our critical objectives was a challenge—but it was achievable, with Allied Telesis’ expert engineering.”

Stuart Lindsay

Engineering & Project Delivery Manager for EastLink

Each roadside communications cabinet contains an Allied Telesis Industrial Ethernet switch, connecting multiple local cameras into the network. A pair of SwitchBlade x908 Gen2 switches are connected using VCStack™ virtualization technology, with 40 Gigabit connectivity between the SwitchBlade Gen2s for high availability. Allied Telesis Autonomous Management Framework™ (AMF) simplifies and automates administration, while Vista Manager™ EX enables graphical monitoring and management of the new network.

The project wasn't straightforward, but Allied Telesis made it achievable. As Lindsay explains, "Brownfield sites always bring operational and environmental challenges. There were physical restraints regarding the size of the roadside cabinets, and environmental constraints, as temperatures inside these cabinets can reach 60°C/140°F. Luckily, Allied Telesis IE510 industrial switches were ideal for the job."

In fact, EastLink found the right product for each and every part of the new network from Allied Telesis. "The Allied Telesis product range covered all the bases. From clean, climate-controlled server rooms, to high temperatures outside, and cool but dirty tunnel environments. Selecting the right products for each type of environment while keeping in line with our critical objectives was a challenge—but achievable with Allied Telesis' expert engineering," says Lindsay.

Allied Telesis was the clear choice, even facing tough competition from other industry leaders including Cisco, HP, Juniper, Extreme and Dell. In Lindsay's words: "Allied Telesis was an easy choice for us, thanks to not just their product range but also their proven reliability, plus experience with multicast video camera data. Form factor, temperature range, design, reliability, and comprehensive support right here in Melbourne—we got it all from core to edge, with this total solution from a single vendor."

New network capabilities transform management

EastLink now enjoys truly simple network management. AMF greatly reduces network management and monitoring, and automates many day-to-day network administration tasks. Vista Manager EX provides network optimization, proactive monitoring tools, and actionable reporting for an easy-to-use yet powerful solution. Says

Lindsay, "Simple and visible network management was key—that's why we introduced the Allied Telesis network management platform, with AMF & Vista Manager." These powerful automation and graphical management tools reduce administration time and effort, freeing IT staff to work on new technology goals. "With Allied Telesis, we now have greater network insight, improved reliability, and ease of maintenance," continues Lindsay.

"Fully redundant network connectivity using link aggregation and Allied Telesis VCStack has given us a high level of system availability. VCStack over fiber on our 40G SwitchBlade core switches also allows us to rapidly failover to backup systems. This was previously unachievable with our old network. The ability to manage and monitor all of this via AMF and Vista Manager has greatly improved our visibility over the health of the network," says Hartfield.

"AMF and Vista Manager have made network monitoring, configuration, and maintenance a breeze."

Tim Hartfield
Systems Engineer at EastLink

"Working with Allied Telesis was like being part of the family. Nothing was too much trouble."

Stuart Lindsay
Engineering & Project Delivery
Manager for EastLink

EastLink provides leading-edge road-user safety

Road user safety is the real winner here. The resilient new network enables always-on access to cameras, facilitating real-time analysis of critical data, while the benefits of high availability, increased capacity and ease of management ensure non-stop operation. The new digital cameras have higher resolution, more color intensity, and provide improved image quality in lower light conditions. This means control room operators have improved situational awareness about incidents, and can make better-informed decisions.



“Allied Telesis has met all our expectations—and has gone above and beyond on several occasions.”

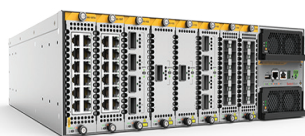
Stuart Lindsay

Engineering & Project Delivery Manager for EastLink

As Hartfield puts it, “Running a new IP video surveillance system over this network has greatly improved our ability to locate, in real time, motorists who require assistance on the freeway. The high-capacity multicast network allows a greater number of cameras to be viewed simultaneously, allowing the operators to react very quickly to incidents. Lindsay adds, “We’ve now got a network with a rock-solid platform upon which to conduct our business, which provides safety benefits on a daily basis.”

Optimal support from Allied Telesis was key to the success of this project. “We have had great local support from Allied Telesis, both for hardware and network design. If we face a problem, the fact that the R&D center is very close to our time zone has been a big help and has expedited issue resolution,” says Lindsay. “Working with Allied Telesis was like being part of the family. Nothing was too much trouble.”

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SwitchBlade x908 GEN2



x930 Series



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