



PRTG: Helping a Small, Dedicated Team Maintain, Protect and Improve a Municipality's Network

Why Network Monitoring?

For network engineers and systems administrators serving municipalities, the need to maintain and secure networks, as well as contain costs, mirrors that experienced by their private-sector counterparts; however, there is another added element of urgency that cannot be ignored. Encompassing everything from financial and management systems to critical communications for first responders, municipal networks are of singular importance to the modern city. In the event of a network failure, lives are literally at stake.

For Network Engineer Paul Hurst and System Administrator Eric Goulden, this reality is always top of mind. Together they are charged with overseeing the entire network, including connection points, servers, storage and security policies, for the City of Airdrie – a vibrant community in Canada's picturesque Calgary region.

Both also support a lean team that includes a database administrator, a single service desk and three desktop technicians who serve more than 658 users who ultimately provide services to the 65,000 people who call Airdrie home. Not surprisingly, Goulden and Hurst approach their roles with a commitment not only to maximize the value of taxpayers' dollars, but also to ensure that all of the city's departments have access to the network and IT services they need.

With Hurst specifically overseeing routers, radio links, interconnections, fibre connections, core switches, wireless access points – and everything in between – and Goulden managing the city's virtualization initiatives, servers, storage and firewall, their combined efforts impact every facet of the city's network. Administration, Bylaw Enforcement, Information Technology, the Fire Department, Parks, Property Assessment, Public Works – all of these departments and more rely on the systems, devices and applications that comprise the city's network and the services they make possible to citizens.



While many of the assets under the team's management, including those for emergency personnel, are fully redundant, failure is simply not an option. Even so, issues were beginning to arise in the network that were difficult to pinpoint the cause of. Goulden and Hurst came to the conclusion that they needed a way to more quickly and conclusively determine the root cause of any issues impacting the network and users.

"We wanted not only to be able to proactively address any issues in our network before they became a problem, but to approach any that arose with real-time intelligence in order to react quickly and in a very targeted fashion," said Hurst. "We also wanted the freedom to quickly change and customize the solution to track and monitor those things that are most important to us at that moment, even as our needs change. And we wanted to be alerted 24/7 when something goes awry in the network in the manner in which we choose, whether it's by email or an SMS alert."

PRTG Network Monitor was ultimately selected due to its ability to fully address these needs, its highly intuitive, easily customizable and user friendly interface; the flexibility of its web-based deployment; the number of sensors PRTG offers (and the breadth and depth of the view of network health and performance they offer) and its seamless use with mobile devices. In addition, the comprehensive nature of PRTG – the ability to monitor everything in networks, including devices, systems and applications on premises, off premises and in hybrid environments, as well as myriad performance variables including traffic, capacity and performance at any point in time – was a differentiator.

PRTG in Action

The City of Airdrie deployed PRTG and today it's considered a very strong asset for the team. Presently, more than 1,000 PRTG sensors are in use throughout the city's network and report on everything from bandwidth consumption to the monitoring of broadband radio links and the disk space on servers including the corporate email and file servers.

While in the past Goulden and Hurst would receive calls from IT staff or end users reporting a problem such as the "Internet is down," the service desk now proactively informs stakeholders of any issues that PRTG has alerted them of. PRTG also enables Goulden and Hurst to quickly zero in on the root cause.



“If you aren't using a system like PRTG to monitor your systems and provide the peace of mind that your environment is being monitored 24/7, why aren't you? Network monitoring enables you to work smarter, and provides the transparency needed not only to push information up, but to provide the historical context required to see the big picture and act accordingly.”

Paul Hurst,
network engineer for the City of Airdrie

One example of this occurred when users reported that applications were inexplicably slowing down and causing a decrease in random staff members' efficiency. Many understandably assumed available bandwidth was the cause and asked IT to retain more.

In the past similar situations required either Hurst or Goulden to stop what they were doing, visit the local site in question and conduct tests to reproduce or simulate the problem, determine if it was an isolated issue, conclude whether it was related to peak times of usage or other variables, and find a fix. PRTG dramatically streamlined this process, enabling them to immediately see what the current problem stemmed from – not only at that moment – but over time.

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Paul Hurst,
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“In the case of the bandwidth question, we could see not only when applications were slowing presently, but also when they slowed on previous days and in previous weeks since all of that data is captured and retained by PRTG,” said Hurst. “At the same time, we could compare that to the true bandwidth PRTG revealed was being used without spending hours or even days trying to reproduce the precise conditions at play when users were impacted. In this case, PRTG quickly revealed what we were dealing with.”

Not only did PRTG dramatically reduce the time required to physically trouble shoot the slowing of applications, but it revealed that bandwidth was not the cause. The problem – one outside of the network and impacting information going out, was quickly identified and addressed, and additional bandwidth, something which ironically was up for discussion and potential procurement, was quickly deemed unnecessary. The root cause ended up being a setting within the virtualization environment which directly impacted the application's performance.



In addition to dramatically reducing the time it takes to address any issues that arise, network monitoring and PRTG have delivered additional benefits as well. For example, monitoring has enabled Hurst and Goulden to manage hardware lifecycles that impact users and ultimately increase costs.

“One of the benefits of being able to monitor our entire network is that we have the historical information needed to make decisions that deliver the greatest financial benefit to the city,” said Hurst. For example, we can now see when cables typically begin to fail, or when a printer is beginning to have problems at a frequency where it no longer makes sense from a productivity and cost standpoint to repair it.”

Security is another. Taking advantage of PRTG’s flexibility to work with customizable sensors that can be easily created, the team at the City of Airdrie created its own sensor to alert them if a particular piece of malware encountered in the past enters their network. They also utilize sensors in areas where network connections could be exposed, when the switch port state changes they are alerted and can respond accordingly.

Says Hurst, “There are so many ways you can utilize network monitoring technology to be more effective. You simply have to ask yourself, ‘now that I have the ability to see exactly what’s happening in my network at any given point in time – from how many revolutions per minute a fan is turning on a particular server to a virtual machine’s CPU load, memory usage, disk read-and-write speed, and network transmission speed,’ what can I do with that intelligence? You can obviously improve the network and more effectively serve users in the process, but that knowledge also empowers you to make all decisions, including ones on procurement, based on the facts, not intuition.”

Advice to Other Municipalities:

Based on their experience with network monitoring and PRTG, Hurst has a recommendation for other cities and public-sector entities.

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ABOUT PAESSLER AG

Paessler AG’s award winning PRTG Network Monitor is a powerful, affordable and easy-to-use Unified Monitoring solution. It is a highly flexible and generic software for monitoring IT infrastructure, already in use at enterprises and organizations of all sizes and industries. Over 200,000 IT administrators in more than 170 countries rely on PRTG and gain peace of mind, confidence and convenience. Founded in 1997 and based in Nuremberg, Germany, Paessler AG remains a privately held company that is recognized as both a member of the Cisco Solution Partner Program and a VMware Technology Alliance Partner.

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