2020 CASE STUDIES

OTTAWA L5

INVESTOTTAWA.CA/OTTAWAL5

OVERVIEW

Ottawa L5 was established in 2019 as the first fully integrated test environment of its kind in North America. The living lab and test facilities enable researchers, entrepreneurs, SMEs and large private sectors to develop, demonstrate, and commercialize new Connected and Autonomous Vehicles (CAV) technologies.

GET SMART

Cheetah Networks Helps Monitor the Pulse of Smart Infrastructure

Visualizing complex network infrastructure is crucial to the safety, performance, and feasibility of smart cities, autonomous vehicles, industrial automation, drone delivery, and other applications. In a trial conducted at Ottawa's living lab and test facilities, Cheetah Networks demonstrated the value of deep and wide visibility into a network that supports several smart applications. The infrastructure included public cloud, private cloud, private LTE, 5G, public core, private core, wired and wireless networks.

- Real-time, actionable performance analytics pinpointed the source of network issues and enabled fast and focused problem resolution.

SMART-CITY COLLABORATION

Invest Ottawa, Nokia, and CENGN (Canada's Centre of Excellence in Next Generation Networks), are testing and evaluating smart applications at a testbed in Ottawa, Canada's Silicon Valley North. To support these efforts, Cheetah Networks deployed its PulseView™ solution to provide specific, real-time, and actionable network analytics. This led to the rapid identification and resolution of several issues that impacted service.

LIGHTWEIGHT AND FAST PULSEVIEW™ SOLUTION

The PulseView™ solution monitored network performance and service delivery across public cloud, private cloud, private LTE, 5G, public core, private core, wired, and wireless networks.

The solution included:

- Pulse Agents—lightweight software agents that monitor the pulse of the network at key points, including third-party IoT devices
- Pulse Director provides real-time actionable analytics that provide clear guidance to network operators

VISUALIZING COMPLEX SMART INFRASTRUCTURE

The smart-city network shared by Invest Ottawa's tenants and partners connects a variety of IoT-enabled devices, plus private and public networks at the edge, core, and cloud. At the testing facilities, the network is used to collaborate and safely and securely test connected and autonomous vehicles, intelligent transportation, precision agriculture, and other smart-city applications.

It was not possible for Invest Ottawa and its partners to "see" this complex and dynamic network from end-to-end. As a result, errors in data delivery were invisible, or, if known, nearly impossible to pinpoint and troubleshoot.

- Cheetah Networks

  installed its PulseView™ solution, which immediately exposed and helped resolve service-impacting issues.

The PulseView™ dashboard: multi-dimensional heatmaps provide a quick view of problems (red), pending issues (yellow), and other network performance.

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RAPID PROBLEM IDENTIFICATION

- PulseView™ immediately identified periodic packet loss occurring from one of the intersections.

  Result: Real-time flow of critical sensor data was quickly restored. The network operator was able to zero-in on the issue, identify the source, and resolve it

- PulseView™ identified that a configuration error was causing intermittent traffic failures.

  Result: Essential services resumed safe operation. The information enabled focused trouble-shooting and rapid resolution, the configuration error was corrected, and stability returned to the network.

IMPACT: SECURING THE CONNECTED CITY

By definition, a smart city is a connected city. Smart cities will connect an unlimited variety of IoT-enabled devices, private and public networks.

To ensure the safety and security of citizens, operators of smart network infrastructure will need immediate knowledge of any network event that causes a lapse or error in communication.

- PulseView™ empowers immediate response and enables automation, such as triggered outage alerts.
- Cheetah Networks PulseView™

  provides this edge-to-core visibility and actionable analytics.

For more information about Cheetah Networks, visit **www.cheetahnetworks.com**

SMART-CITY APPLICATIONS

Smart cities will support a wide range of services that enhance public health, ensure safety, improve efficiencies, and protect the environment. Just a few examples include:

- Fleet and asset tracking
- Drone delivery (e.g. for defibrillators)
- Outpatient monitoring
- Connected and autonomous vehicles
- Precision agriculture systems
- Intelligent roadways
- Warehouse automation

In applications like these, network events can lead to missed opportunity, loss, or even death.

Examples of potentially detrimental events include delays in signals from connected devices, inaccurate information relayed in the network, and downtime of IoT or network devices during which critical data is unavailable.

Realtime, comprehensive network visibility and actionable network analytics will maintain the safety, security, and integrity of the fabric of smart-city network infrastructure.

FOUNDING PARTNERS

accenture, AVIN Ontario, BlackBerry QNX, ERICSSON, Microsoft, NCC CCN Canada, NOKIA, Ottawa

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