

## **Operational Dashboards to Monitor Watermain Flow Patterns, Tower Levels, and Realtime Pumping Energy Costs per m3**

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### **Abstract**

In today's water utilities, a plethora of remote monitoring and telemetry technologies are now available to collect a wide range of data on the both treatment and distribution aspects of municipal water systems. This new availability of data is both a benefit and a curse. While the data is now available, it can be very hard to understand and process in a meaningful way for the Operations Team. Storing and processing these new datasets, with their associated millions of data points, also presents a formidable challenge to many existing SCADA systems with respect to capacity, throughput, and traditional per tag licensing models.

This talk provides an overview of a distributed open-source data gathering, storage, and reporting system that was developed by Guelph Water Services working in partnership with TriplePoint Solutions, an open source software developer.

From an operations perspective, the system is now used to provide real-time Operational Dashboards to show watermain flow/pressure patterns, Water Tower levels/pressures, and Real-time electricity usage including calculated real energy costs on a per m3 of water pumped. A live data feed from the Ontario IESO (independent electricity system operator) is used to calculate the real-time electricity costs. The system also pulls in data from several other systems including the water treatment operations SCADA system, the DMA (district metered area) SCADA system, and other databases. At Guelph Water Services, large 42" monitors are now used to display these dashboards in operational areas. These dashboards are now used as an operational tool on a daily basis.

### **About the Speaker**



**Graham Nasby, P.Eng, PMP, CAP** holds the position of Water SCADA & Security Specialist at City of Guelph Water Services, a publicly-owned water utility located in Guelph, Ontario, Canada. Prior to joining Guelph Water, he spent 10 years in the engineering consulting community after completing his B.Sc.(Eng) at the University of Guelph. He is senior member of the International Society of Automation (ISA) and co-chair of the ISA112 SCADA System Standards Committee, and a voting member of the ISA101 HMI Design standards committee. He is a member of both OWWA and WEAO, and currently sits on the OWWA Automation Committee. Contact: [graham.nasby@guelph.ca](mailto:graham.nasby@guelph.ca)