INDUSTRIAL IoT SUMMIT 2017

Applying IoT in the Utilities Industry

Insights from WA Water Corporation

With the number of internet-connected things estimated to reach 50 billion globally by 2020, there is no doubt the Internet of Thing (IoT) is set to transform businesses and the way they connect and provide services to customers.

But as radical as it may seem, IoT can also be seen as the continuation of an old tradition: it perfectly fits the pattern of increasing convergence of multiple technologies witnessed by the world over many years, by finally allowing them to integrate.

And while many industries are poised to benefit greatly by the opportunities IoT provides, the utilities industry is arguably one of the first movers and shakers in IoT. With a history of connecting millions of networked devices for decades, utilities know how to link devices and collect field and sensor data reliability and securely with standard based networks.

As IoT continues to evolve and gain traction, utilities have an opportunity to drive a real shift in how they engage with customers to enable smarter communities and better manage energy and water.

In light of this, we recently caught up with **Jim Baker**, *SCADA Acquisition Manager* at the **Water Corporation in Western Australia,** ahead of the **Industrial IoT Summit 2017**, to find out the steps he feels should be taken to develop and roll-out IoT and how the Australian utilities can harness and benefit from Water Industry Telemetry Standards (WITS) protocol focused on IoT for water applications.

For the some years, Jim has been promoting the WITS DNP3 standards to SCADA systems to drive better standardisation in the water industry. DNP3 is a self-contained protocol designed for telemetry systems, providing a level of plug and play allowing user organisations to buy equipment from multiple suppliers and choose the best of breed in each category. WITS-DNP3 is an implementation of DNP3 specifically designed for application in the water industry.

However DNP3 is more suited to complex SCADA systems and more recently, the WITS-Protocol Standards Association began to focus on developing WITS-IoT, an application layer protocol which is a spin-off of WITS-DNP3 protocol, allowing easier transfer of data through low cost powered devices.

“WITS-IOT will be a significant development for our industry as it provides a standard platform for low power devices enabling them to work together better. It allows industry vendors and telemetry people to really use all of the worldwide development effort into IoT and the Industrial IoT,” says Jim.

Below, Jim delves into the benefits of IoT for utilities companies the how DNP3 and IoT protocols can be used together to bring real opportunities to develop information systems to build a smart water network.

What benefits can IoT provide to organisations, particularly the utilities industry?

“IoT promises to provide improved connectivity and improved management of assets that were not previously covered by SCADA. For example, visibility of manhole covers, dam levels and private water meters were not covered by SCADA before, but now they can be because of the low cost communications network that is provided by IoT.

The cost of devices is not the major issue in deploying SCADA - the cost of engineering is generally much more significant. That’s where one of the benefits of IoT can be found, in that it is relatively cost-effective to install.”

What steps can organisations take to develop and roll-out an IoT strategy?

“Firstly, create a business case to explain the business benefits gained in implementing IoT. Then investigate what IoT devices and networks are available and which ones will meet your needs and develop standard designs on how you will deploy it.

The next step is to work out what is going to be at the other end. For example, in our case, the master-station end. There is going to be a massive amount of information from these IoT devices. How are we going to store it and what analysis tools are we going to use so that the business can get the best benefit from the investment.

Smart metering has been trialled at the Water Corporation in some areas. Smart metering is ideally suited to IoT and we can use the technology of IoT to actually enhance the functionality that we already have, but at a much lower cost.”

Other types of IoT apps you’re exploring? Do they interlink with IT?

IT provides the ability to manage, integrate and store data acquired through SCADA and IoT. Water Corporation currently has an extensive SCADA network and we have research projects underway looking at the value of augmenting or complimenting the SCADA network with IoT. One of them is looking at the application of IoT for Water Corporation and the other one is to look at energy harvesting to power devices. This fits in well with the low power requirements of IoT.”

What are some of the challenges associated with introducing IoT within the utilities industry and how can these challenges be overcome?

“The biggest challenge we have at the moment is which standard will succeed. As is always the case with new technology, there are different opinions on how it should be done, what products you should use and what communications mediums. That’s our challenge at the moment, to ensure we invest in the correct technology.

For example, at the moment there is LoRa which is a low power communications standard and there are Sigfox and NB-IoT, which are commercial communications products for IoT. We don’t know which of these three options will be a success, so we need to ensure we invest wisely.

Understandably, there is a lot of interest in security standards for IoT. For example, the IoT Alliance Australia recently released a report on tracking the Internet of Things. It is a topic that is being looked at very closely, with developments in the security area important for IoT networks.

What is the value of attending the Industrial IoT Summit 2017?

“The value of attending the **Industrial IoT Summit 2017** is opportunity to network and see what other vendors and utilities in particular are doing in the IoT space. We all need to talk about the advantages and disadvantages of different IoT standards. This is a good opportunity to see what products will be available in the market and get an idea of which way the industry is going.”

Interested in learning more?

Join Jim at the **Industrial IoT Summit 2017**, taking place **29 - 30 August 2017** at Novotel Sydney Central. He will further explore how to implement IoT in the SCADA arena.

Contact our team for more information:

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