



# IT/OT Convergence Issue Brief

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## SUMMARY

Information Technology (IT) and Operations Technology (OT) are increasingly overlapping in the electric, gas, and water utility industries. IT includes traditional computing, storage and telecommunications systems used for decades in industries such as finance, healthcare and retail. OT includes technologies that run real-time processes such as electricity distribution, manufacturing plants and transportation systems. "IT/OT Convergence" captures this increasing trend.. Capabilities that once lived in IT are showing up in OT, such as Internet Protocol (IP) telecommunications. Conversely, traditional OT applications such as industrial control system (ICS) monitoring are now occurring in IT systems.

The major issues with IT/OT Convergence are: a need for collaboration between traditionally isolated teams and cultures so that products can support the diverse needs of both IT and OT; and a need for executive leadership to understand the impact of IT/OT Convergence and lend support where beneficial.

## BACKGROUND

IT/OT Convergence is the increasing use of the same infrastructure components and applications by both IT and OT teams. Within the utility industry, some companies have multiple uses of the same product, each operated by a separate team and possibly with a different set of operating processes. IT/OT Convergence seeks to improve the efficiency of IT and OT teams when they collaborate, possibly by eliminating multiple instances of the same product, or at least by defining a common set of

operational processes that all teams will use. Conversely, IT/ OT Convergence ensures that someone is looking at every necessary task – avoiding a situation where each thinks the other is doing a task, but neither is.

IT/OT Convergence can touch many departments of a utility. Some early examples include utility telecommunications, where migration of ICS from legacy technologies such as SONET (Synchronous Optical NETwork) to IP-based networks requires the ICS expertise of the OT department and the IP expertise of the IT department. Smart metering is another example, where the meters themselves are an Operations Technology and part of the electricity distribution network, but the meter data management and back office functions are classic IT applications. IT/OT Convergence also affects cybersecurity, as more intelligent devices are placed into ICS networks, requiring operational expertise from OT combined with cybersecurity expertise from IT.

In all of these examples, IT and OT must learn from each other: OT must understand the IT technologies and how they will affect operations; while IT must better understand the objectives of the Operations technology, which is usually at the heart of the utility's core business objectives.

IT/OT Convergence is perhaps a misnomer, as the two functions are unlikely to ever completely converge. A more realistic view is that the people, processes and technologies that serve IT and OT will increasingly overlap. However, the term IT/OT Convergence has

enough prevalence that it will likely continue to be the most common name for the IT/OT phenomenon.

## **UTCC POSITION**

The Utilities Technology Council of Canada (UTCC) believes that the IT/OT Convergence is an opportunity for utilities to elevate the performance and operation of the utility IT/OT while also improving the efficiency of their grid operations, customer engagement and back-office operations. With the exception of cybersecurity, IT/OT Convergence, if implemented correctly, has little, if any, policy impact, but has substantial business, cultural and change management impact. UTCC helps its members converge IT and OT through its IT/OT program of work, addressing three fundamental areas:

Management Practices required for successful IT/OT Convergence. UTCC presents focus groups for change management, configuration management, converged IT/OT operations and systems reliability compliance.

Utility Requirements and Solutions required for IT/OT Convergence. Focusing on IT/OT's place in utility modernization, this subcommittee will perform and share research and analysis on utility's business requirements of IT/OT and available technical solutions – what is necessary to better enable collaboration of IT and OT teams.

Educational Activities that support IT/OT Convergence. UTCC will publish free white papers and for-purchase research, plus maintain a steady presence in UTCC publications and events. UTCC will sponsor webinars for members that identify useful IT/OT solutions training that members can pursue.

UTCC's program addresses the whole utility's role in IT/ OT Convergence, not only the technology deployments required. IT and OT departments at

any given utility often come from vastly different backgrounds and may have spent decades with differing focus. Convergence requires conscious efforts to improve collaboration between teams that have been traditionally isolated from one another. UTCC is actively leading this charge.

## **ABOUT UTCC**

UTCC is a not-for-profit and member-driven organization focused on addressing the telecommunications and information technology issues for utilities and critical infrastructure companies in Canada and the providers of telecommunications infrastructure or information technology equipment and services.

UTCC provides advocacy support through various legislative and regulatory efforts and offers a variety of technical and business forums focused on a community of knowledge on matters affecting telecommunications, IT and operations of utilities and critical infrastructure companies. UTCC also offers learning and peer networking opportunities for Canadian professionals through conferences, workshops and webinars.

UTCC works with the other UTC regions, i.e. U.S.A., Latin America, Europe and Africa, to learn from each other and to collaborate where interests overlap.

## **UTCC CONTACT**

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