Improving O&M and IT Collaboration to Keep our Buildings Smart and Secure

Challenges for IoT in Buildings

Internet of Things (IoT) devices are increasingly integrated into buildings. As these sensors are connected to the internet and networked to building technology (such as heating and lights), they introduce security vulnerabilities. Although technical solutions exist to counter security issues, implementation of these solutions are often impeded by the challenges that an organization's Information Technology (IT) staff and a building's Operations and Maintenance (O&M) staff have when they work closely together and share their knowledge about computer security and how buildings operate. These difficulties arise from different ways of working and different points of view about how technology works.

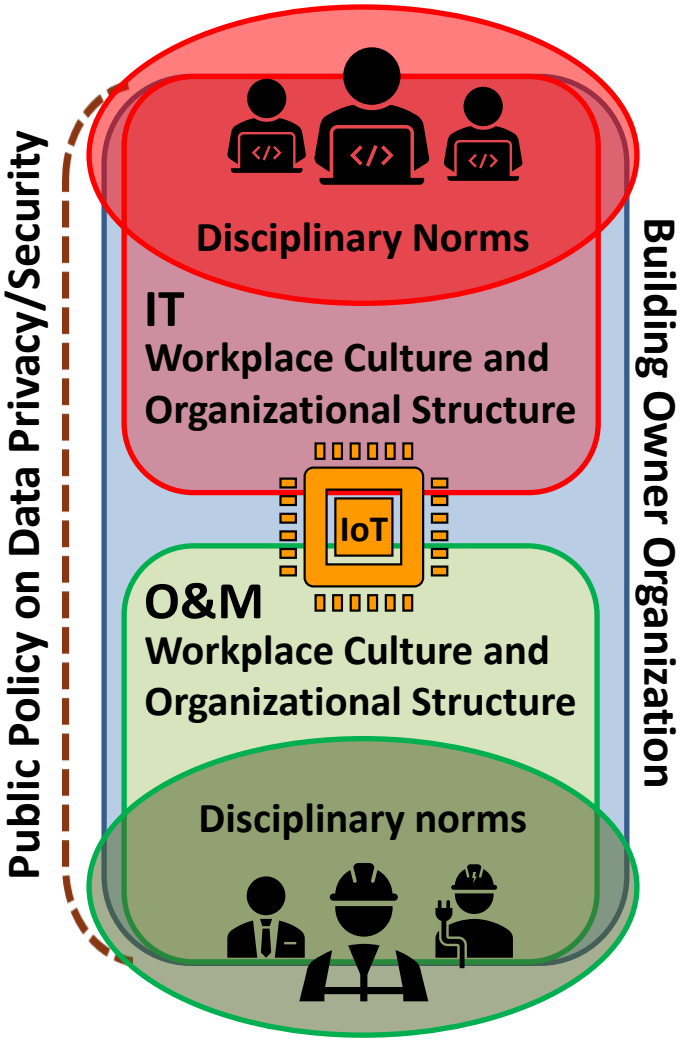
Solutions for Success

Stronger collaboration between O&M and IT could solve these challenges. This requires addressing two critical areas:

1. How O&M and IT currently share their knowledge and skills and work together to improve IoT security; and
2. How public policies and an organization's own rules regarding privacy and security impact how IT and O&M collaborate.

To address these areas, we used qualitative methods of workplace observations, expert interviews, policy research, and a comparative case study of successful collaborations in higher ed institutions.

Influences on IoT Collaboration



Scientific Impact:

This study generates knowledge around how IT and O&M professionals can work better together to improve the security of our built environment and how public policy may affect cybersecurity collaboration. To this end, this study:

- Provides much-needed empirical data on current collaborative O&M and IT cybersecurity practices;
- Develops theory on how the daily work practices of security professionals, public policy, and organizational rules affect cybersecurity collaboration; and
- Identifies organizational, policy, and practices that will improve IoT security in our nation's buildings.

Broader Impact:

This study informs cybersecurity policy and impacts cybersecurity professionals in the building industry through:

- An industry report on successful O&M and IT collaboration strategies;
- White papers on policy findings and recommendations for the building industry;
- Sharing findings at public speaking events, in popular and academic publications, and developing training for professionals and students; and
- Improving the cybersecurity pipeline through prioritizing student researchers underrepresented in the cybersecurity field.

SaTC: CORE: Medium: Knowledge Work and Coordination to Improve O&M and IT Collaboration to Keep Our Buildings Smart AND Secure, University of Washington , NSF Award #: 1932769, Laura Osburn, lbusch@uw.edu; Carrie Dossick, cdossick@uw.edu; Jessica Beyer, jlbeyer@uw.edu; Chuck Benson, cabenson@uw.edu .
https://cyber.be.uw.edu/research/iot-collaboration/