

Author: Juha Hirn

Name of the Thesis: Future Trends of Integrated Building Automation and WWW-based Remote Management

Date: 22th November 2006

Number of pages: 63

Department: Department of Electrical and Communications Engineering

Professorship: Electrical Building Services

Supervisor: Professor Jouko Pakanen

Instructor: M.Sc. Timo Peltola

This master's thesis orientates on common goal of today's facility management. How to integrate different building automation systems and combine them with business process's and software. This master's thesis also concerns potential technologies related to remote management of the building automation system.

Integrating building automation systems based on different bus protocols is labour-consuming work. To ease the integration work it's possible to use commercial integration platforms. These platforms are like interpreters that can understand all automation systems connected to them. There are also some international integration projects, whose goal is to agree on common interface standards to make data change possible.

System integration provides easy access to all building automation systems. Integrated enterprise resource planning systems support business operations.

One of the major things concerning remote management is how to update dynamic data asynchronously. Techniques related to dynamic data update are examined in this master's thesis. Event handlers that are programmed using scripts seem like a good method. Also instant messaging protocols could be the right solution to the real-time problem.

Service Oriented Architecture (SOA) services are being developed at the moment. This thesis explores the possibility of using SOA interfaces on coupling building automation systems loosely to interoperable services.

Keywords: Building automation system, integration, real-time, remote management, software platform, asynchronous update