

Master-IT: Project work WS2010/2011

Area: Industrial Communication

Flexible device addressing and naming schemes for adaptable automation systems

start: Immediately
partner: Consortium EU Project „IoT@Work – Internet of Things at Work“

Description

Today, deployment and commissioning of complex production processes or Internet-enabled applications interacting with production systems still require a time consuming and error-prone manual network configuration process. Hence, the vision of the EU Project IoT@Work is to adapt IoT concepts in manufacturing environments, where intelligent things (i.e., network devices, tagged materials, robots, and machines) will help increase the overall productivity, system resiliency and efficiency. The proposed architecture is shown in Figure 1. Amongst others, mechanisms for device addressing and naming schemes are needed for this Plug&Work feature and should be investigated in this project.

Goals

Investigation of existing self-configuration protocols and analysing needs for additional extensions such as mapping address spaces based on multi-dimensional transformations. Each dimension such as, device unique ID, authentication key, network neighbourhood, and semantic role of device in the application scope (e.g. an automation unit or cell can be defined as a boundary to define the scope) might be part of the addressing scheme.

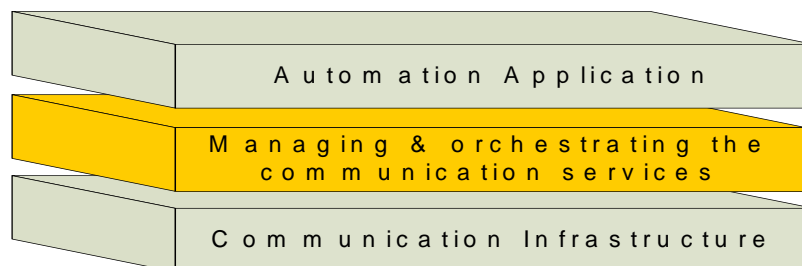


Figure 1: Objectives of IoT@Work