Semantic Interoperability

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Semantics is the study of meaning

“Explicit agreement on semantics is vital to the success of IoT
→ Semantic Interoperability
Why is Semantic Interoperability important?

• The value of IoT grows with available information
• Today: heterogeneity, silos, tight coupling
• True IoT:
  • Sharing of information
  • Federation across silos
  • Dynamic use of sources

Agreement on meaning of information = Semantics
→ Basis for Semantic Interoperability
What are the barriers?

• Technology is available, some tools
• BUT: Limited to relatively small community
  Wrong perception: academic, for experts only, difficult

→ Spread the word
→ Make it easier for all stakeholders
→ Best practice
Joint Whitepapers

Semantic IoT Solutions: A Developer Perspective

Target Group: Developers and Software Architects

“How to develop semantic systems and achieve semantic interoperability”

Towards Semantic Interoperability Standards based on Ontologies

Target Group: Semantic Experts, Standardization Engineers & SDOs

“How to create standards for semantic interoperability”
Developers: Aspects and Activities when Developing Semantic Solutions

- Semantic Modelling: Ontologies
- Ontology Instantiation: Semantic Information
- Managing Semantic Information: Information Storage
- Accessing relevant Information: Information Retrieval
- Deriving Information: Reasoning
Standards: Best Practice

• Co-creation and separation of concerns (SoC)
  • Parties with different expertise and viewpoints
  • SoC is design principle: each element separate concern
• Defining knowledge perimeter
• Modularization design principle
• Evaluating usefulness
  • Technology readiness level (TRL)
• Deployment concerns
  • Support for profiles and discovery
  • Version management
Joint Whitepapers on Semantic Interoperability

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