Technical Interoperability

Day 1 summary for day 2
April 12, 2007
Addison, TX
Overview

• Summary of day 1
  – Top 5 issues
  – Other topics discussed

• Issues for the future (day 2)
Main Issues (1)

• Title:
  Adopt / create a high level “master” use case

• Description:
  Extract a high level “master” use case from existing use cases that addresses interactions between all domains (e.g. from ISO RTO to appliance)

• Why is it important:
  It supports the understanding of the framework
  It helps validate the framework content and its usability
  It is the start for a high level ontology
  It is the bridge for further work
Main Issues (2)

• Title:
  Explicitly describe the requirements of a real time infrastructure in the framework

• Description:
  Enhance Interoperability Principle IO5 to describe the requirements of a real time infrastructure in section 4.3 in the framework in order to get the information when needed with the right quality

• Why is it important:
  This is an important cross cutting issue that should be addressed in the framework
Main Issues (3)

• Title:
  Detail category 2 “Network Interoperability”

• Description:
  Category 2 should be detailed in order to capture the hierarchy of cross cutting issues and network and systems management

• Why is it important:
  The framework needs to categorize the areas of the infrastructure that need to be addressed when designing future systems across boundaries
Main Issues (4)

- Title: Clarify the trade offs between interoperability and security

- Description: There are trade offs between interoperability and security that should be detailed and described

- Why is it important: Because while needing interoperability and open systems, the security of these systems should be maintained
Main Issue (5)

• Title:
How will the stakeholders use the framework?

• Description:
Describe the use of the framework in the context of e.g. emerging regulatory requirements or liability issues

• Why is it important:
because a clarification of the use of the framework will maintain its credibility and limits its scope and avoids inappropriate application
Other topics discussed (1)

• Security
  – Interoperability and security are conflicting
  – How much security is enough and what are the trade offs
  – Security should be part of the basic design
  – Security is agnostic to technology and communications
  – Closed systems will continue to exist and need to be addressed from a technical and a security point of view
  – Not everything / all information needs to be secured
  – Integration of Mission Critical Systems and Non Mission Critical Systems leads to new and sometimes unexpected issues related to real time operations, security, maintenance, etc.
Other topics discussed (2)

• Standards
  – There are too many standards but not enough relevant standards going across a wide range of domains
  – Solutions are needed that work over time with sufficient critical mass
  – A practical standard is important

• A roadmap to architectures is required including:
  – languages
  – steps to get to an architecture
  – the related ontology

• Better definitions (ontology) are needed

• Definition of time and time-synch is needed
Other topics discussed (3)

• There is a need for a high level abstract model in order to:
  – identify
  – describe
  – magnify
  – define common characteristics of reality
• Tools are needed for systems engineering
• Methods should be defined on how to specify and document systems
• Connection to and integration of legacy systems should be described
Other topics discussed (4)

- The technical disciplines for distributed computing are not as well defined as the disciplines involved in other areas such as power system engineering (civil, mechanical, electrical)
- Interfaces
  - Focus should more on the surfaces / interfaces
  - Optionals in protocols can be a problem
  - Bind higher level to lower level protocols
- The first thing to be identified is what everybody agrees that can be done now
Other topics discussed (5)

- Address that it is all about managing risks
- New users are interested in existing sources of data / information
- Address systems outside the electric system and the interaction between them
- Address culture and the blurring boundaries between organizations as well as education
- Sharing source code is a way to define unambiguous reference implementations
Issues for the future

- What can be done now?
- What is the high level abstract model? Which use cases are relevant for the framework?
- What about other domains outside the electric network?
- What tools for systems engineering?
- Which methods how to specify and document systems?
- How to do network and systems management
- How to connect to and integrate legacy systems?
- What are the trade offs between interoperability and security?
- How will the stakeholders use the framework?