Cybersecurity for Energy Delivery Systems

2010 Peer Review

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Trustworthy Wireless For Critical Infrastructure Sites

Trustworthy Wireless For Critical Infrastructure Sites

- **Outcomes:** Standardized approach to deploying wireless technology while assuring appropriate security, reliability, and resiliency.

- **Roadmap Challenge:** Measure and assess security posture.

- **Major Successes:**
  - Joint Trustworthy Working Group formed – with ISA99/ISA100
  - Benchmark Publications and/or Presentations – over 10 in 2010
  - Worldwide Recognition – Keynote addresses in US, Peru, France – all host paid

The Economist — When everything connects — A 14-page special report on the coming wireless revolution

- **Schedule:**
  - Standards Document Issued – September 2010 - OK
- **Level of Effort:** $300,000
- **Funds Remaining:** $90,000
- **Performers:** ORNL, ANL, PNNL
- **Partners:** ISA100 members including Areva, EPRI, 300 others

Technical Approach and Feasibility

- **Approach**
  - Engage Stakeholders – users, suppliers, regulators, academics, integrators
  - Gather Issues and Suggestions for document content – Request for Input in ISA100 process
  - Publish for Comment – draft 1, draft 2, final
- **Metrics for Success**
  - Participation/Engagement – Two volumes coming
  - Interest – world-wide anticipation

Technical Approach and Feasibility

- **Challenges to Success**
  - Challenge – Wired Culture
    - Develop viable metrics – reliability, security, resiliency
    - Publish and present to socialize
  - Challenge – Legacy Culture
    - Publications/Presentations/Engagement
- **Technical Achievements to Date**
  - Milestone - Draft document released for comment
  - Milestone – Analytical approach under development
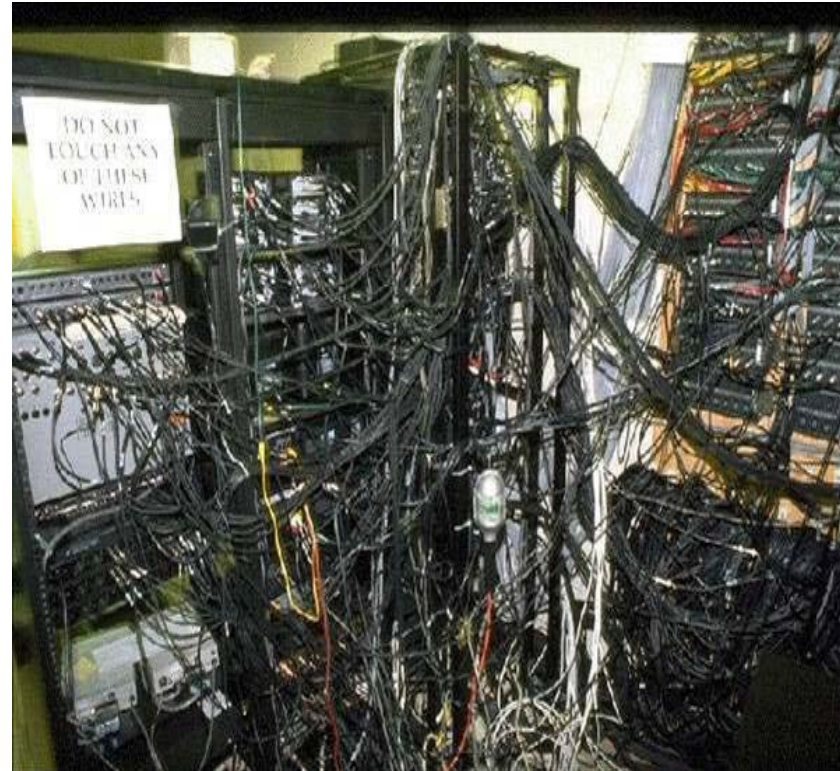
Collaboration/Technology Transfer

- **Plans to gain industry input**
  - What we need – More Utility, asset owners engaged in TWWG
  - How we work to gain industry input and assistance – Presentations/publications/outreach, Volume I refocused
  - What are the challenges to gaining this input? – Resource constraints – ours and asset owners
- **Plans to transfer technology/knowledge to end user**
  - Documents provided as part of ISA100 standards development process
  - Extensive publication/presentation invitations
  - Wireless is coming – Trustworthy Wireless is essential for this market

Next Steps

- **Approach For the Next Year**
  - Milestones to Accomplish –
    - Document review, comment resolution and release for use
    - Analytical basis for trustworthiness
    - Effective metrics for comparing options
  - Risks Faced – resource constraints, intervention

- **Project results**
  - ISA99 – Joint working group to address trustworthiness across wired and wireless networks
  - Backhaul – ISA100, ISA99 to address trustworthiness issues

- **Describe potential follow-on work -**
  - Continue Document Release – September 2011 - $300,000
  - Analytical basis for trustworthiness – April 2011 - $150,000
  - Tie with resilient controls work – September 2011 - $300,000

Culture Issues – HELP!!

- Legacy Culture – reminiscent of my home town – Pittsburgh!
    - "We'll just work with our vendors and they will build what we need."
    - "I'll just wait for a clear choice to emerge."
    - "I'll vote with my wallet."
    - "Standards just document industry best practice."
    - "Everything we deploy must have 30 year life"
- New Culture Emerging in Other Markets?
    - "Reliability isn't as important as we thought it was." - GM
    - "The consumer will never accept the poor reliability offered by this technology." - GE
    - "If you're not ready to replace your entire mill in seven years, your competitors will put you out of business" – Danielli-Wean
    - "The only answer to cyber security is to make the asset owner fiscally libel for all intrusions" – S4 Conference

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