Das sollte jeder IT-Spezialist über Automations- und Produktionsnetzwerke wissen

Frank Schirra, Rockwell Automation – Solution Architect

Edi Truttmann, Cisco Systems – Network Solution Sales Specialist
Cisco & Rockwell Partnership

Network Evolution - Convergence

Industrial Networking - Reference Architecture

Industrial Security

Summary
### Cisco and Rockwell Automation Partnership

#### Common Technology View
- Support use of open, unmodified standards, with intelligent networking features in automation networks through ODVA, ISA and others

#### Collaborating on Reference Architectures
- Tested and validated design and implementation guidance and best practices for a converged network architecture

#### People and Process Optimization
- Develop process guidelines for help with convergence, facilitate training and dialogue with IT and Manufacturing

#### Product Collaboration
- Developed Industrial Ethernet switch incorporating the best of Cisco and the best of Rockwell Automation

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**Converged Plantwide Ethernet (CPwE) Design and Implementation Guide**

*Updated February 24, 2010*

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**Register**

- [Register](http://www.rockwellautomation.com/register)

**Empower Your Network**

- [Empower Your Network](http://www.rockwellautomation.com/empower)

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**Windisch, 12. März 2013**

**swiss meeting**

**Communication Conference**
Cisco & Rockwell Automation
combining the best of both worlds
Agenda

- Cisco & Rockwell Partnership
- Network Evolution - Convergence
- Industrial Networking - Reference Architecture
- Industrial Security
- Summary
A History of Connections

170 Years Ago: Invention of the Telegraph
100 Years Ago: Invention of the Radio
70 Years Ago: First general purpose electronic computer
40 Years Ago: First Internet connection
20 Years Ago: World Wide Web

Intelligently Connecting People, Process, Data, and Things

2003: 0.5B Connected Devices
2005: First Smartphone
2008: Video Traffic: 21 exabytes
2010: 0.5B Smartphones
2012: 50M Connect
2011: 90M Smartmeters
The Evolution of the Internet

Business and Societal Impact

Connectivity
Digitize Access to Information
- Email
- Web Browser
- Search

Networked Economy
Digitize Business Process
- E-commerce
- Digital Supply Chain
- Collaboration

Immersive Experiences
Digitize Interactions (Business & Social)
- Social
- Mobility
- Cloud
- Video

Internet of Everything
Digitize the World
Connecting:
- People
- Process
- Data
- Things
IT–OT Convergence, Open Standards

“By 2015, 35 percent of enterprise IT expenditures for most organizations will be managed outside the IT department's budget.”

Gartner
Agenda

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4. Industrial Security
5. Summary
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Cisco Industrial Security
DNA of Your Control Network

“Gaining visibility into this world of previously undetected cyber-threats helped reassure our team that we were doing the right thing by adding intrusion prevention technology across our industrial network.”

– Charles Harper, Director of National Supply and Pipeline Operations at Air Liquide
Cyber Threat Defense: The Need

Perimeter security stops many threats but Sophisticated Cyber Threats Evade Existing Security Constructs

Fingerprints of Threat are Found Only in Network Fabric
Examples of Cyber Threat Types

Threat Characteristics:

- Custom-written for target
- Bypass the perimeter
- Spread laterally on internal network where detection abilities were limited
- Evade traditional detection techniques

Examples:
- Stuxnet
- Zeus (Zitmo)
- Nitro
- Buckshot Yankee
- DuQU
- Shady Rat
- Aurora
- SpyEye (Spitmo)
- Flame
- Citadel
Threat Defense Components

Core Infrastructure with NetFlow
- Cisco 2900/3560/3700/4500/6500, NGA, ASA, ISR, ASR 1000

Identity Services Engine
- Provides context information
- Identity Information including: who, what, when, where, how

Lancope StealthWatch Platform
- Visibility and Management
- Aggregates FLOW and CONTEXT to highlight anomalies and risk

Advanced Services
- Consultation/Updates
  - Design-Implementation, Subscription
  - Design → Proof of Concept
  - Limited Deployment → Enterprise Deployment

Cisco or Partner
Cisco Identity Services Engine (ISE)
Identity and Context-Centric Policy Platform

Security Policy Attributes

Centralized Policy Engine (Identity Services Engine)
Dynamic Policy

Monitoring and Reporting
Security Policy Enforcement in the Network
Application Controls

User and Devices

One Policy for Wired, Wireless, and Remote Users
Monitor, collect and analyze network traffic, establish a baseline, and alarm on anomalies and behavior changes

**NetFlow Telemetry**
Cisco Switches, Routers, and ASA 5500

**Cisco Identity, Device, Posture, Application**

**TrustSec Enabled Enterprise Network**
NetFlow: Switches, Routers, and ASA 5500

**Context:**
NBAR/AVC
Identity Services Engine

**Threat Context Data**

**Cisco Cyber Threat Detection** - enhances efficiency and effectiveness of analysis and provides key insight into internal activity across the network
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Cisco & Rockwell Automation
combining the best of both worlds
Reference Architectures
Converged Plantwide Ethernet Architectures

- Rockwell Automation and Cisco Systems Collaboration

- Content relevant to both IT Network Engineers and Industrial Control System Engineers

- Built on Technology and Industry Standards IEEE, IETF, IEC, ISA-95, ISA-99….

- Recommendations and Design Guidance

- Documented configuration settings

- Cisco Validated Design

- “Future-ready”
Thank you.