

Information Security Convergence Defining a New Business Model?

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Your Presenter



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30+ years in physical security business development, sales and system design during a career with manufacturing, distribution, specialty and general contracting firms. Experienced estimator, project manager and consultant offering security design & spec writing support services.



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Session Objectives

1. Understand current InfoSec trends and their impact on PhySec.
2. Define areas of logical and physical security convergence
3. How to calm CTO and I.T. Director's fears by addressing InfoSec as a feature of IP Addressable Automated Systems
4. Consider a strategy to leverage InfoSec trends for system sales opportunities
5. How to build a physical security value proposition that resonates with I.T. professionals.



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I.T. Influence Growing in Physical Security

- Larger I.T. Budgets with scheduled technology upgrades
- Information security becoming a priority
 - 76% of all organizations *HACKED!*
 - (Source: SIA - 2016 Cyberthreat Defense Report)
 - More IP Addressable systems residing on network
 - Increasing threat of identity and POS data theft
- Control of physical access to network equipment
 - “Network Equipment” – any device that is IP Addressable
- Convenience driving use of cloud & mobile devices with physical security apps



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Industry Drivers Affecting Change

- IP Appliance Tech cost comparison - shared infrastructure
- Convenience of mobile app access & mobile credentials
- IP Video tech adoption adding comfort with IP Access Control
- Improved solutions (inter-operability) via systems integration
- End-Users “Hardening” Networks (IPSec) and improving Information Security (InfoSec)
- Logical & physical access merging – shared credential
- Moving processing/logic functions outside Server Core



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Why are These Disciplines Converging?

- These three security disciplines were separate:
 - Physical Security (ASIS Certs – CPP, PSP)
 - Infrastructure Security: LAN / WAN (BICSI Certs – RCDD)
 - Information Security: (ISC2 Certs – CISSP)
- ***What is Drawing These Pros Together?***



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IP Value Message for Automated Systems ?

- Passive Optical LAN (POL) offering 5 TB/s bandwidth!
 - Future-Proof Pipe: Optical Transport Network (OTN)
 - 100GB/s OTN: 1 - 5 TB/s up to 150m (IEEE 802.3ba)
 - 10 GB/S OTN: 0.8 - 1.2 TB/s up to 10km (IEEE 802.3ae)(Source - BICSI)
 - Enough backbone to support EVERY automated bldg system
- OTN simplifying network infrastructure
 - Lower deployment cost
- Open IEEE technology standards bringing integration & simpler inter-operability
- SQL data & Active Directory integration



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Security Vulnerabilities

- More IP Data Connections = Greater Vulnerability
 - IoT and IP Edge Devices
 - Mobile Data (Smartphones)
 - Big Data (Cloud)
- 200 Billion IP Addressable devices by 2020
(Source - Intel, "A Guide to the Internet of Things")
- IPSec/InfoSec becoming greatest vulnerability and biggest threat



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Understanding Pain Points

- User authentication
- Mitigating data vulnerability & hacker threat
- Coordination of electrical contractors
- Physical access to network equipment
- Open architecture vs. proprietary
- Need I.T. industry compliant equipment & protocols: IEEE 801.x/802.x, Active Directory, SQL, Sharing of SDK/API's



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Information Technology = Data Transport

- Data is KING with I.T./I.S.
 - Understand PhySec data security strategies
- Access Control Data Protocols
 - Wiegand (**bit data**)
 - Serial (i.e. RS-485) (**not 801.x, 802.x compatible**)
 - Centralized IP (**conventional copper to Edge**)
 - Distributed IP Edge (**CAT cabling to the door**)



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Power: PoE Now & Future

PoE standards development

Parameter	PoE (802.3af)	PoE Plus (802.3at)	4-pair PoE (802.3bt)
PSE Power (W)	15.4	30	99.9W
PD Power (W) (assuming 100m channel)	12.95	25.5	74.55
Current (mA _{dc})	350	600	1920
Pairs Used	2-pr	2-pr	4-pr
DC loop resistance per conductor (Ω /100m)	40	25	25
Year Standardized	2003	2009	2016 (est)

Figure 4: Comparison of existing and proposed PoE standards

Source: CommScope White Paper 12/2015

- **IEEE 802.3bt** - expected release by 12/2016
- 74W available = **3A @ 24VDC** supplied by CAT 6 Cable!!!
- NO Conduit, NO A/C drop, & NO electrical coordination
- Sustainability – LEED projects



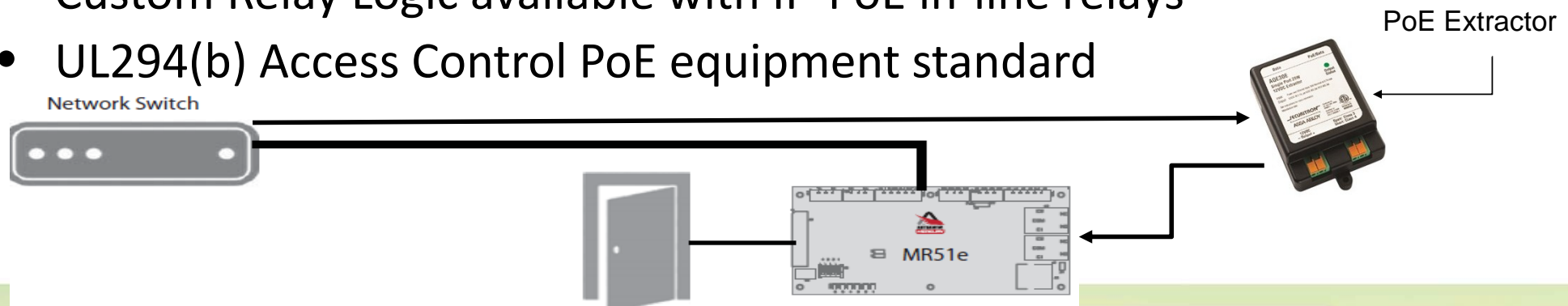
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IP-PoE Edge Design & Controllers Today

- Edge controllers offer wet relays on onboard supporting EXTRA 2-4A 24VDC
- Single Port Extractors offer PoE+ adding 1A of 24v switchable power to 0.5A of PoE already onboard
- Custom Relay Logic available with IP-PoE in-line relays
- UL294(b) Access Control PoE equipment standard



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Low Power E-M Locking Devices “PoE Friendly”

- **Electric Strike** – draw under 100 mA
- **Mag Lock** – draw under 200 mA
- **Electrified Mortise Lock** – draw under 500 mA
- **Electrified Cylindrical Lock** – draw under 250 mA
- **IP-PoE Integrated Lock** (CR, EL, Controller) – draw under 150 mA
- **Electric Latch Retraction Exit Bar** – draw under 700 mA

All products based on 24VDC power, MAX power draw

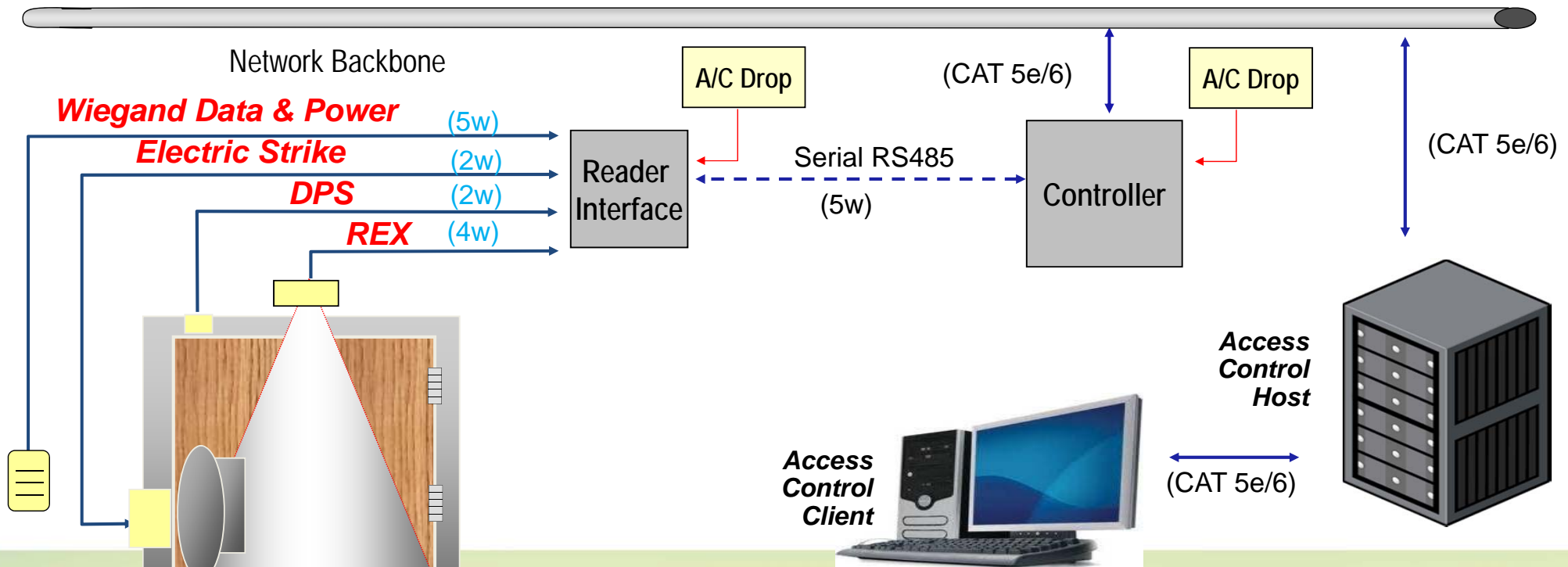


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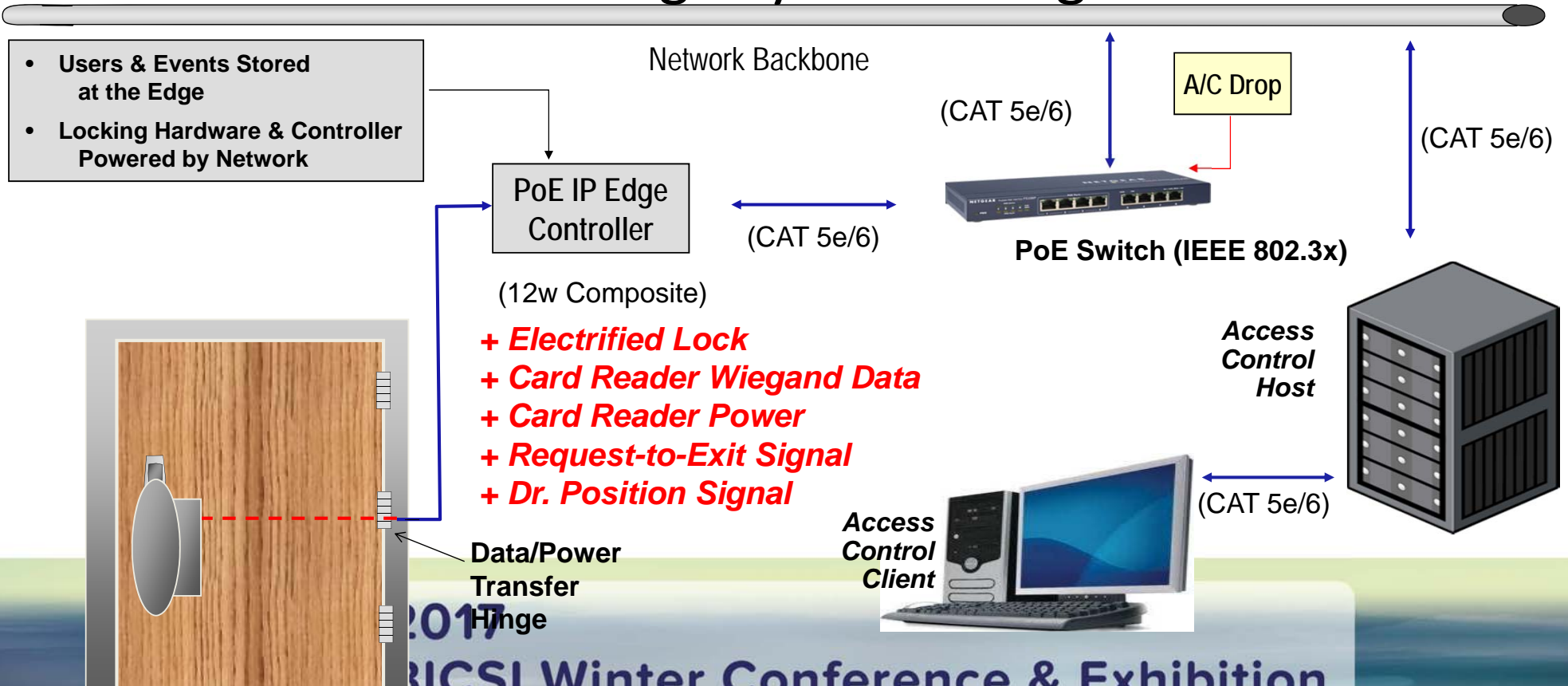
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Traditional Card Access Control



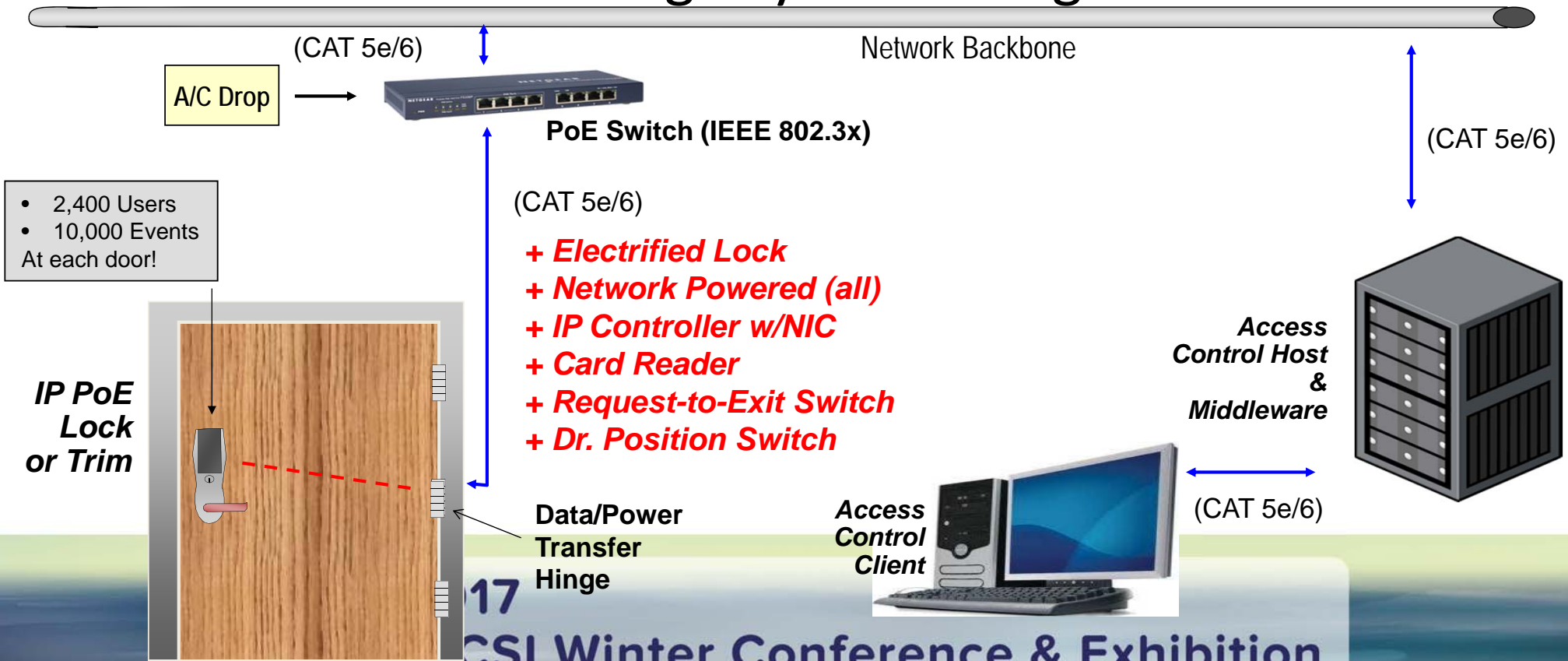
Integrated Wiegand w/IP PoE 802.3 Edge System Design



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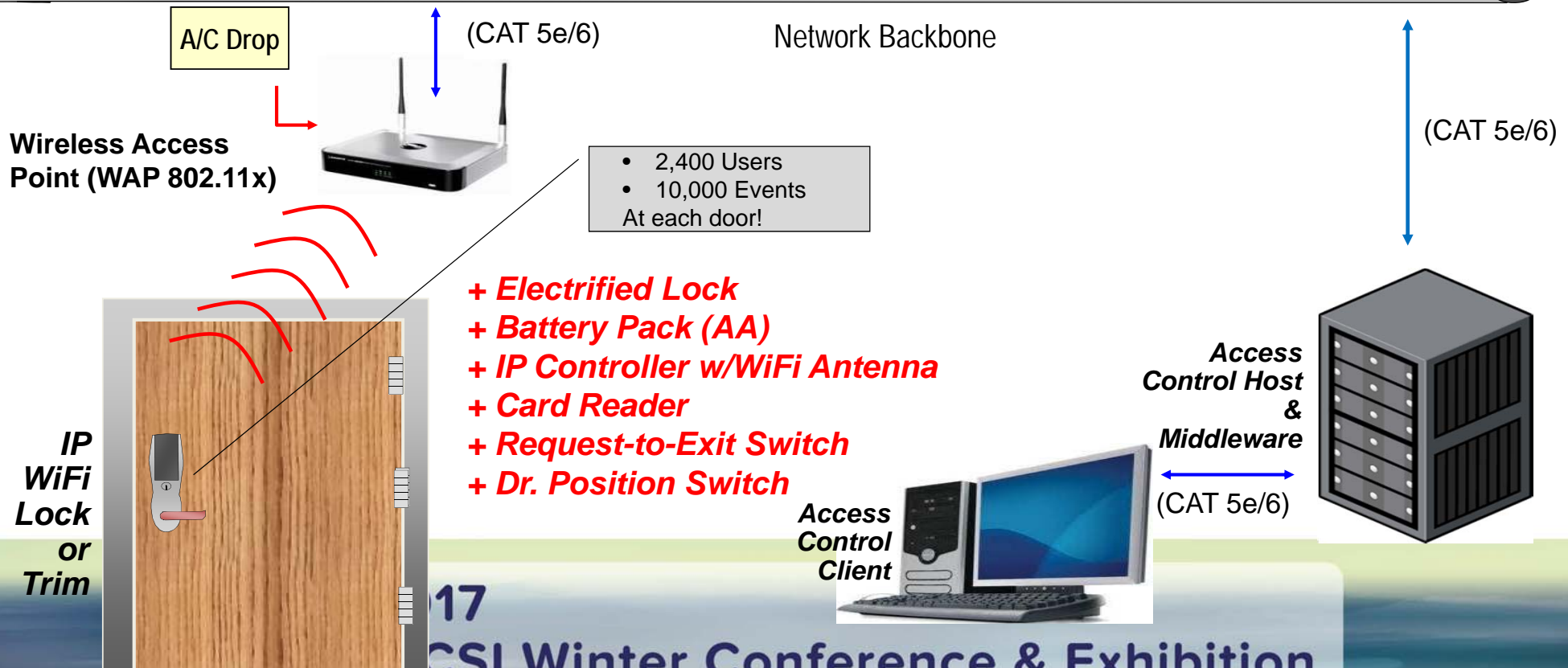
IP PoE Integrated Lockset 802.3 Edge System Design



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IP WiFi Integrated Lockset 802.11 Edge System Design



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InfoSec Safeguards

- Design with end-to-end encryption
 - OSDP (RS-485) & AES (IP)
- Safeguard against DDoS attacks via IP addressable devices
 - IP traffic monitoring
- Secure password strategies
 - CHANGE DEFAULT DEVICE PASSWORDS
- Active Directory integration for identity management
 - Credential/reader tech supporting encrypted certificate-based authentication



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An I.T. Solutions Mindset for PhySec!

- Professional Services
 - Database Data Exchange (DDE)
 - Managed & Professional Services
 - Designing within open standards supports integrations/interfaces
 - Select IP integrated solutions partners to enhance inter-operability
- Technology, System Evaluation & Planning
 - Assist End-User with strategies for future-proofing tech
 - Provide annual End-User technology education & updates
 - Offer annual system evaluation and tech migration planning
 - Assist with multi-year budget planning



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Thank You!
Questions?