End User

Cybersecurity & Network Segmentation

Power/mation's Industrial Internet Solutions provide products and tools for network segmentation and cybersecurity for today's complex industrial control systems (ICS) and SCADA systems. The implementation of cybersecurity systems reduces the overall attack surface area of your network by identifying security weaknesses, prioritizing areas for improvement and mitigating immediate risks. Proper network segmentation provides full network visibility, control and protection.

Security Must Always Come First

What is at risk when security is breached? An information technology (IT) attack could result in the theft of data and could divulge *confidential* business information. An operational technology (OT) attack could lead to damage in the physical world and losing *control* of equipment or a process. The diagram below shows the order of protection importance for each network segment, with security being first priority.

Cybersecurity Framework Core

1. IDENTIFY	Establish an organizational understanding to manage cybersecurity risk to systems, assets, data and capabilities.
2. PROTECT	Architect the appropriate safeguards to ensure delivery of critical infrastructure services. See reverse side for a modified Purdue model of secure architecture for ICS.
3. DETECT	Implement the intrusion detection and instrusion protection alert systems to identify the occurrence of a cybersecurity event.
4. RESPOND	Develop and execute the appropriate activities to take action regarding a detected cybersecurity event.
5. RECOVER	Restore any capabilities, services or data backups that were impaired due to a cybersecurity event.

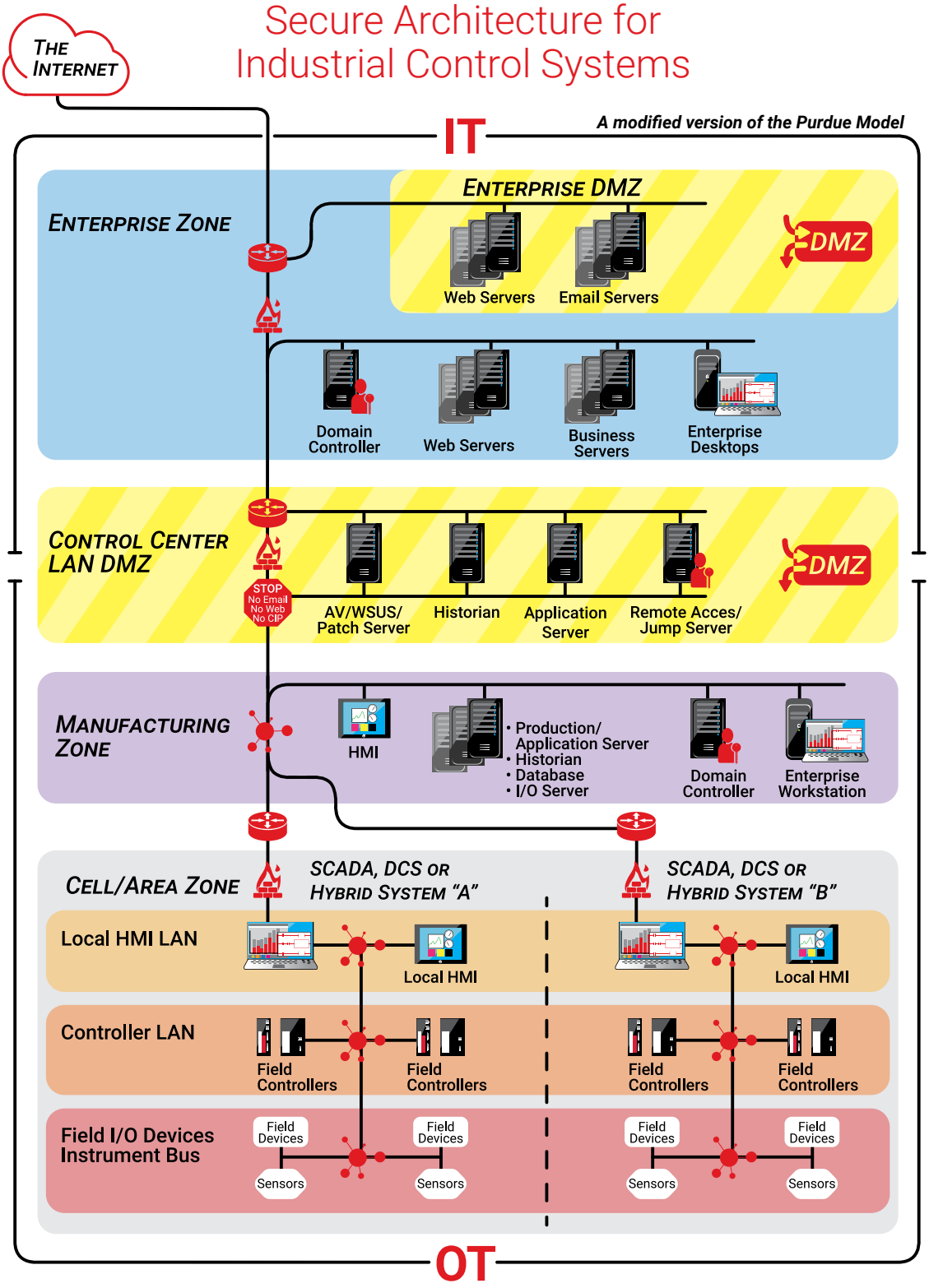
Derived from NIST Cybersecurity Framework

7 ICS Defense Strategies

- Implement application whitelisting
- Ensure proper configuration and patch management
- Reduce surface attack area
- Build a defendable environment
- Manage authentication
- Monitor and respond
- Implement secure remote access

Guidelines as recommended by the National Security Agency, Cybersecurity

Secure Architecture for Industrial Control Systems



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IT
Information Technology
- Data Risks
- Office PCs
- Email & Web Browsing
- Business Data/ERP

OT
Operational Technology
- Physical Risks
- Machines
- SCADA
- Process Data/MES

Demilitarized Zone
A DMZ exposes external-facing services to untrusted networks.

Firewalls
- Stateful Firewalls
- IP & Port Filtering
- Bandwidth Throttling
- Deep Packet Inspection

Gateways
- Routers
- Network Transitions
  - Firewalls & ACLs

User Access
- User Authentication
- Access Control Lists
- Jump Servers
- Remote Access

Connectivity & Infrastructure
- Cordsets
- Switches