





# Securing IT and OT Convergence is a Team Sport





**Bryan Gillson** 

Head of Vertical Strategy, Ordr



# Why Are We Here?

#### Secure Operational Environments Critical To The Way We Live



Manufacturing



**Utilities** 



Waste water treatment



Healthcare Providers



Food and Beverage



Logistics



Oil and Gas

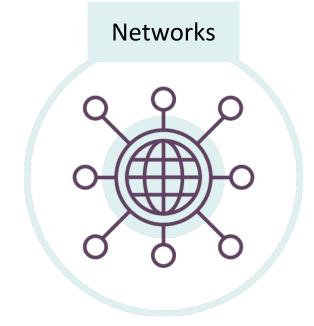


Pharma

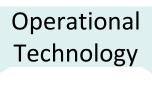
### Who is the Team? Multiple Silos With Differing Objectives



"I care about data protection, security and governance. This is business critical."



"I need know what's on my network to ensure capacity and resiliency. This is business critical."

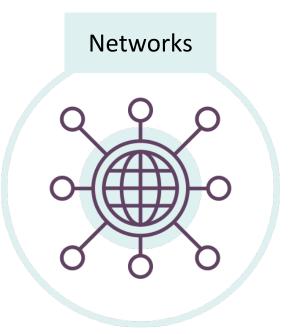




"We need to keep operations running efficiently and safely. This is business critical."

### Who is the Team? Multiple Silos With Differing Objectives







**Board of Directors:** 

"I don't care about silos. You need to secure it all."

#### Digital Transformation Highlights the Problem of Silos



#### Asset **Inventory**

- Insufficient visibility into IoT and OT devices
- Devices not in CMDB
- Rogue devices
- Varying business criticality



#### **Dynamic** Segmentation

- No more Purdue air gaps
- Segmentation for devices across IT, OT and cloud
- Devices flows between groups, Internet, cloud



#### Collaboration Challenges

- Uneven security focus within OT teams
- Minimal OT expertise within security/networking teams
- Separate security strategies

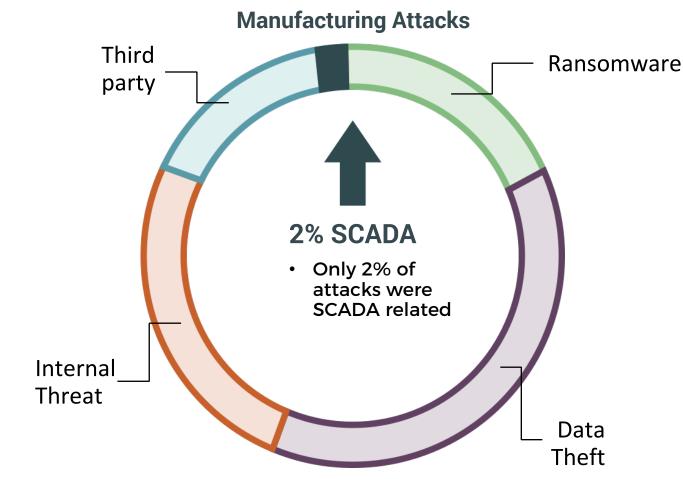


#### **Vulnerabilities** & Risks

- Devices with outdated operating systems
- Devices behaving anomalously
- · Devices with default credentials



# Reality of Manufacturing Risk



"Ransomware, destructive malware, insider threats, and even honest mistakes present an ongoing threat to an organization's infrastructure."

- NCCoE at NIST

<sup>\*</sup> Statistics compiled from IBM X-force 2020 Threat Intelligence Index, and Dragos Manufacturing Sector Threat perspective 2020



#### **Real Threats and Real Headlines**

#### Colonial Pipeline Attack Showed Securing IT/ IoT As Important As OT



- Saturday May 8, 2021 Reports of Colonial Pipeline ransomware event began appearing
- Colonial and Government reporting only IT systems and network impacted, Pipeline shutdown was precautionary
- Double extortion Nearly 100GB of data ex-filtrated prior to ransomware attack, threat of public data release



#### What's Needed?

#### Enable teams to work with "Eyes Wide Open"



Unified view of entire attack surface



Integrated toolset to provide common language & frame of reference



Drive collaboration between IT Security, Network, Operational Technology groups



Ensure understanding of conflicting—and complementary—priorities





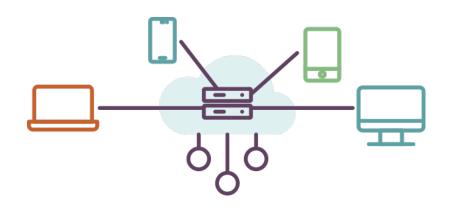
"...Historical IT and OT functional differences are becoming a liability when security is involved."

"By 2025, 75% of OT security solutions will be delivered via multifunction platforms interoperable with IT security solutions."

Gartner Market Guide for OT Security
Jan 2021



### **Two Options for Visibility Across Silos**



Send networking, security, OT data into SIEM or equivalent

 Can already do this today



Connected device security platform retrieves and consolidates insights from across the network

- Common multifunction platform for IT Security, Network, & OT
- Device context enriches other networking and security systems: Firewall, NAC, CMDB, SIEM, Vulnerability Management, etc.

Siloed data with custom

# Journey Towards Convergence & Asset Centric Security

(According to Gartner)

Fully Air-Gapped OT Systems OT Systems Partially Connected To Each Other "Retrofitted" Cyber-Physical Systems Through IT/OT Convergence Newly Designed and Engineered Cyber-Physical Systems

**More Isolation** 

More Connectivity

**Security by Obscurity** 

#### **OT Network-Centric Security**

- Purdue Five-Layer Model
- Firewalls
- DMZs
- Unidirectional
  Gateways/Data Diodes

#### **CPS Asset-Centric Security**

- Discovery, Inventory
- Connectivity/Communications mapping
- Vulnerability management
- · Dynamic segmentation
- Remote Access Management
- · Dashboards and Compliance Reports

**Gartner** 



## **Key Considerations**

**Discovery, inventory** 

**Connectivity & mapping** 

**Vulnerability management** 

**Dynamic segmentation** 

Needs to be agentless so that there is no impact to business operations

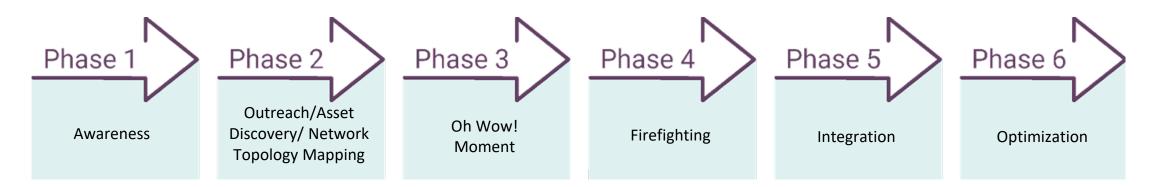
Physical and network location, as well as communications patterns can identify:

- Location of compromised devices
- Devices communicating to malicious domains
- Internet Telnet/desktop apps
- Validate segmentation

Cannot actively scan OT devices Updates may not be available for devices with outdated operating systems; need segmentation

Segmentation based on cyber risks and business impact

## Organizational Alignment To Secure Converged IT/OT



**Phase 1:** Get buy-in from the various stakeholders, including the C-suite

- Determine the role teams should play
- Define strategy and key security framework (NIST/Zero Trust/CMMC)

Phase 2: Deploy Connected Device Security Solution with buy in from teams. Start with realtime asset inventory, map device communications

#### Phase 3 and 4: Mitigate risks

- Manage and patch vulnerabilities.
- Zero Trust segmentation for OT devices with outdated operating systems
- Monitor East-West traffic and anomalous behavior
- Automated policies during incident

**Phase 5:** Integrate with existing networking and security solutions

**Phase 6:** Info sharing & collaboration across teams



## **Ordr Customer Case Study**

#### Global Auto Parts Manufacturer

- **Objective: Discover devices and malware on corporate** network and shop floor
- **Process: On-site competitive evaluation** 
  - Vendor A: Primarily reporting, with limited in-depth device information
  - Vendor B: OT centric strength but incomplete features for IoT and IT devices in "carpeted space"
  - Vendor C: Legacy technology with very high TCO and limited device visibility
  - Ordr: Ideal combination of visibility and network context across IT, IoT, and OT devices

#### **Current status:**

- Deployed in 6 locations worldwide, with additional sites in process
- Uses Ordr Flow Genome to map flows
- Use integrated IDS and machine learning to identify malware and behavioral anomalies
- Plans to implement micro-segmentation via firewall and switch integration, using existing infrastructure



## Take-Aways For Securing IT + OT as Networks Converge

- Drive executive and cross-functional buy-in and understanding
- Rethink siloed approaches in favor of integrated frameworks
- Invest in unified tools for visibility across IT, OT, IoT, and networks
- Commit to moving beyond firefighting to proactive Zero Trust / Least Privilege approaches









