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Verifying Operational Effectiveness For Physical Protection Systems

Charlie Nickerson
Nuclear Cyber Programs
Idaho National Laboratory

Janice Leach
Physical Security Analysis
Sandia National Laboratories

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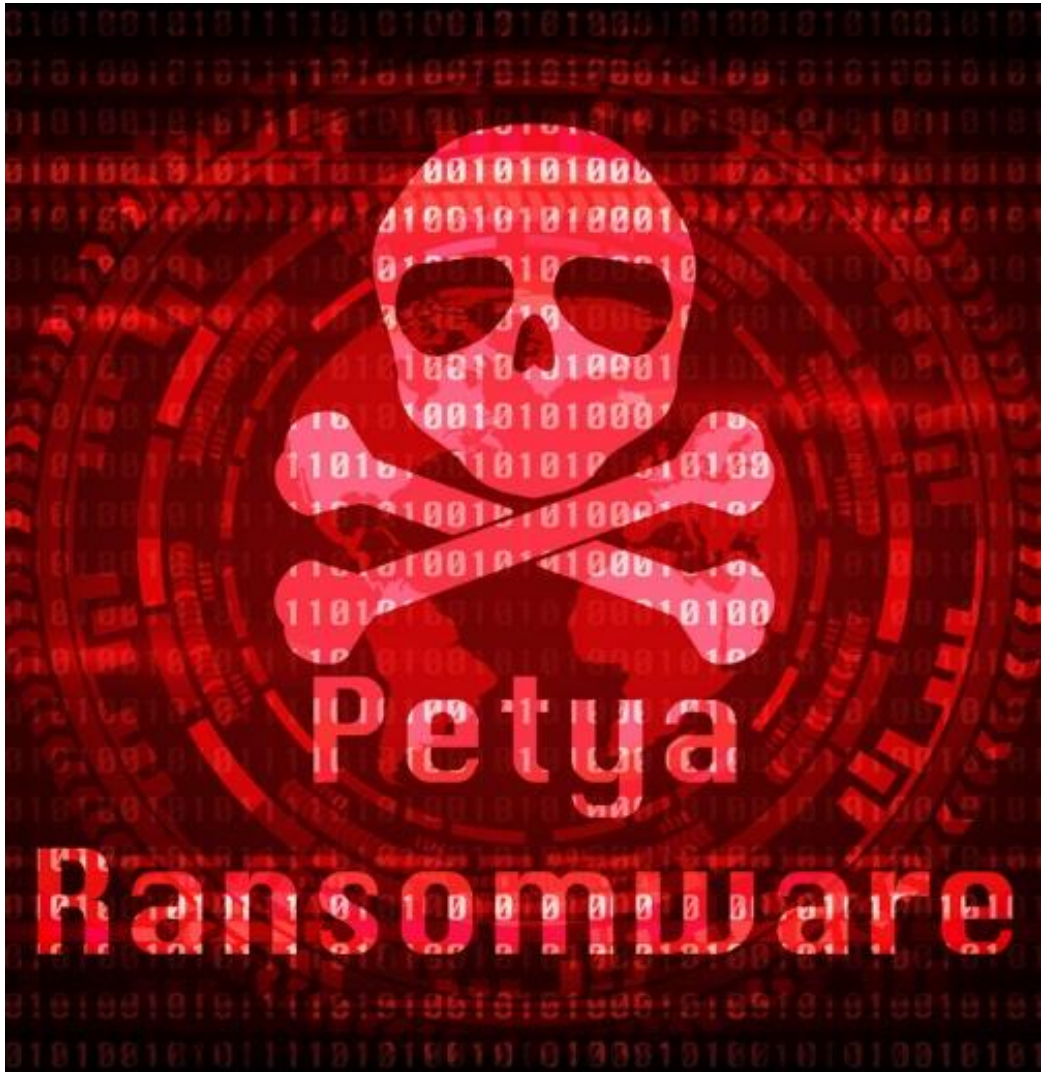
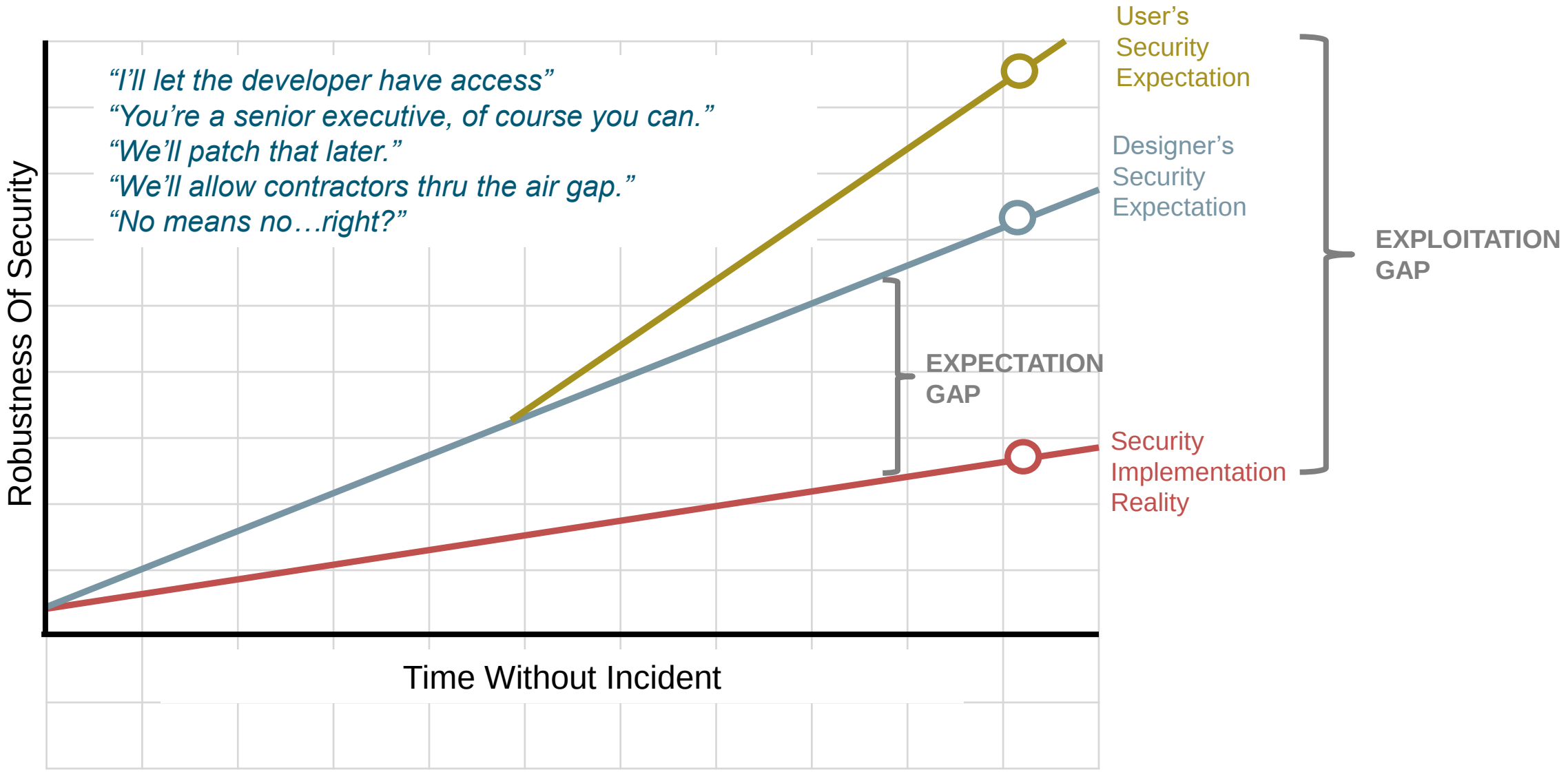
Idaho National Laboratory

Let's Set The Stage: What Are We Facing?

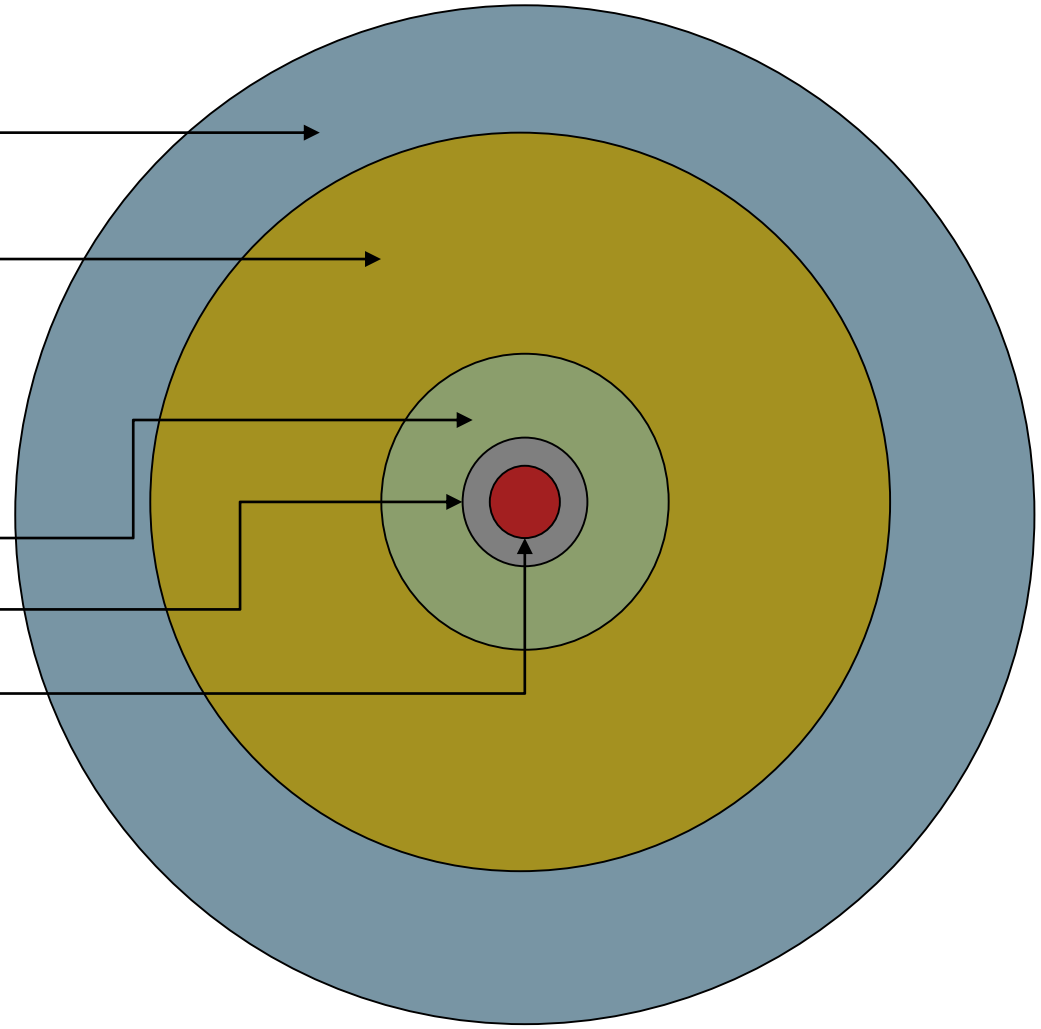


Managing Expectations & Security Concerns

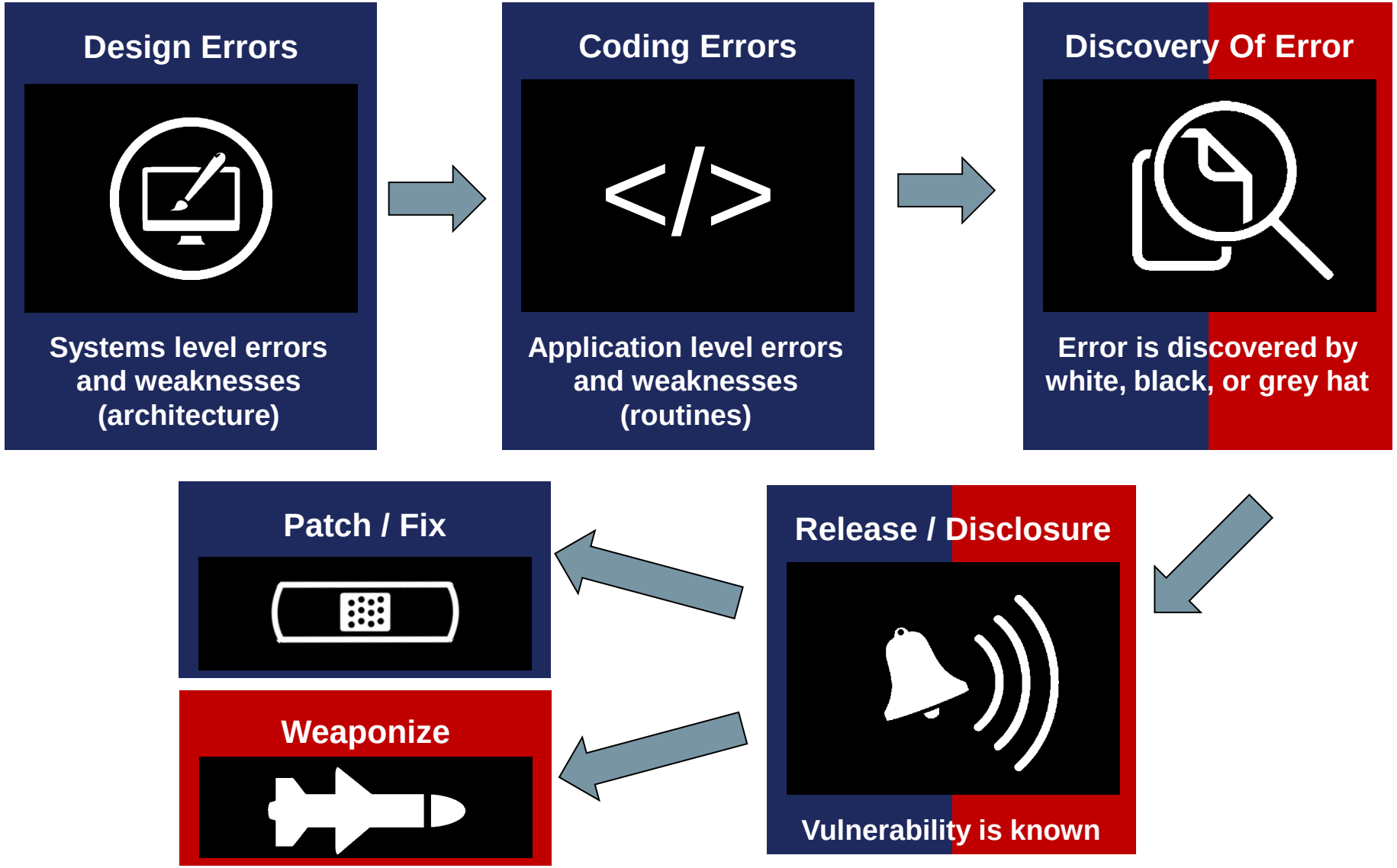


Understanding Systemic Vulnerabilities

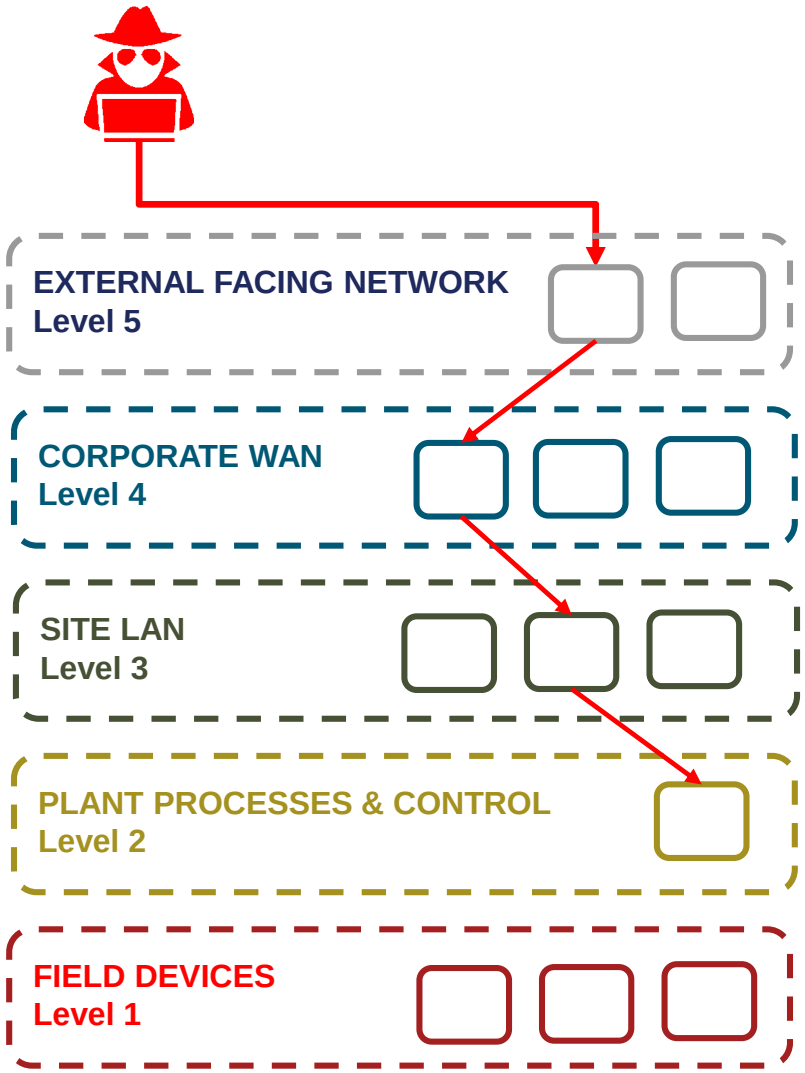
1. Errors
2. Vulnerabilities
3. Discovered Vulnerabilities
4. Disclosed Vulnerabilities
5. Patched Vulnerabilities

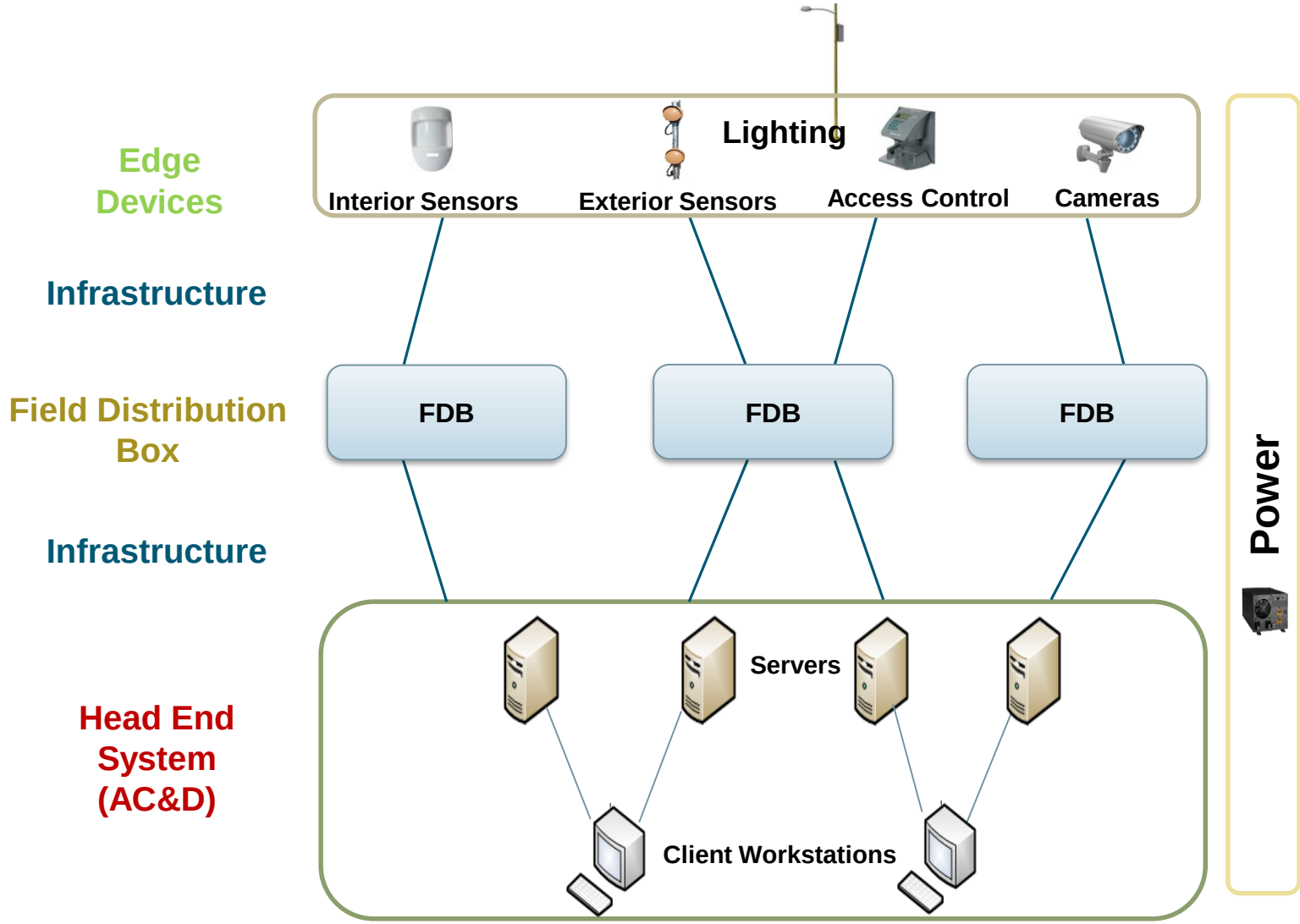


Analyzing The Vulnerability Life Cycle



Applying Cyber Security Principles To PPS

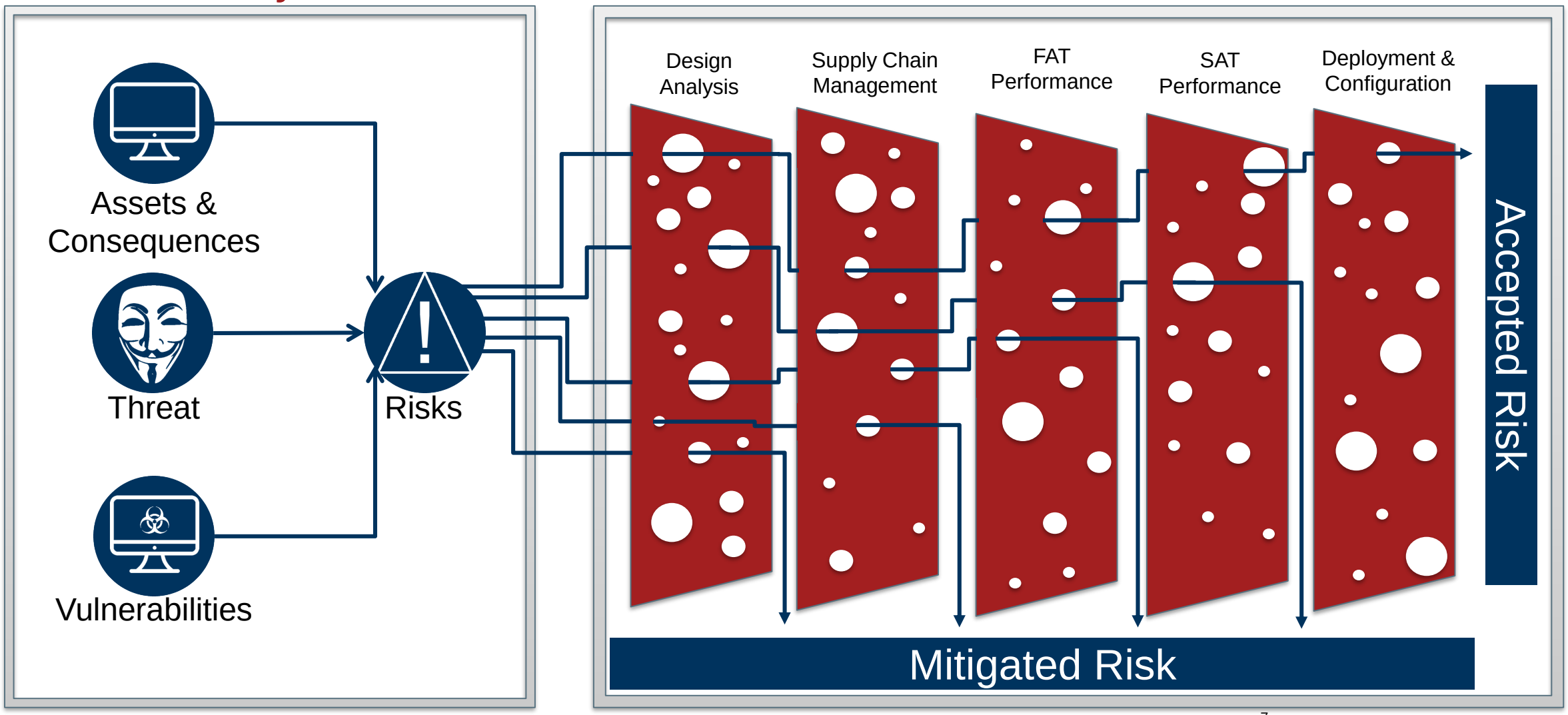




Process Oriented Risk Reduction

Analytics

Computer Security Policies: PPS Life Cycle



Process Oriented Risk Reduction

Requirements Document

- Cybersecurity and operational performance requirements should be integrated and clearly stated
- This document can be used to define vendor expectations
- This includes clearly defined METRICS!!!!
- These requirements become FAT Metrics

Factory Acceptance Testing

- Verify that product meets contract defined security requirements
  - Functionality & Resiliency
- Verify functionality of human-machine interactions & external interfaces

Functional/Pre-Testing At Site

- Random sample of delivered equipment and repeat of FAT
- Quality Assurance
- Not integrated into the overall network

Site Acceptance Testing

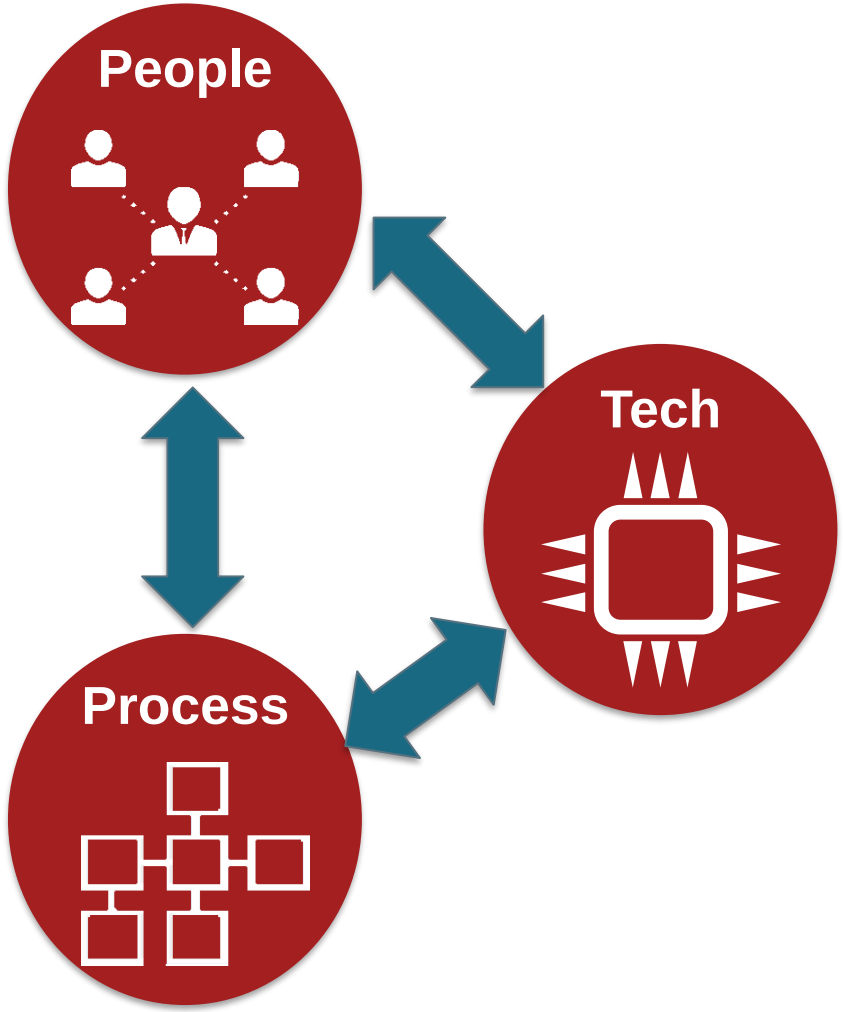
- Systems level testing of the new components/sub-system(s) within the overall existing network
- This also includes user acceptance testing to ensure the personnel operating the systems agree with performance and that it meets the delivered system meets the design requirements
  - Visual checks on installation
  - Software integration with other systems, etc.

Black Box Testing

- ***Test simple actions a cyber threat would do to impact digital devices along the critical path***
- Focuses on functional security specifications of the specific device and/or subsystem
- Create a set of exercises that encompasses inputs and outputs based on potential adversary actions

Applying Security Controls

1. Treat cybersecurity as a human issue, not a technology problem
2. Share as much information about lessons learned as permitted
3. Deliberate security: Not security by accident and/or DIY Security
4. Make security references easier to understand
5. Create regulations that support implementation of cybersecurity; not just compliance

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