# Cyber**Ed**.io Presentation

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Gregory J. Touhill CISSP, CISM Brigadier General, USAF (ret) Director, CERT Division

## Carnegie Mellon University Software Engineering Institute

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#### Today's Reality



- The traditional security perimeter has been overcome by mobility, cloud computing, outsourcing, etc.
- The price of offense is ridiculously low while defense is ridiculously high
- Insider threats continue to appear
- Tool complexity continues to frustrate users and operators yielding seams in defenses
- We continue to rely on "ancient" technology that costs too much and delivers too little
- There is no "inside or outside" anymore

### Greg's Simple Definition of Zero Trust



"Zero Trust is a security strategy focused on ensuring that people and systems can only see and access data and systems they are authorized to see and access...and nothing else."

#### Note:

- I said "security strategy"...not "cybersecurity strategy"
- I did not say architecture
- I did not say it is something you buy
- I focus on the data and the systems where they reside

### How to Adopt the Zero Trust Security Strategy, part one



- Assume you've been breached
- Focus on the outcomes you need (a.k.a. "The Mission")
- Start with the assets or data that need protection
  - Not all data are equal!
- Determine who or what needs access and under what conditions and entitlements
- Ruthlessly Implement "Need-to-Know/Least-Privilege"
- Inspect and log all traffic
- Implement everywhere your data are (e.g., IT, OT, ICS, IoT, and Cloud)

### How to Adopt the Zero Trust Security Strategy, part two



- Think Like A Hacker
- Understand Your Data and Ensure It is Properly Protected
- Structured, Semi-Structured, Unstructured, and Metadata
- Establish, monitor, and enforce access rules
- Adopt the Zero Trust security strategy everywhere
  - People, Processes, Technology
  - Think Beyond Digital!
- Audit Continuously
- Don't Be Afraid to Benchmark and Ask for Help

#### Key Takeaways



- Data is a center of gravity for today's warfighters
- Your data comes from numerous sources, is in many forms, and is in many places
- "Know Your Enemy and Know Your Data"
- Data Integrity is essential to make timely and informed decisions
- Data Integrity often is presumed yet misplaced; remain vigilant!
- Technology can help yet human focus remains essential
- Learn how things work on your Enterprise
- Have a data incident response plan and practice!