

Cyber 2025 Networking

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April 2013

Two lenses:

- Trends in networking.
- Trends in computing.
 - IoT: Small, cheap (insecure?).
 - FITR: global network infra or fragmented?
 - FITR: directly connected or “fronted”?
 - IoV: (Not necessarily the internet...
 - FITR: V2V or “cellular” comms.
 - PANs: hooking personal devices to the global net.

Networking

- Many nets based on same protocols.
 - Different security posture, common architecture
- How does architecture shape security?
 - Net is general, which includes bad things.
 - IP layer cannot by itself produce a secure net.
- Lessons from FIA: what can the architecture do?
 - Limit unwelcome communication
 - Detect faults
 - Toehold for identity
- Applications must be designed for security.
 - Apps define user experience, including security.
 - Assume end-node is vulnerable—need new design pattern.
 - Delegate security-critical functions to separate device.
 - Use that device to control packet-level communications (SDN).