

Cyber Security



Traditional Networks (Pre-Pandemic)

- ✓ Implied Trust.
- ✓ Assumed users were safe from being compromised.
- ✓ Systems and data on-premise.
- ✓ User's had access to non-essential network resources.
- ✓ More vulnerable to cyber attacks.

Modern Networks (Post-Pandemic)

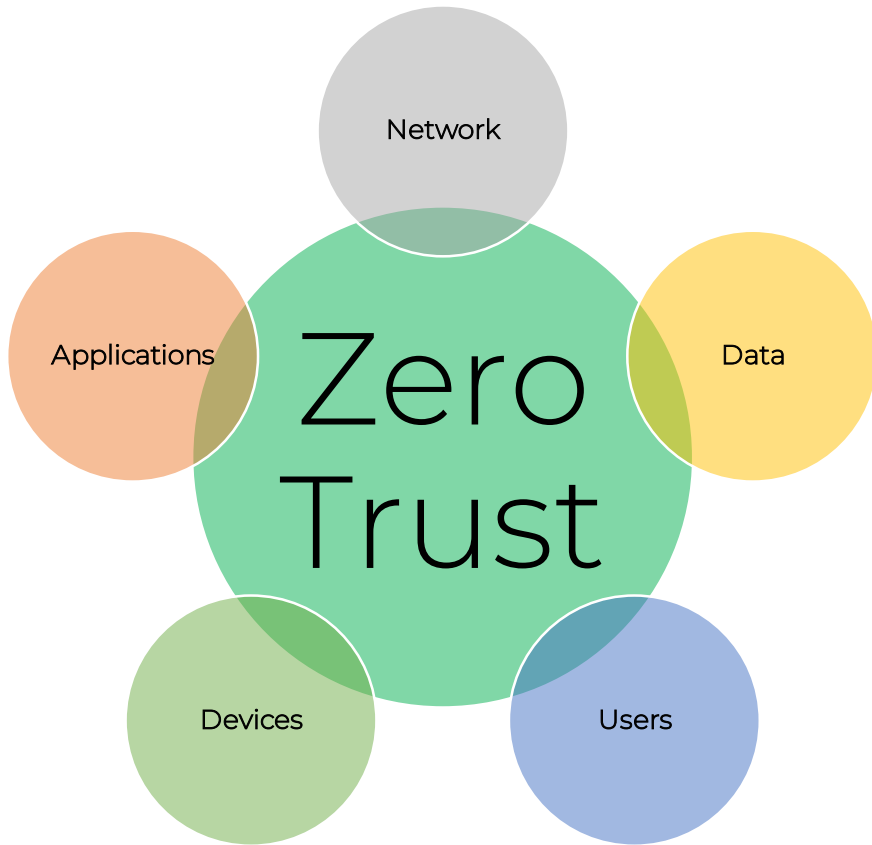
- ✓ Increasingly complex, constantly expanding, and a lot more to protect.
- ✓ Increased need for telecommuting, remote access, and number of attached devices.
- ✓ Systems and data located in the Cloud.
- ✓ Cyber attacks are relentless.

Cyber Security

Zero Trust Architecture

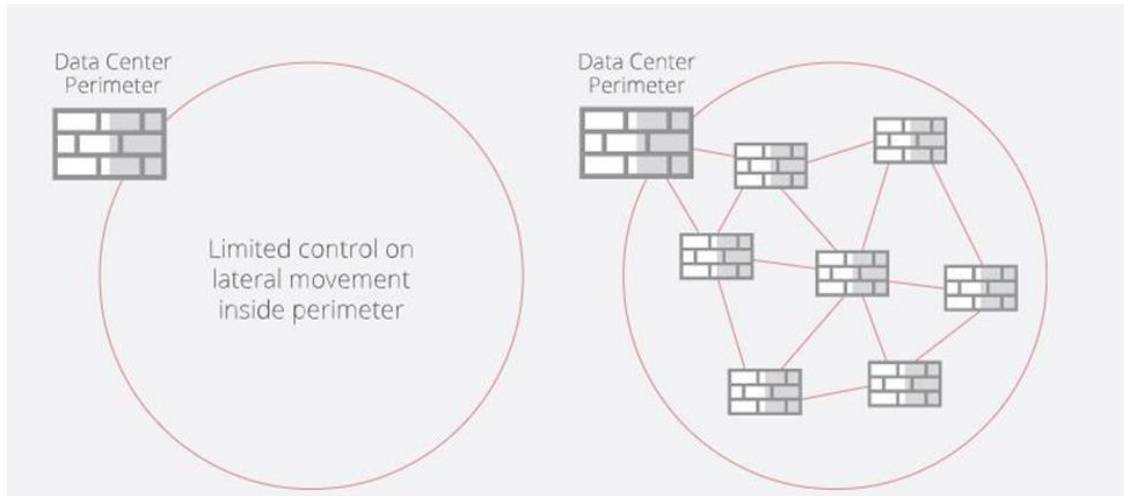
New Paradigm - Zero Trust

- ✓ Assumes no implicit trust.
- ✓ Continually validate users.
- ✓ Limit lateral movement inside the network perimeter.
- ✓ Only give access to required network resources.
- ✓ Migrate to a policy-based model (Rules).
- ✓ In May 2021, the Biden administration issued an executive order mandating U.S. Federal Agencies adhere to NIST Standard 800-207 as a required step for Zero Trust implementation.



Cyber Security

Zero Trust Architecture



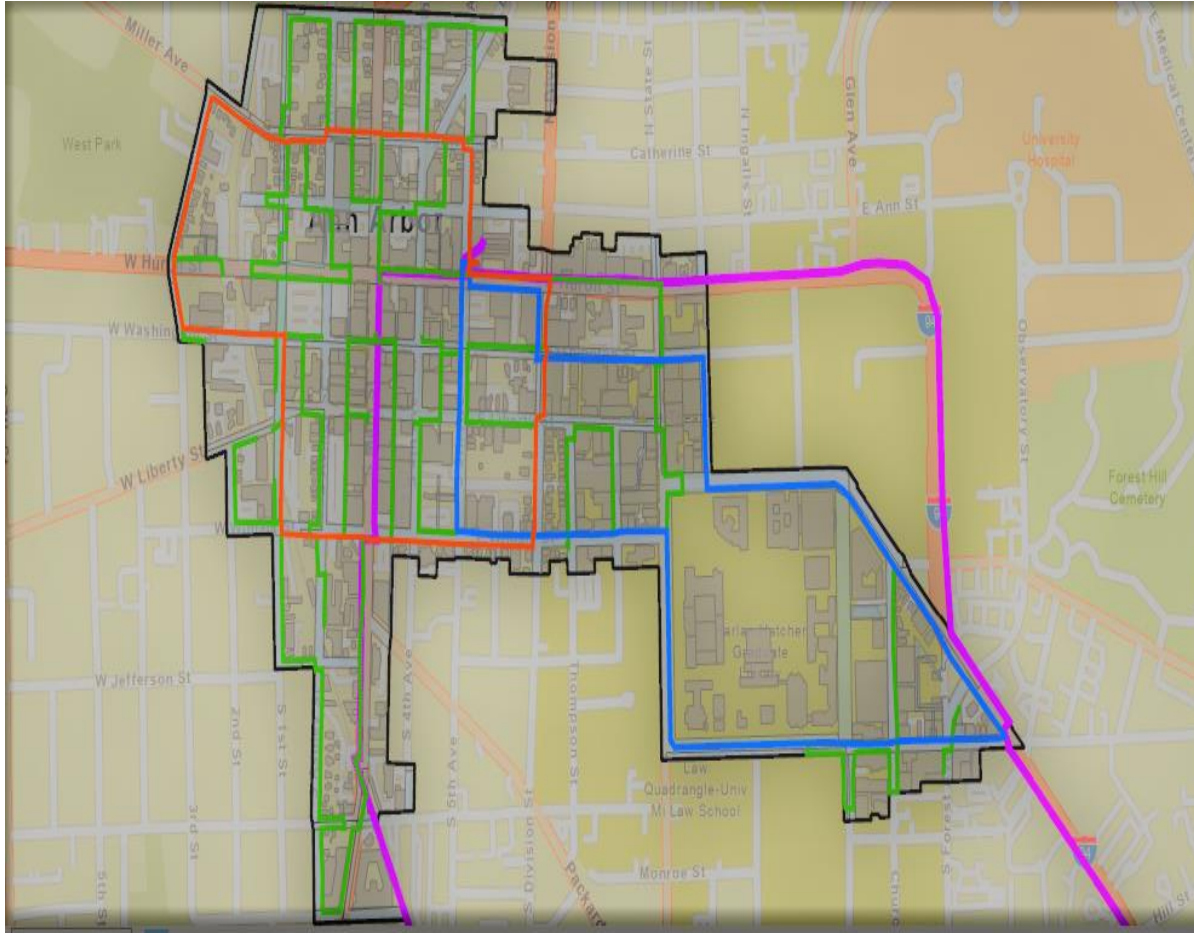
Action Items

- ✓ Implement end-to-end network segmentation.
- ✓ Continue to expand our “Fabric” network.
- ✓ Procure and implement Network Access Control (NAC) software.

Advantages

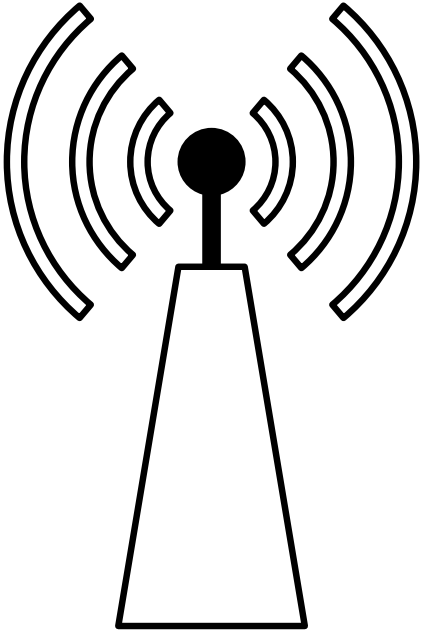
- ✓ Greater protection through automated provisioning of policies.
- ✓ Reduced administration.
- ✓ Greater security for devices in public areas.
- ✓ Increased protection of city data.
- ✓ Limits the impact of a cyber security attack.
- ✓ Increase business continuity and network up-time.

Technology Park (DDA District) Fiber and Conduit Project



- ✓ 25% complete. Completion scheduled for fall of CY2022.
- ✓ Connecting all DDA parking structures.
- ✓ Allows for future traffic signals network change.
- ✓ Connects new/future Housing structures.
- ✓ In conversation with the U of M to utilize fiber.
- ✓ Significant excess capacity built-in.
- ✓ New fiber lease cost model.

City Wi-Fi



- ✓ Implementing our next-generation wireless network.
- ✓ Must adhere to our Zero Trust Architecture.
- ✓ Needs to accommodate future Smart City projects.
- ✓ Future Projects:
 - Lurie Terrace tenant Internet access
 - Library Lot Public Wi-Fi