



Cyber Security and IT Integration for Commercial Buildings

Adapting to the New Realities



Background



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Engenuity envisions a world where everything electrical is interconnected into a single communicating network; where ENGINEERING and inGENUITY come together. Engenuity was founded over 25 years ago to bring innovative products and technology to the marketplace. While extremely familiar with the building automation, solar, energy management, and lighting industries; the company is application and market agnostic, embracing the Internet of Things and smart products to achieve its vision of a connected world. To learn more about the company, its vision, team and products please visit www.engenuity.com.



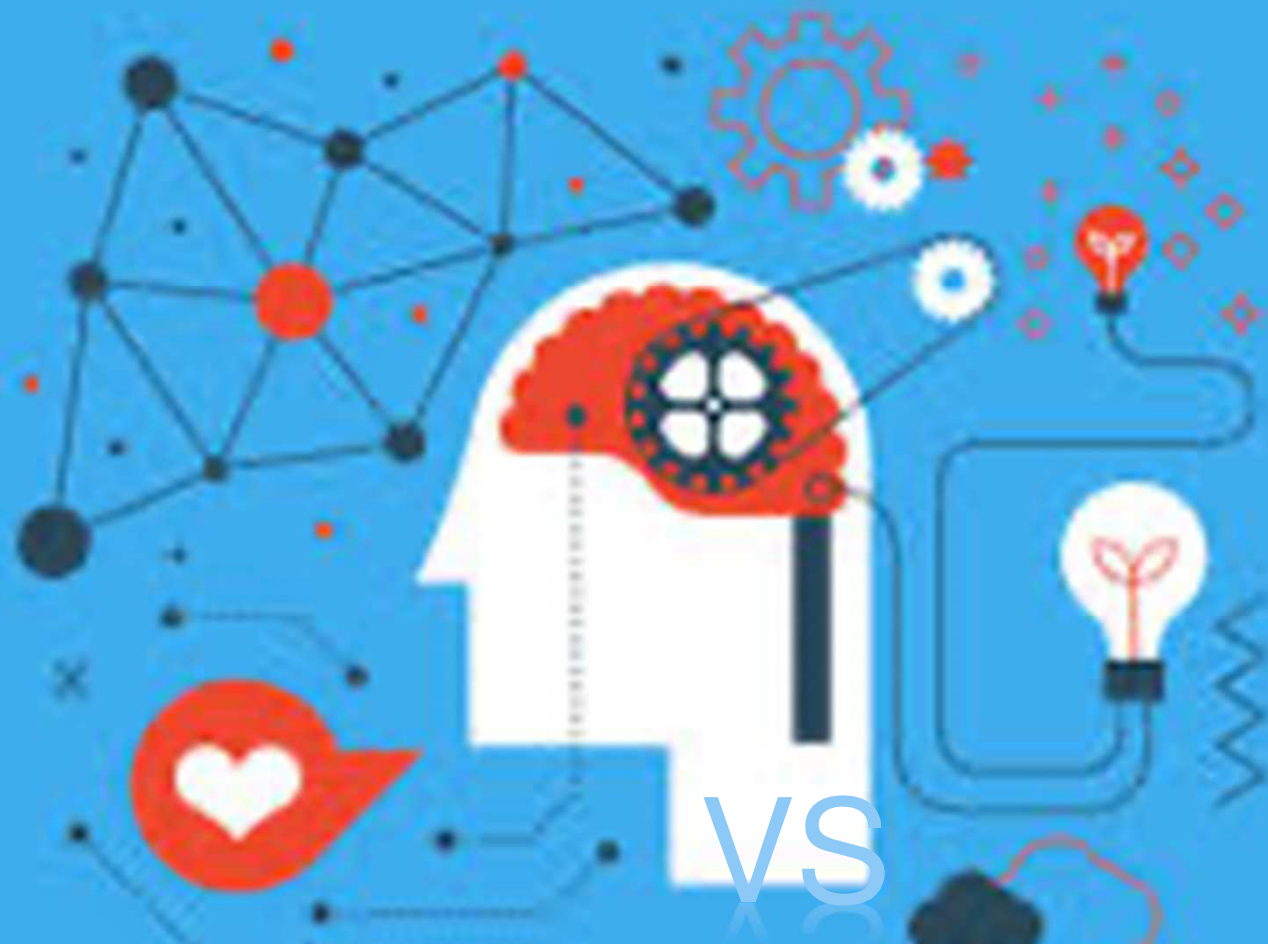
The world is changing - we must change too

- Architectures, business models and mindsets have evolved
- New players entering, established companies evolving
- Perfect storm – created a deviation in thinking
 - Ubiquitous computing, pervasive connectivity, acceptance

*"The industry needs to look at
Cybersecurity before it's too late."*

*"The transformation brought by connected devices is about to go into overdrive. By 2035 the world will have a trillion connected computers, built into everything from food packaging to bridges and clothes." –
The Economist*

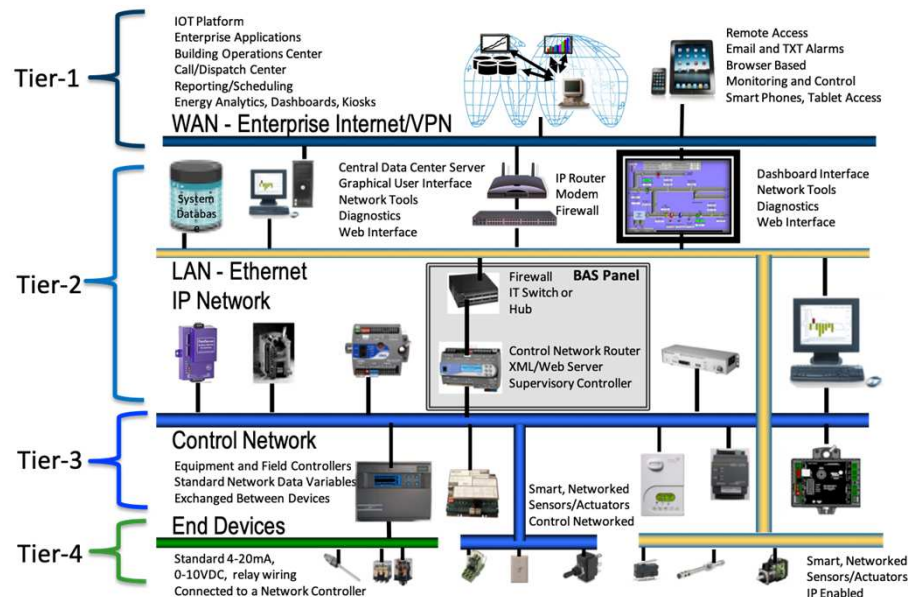
Mindsets are changing



Architectures are changing

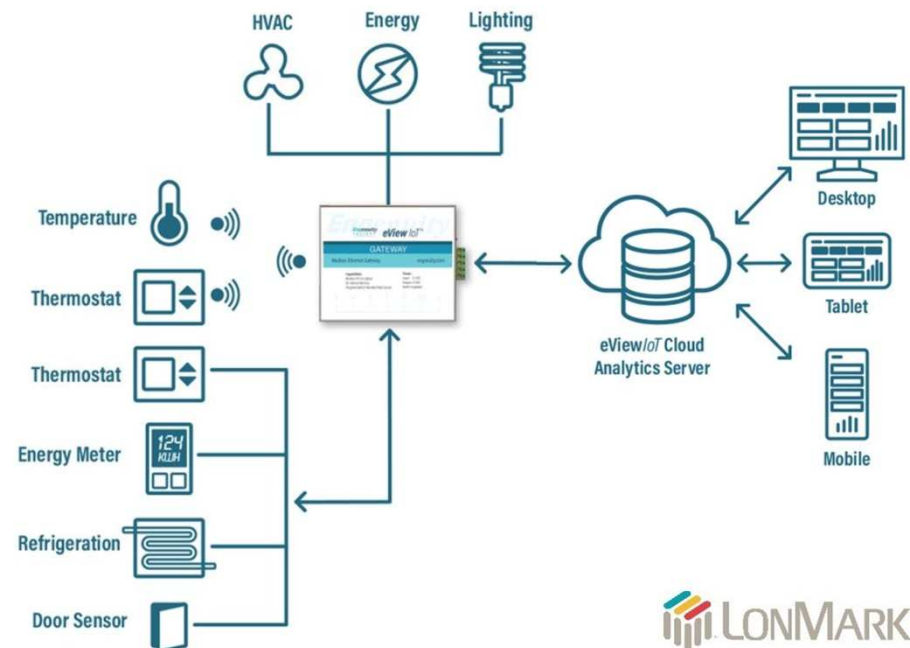
BAS Architecture

- Structured, tiered and well defined
- BAS systems often rely on IT devices and processes for security



IoT Architecture

- Unstructured, flatter and loosely defined
- Devices connect directly to internet or use a gateway



Business Models are changing

Traditional

- CapEx purchase
- Performance contracting
- No subscriptions or recurring monthly fees
- “Single vendor” or proprietary systems
- Licensing based on devices, points
- Protected territories
- Competitive BID and design/bid procurement processes

IoT Business Model

- OpEx/subscription-based or alternative financing
- Shared revenue models
- Subscriptions, licensing or other recurring revenue
- Non-territorial
- Multi-vendor, open systems open to competition

VS

Threats are changing

Malware

Malicious software intentionally designed to cause damage to a system.

Viruses

Harmful programs intended to spread from system to system intended to give access to your system.

Ransomware

Infects and restricts access to a computer until a ransom is paid.

Phishing

Uses email or a malicious website to infect your machine with malware or collect your sensitive information.

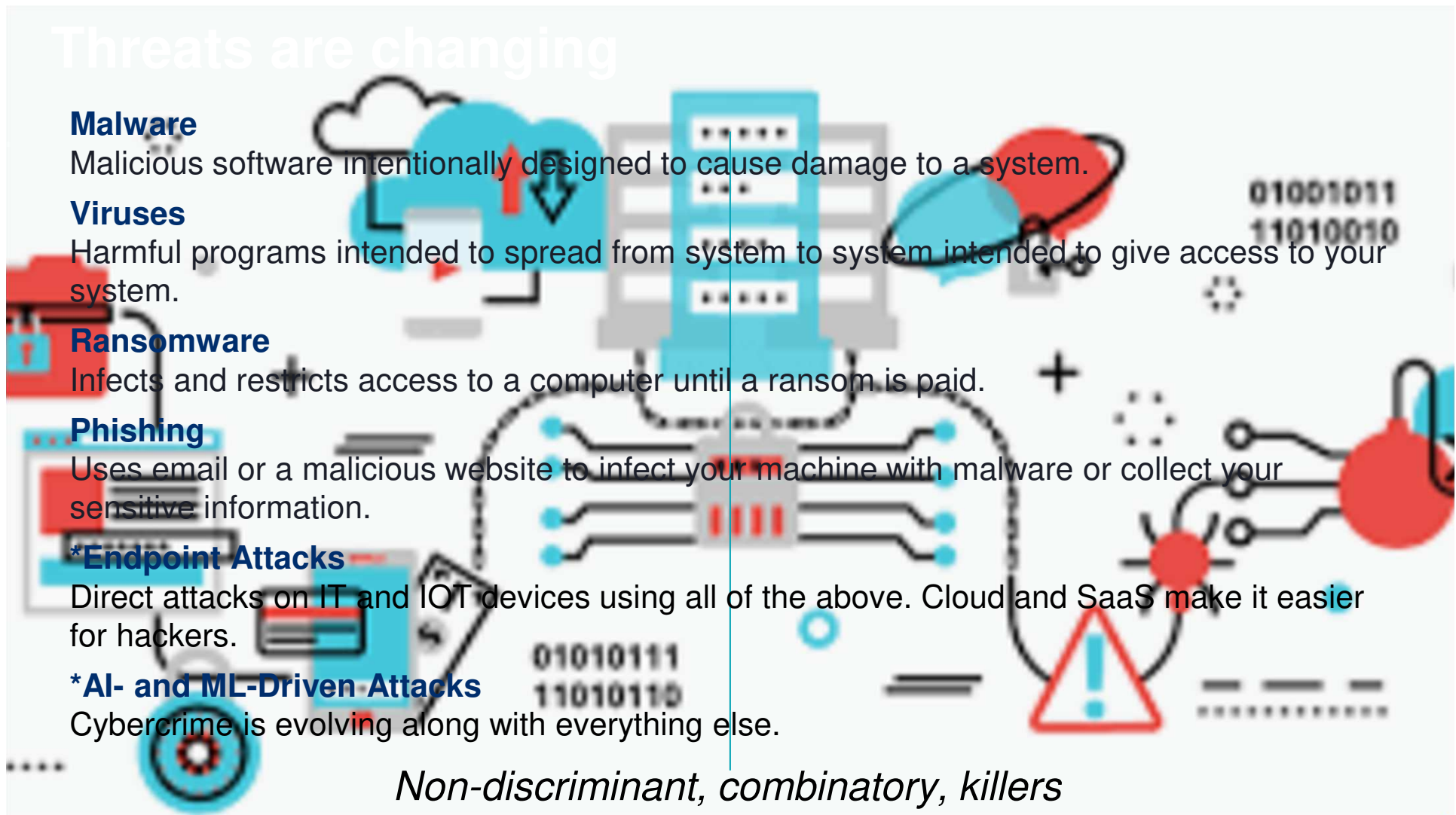
***Endpoint Attacks**

Direct attacks on IT and IOT devices using all of the above. Cloud and SaaS make it easier for hackers.

***AI- and ML-Driven Attacks**

Cybercrime is evolving along with everything else.

Non-discriminant, combinatorial, killers



Take care of the basics

Prevention is Key

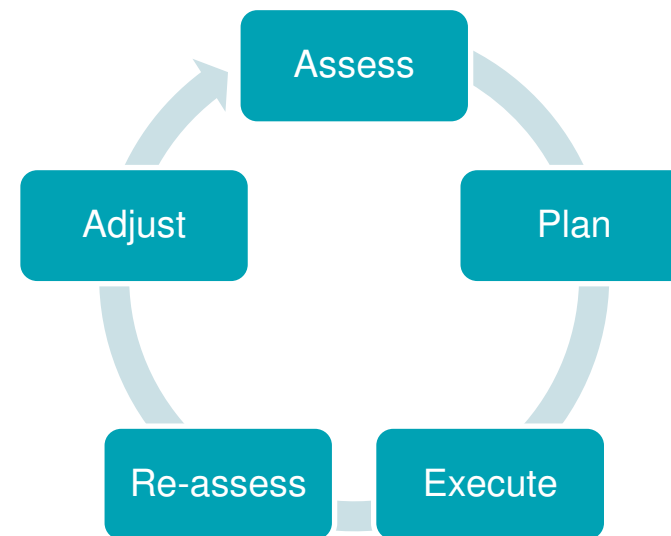
- Education for users
- Basic physical/access control
- Proper use of technology
- Security of data (encryption)
- Maintenance and patches (software updates)
- Security processes
- Proper network design and segregation
- Employ a policy- and technology-neutral security control catalog

When it happens to you...

- Incident response
- Business continuity
- Disaster recovery

In our World

- Device to Cloud Security designed in
- Security embedded into hardware/software
- Secure Boot, Identity Protection, Whitelisting, & Encryption from Edge to Cloud



Resources

NIST 800-53 provides guidelines and assessment advice

<https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-53r4.pdf>

SBA Cyber Security website

<https://www.sba.gov/business-guide/manage-your-business/small-business-cybersecurity>

FCC Planning Tool

<https://www.fcc.gov/cyberplanner>

Cyber Resilience Review

<https://www.us-cert.gov/resources/assessments>

Cyber Hygiene Vulnerability Scanning (free from DHS)

<https://www.us-cert.gov/resources/ncats>

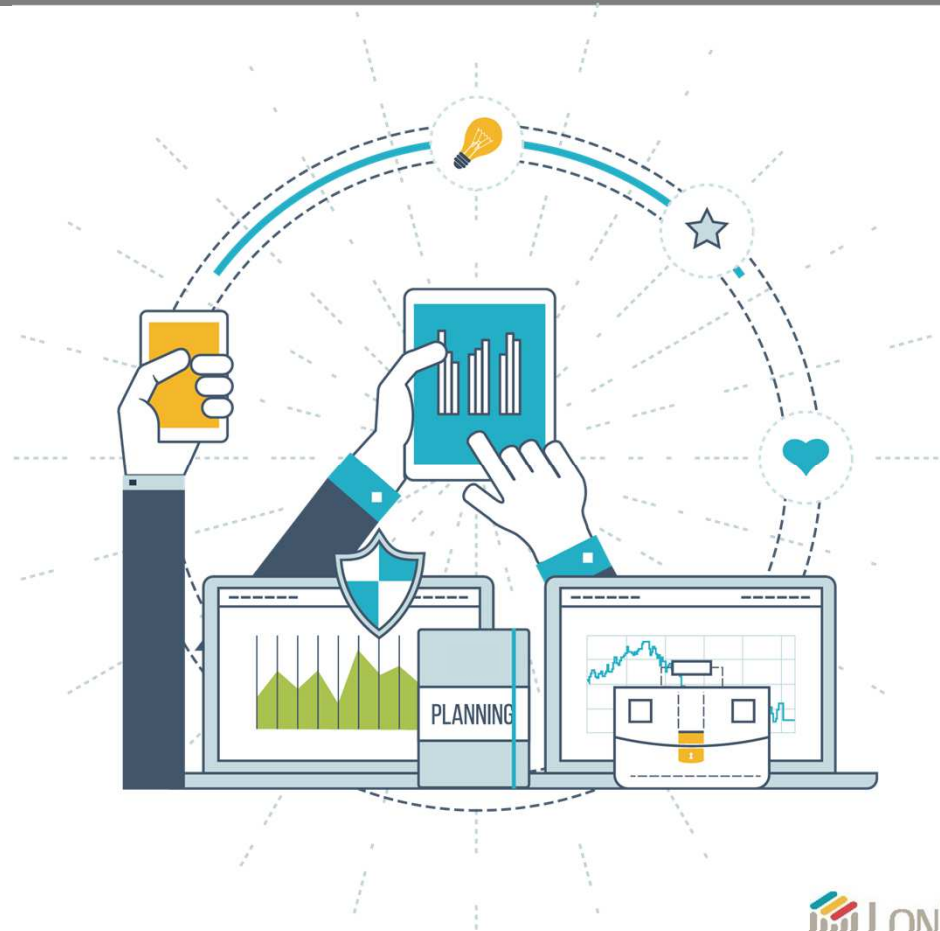
DHS offers free cyber hygiene vulnerability scanning for small businesses. This service can help secure your internet-facing systems from weak configuration and known vulnerabilities. You will receive a weekly report for your action.

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Engenuity
s y s t e m s

How can we help?

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