# Addressing antipatterns is important

- **Antipattern –** a common response to a recurring problem that is usually ineffective or counterproductive.

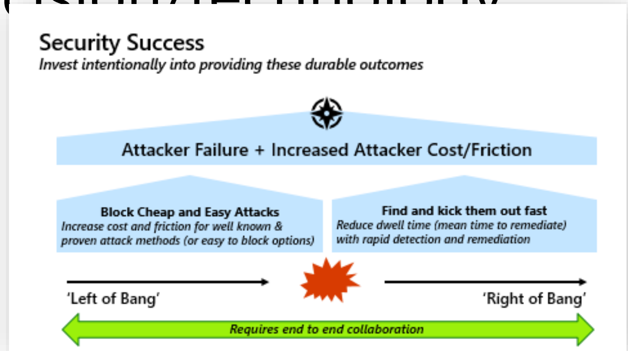
- **Why?** Learning and overcoming these helps avoid mistakes that:
  - **Increase security risk** (organizational risk)
  - **Waste time/effort/money** on pointless / unproductive security work

***Learning from your mistakes is smart***
***Learning from mistakes of others is genius!***

Microsoft Security
*Adoption Framework*

# Overcoming Antipatterns

1. **Focus on security *__outcomes__*** by asking how any action/decision/technology supports them
   (*Ask yourself, your peers, your partners, and your vendors)*


Security Success
Invest intentionally into providing these durable outcomes
Attacker Failure + Increased Attacker Cost/Friction
Block Cheap and Easy Attacks
Increase cost and friction for well known & proven attack methods (or easy to block options)
Find and kick them out fast
Reduce dwell time (mean time to remediate) with rapid detection and remediation
'Left of Bang'
'Right of Bang'
Requires end to end collaboration

2. **Start with common high impact areas**
   a. **Privileged Access** is key attack choke point that enables access to most/all business assets
   b. **High Value Assets** compromise can quickly cause major organizational risk
   c. **Identity, Endpoint, and Email** - enable attackers (and legit users!) to access assets. Prioritize these security capabilities and skills (before network security)

3. **Work together *__as a team__* to**
   a. Learn common antipatterns– aka.ms/antipatterns
   b. Learn to avoid them – aka.ms/securitylaws | aka.ms/ZTCommandments

**Microsoft Security Adoption Framework (SAF) includes reference strategy, architecture, processes, and cultural elements to overcome common security antipatterns**

# Security Success

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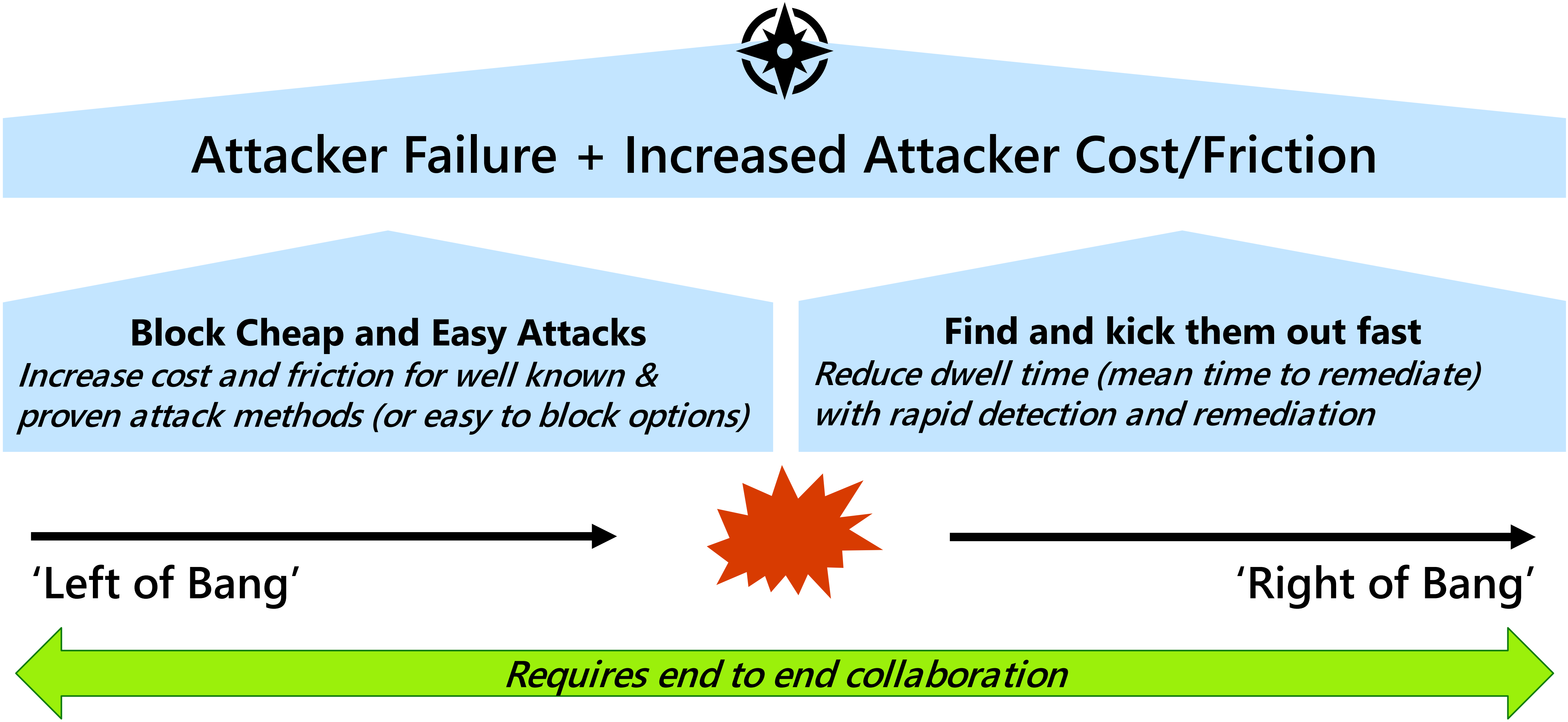

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# Security Strategy and Program Antipatterns

*Common mistakes that increase organizational risk and friction*

### *Security blamestorming*

*Focusing blame for security incidents instead of partnering to continuously improve*

### *Security Silo(s)*

*Security teams not integrated with business, technology, or acquisition teams*

### *Department of No / Resist Trends*

*Ignore Cloud, DevOps, AI, Software Bill of Materials (SBOM), etc. until absolutely required*

### *Delay Security until the end*

*Makes security fixes difficult, expensive, and unlikely*

### *Context and Guidance Vacuum*

*People lack context on how to effectively apply security as a leaders or individual contributor*

### *Outdated Policy*

*Outdated policy – static policy not keeping up with cloud/etc and difficult to change*

## Best Practice – Normalize Security

Make security a routine part of business and IT processes using pragmatic understanding of people, process, and technology

This workshop helps you define and rapidly improve on best practices including:

- *Align security to business priorities and risks*
- *Assign security accountability to decision makers (not subject matter experts without decision authority)*
- *Integrate security standards into acquisition and development of technology*
- *Position security as an enabler build partnership up to trusted advisor role*
- *Ensure stakeholders throughout the organization understand security context relevant to them*
- *Security is a team sport across security, technology, and business teams*

# Common Security Antipatterns - Technical Architecture

*Common mistakes that impede security effectiveness and increase organizational risk*

### ***Skipping basic maintenance***

*Skipping backups, disaster recovery exercises, and software updates/patching on assets*

### Securing cloud like on premises

*Attempting to force on-prem controls and practices directly onto cloud resources*

### ***Wasting resources on legacy***

*Legacy system maintenance and costs draining ability to effectively secure business assets*

### ***Artisan Security***

*Focused on custom manual solutions instead of automation and off the shelf tooling*

### ***Disconnected security approach***

*Independent security teams, strategies, tech, and processes for network, identity, devices, etc.*

### ***Lack of commitment to lifecycle***

*Treating security controls and processes as points in time instead of an ongoing lifecycle*

## Best Practices

Develop and implement an **end to end technical security strategy** focused on durable capabilities and Zero Trust Principles

This workshop helps you define and rapidly improve on best practices across security including:

- *Asset-centric security* aligned to business priorities & technical estate (beyond network perimeter)
- *Consistent principle-driven approach* throughout security lifecycle
- *Pragmatic prioritization* based on attacker motivations, behavior, and return on investment
- *Balance investments* between innovation and rigorous application of security maintenance/hygiene
- *'Configure before customize'* approach that embraces automation, innovation, and continuous improvement
- *Security is a team sport* across security, technology, and business teams

# “We don’t patch” common antipattern caused by:

***‘If it ain’t broke, don’t touch it’***
*because of a fear that systems are fragile & could easily break*

**Best practice –** adopt a ‘**patch by default**’ model that assumes manufacturers invest in patches for good reason and apply them automatically (unless issues arise through phased deployment).

***‘I accept the risk’***
*because incentives favor availability, but don’t consider organizational risk*

***‘We want zero downtime’***
*because business/system owners carry no accountability for security risk downtime*

***Choice of downtime to apply patches on your schedule or downtime to restore systems on the attacker's schedule***

**Best practices**

- **Accountability and Incentives** - Ensure business owners for systems own security maintenance and risk of neglect
- **Team approach -** Build a team approach with app and infra owners accountable to apply patches, security compliance doing independent audits, and posture management providing technical help

***‘I’m waiting for perfect patches’***
*because of misperception that vendors can provide/test perfect patches for all scenarios*

**Best practice –** Build resiliency and patching into normal IT Operations processes (maintenance windows, image deployment, etc.) to increase reliability and digital transformation agility.

***‘Attacks won’t happen to us’***
*because it hasn’t happened before or hasn’t been detected*

**Best practice –** Recognize active use by attackers and use explicit industry guidance to urgently build awareness + sponsorship with executive leaders to prioritize system maintenance

# Common patching antipatterns to avoid

### *'Wait, what is that??'*

*Surprise vulnerabilities and incidents on unknown or unmaintained systems*

**Best practice** – Process to continuously improve asset discovery, risk assessment, and ownership designation

### *IT Operating System (OS) Myopia*

*Focusing on only applying OS patches to servers and workstations without also addressing security configurations and other assets (containers, applications, firmware, IoT/OT devices, etc.)*

**Best practice –** Build an end to end program that progressively address all software updates on all systems and platforms

### *Exposing vulnerable systems*

*Allowing connectivity between unpatched / unsecurable systems (IT/IoT/OT) and internet connected workstations, servers, user devices, etc.*

**Best practice –** Build an exception management policy that isolates them from internet-based risk, retires or replaces them, or updates them to be maintainable.

### *'We don't know what to do first'*

*because all systems are managed the same, results in the least secure policy everywhere*

**Best practices –** (1) Prioritize business critical and high internet exposure systems. (2) Build exception policy and focus on both mainstream excellence + solving exceptions

### *Custom Builds from Random Patches*

*Unique criteria for choosing patches effectively creates custom builds that don't reflect current versions tested by vendors*

**Best practices –** (1) Prioritize when to apply patches (not whether) by active exploitation and other risk factors

(2) Fully catch up on all patches regularly to stay on tested/supported build configuration

# Common Access Management antipatterns

*Common mistakes increase organizational risk and friction*

### Network-Centric Castles

*Focusing on protecting 'the network' instead of the business assets (asset centricity)*

### *Outdated Best Practices*

*Focusing on former best practices (strong passwords, rotating passwords, etc.)*

### *Silo'ed Access Controls*

*Independent teams, strategies, processes, and technologies for network, identity, and others*

### *Nest of Complexity*

*Access policies and firewall rules are beyond the capacity of any human to understand*

### *Skipping Security Best Practices*

*Giving attackers opportunities via vulnerabilities in software, configuration, & operational practices*

### *Hairpin Cloud Traffic*

*Damage user experience and drive Shadow IT by re-routing all cloud traffic through network*

## Best Practice – Integrated Strategy

Build and implement a unified access management strategy

This workshop helps you define and rapidly improve on best practices including:

- ***Access Management is a team sport*** across identity and networking (+ technology, security, and business teams)
- ***Stay Current*** - Keep up with continuously evolving threats, identity standards, and business requirements
- ***Simplicity and Consistency*** – Integrated all access controls (identity, networking, applications, etc. ) to provide good user experience and consistent policy enforcement across all access paths and technologies
- ***'Configure before customize'*** Embrace cloud and off the shelf solutions (using custom solutions as last resort)
- ***Zero Trust*** - Asset-centric adaptive access approach to enable and secure resources on any network using real-time threat data, rich context, and multiple policy enforcement points (network, identity, apps, data, devices, & more)

# Common Security Operations (SecOps/SOC) antipatterns

*Common mistakes impede SecOps effectiveness and increase burnout*

*Implementation without requirements*

### *Collection is not Detection*

*Focusing on collecting data instead of* ***finding and removing adversary access***

### *'Network is only source of truth'*

*false belief that you only need network data to detect and investigate attacks*

### *Not invented here*

*focusing on custom solutions and queries instead of established commercial tooling*

### *Shiny Object Syndrome*

*Prioritizing "cool" advanced scenarios/tools before critical basic outcomes and controls*

### *One tool to rule them all*

*False belief that a single tool solves all problems (SIEM, EDR, or other)*

### *Toolapalooza!*

*Buying many tools without integration forces analysts into* ***swivel chair analytics*** *mode*

**Best practice –** Develop and implement a Security Operations (SecOps/SOC) strategy focused on clear outcomes across people, process, and technology

This workshop includes references to help you define and rapidly improve:

- *Mission and Metrics*
- *Organizational Functions and Teams (including use cases and scenarios)*
- *Business and Technical processes*
- *SOC Architecture, Tooling, and Integration*
- *Skill education and enablement*
- *Automation Strategy*
- *Data strategy*

# Infrastructure/Development Security Antipatterns

*Common mistakes increase friction and organizational risk*

### Securing cloud like on premises

*Attempting to force on-prem controls and practices directly onto cloud resources*

### Bizarro Risk Exceptions

*Granting permanent security exceptions for business-critical workloads (for political reasons)*

### *Manual management*

*Individually managing servers, resource, & security controls instead of using automation*

### *Department of No / Resist Trends*

*Ignore Cloud, DevOps, AI, Software Bill of Materials (SBOM) until absolutely required*

### *Delay Security until the end*

*Makes security fixes difficult, expensive, and unlikely*

### *Lack of commitment to lifecycle*

*Treating security controls and processes as points in time instead of an ongoing lifecycle*

## Best Practice – Integrated Strategy

Normalize security as part of IT, development, & business practices

This workshop helps you define and rapidly improve on best practices including:

- *Security is a team sport* – integrate culture and accountabilities across development, technology, and security teams.
- *Clear Expectations* - Set up clear security standards and risk accountability (aligned with organizational risk) that set up security teams as enablers, partners, and trusted advisors.
- *Native Process Integration* - Integrate security natively with development workflows (including blameless postmortems), IT Admin processes, and automation (CI/CD, Infrastructure as Code (IaC), and others).
- *Establish support mechanisms* – Establish security education and local champions programs to enable everyone to make informed and effective security judgements.
- *Stay Current* - Keep up with continuously evolving threats, trends, technologies, and business requirements