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Blue Teams

INFOSEC WHEEL

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@proxyblue

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BLUE TEAM

- Defensive Security
- Infrastructure protection
- Damage Control
- Incident Response(IR)
- Operational Security
- Threat Hunters
- Digital Forensics

Definition

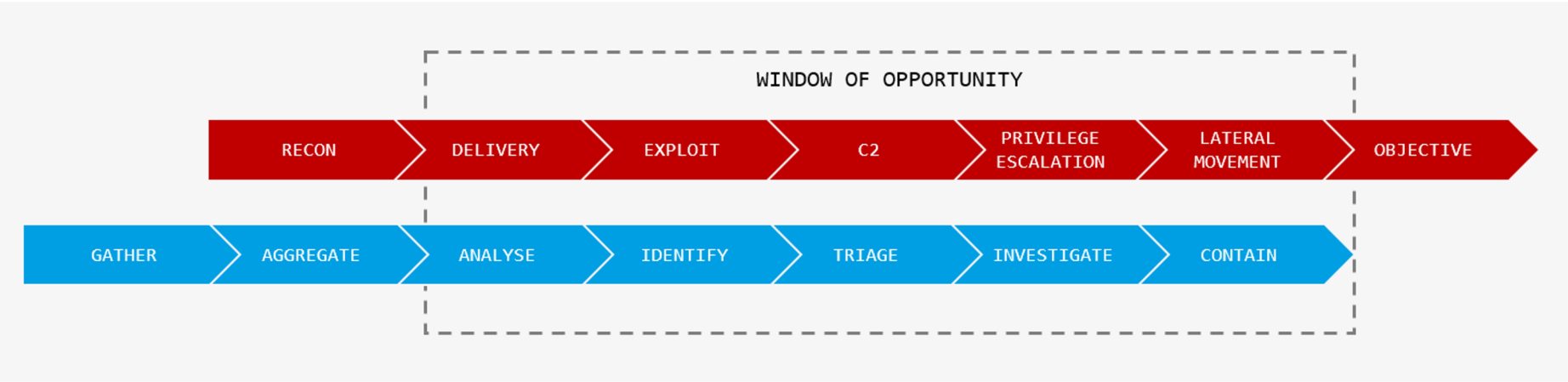
*“A **blue team** is a group of individuals who perform an analysis of information systems to ensure security, identify security flaws, verify the effectiveness of each security measure, and to make certain all security measures will continue to be effective after implementation” - Wikipedia*

Advantage of the Attacker

Attacker must succeed once!
Attacker can choose the weakest spot
Attacker can leverage zero-days
Attacker can play dirty

Defender must get it right all the time
Defender must defend all places
Defender can only defend against known attacks
Defender needs to play by the rules

Blue team Incident workflow



The 5 phases in the incident response plan

1. Preparation
2. Detection & Analysis
3. Containment, Eradication, Recovery
4. Post-Incident Review
5. Update the plan !

Phase 1: Preparation

Condensed steps to prep and create a plan

1. Identify and prioritize your assets
2. Identify your potential risks
3. Establish procedures
4. Assemble a response team
5. Train your employees

Phase 1: Preparation

1. Identify and prioritize your assets

Identifying the ‘crown jewels’

Identify what would;

- cost the company most financially
- what would create the biggest disruption and
- cause the biggest reputational damage.

Phase 1: Preparation

2. Identify your potential risks

See Lesson 1 - White teams about risk assessment

Phase 1: Preparation

3. Establish procedures

Lists & checklists

- Forensic analysis checklists (customized for all critical systems)
- Emergency contact communications checklist
- System backup and recovery checklists (for all OSes in use, including databases)
- "Jumpbag" checklists
- Security policy review checklist (post-incident)

https://www.sans.org/reading-room/whitepapers/incident/incident-handlers-handbook-33901

Phase 1: Preparation

4. Assemble a response team

Multidisciplinary & clear about their role

Not only (IT-)Technical people! Think about communication and processes

Phase 1: Preparation

5. Train your employees

Awareness & culture are often overlooked!

Phase 2: Detection

Network Intrusion Detection systems (NIDS)

Intrusion Detection Systems (IDSs) passively monitor the traffic on a network.

- **Signature-based detection**
- **Statistical anomaly-based detection**
- **Stateful protocol analysis detection**

Host Intrusion Detection systems (HIDS)

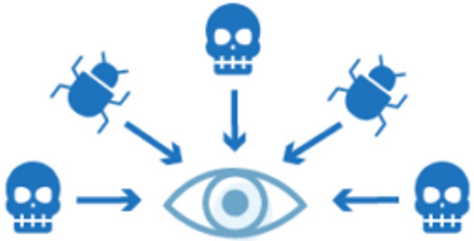
monitoring all or parts of the dynamic behavior and the state of a computer system.

- Similar to AV
- Disc/process activity
- RAM
- ...

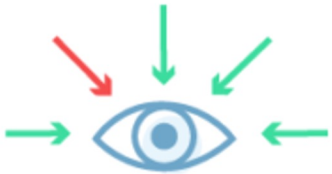
What Does an Intrusion Detection System Do?

Network Intrusion Detection

Host Intrusion Detection



Signature-based Detection



Anomaly-Based Detection

Phase 2: Detection

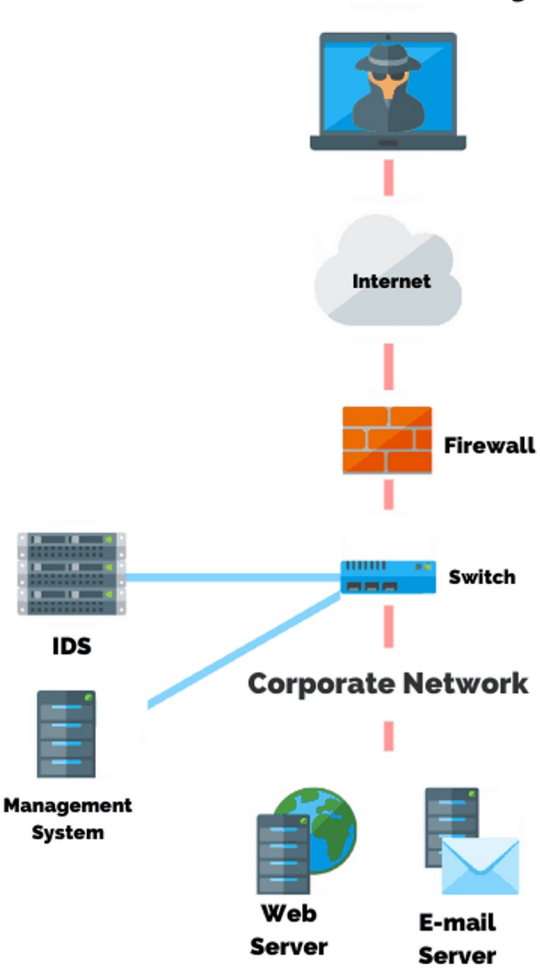
A better solution is to use a device that can immediately detect and stop an attack. An Intrusion Prevention System (IPS) performs this function.

Network Intrusion Prevention systems (NIPS)

Host Intrusion Prevention systems (HIPS)

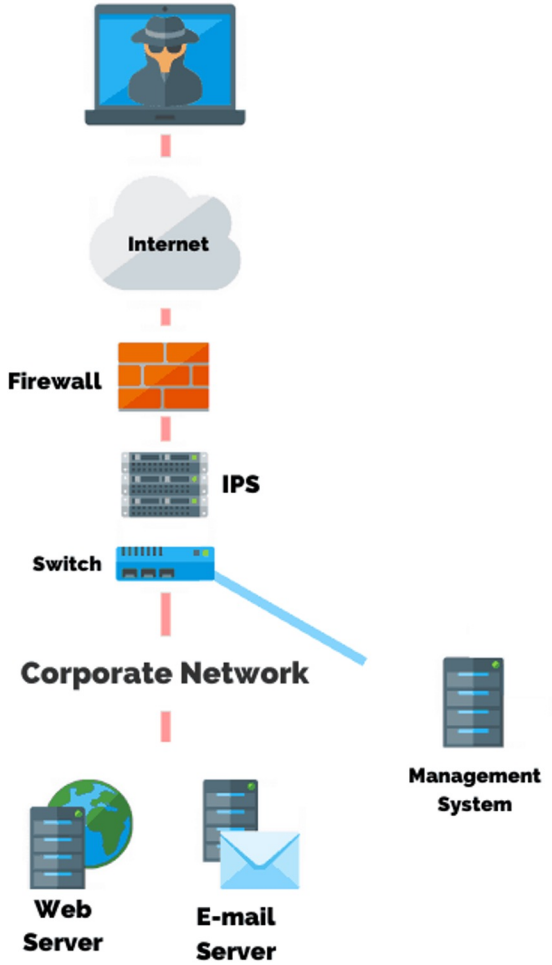
Evolved into -> Endpoint Protection Systems - “AV on steroids”

Intrusion Detection System (IDS)



VS

Intrusion Prevention System (IPS)



Phase 2: Detection

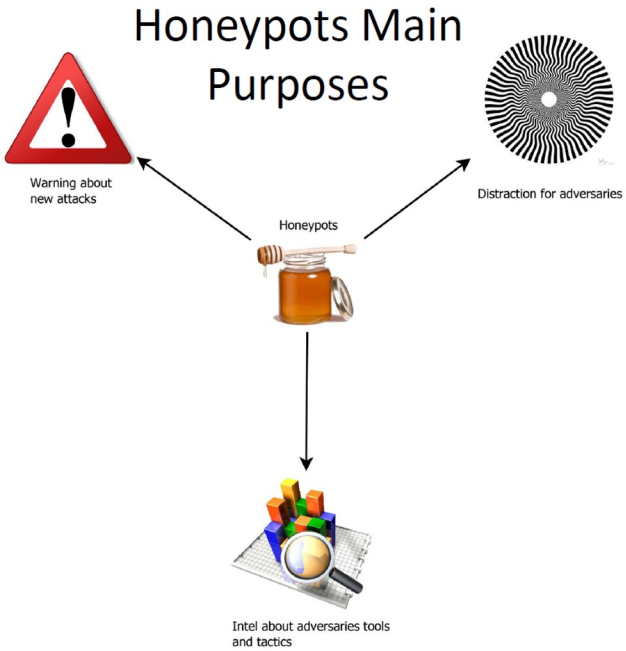
Tool Examples:

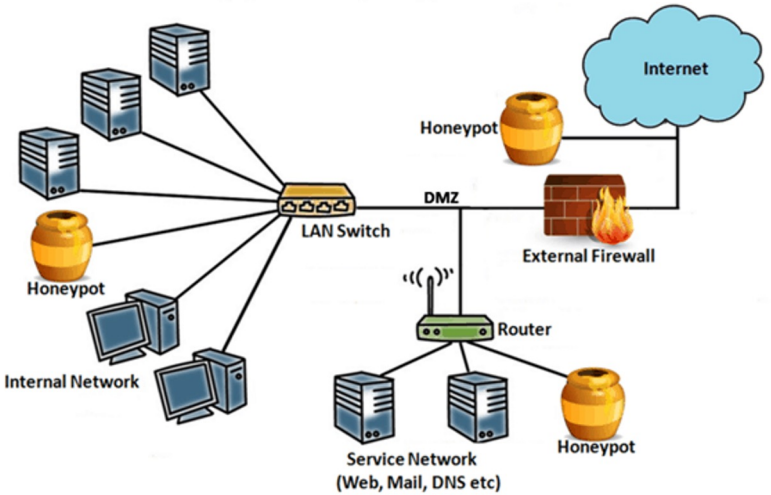
NIDS

HIDS

Phase 2: Detection

Honeypot





Types of Honeypot

Low-Interaction

- Emulate attractive services such as FTP and SMB)
- Focuses on collecting probes from attackers
- Can't genuinely be compromised, it's merely an emulation
- Easier to identify it as a honeypot

High-Interaction

- Adhere to behavioural norms
- May constitute a "honeynet"
- Attackers can interact with it like a normal machine…
- …but it collects forensic data in a central repository
- Harder to identify as a honeypot

Phase 2: Detection

Tool Examples:

“Supertools”
Combining it all - Aggregate data and correlate “With AI and Blockchain”

splunk>

Pluralsight video’s

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PLURALSIGHT

Pluralsight video: link
Relevant : Incident Detection and Response: The Big Picture

Pluralsight video: link
Relevant : Operations and Incident Response for CompTIA Security+

Pluralsight video: link
Relevant : Assessing Red Team Post Exploitation Activity

Pluralsight video: link
Relevant : Ethical Hacking: Evading IDS, Firewalls, and Honeypots