ARMOR™

BETWEEN YOU AND THE THREAT

Is Your Enterprise Data Secure From the Inside Out?

JEFF SCHILLING Chief Security Officer

The Leader in Active Cyber Defense

JUNE 15, 2016

Jeff Schilling, CISM

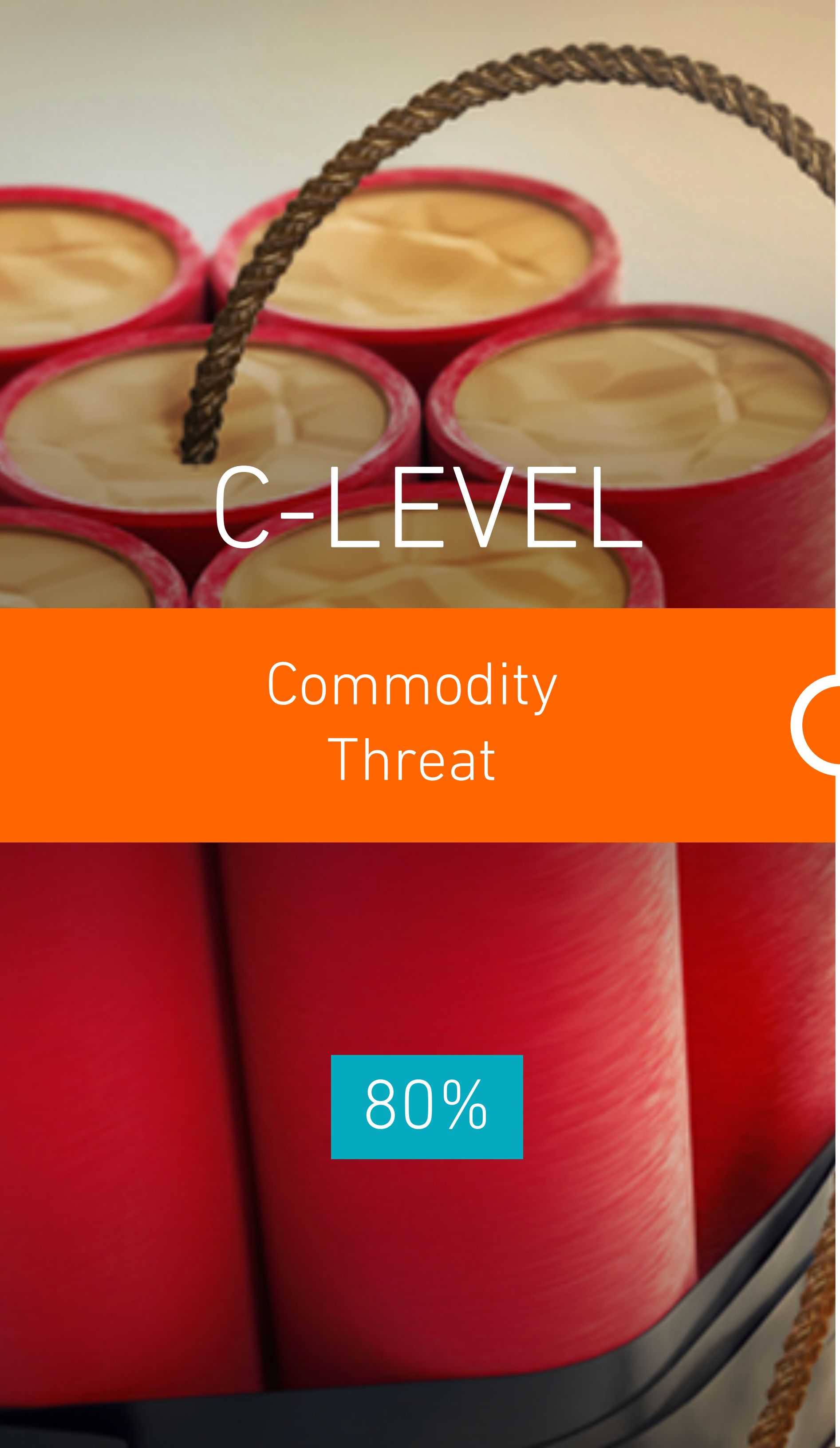
Chief Security Officer | Armor

- Retired U.S. Army Colonel
- Former Chief of Current Operations of the DOD's Global NetOps Center for JTF-GNO (Cyber Command)
- Former Chief of Current Operations U.S. Army's Cyber Command
- Former Director, Incident Response, Dell SecureWorks

Agenda

- How has the threat changed?
- How has the security team approach changed?
- The military approach to protection, from the inside out
- Narrowing your focus
- How to think about protection from the inside out

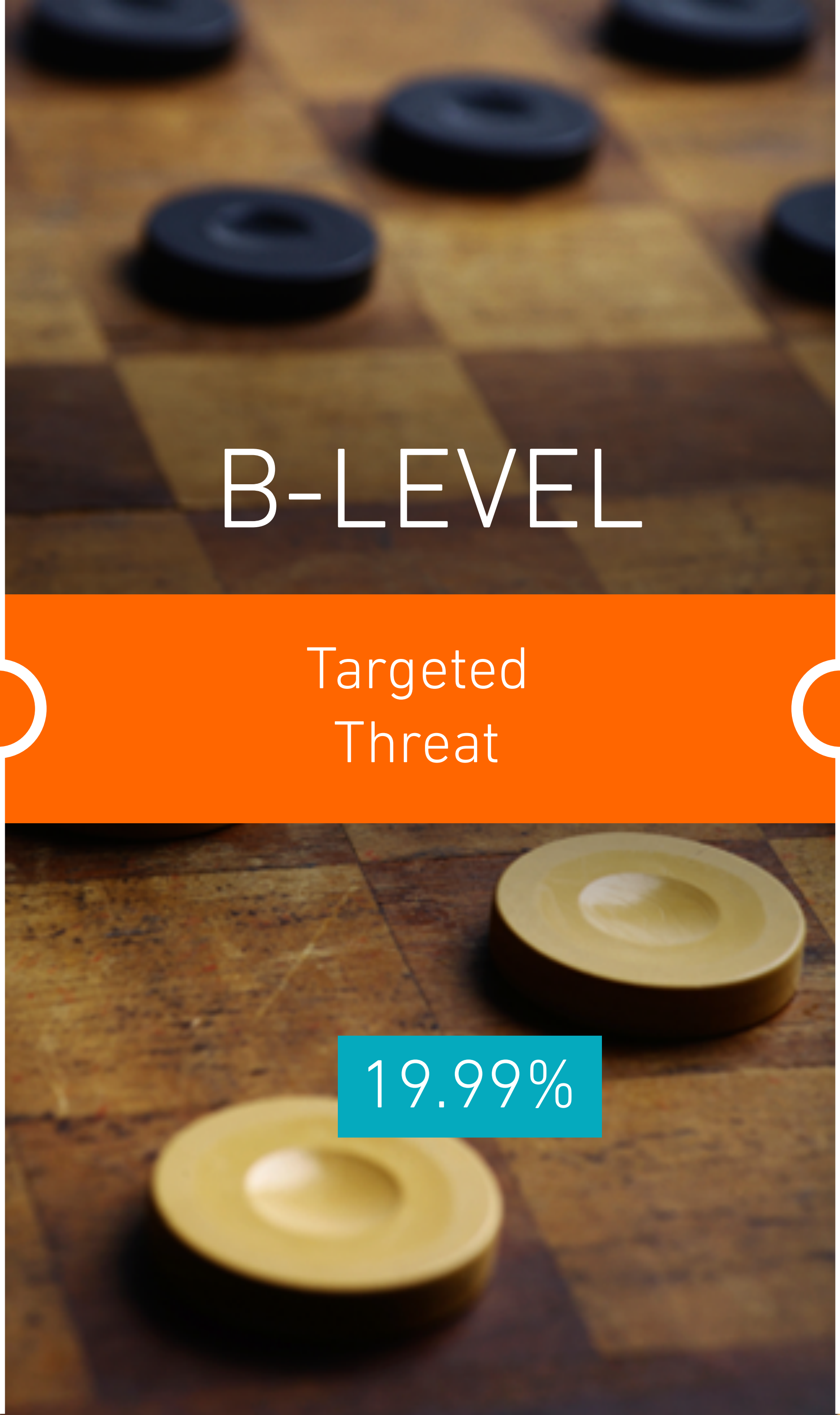
How Has the Threat Change?



C-LEVEL

Commodity Threat

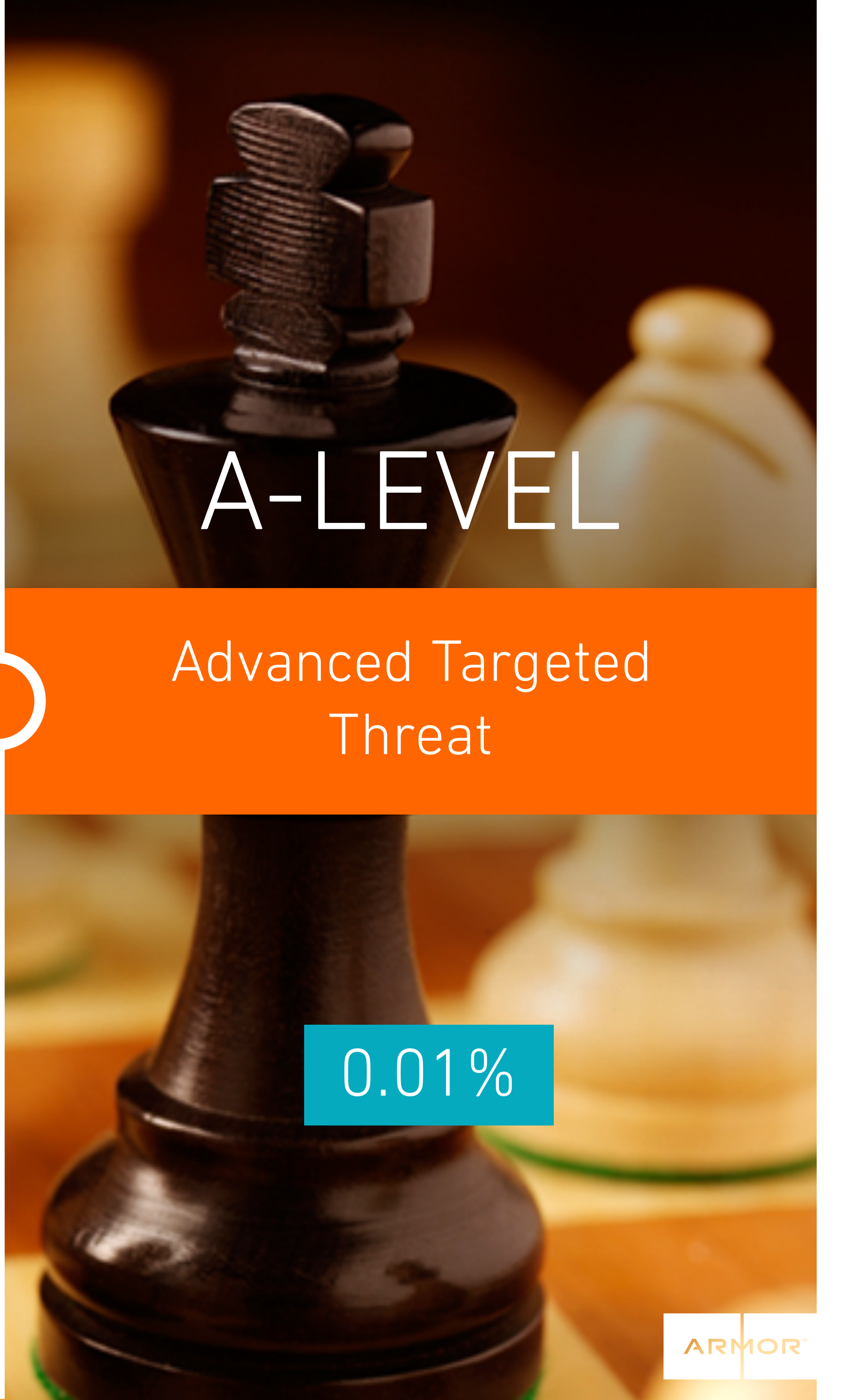
80%



B-LEVEL

Targeted Threat

19.99%

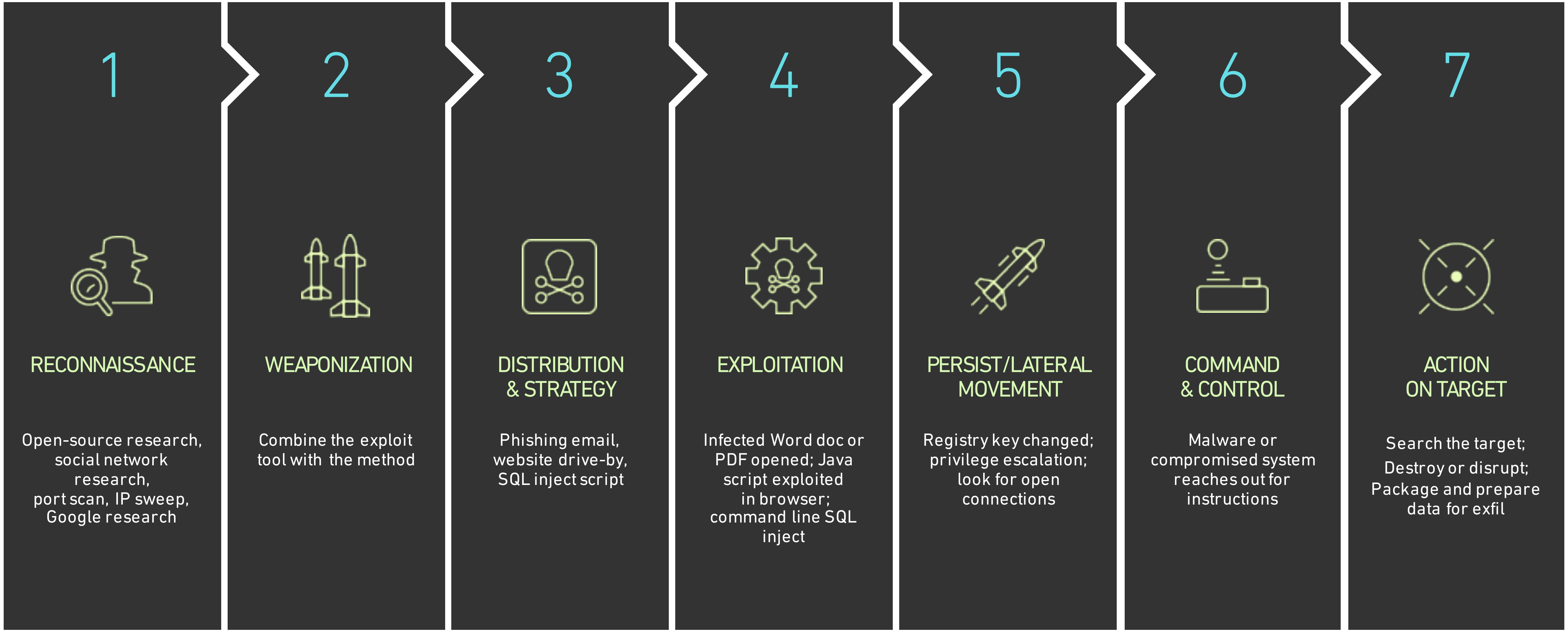


A-LEVEL

Advanced Targeted Threat

0.01%

The Kill Chain



1

RECONNAISSANCE

Open-source research, social network research, port scan, IP sweep, Google research

2

WEAPONIZATION

Combine the exploit tool with the method

3

DISTRIBUTION & STRATEGY

Phishing email, website drive-by, SQL inject script

4

EXPLOITATION

Infected Word doc or PDF opened; Java script exploited in browser; command line SQL inject

5

PERSIST/LATERAL MOVEMENT

Registry key changed; privilege escalation; look for open connections

6

COMMAND & CONTROL

Malware or compromised system reaches out for instructions

7

ACTION ON TARGET

Search the target;
Destroy or disrupt;
Package and prepare data for exfil

Surface Area of Attacks

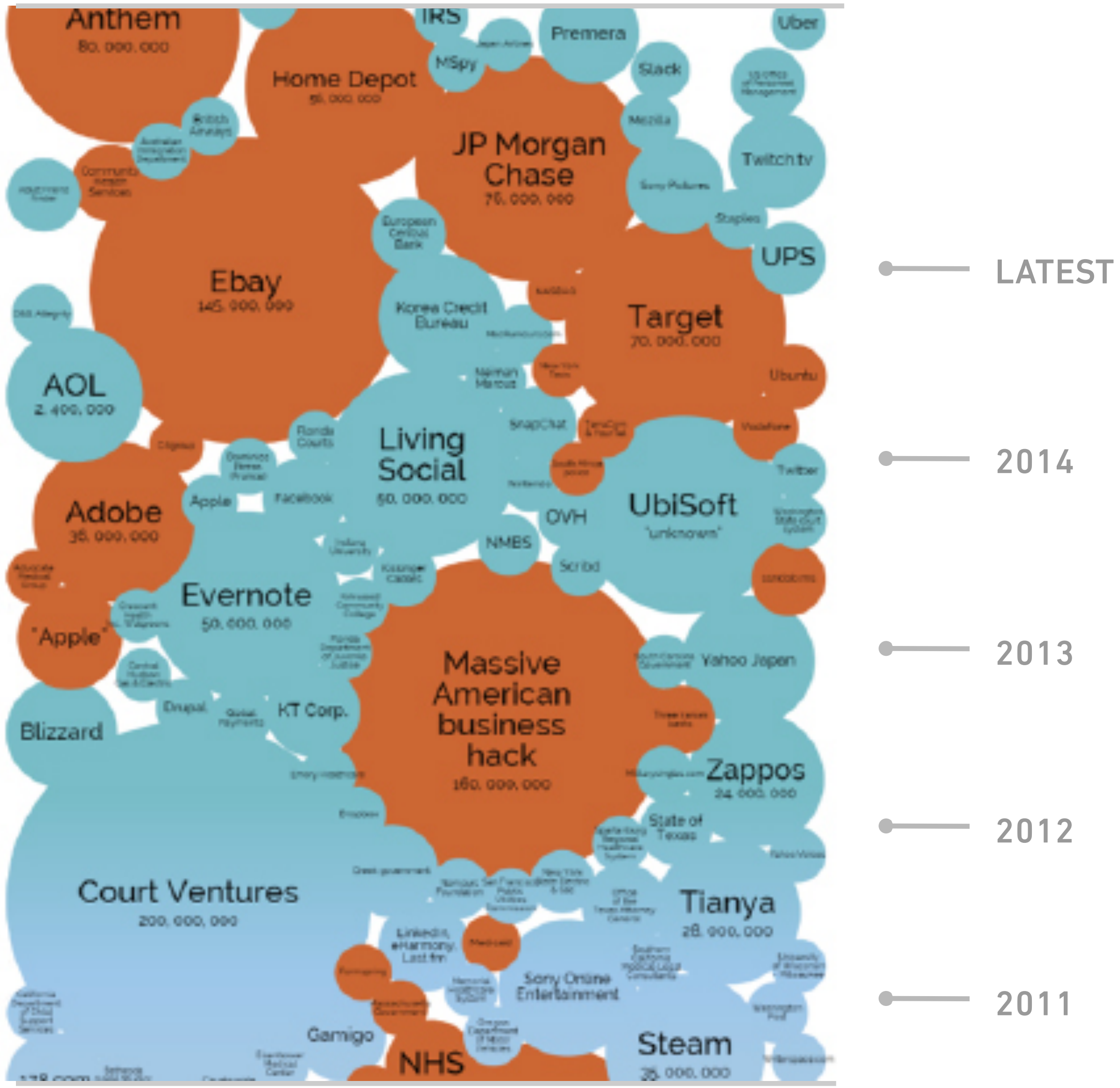
Servers/
Applications

Access/
Networks

Humans/
User terminals

How Has the Security Team's Approach Changed?

A World of Targets



Security spending doubled in past 4 years

Many of these organizations were "compliant" on various security frameworks

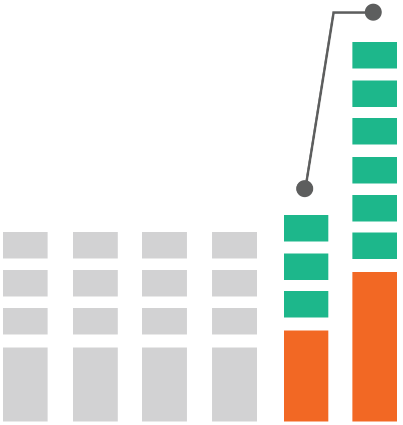
Major shortage in security talent and getting worse

Spend Cycle

$100 BILLION

To date, organizations globally are spending **$100 billion annually** on cybersecurity tools and services **— and still losing the war.**

$170 BILLION



That figure is projected to **jump to $170 billion** by 2020.

History has proven that spending doesn't equal safe outcomes.

Source: "Cyber Security Market by Solution - Global Forecast to 2020," Markets and Markets, August 2015.

The Jelly Doughnut Approach

Most people secure from the outside in, focusing first on perimeter security and then internal data segmentation, if they can get to it.

The Real Deal with Big Data and Artificial Intelligence

Threat actors are still able to evade the most sophisticated big data and artificial intelligence system

In reality, businesses could be “cutting away” threat indicators that are important

Narrowing the Focus

The 98%

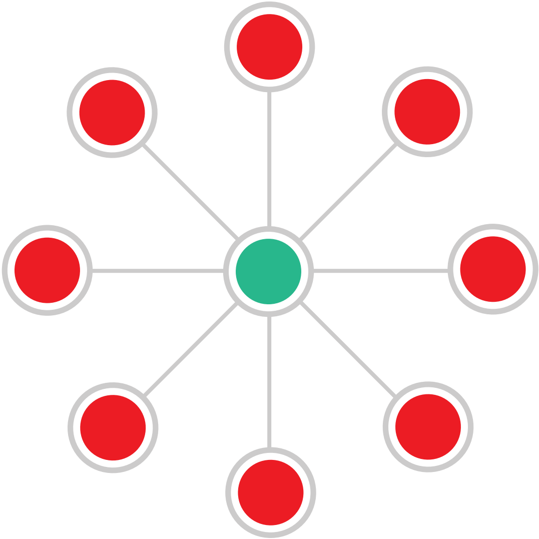
- Active Directory
- Remote Access
- User Workstations
- Bring Your Own Device
- Vulnerable Public Websites
- Vulnerable Network Infrastructure

Finding the 2%

All about protecting the databases

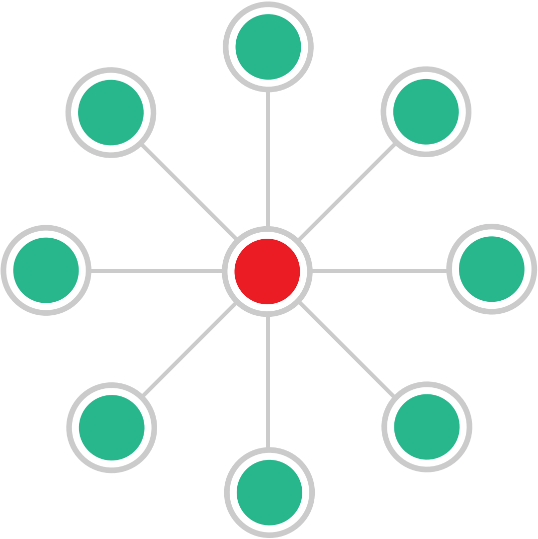
- Email
- File Shares
- Share Point
- Business Application Databases

Protecting Endpoint vs. Protecting the Data



Endpoints

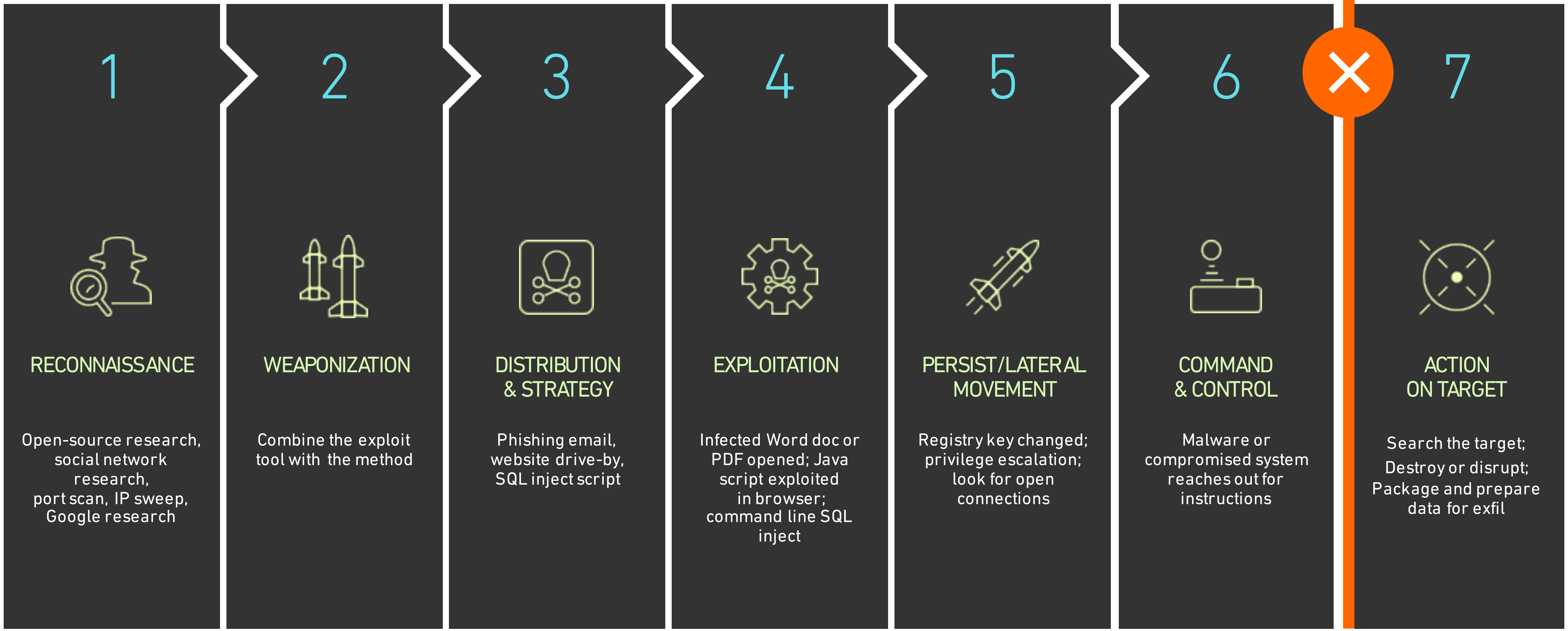
vs



Data

Interdicting the Kill Chain

Threat actors haulted



1

RECONNAISSANCE

Open-source research, social network research, port scan, IP sweep, Google research

2

WEAPONIZATION

Combine the exploit tool with the method

3

DISTRIBUTION & STRATEGY

Phishing email, website drive-by, SQL inject script

4

EXPLOITATION

Infected Word doc or PDF opened; Java script exploited in browser; command line SQL inject

5

PERSIST/LATERAL MOVEMENT

Registry key changed; privilege escalation; look for open connections

6

COMMAND & CONTROL

Malware or compromised system reaches out for instructions

7

ACTION ON TARGET

Search the target;
Destroy or disrupt;
Package and prepare data for exfil

23

The Military Approach to Protecting Soldiers

Layered Defense, from the Inside Out

Protecting from the Inside Out

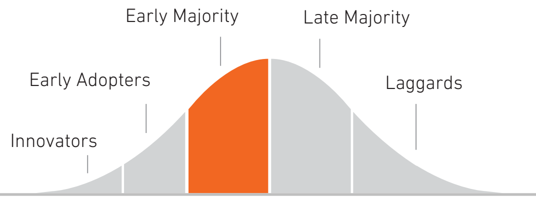
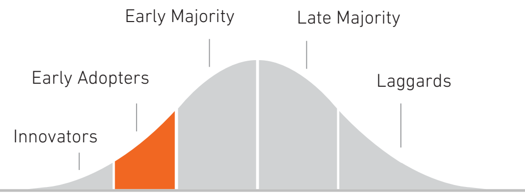
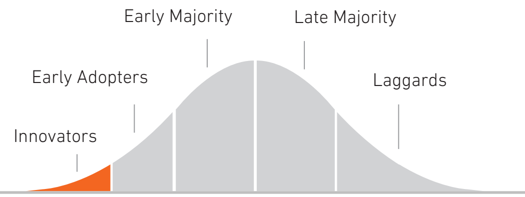
Defining Your Strategy

- Risk Reduction
- Reduce Attack Surface Area
- Drive up the Skill Level of Threat Actors Required to Exploit Your Environment

It's not about the tools.
It's how you use them.

Step 1: Data Classification

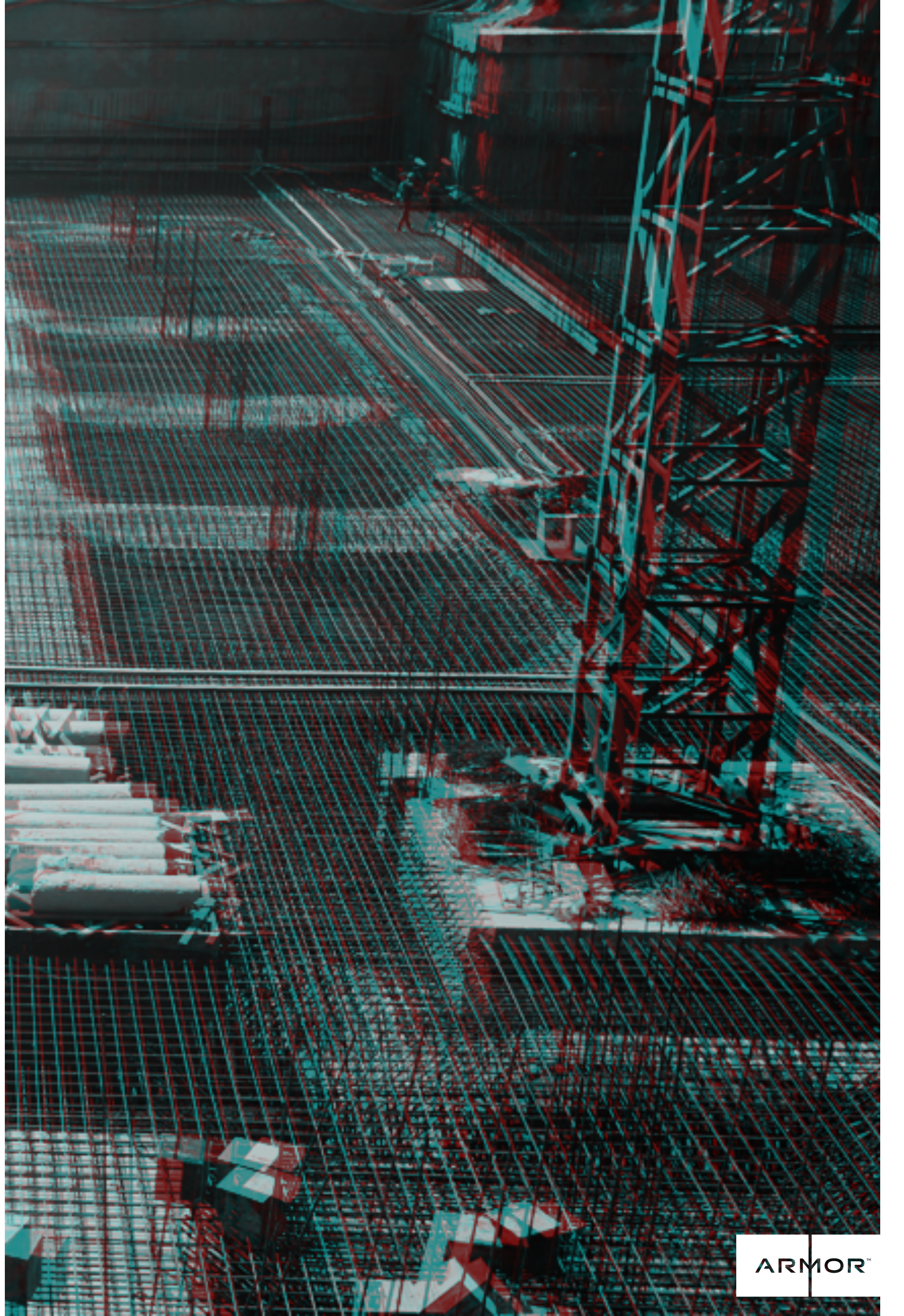
Product portfolio based on workload risk levels supporting your multi-cloud strategy

	LOW SECURITY REQUIREMENT	MEDIUM SECURITY REQUIREMENT	HIGH SECURITY REQUIREMENT
Data Classification Level	1 2 3	4 5 6	7 8 9
Typical Workloads	PUBLIC OR NON-SENSITIVE INFORMATION	PRIVATE INFORMATION	HIGHLY SENSITIVE INFORMATION
Cloud-based Solutions	amazon web services™ Microsoft Azure Google Cloud Platform IBM Cloud vmware vCloud Air Network HP Helion	Public clouds / DIY + Software security solutions *with* Armor | Anywhere	Private clouds / DIY + Managed security solutions *or* Armor | Complete
Outsourcing Adoption Cycle			

Step 2: Start at the Host Level

Building a Solid Security Foundation

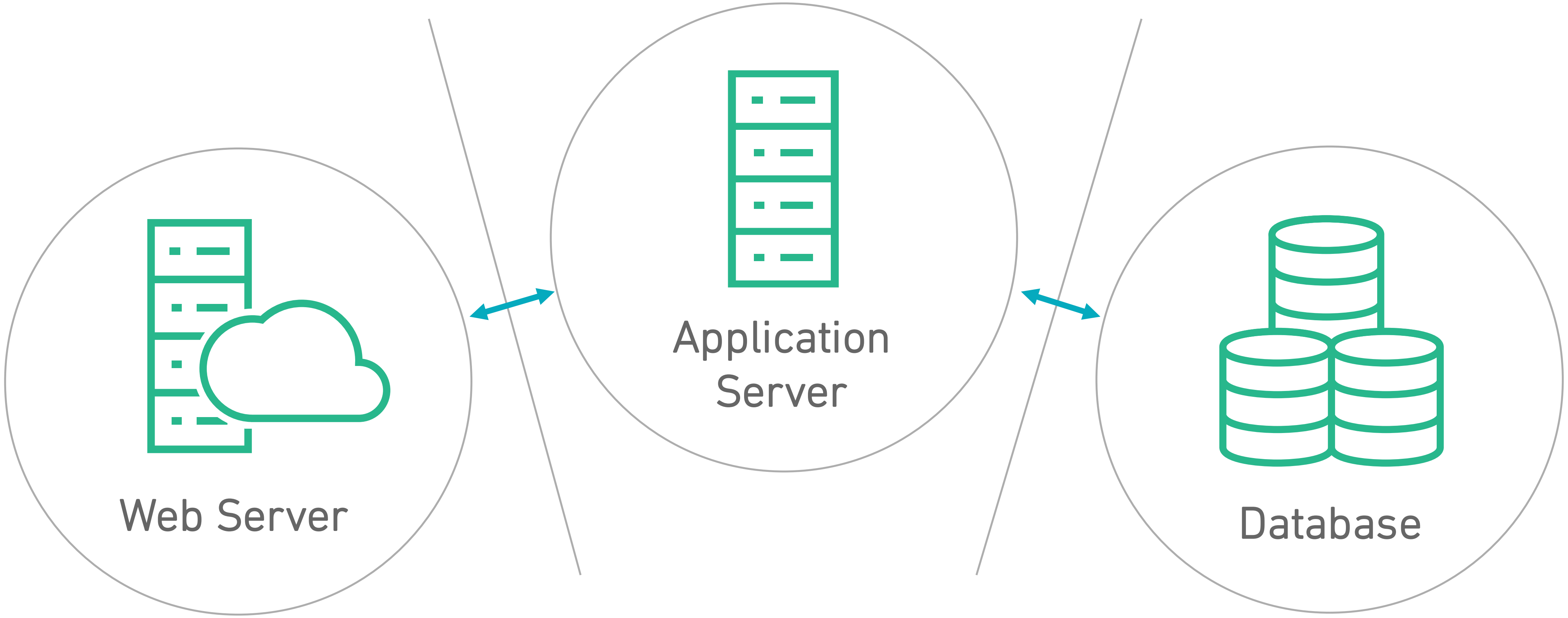
- Hardened Operating System
- Anti-Malware or Application Whitelisting
- Monitoring Memory for Changes (APT detection)
- File Integrity Monitoring
- Patch Management
- Logging Enabled



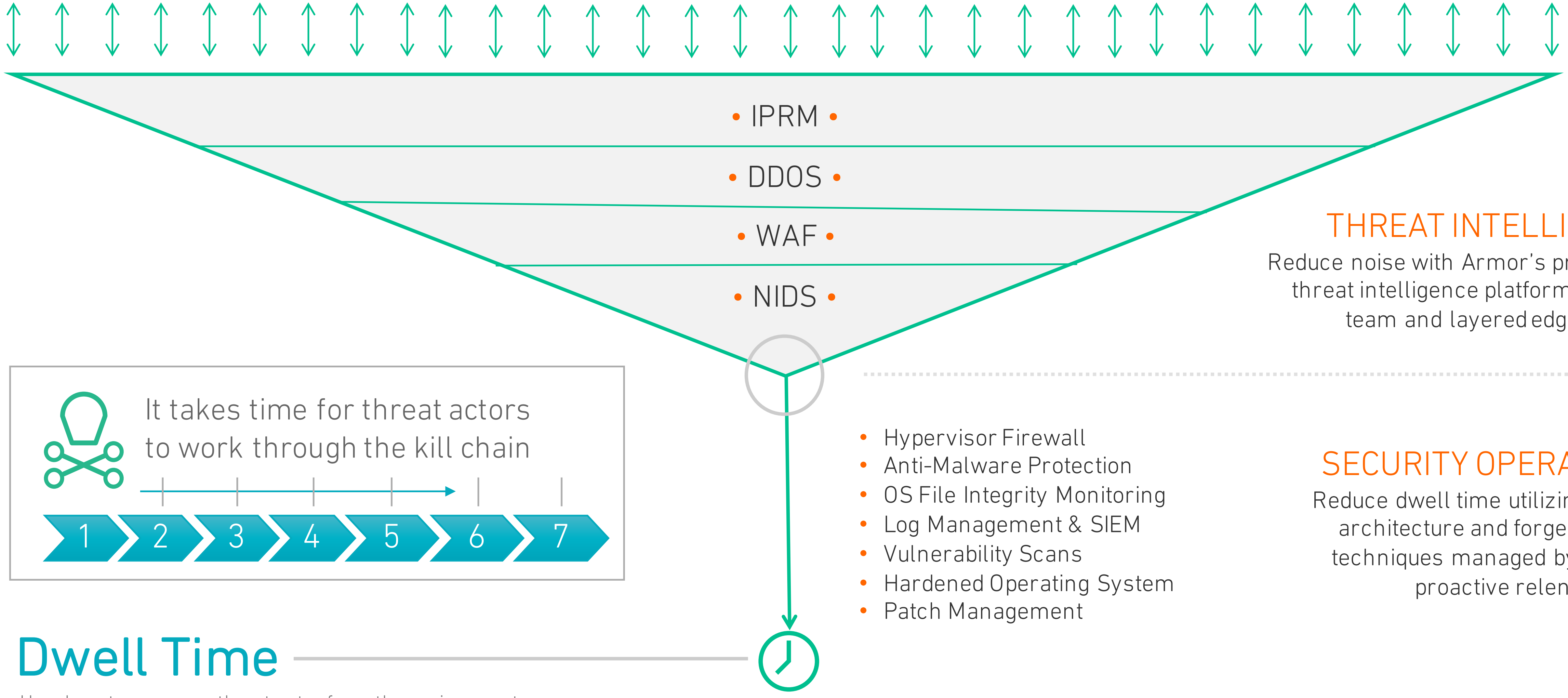
Step 3: The Application Stack

- Patching
- Patching
- Patching
- Application Level Encryption for Databases

Step 4: Network Segmentation and Zero Trust Model



Bringing It All Together



• IPRM •
• DDOS •
• WAF •
• NIDS •
It takes time for threat actors to work through the kill chain
1
2
3
4
5
6
7

Dwell Time

How long to remove a threat actor from the environment.

- Hypervisor Firewall
- Anti-Malware Protection
- OS File Integrity Monitoring
- Log Management & SIEM
- Vulnerability Scans
- Hardened Operating System
- Patch Management

MISSION

THREAT INTELLIGENCE

Reduce noise with Armor's proprietary threat intelligence platform, talented team and layered edge defense

MISSION

SECURITY OPERATIONS

Reduce dwell time utilizing secure architecture and forged in battle techniques managed by Armor's proactive relentless SOC

In Conclusion

- Assume you user base is compromised
- Think about how you disrupt the threat actor’s kill chain
- Narrow the focus of what you truly can protect
- In the end, ”it’s the data, stupid"

Q&A

ARMOR™

BETWEEN YOU AND THE THREAT

Thank You

JEFF SCHILLING Chief Security Officer

The Leader in Active Cyber Defense