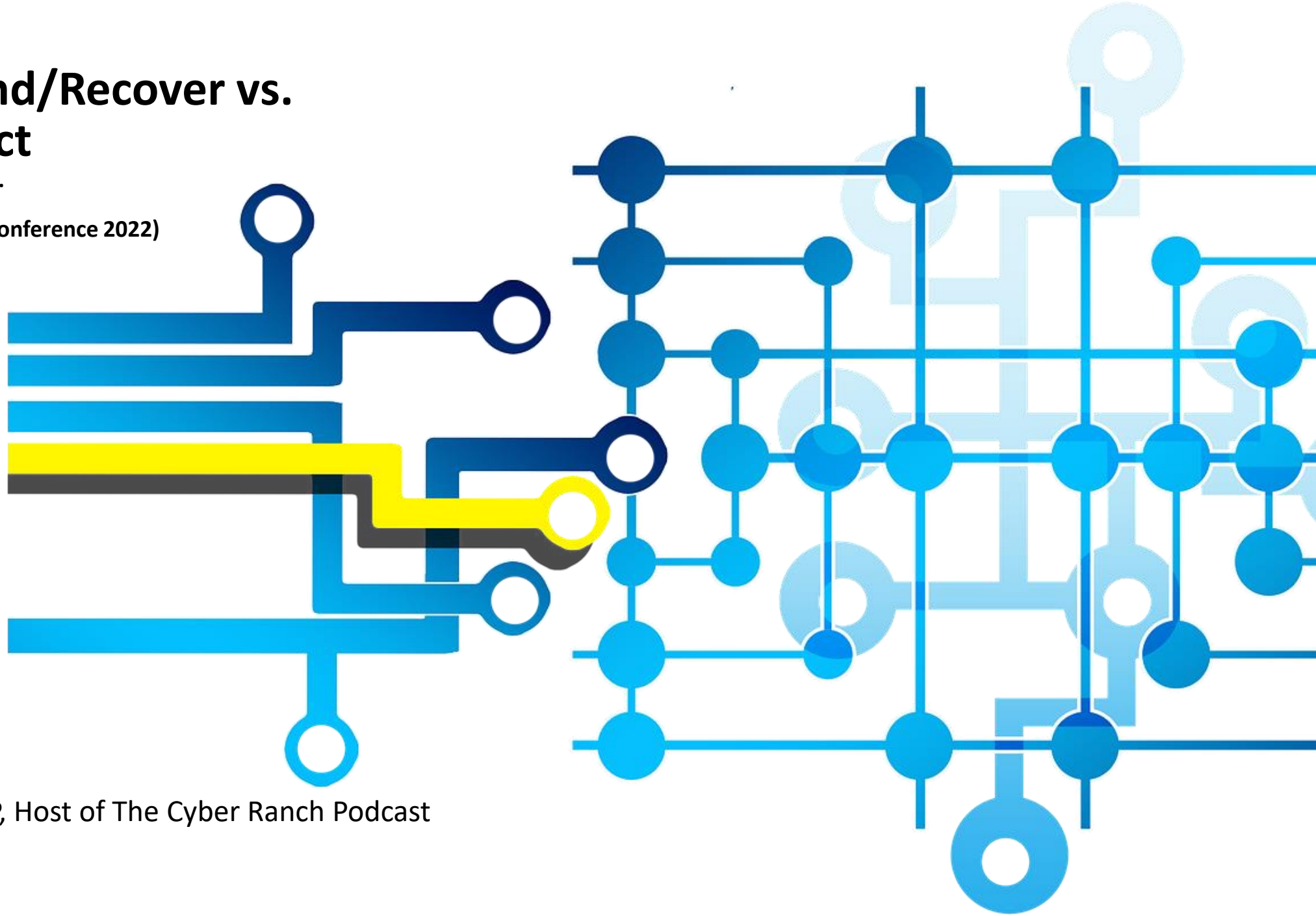
Detect/Respond/Recover vs. Identify/Protect

Maturity Changes Everything…

(Originally presented at RSA Conference 2022)



Allan Alford

CISO/CTO @ TrustMAPP, Host of The Cyber Ranch Podcast
@AllanAlfordinTX

We’re Going to Turn NIST CSF Inside Out!

- Deconstruct NIST CSF using some real-world models
- Overlay program maturity on top of NIST CSF
- Analyze CSF from both a tech stack and GRC perspective
- Pivot which of the five functions we prioritize
- Employ a few stupid memes on the way

- But first, a quick bit of transparency…

Full Transparency: Past & Present Affiliations

Plus about a bazillion podcast sponsors…

Relax. This presentation is…

- Based on 20+ years of practitioner cybering.
- Influenced a bit by every vendor relationship and affiliation I have, and yet…

- Vendor-agnostic

Why are we here?

?

(

)

Why we are here:

So, we rely on frameworks like…

NIST CSF:

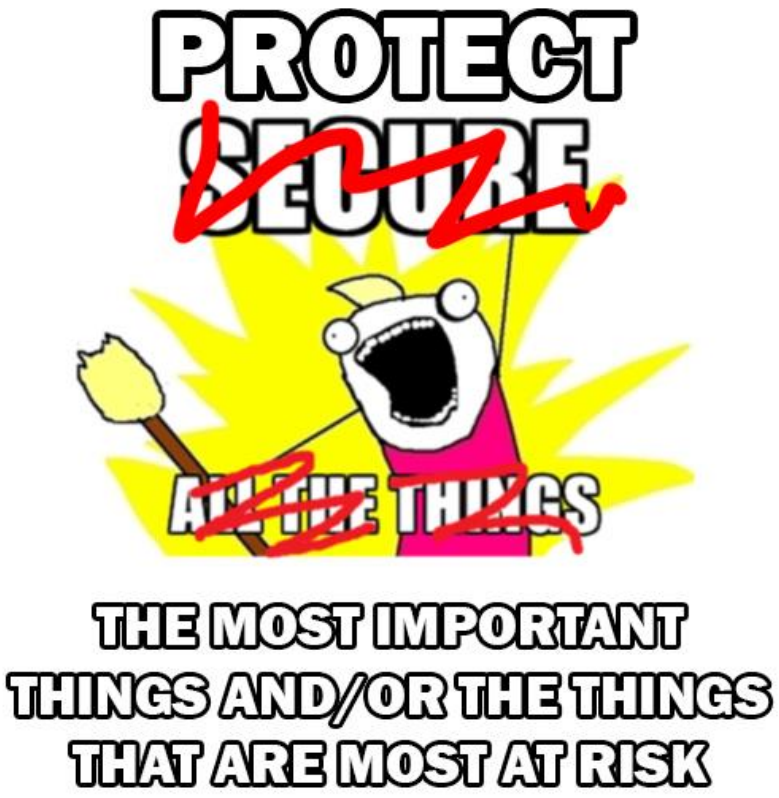
The most important things:

- Identify Hardware Assets (ID.AM-1)
- Identify Software Assets (ID.AM-2)

The things that are most at risk:

- Risk Management (ID.RM-1)

After we Identify, we Protect, right?



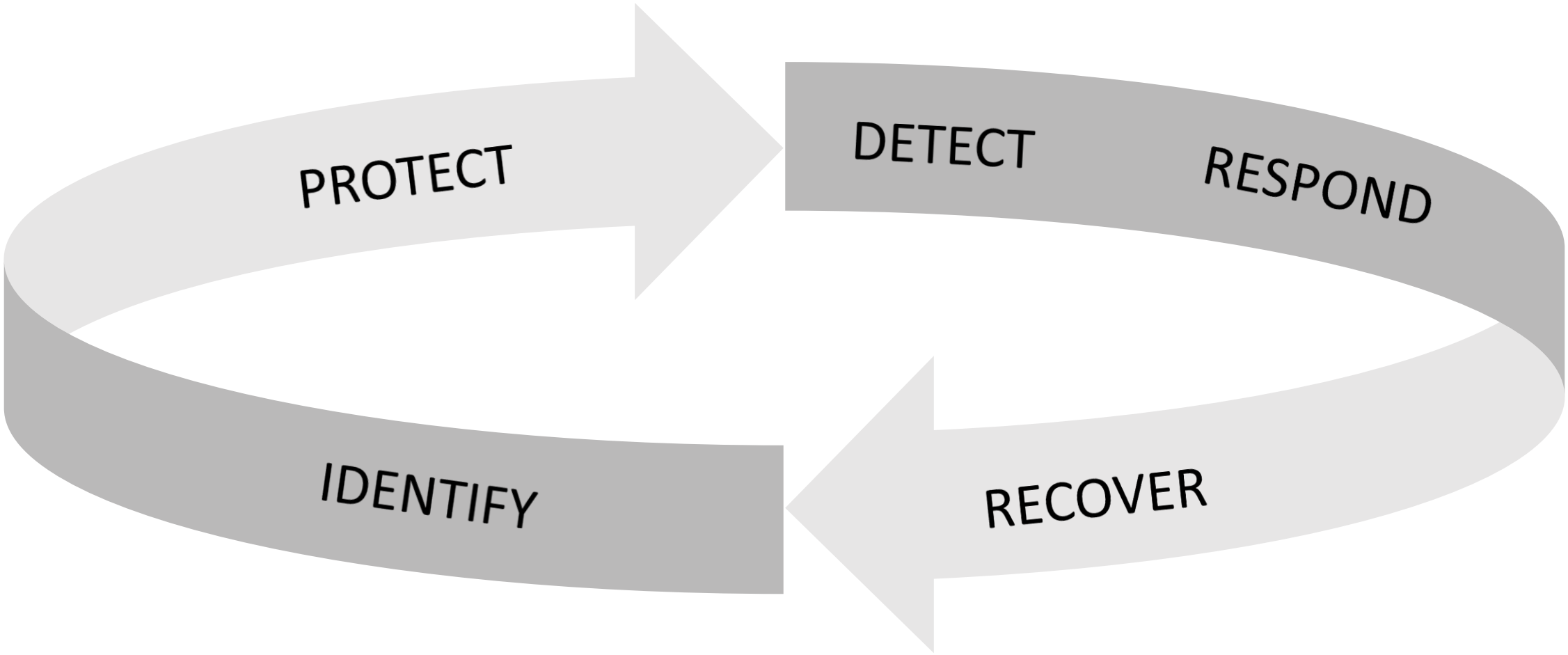
?

Meet Shiner the Sheepadoodle!

- He protec
- He attac
- But most importantly
- He doesn’t secure anything!

The distinction I draw:

“SECURE”



Better yet, a real-world model:

You have to **“See it”** ➡ Before you can **“Manage it”** ➡ And then you can **“Secure it”**

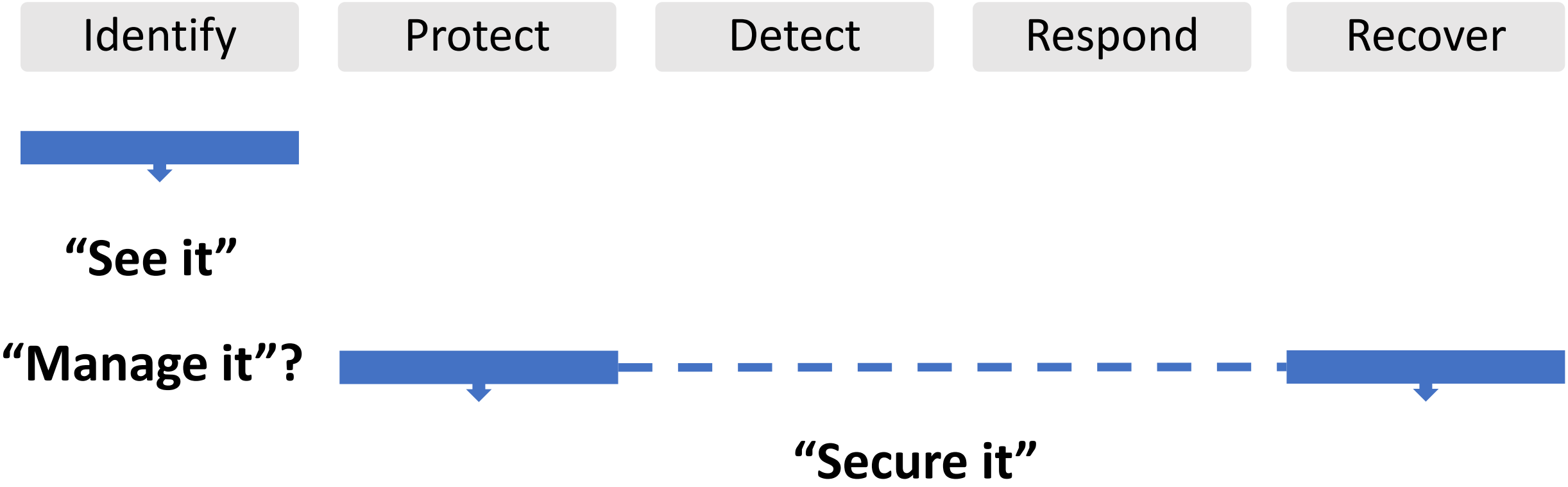
* Flagrantly stolen from Steve Williams over at NTT Data Services

Common Sense, Right?

“See it” ➡ **“Manage it”** ➡ **“Secure it”**

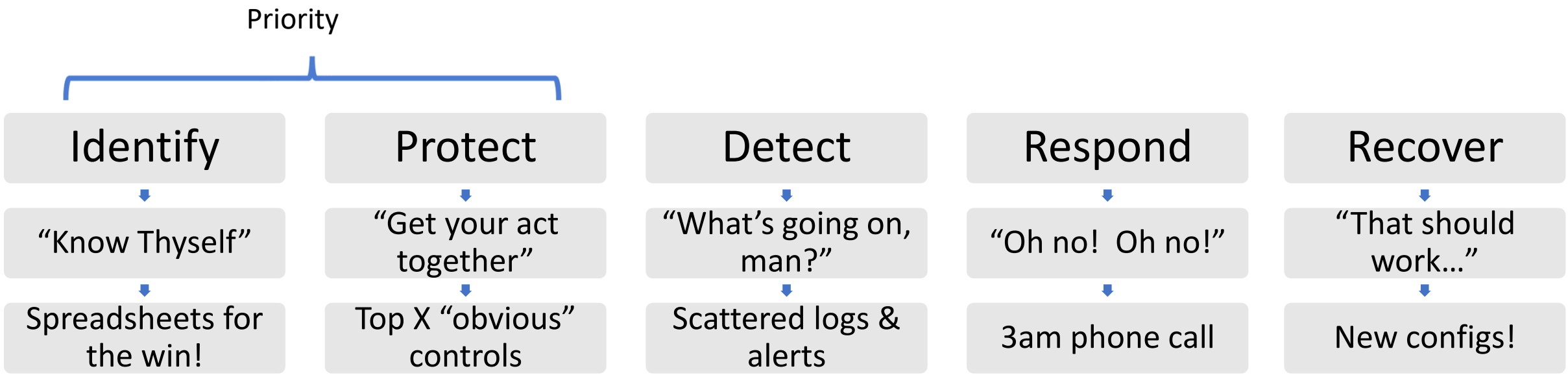
The Tech Stack Perspective

Does I/P/D/R/R hold up in the real world?



Yes and no…

The early days of maturity – technology-based



The early days of maturity – technology-based

Priority

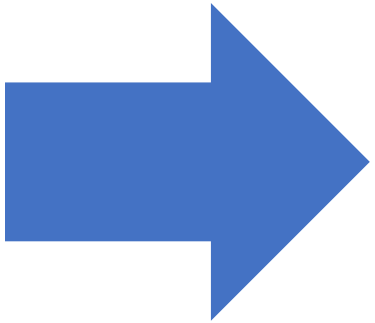
Identify	Protect	Detect	Respond	Recover
“Know Thyself”	“Get your act together”	“What’s going on, man?”	“Oh no! Oh no!”	“That should work…”
Spreadsheets for the win!	Top X “obvious” controls	Scattered logs & alerts	3am phone call	New configs!

Minimum Viable Security – A Brief Aside

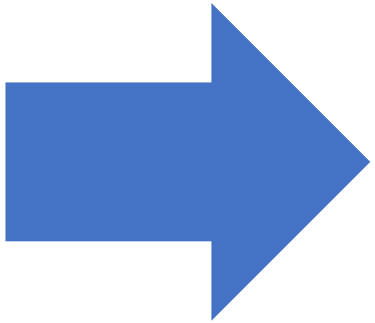
- We are always supposed to implement controls based on known risk and the value of known assets, and yet…
  - How many of you need email protection?
  - How many of you need endpoint protection?
  - How many of you need MFA?
  - Etc…

There is also immaturity to process: linearity…

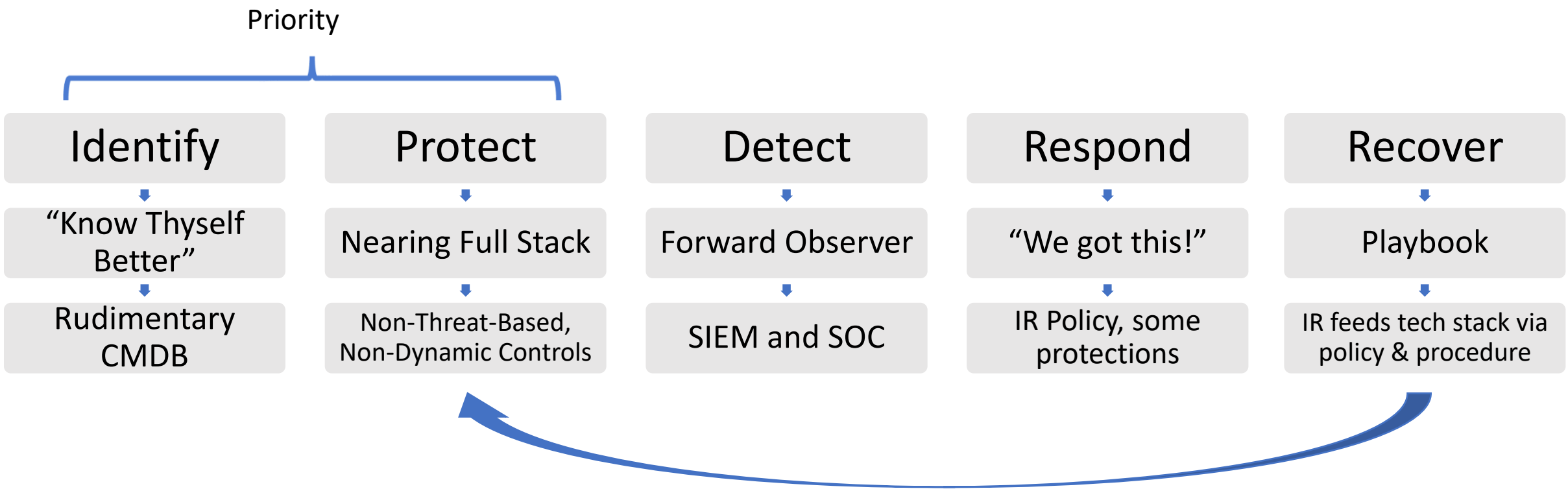
Identify	Protect	Detect	Respond	Recover
“Know Thyself”	“Get your act together”	“What’s going on, man?”	“Oh no! Oh no!”	“That should work…”
Spreadsheets for the win!	Top X “obvious” controls	Scattered logs & alerts	3am phone call	New configs!



Over and over and over and over…

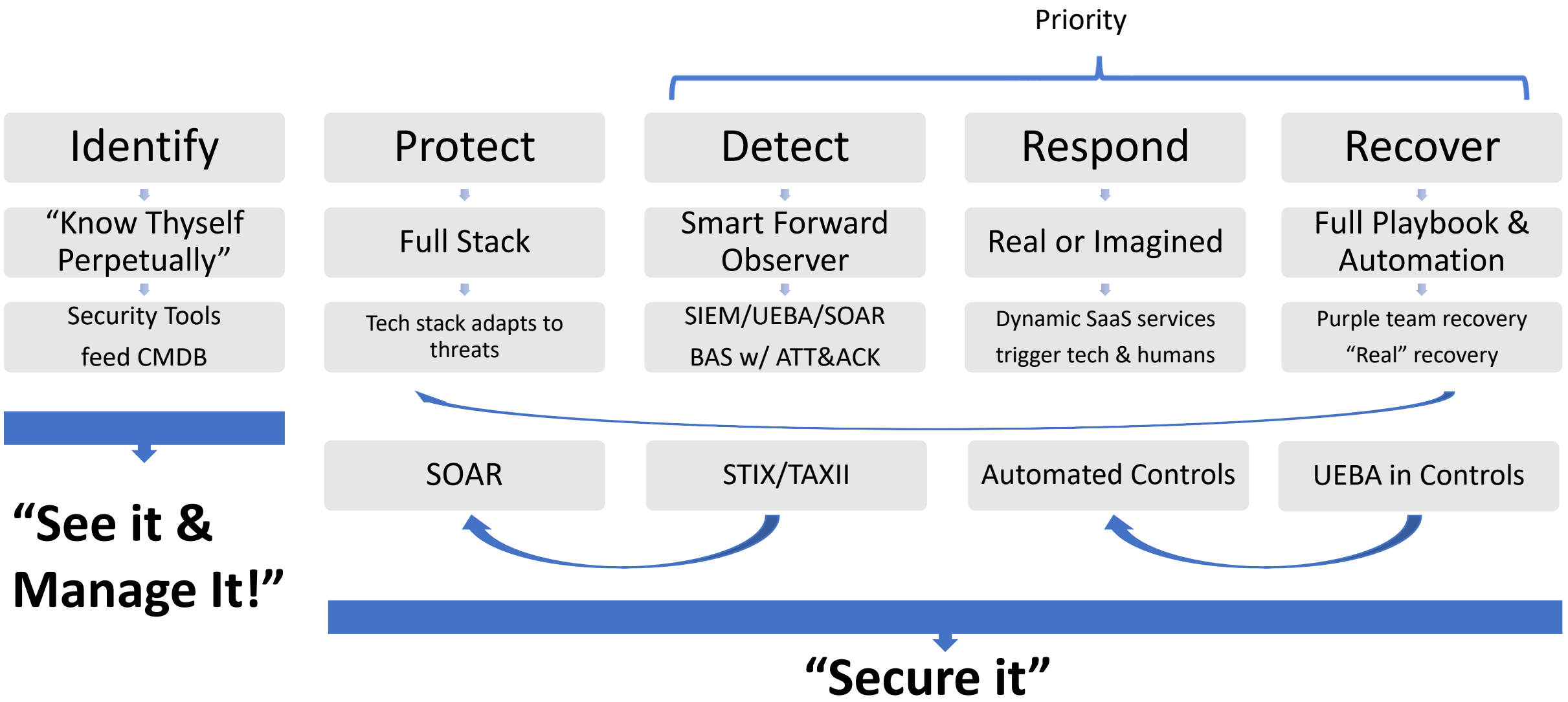


Apply Better Methods: Mid-Tier Maturity



Linearity starts to become a cycle

Apply Better Methods: Full Maturity



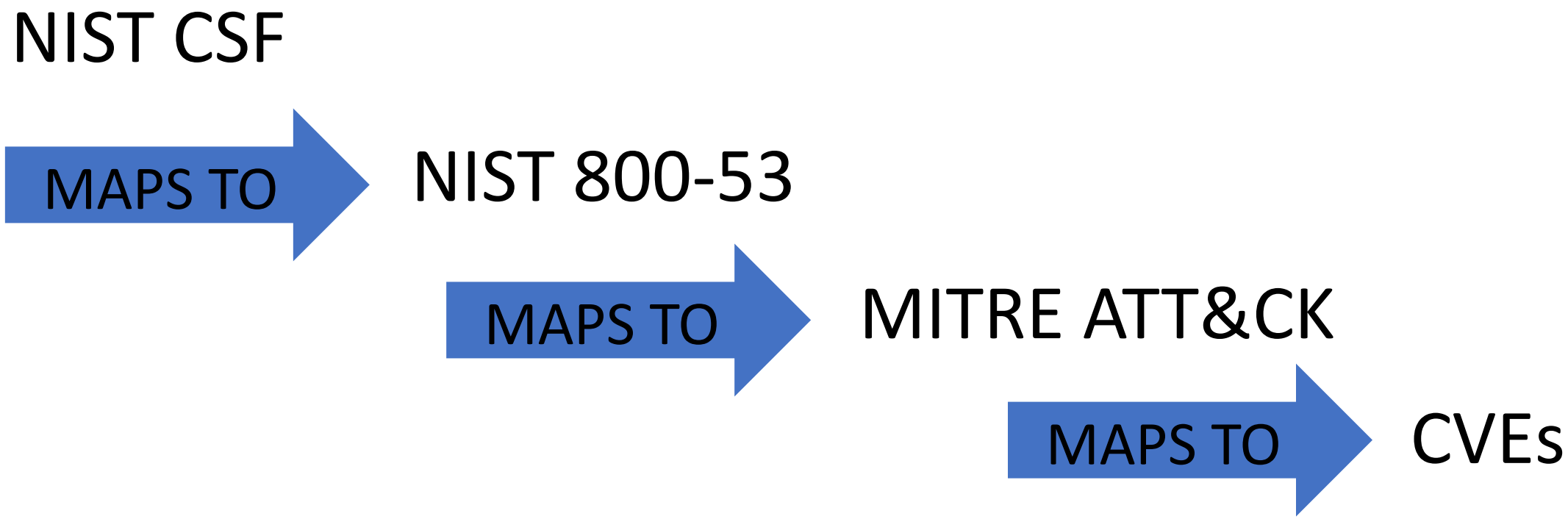
(Challenges with the model):

- Limited tools available that: perform endpoint health checks, push patches and configs, and populate CMDB.
- UEBA -> Controls = Proprietary (& Change Management?)
- STIX/TAXII limited & not supported everywhere.
- SOAR not supported everywhere, provides little protection
- ATT&CK framework never 100% complete or current
- Purple Team & BAS must rotate through the estate

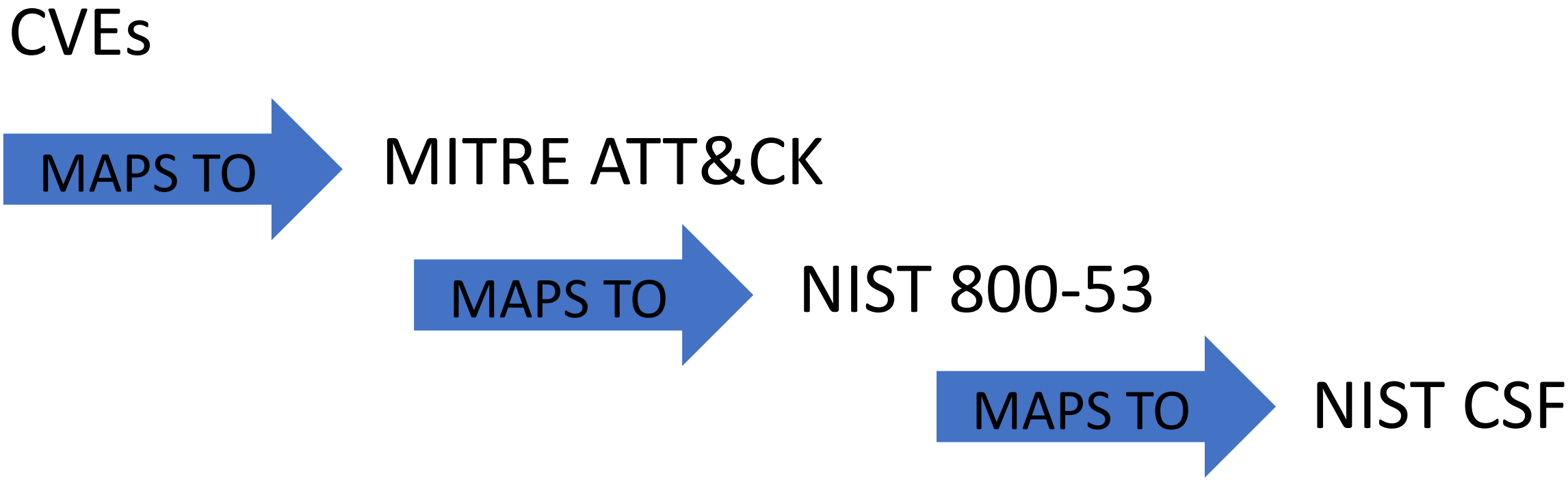
Despite All That…

The GRC Perspective

You May Not Have Known:

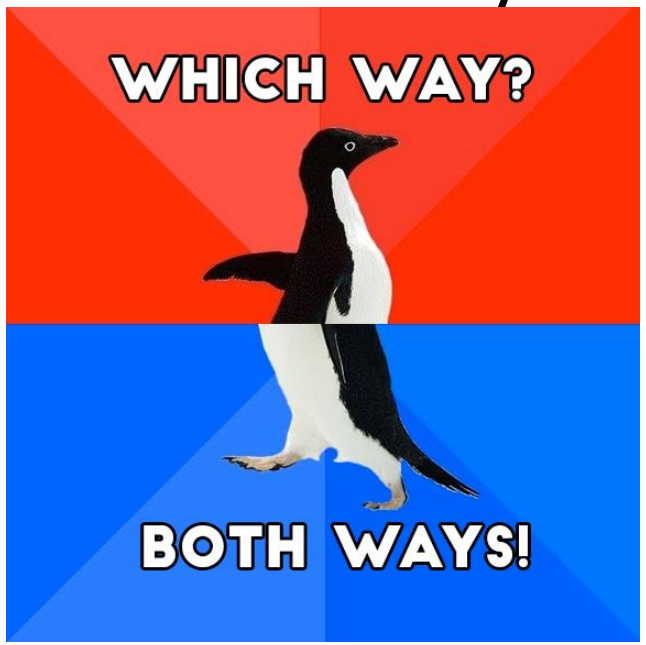


Which Also Means:



Red Teaming or Blue Teaming?

It’s Bi-Directional! Start Anywhere!



NIST CSF

NIST SP 800-53

MITRE ATT&CK

CVE Database

Early Maturity: Protection before Attacks…

Later Maturity: Attack-Driven Protection!

Scan…Self-Attack…Prescriptive Controls…Framework Population…Report

CVE Database MITRE ATT&CK NIST SP 800-53 NIST CSF

Key Takeaways – GRC:

- Start with NIST CSF and Focus on Identify-Protect
  - Detect/Respond/Recover will be more reactionary

- Once you have most of your estate in-hand, map to NIST SP 800-53 to get more prescriptive around your controls, start focusing more now D/R/R.

- Map to MITRE ATT&CK as you invert your program, starting with a known threat, working into Detection and Response, and using Recover to feed into Protect. Identify should not come up much, and the line between Protect and Recover should blur. GRC team has bridged with technical team by this time, and frameworks are populated based on real attack scenarios.

- Map to CVEs to close the loop, proactively applying ATT&CK to identified vulnerabilities for a D/R/R + I/P strategy.

Key Takeaways – Tech Stack:

- Get a CMDB in place and get Minimum Viable Security in place ("MVS"):
  - IA&M, Secure endpoint management, EDR, SASE w/CASB, Email Protection
    - IR consists of rudimentary playbook leveraging these tools

- Feed this into a SIEM with UEBA, add DLP, Insider Threat Protection, etc. as desired.
  - IR is more robust and prescriptive, centered around SIEM/SOC.

- SOAR drives SOC & your controls where possible, BAS w/ ATT&CK, STIX/TAXII, UEBA drives Controls where possible, IR automated where possible

- Purple team, purple team, purple team…

Key Takeaways: It's Really This Simple:

"Shields Up!" → **"Test"** → **"Strengthen"**

(Identify/Protect) (Detect) (Respond/Recover)

Common sense, right?

Thank You

And good luck with all your cyber stuffs!

Oh, and please listen to my show!
https://hackervalley.com/cyberranch

OR

Wherever you get your podcasts…