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Cybersecurity – from Reactive to Predictive

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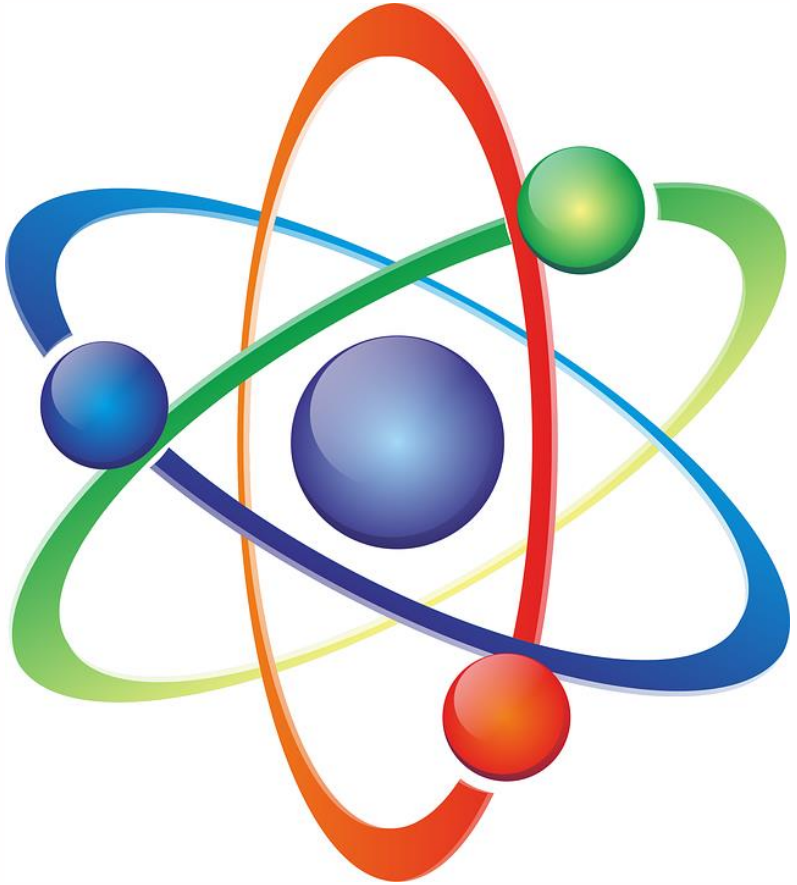
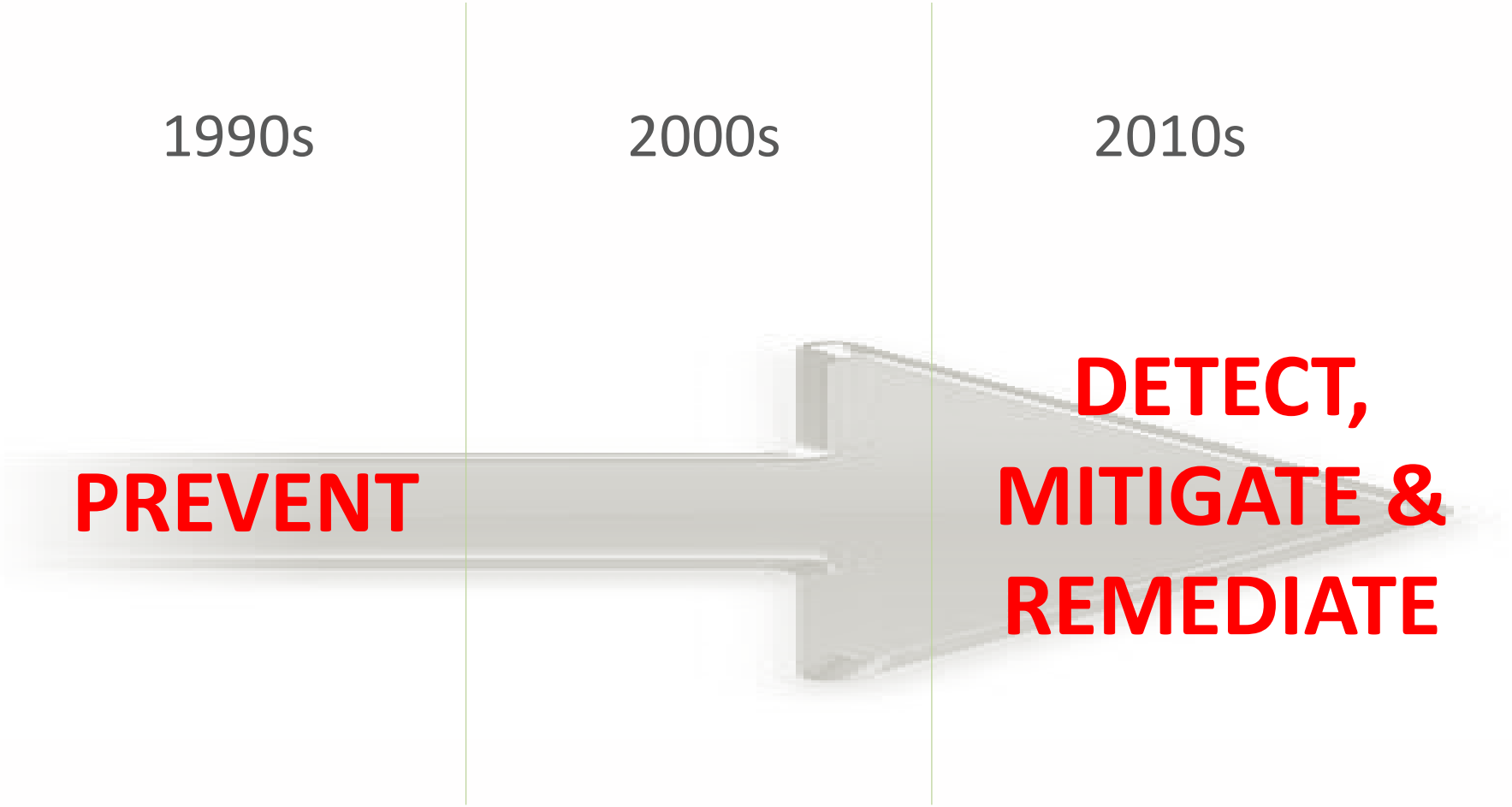
Agenda

1. Where We Are Now
2. What Has Changed
3. Tech Responses
4. Prediction

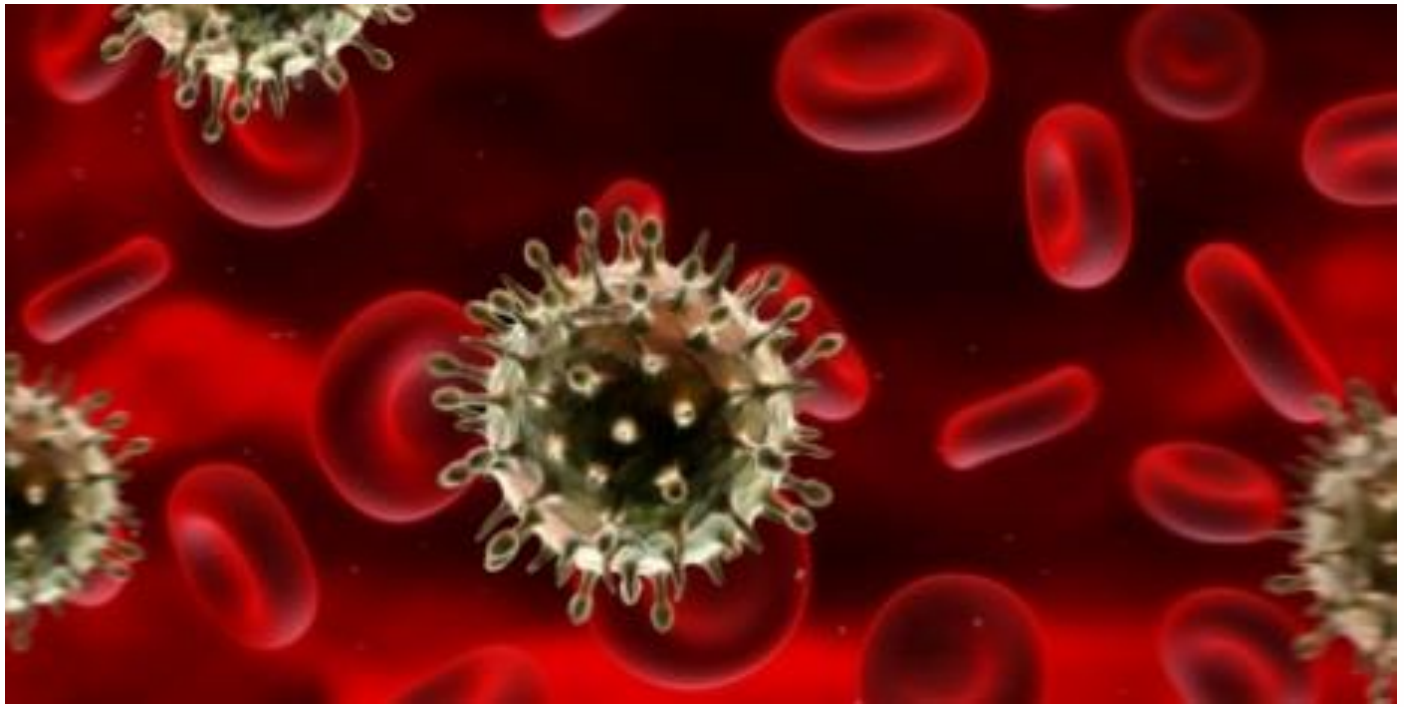


Where we are now in Cybersecurity



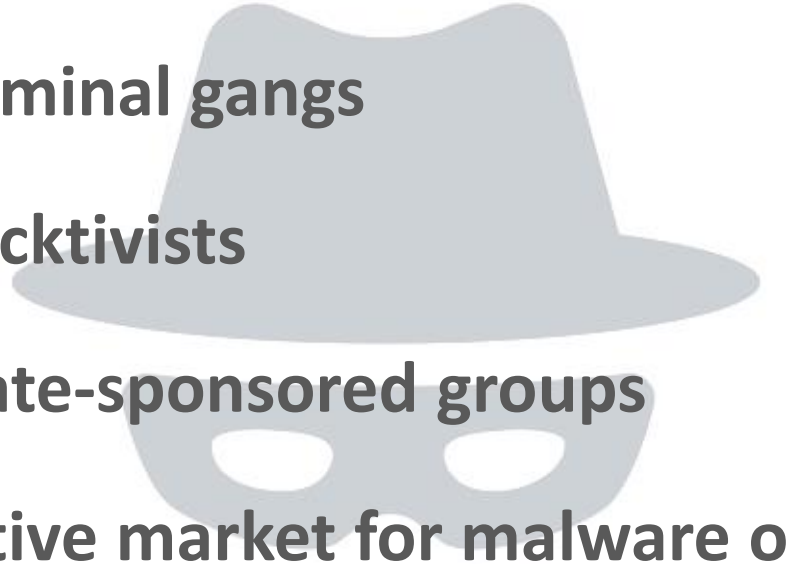
What has changed - Signatures on the wane

Anti-virus signatures catch no more than 30%-40% of malwares



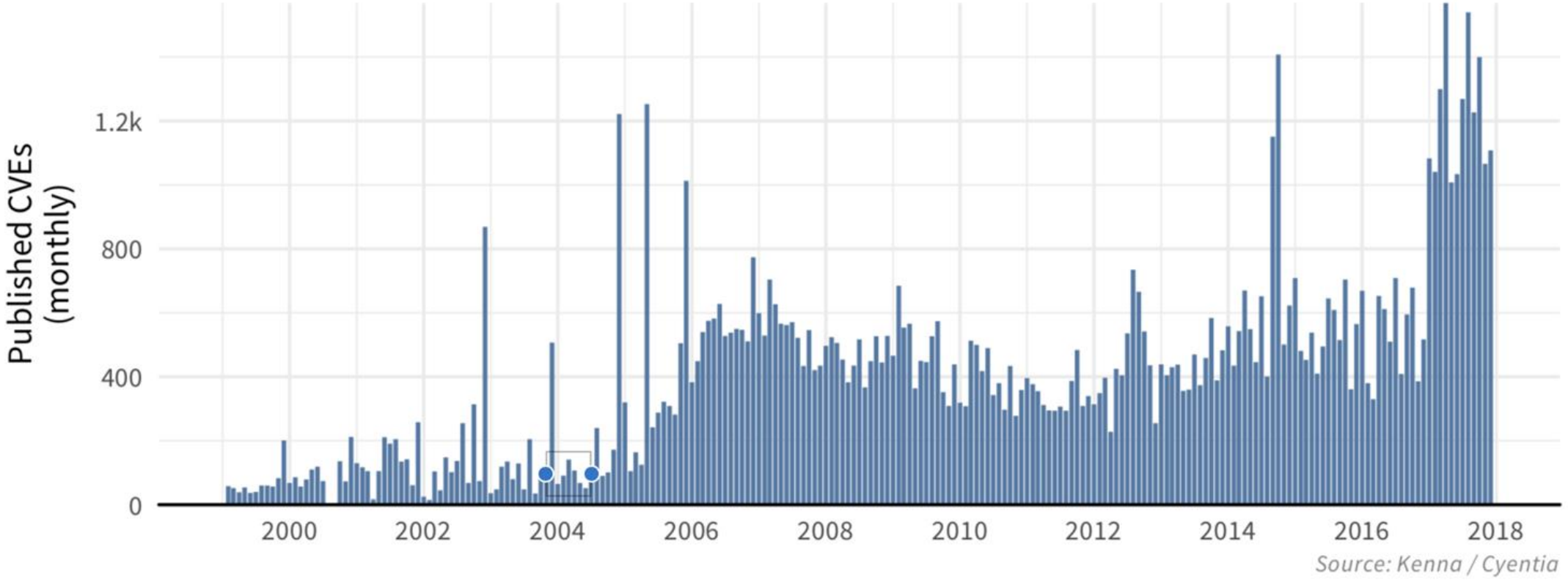
What has changed - Why?

- **Many more malware actors:**
  - **Criminal gangs**
  - **Hacktivists**
  - **State-sponsored groups**
- **An active market for malware on the Dark Web**
- **The Cloud**



What has changed - Vulnerability Volume increasing

Volume of published CVEs from 1999 through 2017



[1]For discussion of these biases and other CVE-related issues, see 2013 BlackHat presentation titled "Buying into the Bias: Why Vulnerability Statistics Suck" from Brian Martin and Steve Christy.

What has changed - Attack Velocity increasing

Average Days from
Publish to Exploit

(639 / 8%):

19.68

Days

Average Days from
Publish to Event

(36 / 0.5%):

27.36

Days

Shortest Average Window:
Adobe Reader (days)

Longest Average Window:
IE Edge (months)

Tech responses - New Detection Technologies

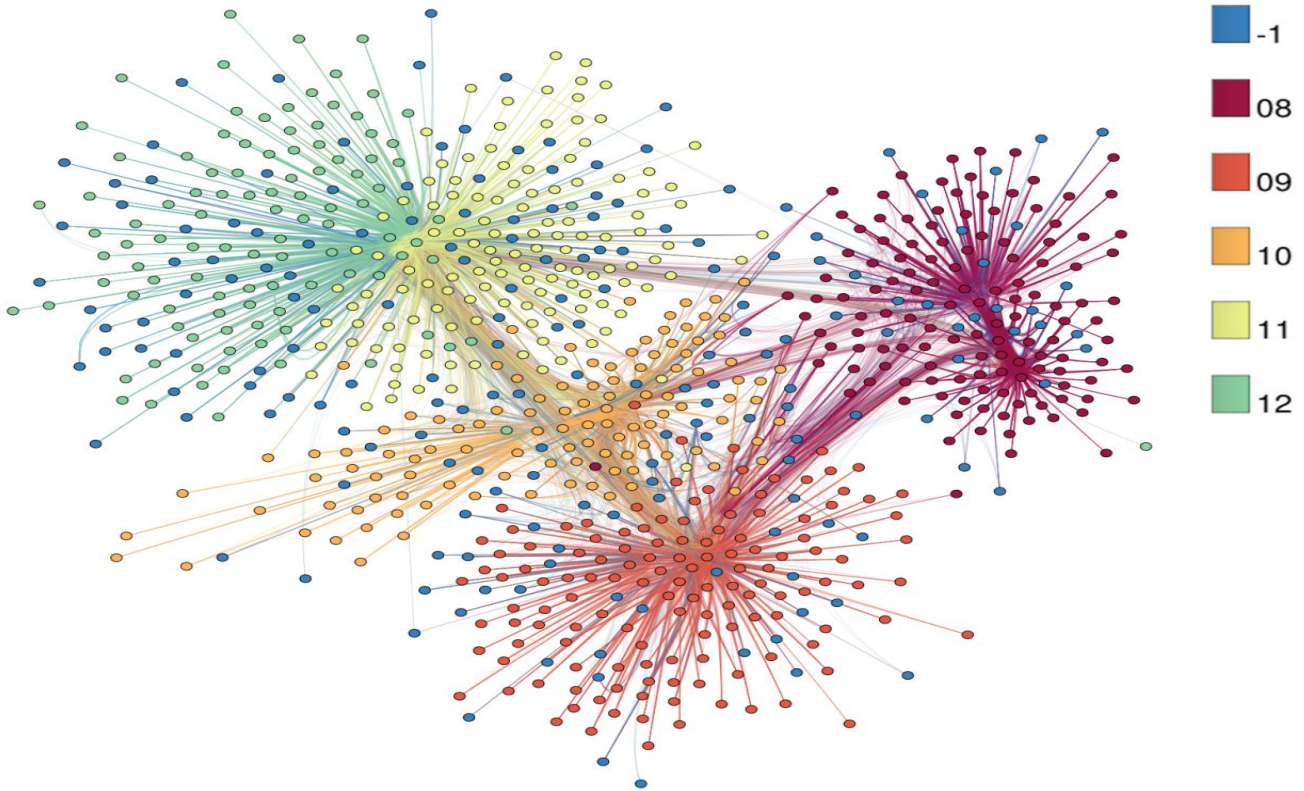
Sandboxing

UEBA

EDR

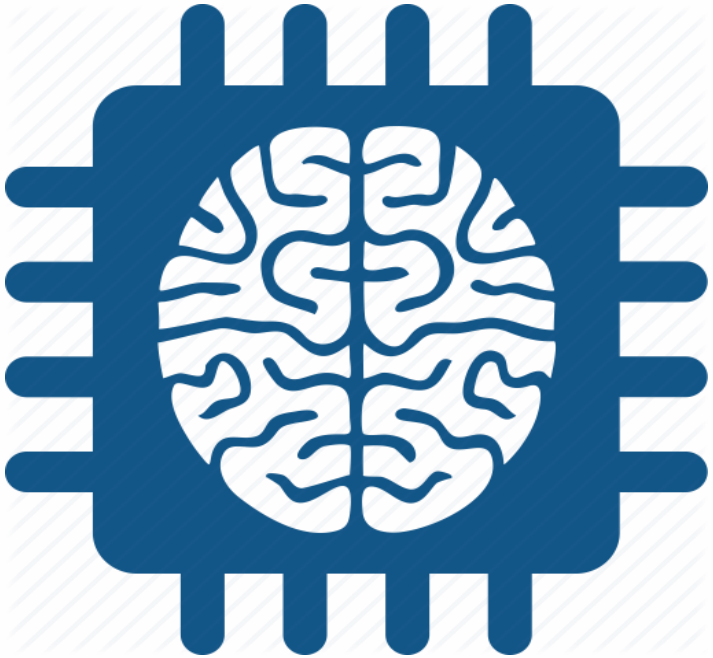
Tech responses

Threat Intelligence



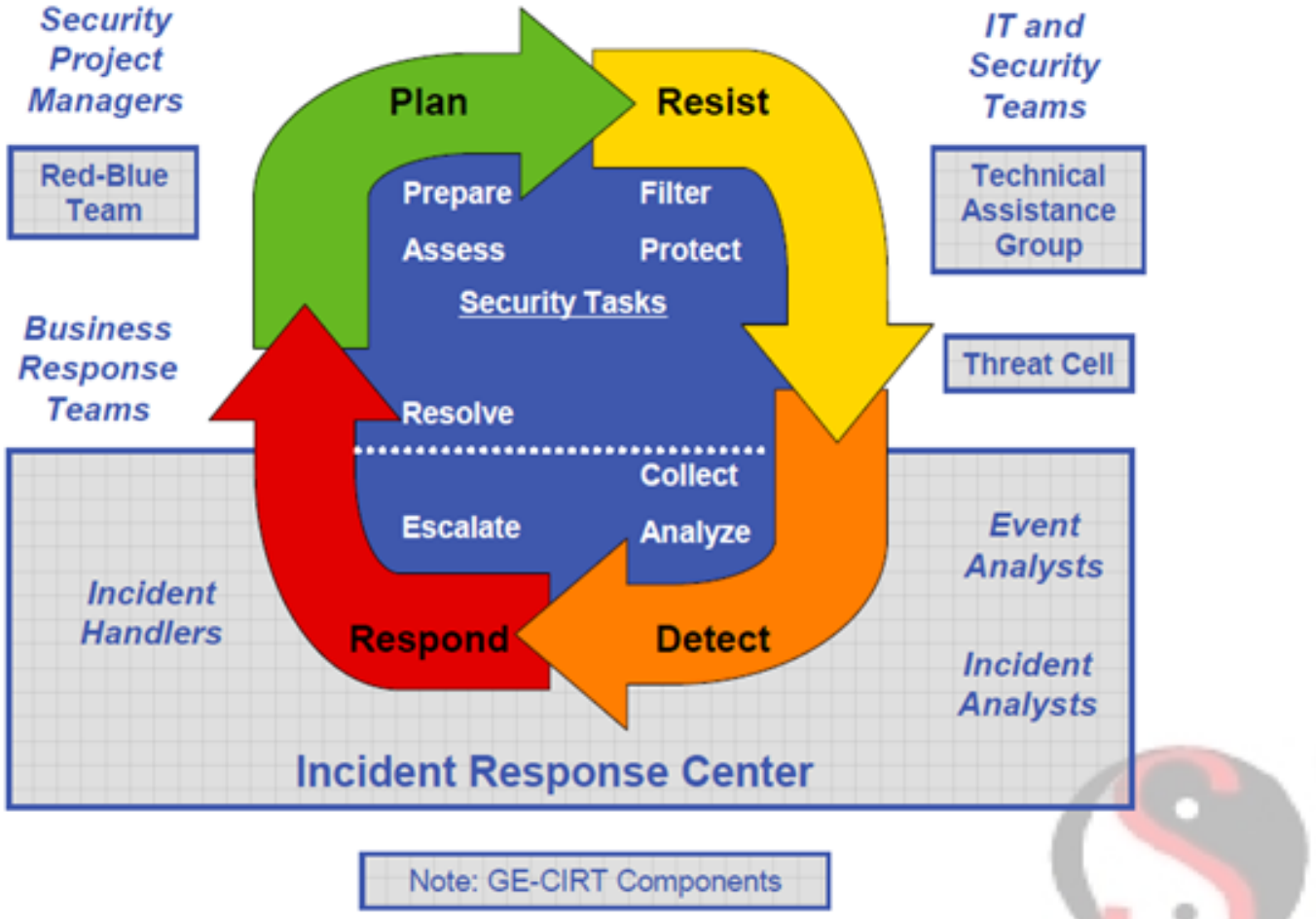
Tech responses

AI / Machine Learning



The Evolution of Incident Response

SOAR tools etc..



Source: Richard Bejtlich, *CIRT-Level Response to Advanced Persistent Threat*

Less clairvoyance…

Prediction

…more Data Science