GLASSWALL

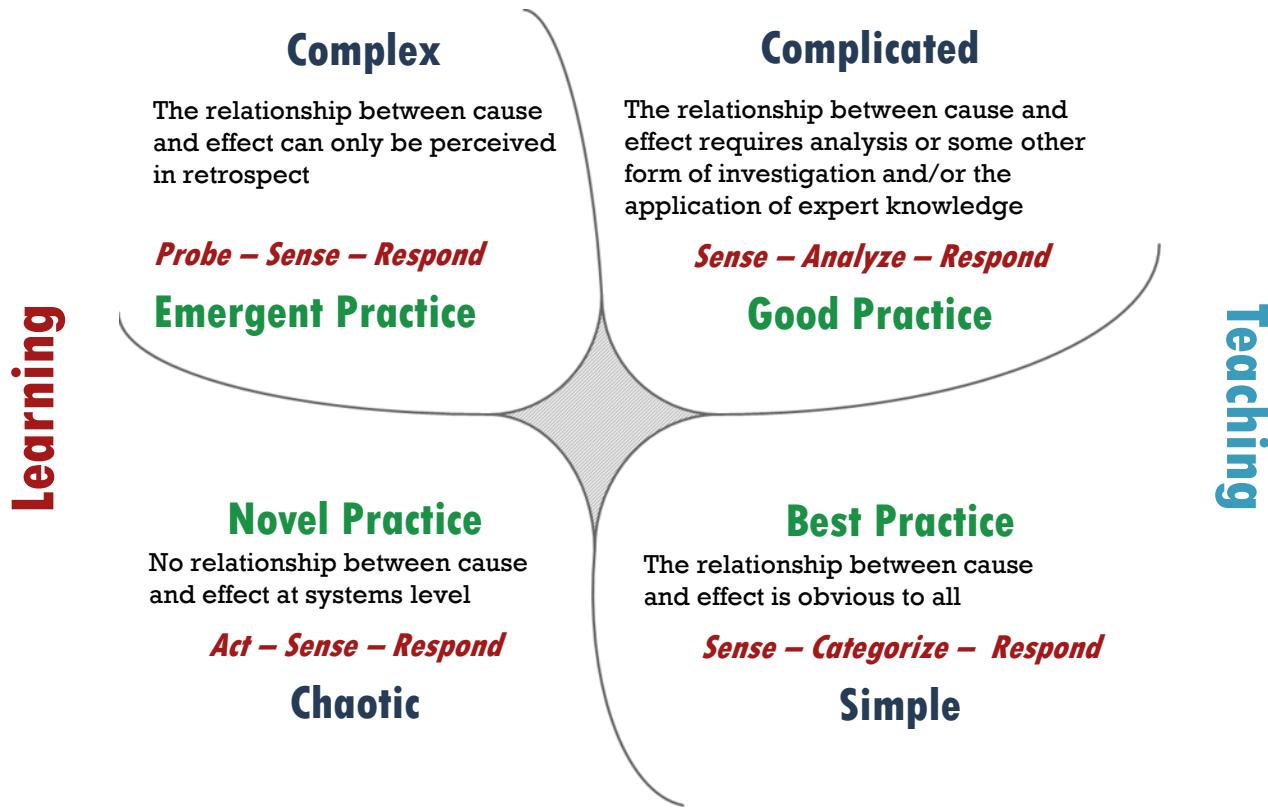**A Quantum Approach to Cybersecurity**

Surviving in a Complex Environment: Knowing
When to Probe and When to Break Through
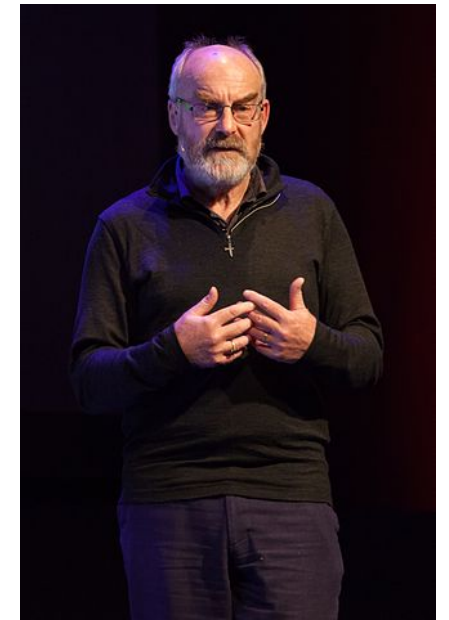
January 2019

GLASSWALL

High Level of Abstraction for Knowledge Transfer

This is Snowden's Cynefin Framework

Complex

The relationship between cause and effect can only be perceived in retrospect

Probe – Sense – Respond

Emergent Practice

Complicated

The relationship between cause and effect requires analysis or some other form of investigation and/or the application of expert knowledge

Sense – Analyze – Respond

Good Practice

Learning

Teaching

Novel Practice

No relationship between cause and effect at systems level

Act – Sense – Respond

Chaotic

Best Practice

The relationship between cause and effect is obvious to all

Sense – Categorize – Respond

Simple

# Low Level of Abstraction for Knowledge Transfer

GLASSWALL

- Simple
  - Cause-and-Effect – known in advance
  - Activity = sense, categorize and then respond
- Complicated
  - Cause-and-Effect – expert analysis allows it to be known in advance
  - Activity = sense, analyze and then respond
- **Complex**
  - **Cause-and-Effect – only understand it in hindsight**
  - **Activity = probe, sense and then respond**
- Chaotic
  - Cause-and-Effect – not discernible
  - Activity = act, sense and then respond

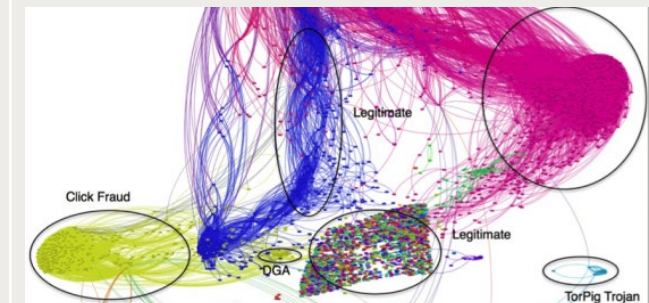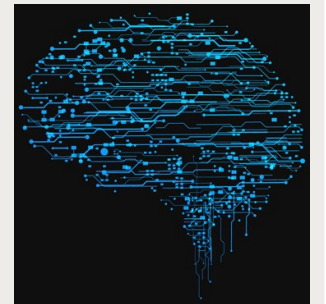**Sense and recognize emergent patterns from the underlying complex adaptive system**

It doesn't make sense.
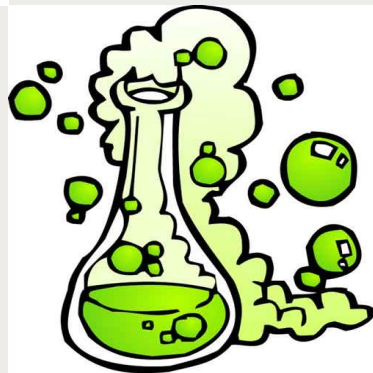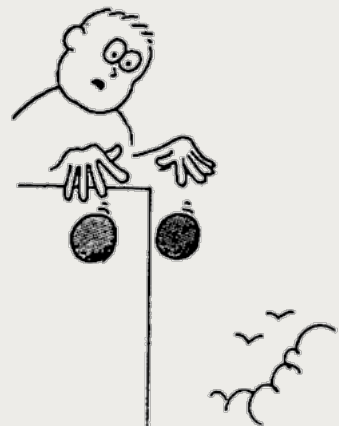
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Simple	Complicated	Complex

- **Attribute Evolution**
  - Proliferation of publicly-available constructio
  - Series of defensive capabilities

- **Mitigation Evolution**
  - Signature
  - Heuristic
  - Behavior

- **Tools include antivirus, antispam, sandboxing, artificial intelligence, machine learning, etc.**

Evolution to Emergence-Focused Solutions
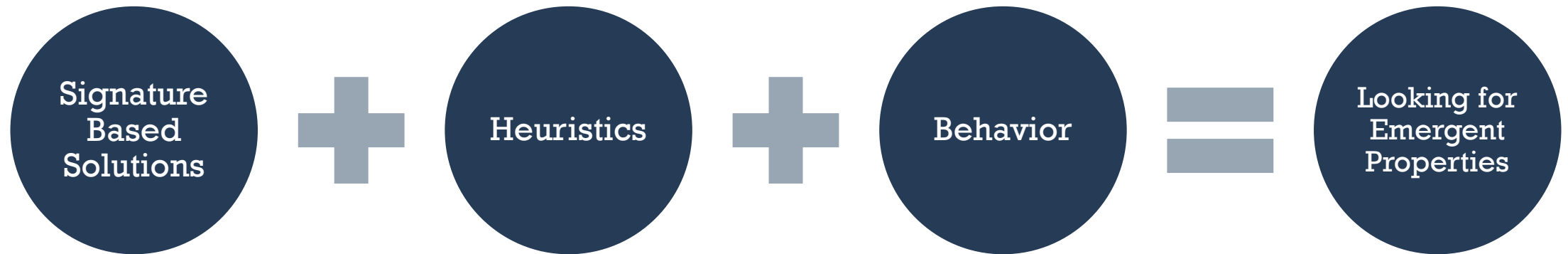
Signature Based Solutions **+** Heuristics **+** Behavior **=** Looking for Emergent Properties

Sedentary

Heart Disease

Focusing at a Lower Level of Abstraction Gets to Tools & TTPs

GLASSWALL
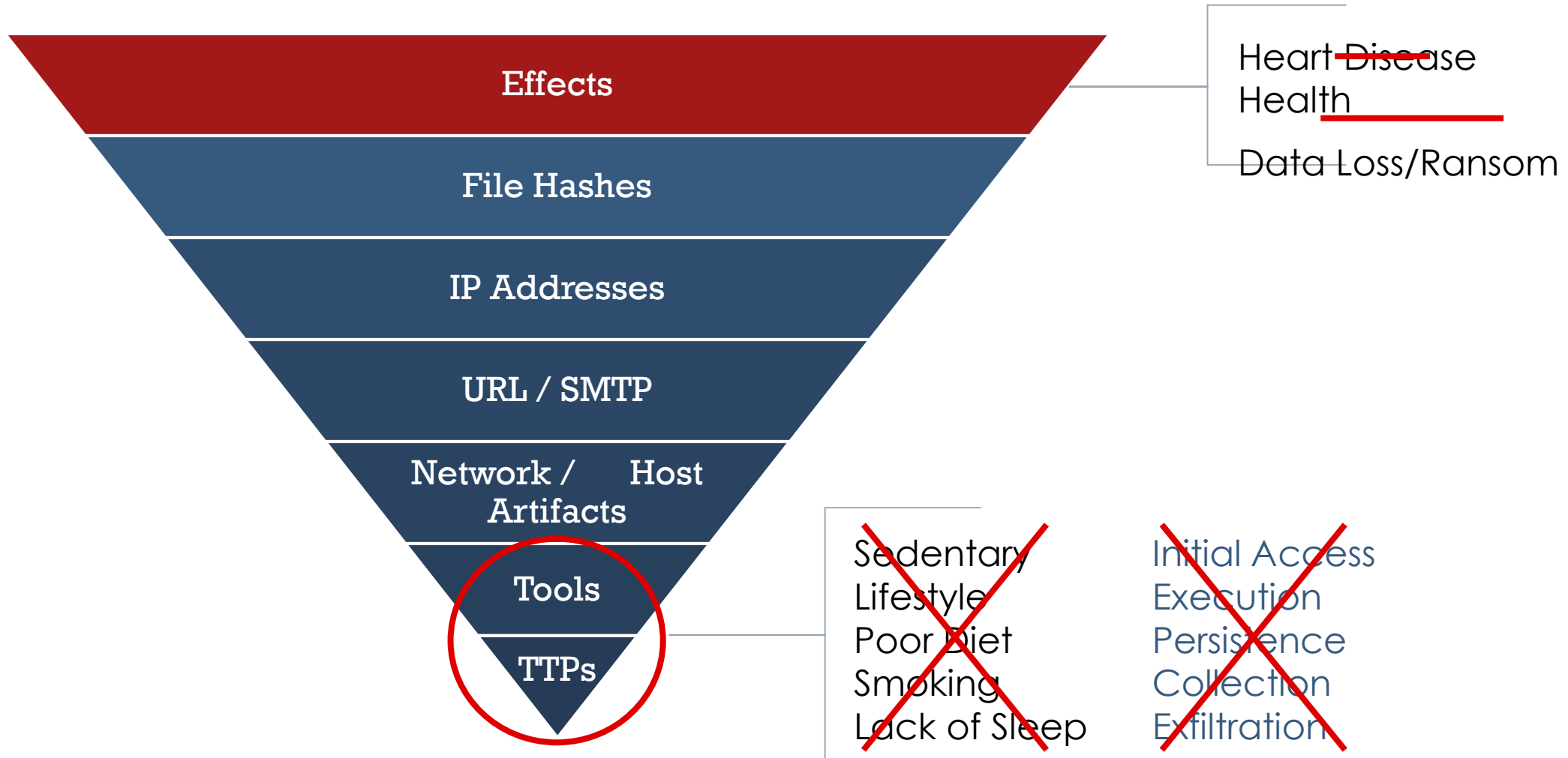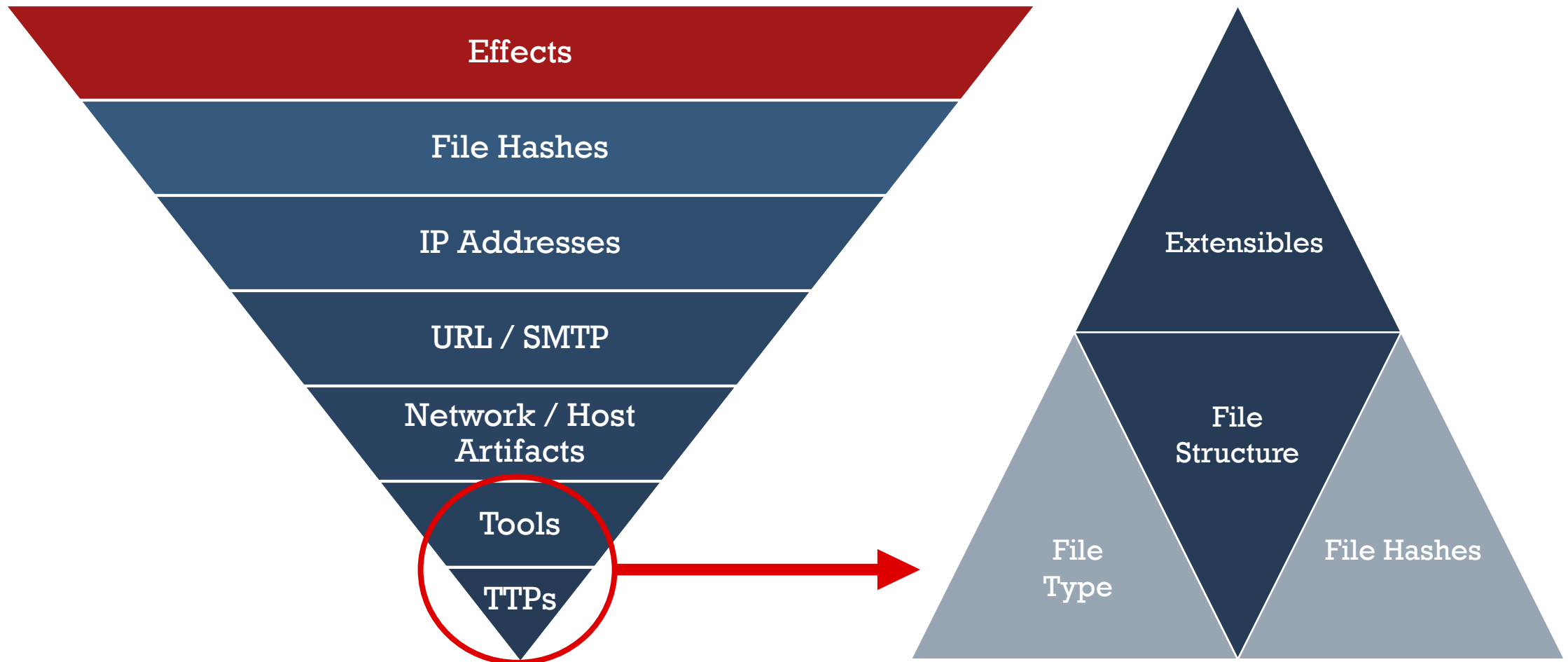
Effects
File Hashes
IP Addresses
URL / SMTP
Network / Host Artifacts
Tools
TTPs

Heart ~~Disease~~ Health
Data Loss/Ransom

~~Sedentary Lifestyle~~
~~Poor Diet~~
~~Smoking~~
~~Lack of Sleep~~

~~Initial Access~~
~~Execution~~
~~Persistence~~
~~Collection~~
~~Exfiltration~~
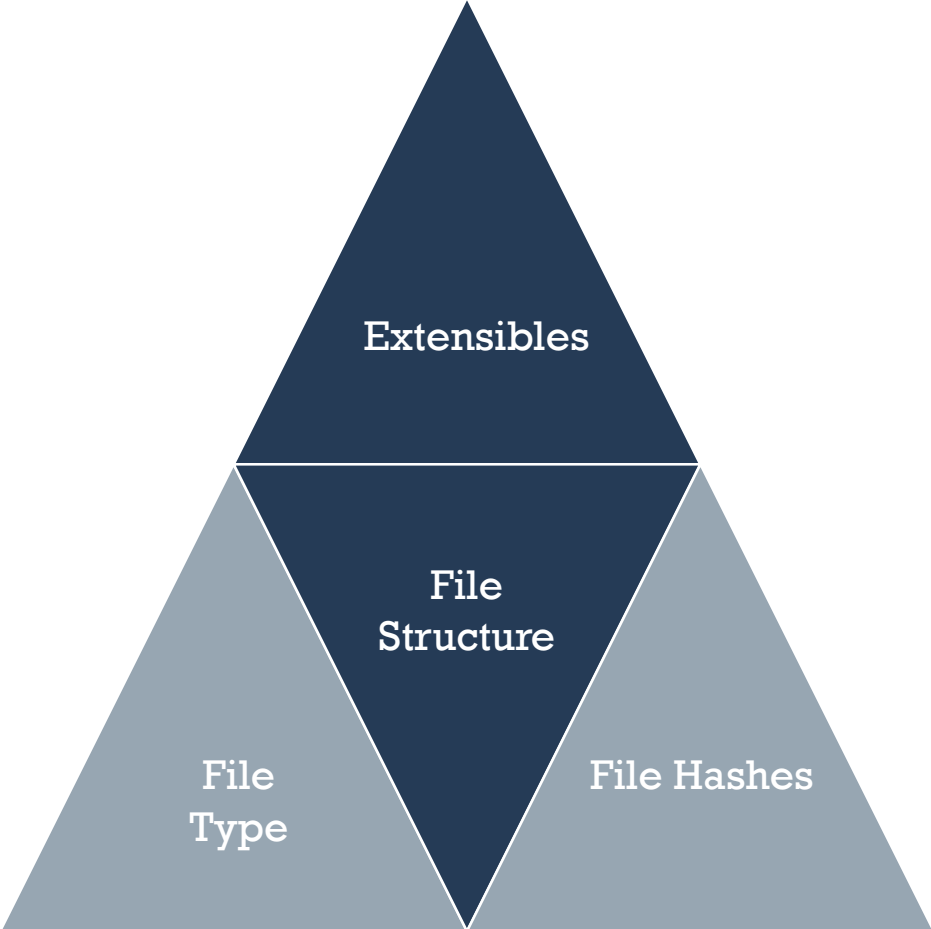
- Disarming advanced malware for over 10 years
- Unique patented FileTrust™ technology
- Proven in the most demanding environments
- Award winning innovation

Legal

Financial

Critical Infrastructure

US Government

UK Government

Government Providers

ASTORS AMERICAN SECURITY TODAY 2018 PLATINUM AWARD WINNER

2017 UK IT INDUSTRY AWARDS computing WINNER SECURITY INNOVATION OF THE YEAR

2016 UK IT INDUSTRY AWARDS computing FINALIST

commsbusiness awards 2016 FINALIST

IET AWARDS The Institution of Engineering and Technology | INNOVATION WINNER 2016

computing Security Excellence Awards 2016

SC MAGAZINE AWARDS 2016 Europe WINNER

"Since we installed Glasswall over two years ago, we have had zero malware via email and users don't even know the solution is there."

- Stan Black, Chief Security & Information Officer, Citrix

"After installing Glasswall, no email-borne malware has been discovered."

- CISO, UK Magic Circle Law Firm

Gold
Microsoft Partner

Microsoft

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