



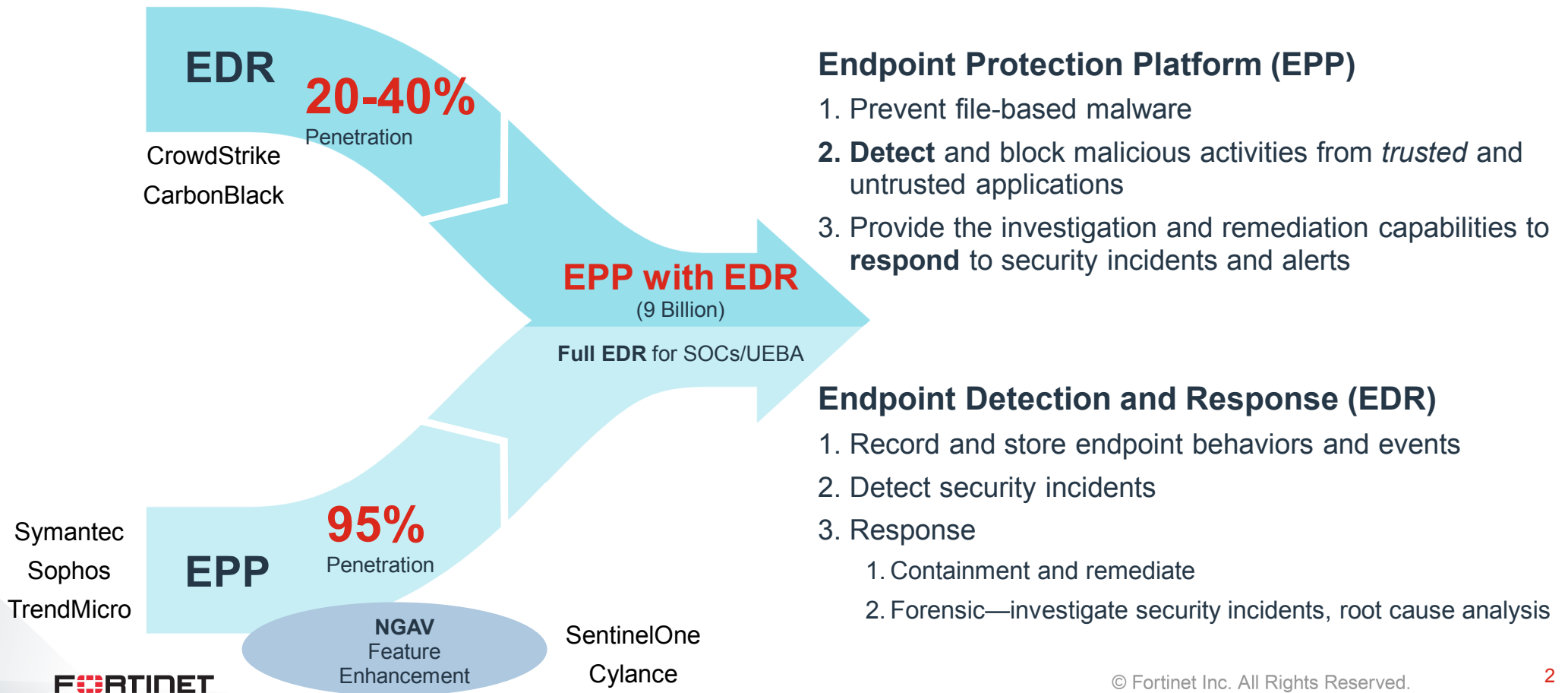
FortiEDR Real Time Endpoint Protection

Tsailing Merrem

Anthony Giandomenico

Evolution of EPP

Advanced Endpoint Protection Platform (EPP) with Automated Detection and Response Capabilities



Pain Points

Compromised endpoints

- There is no 100% prevention
- Threat landscape - Ransomware, data theft, business disruption
- Need better detection. Reduce time to contain, time to remediate

Incident response – cost, pain and business disruption

- **We all want to stop the breach, but at what cost?**
- Alert fatigue, false positive
- Blunt tools and Manual response
- Business disruption, machine off-line, lost of productivity, user complaint

Not enough security expertise in house, other resource constrains

- Need to accelerate SOC maturity,
- Need to scale SOC capacity
- Don't have time to patch, can't upgrade all machines

Complex security eco system, too many point solutions

- Need Integrated solution

To Automate or Not to Automate?

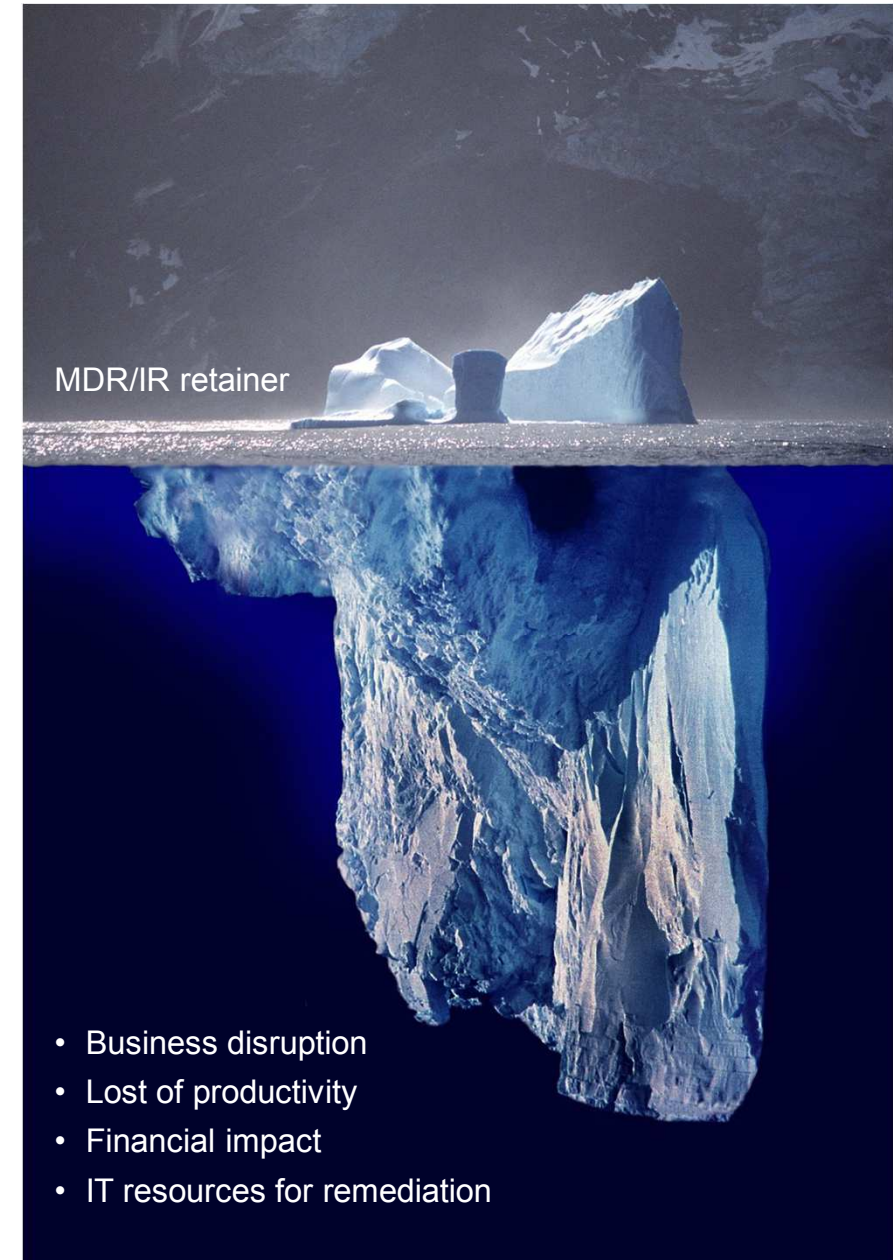
Manual Process – by First Generate EDR

- Time to respond?
- Manual remediation
- Re-image?
- Alert fatigue

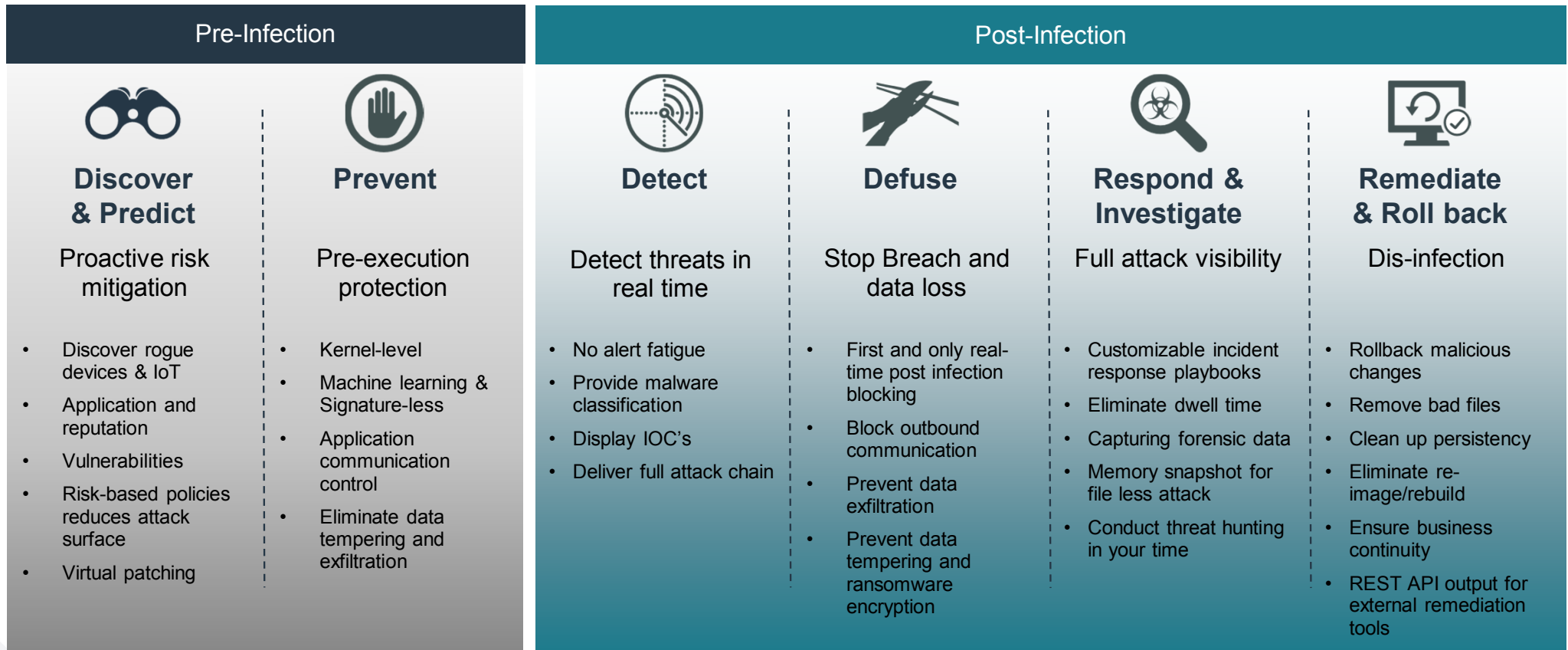
vs.

Automated but Blunt

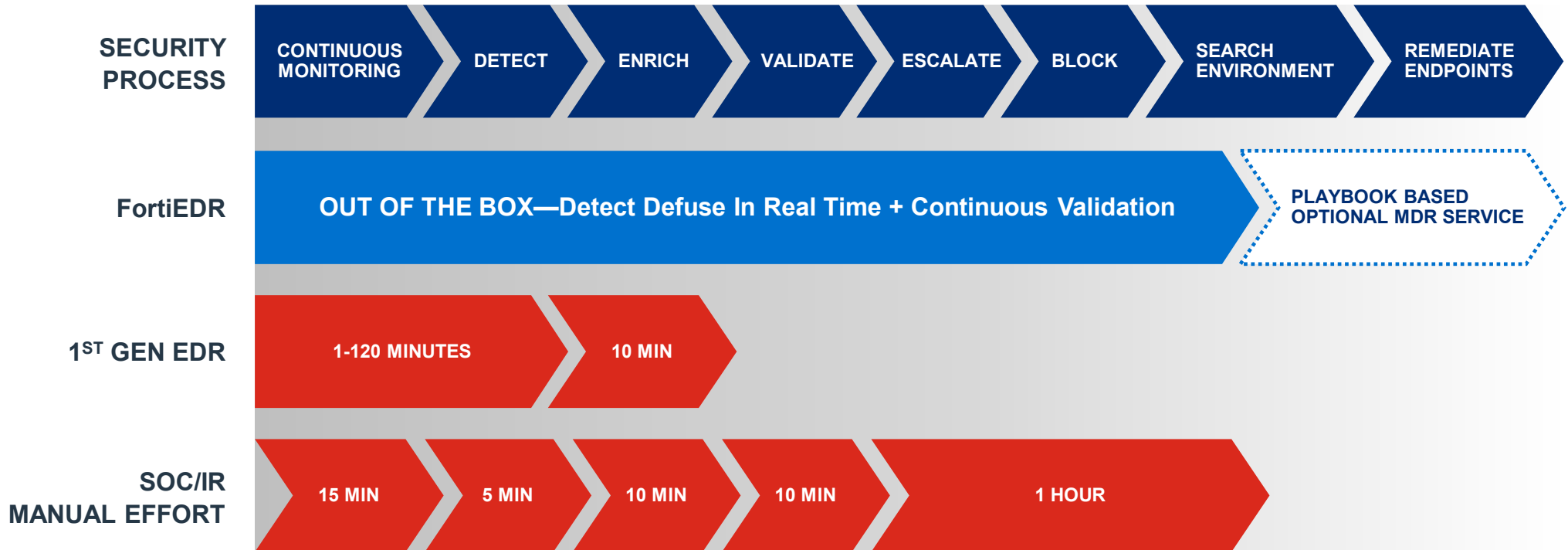
- False positive?
- Blunt tools – endpoint quarantine
- Business disruption
- Machine offline?



FortiEDR – Real-time Endpoint Protection at Pre- and Post-Infection



FortiEDR Automated vs. Manual EDR

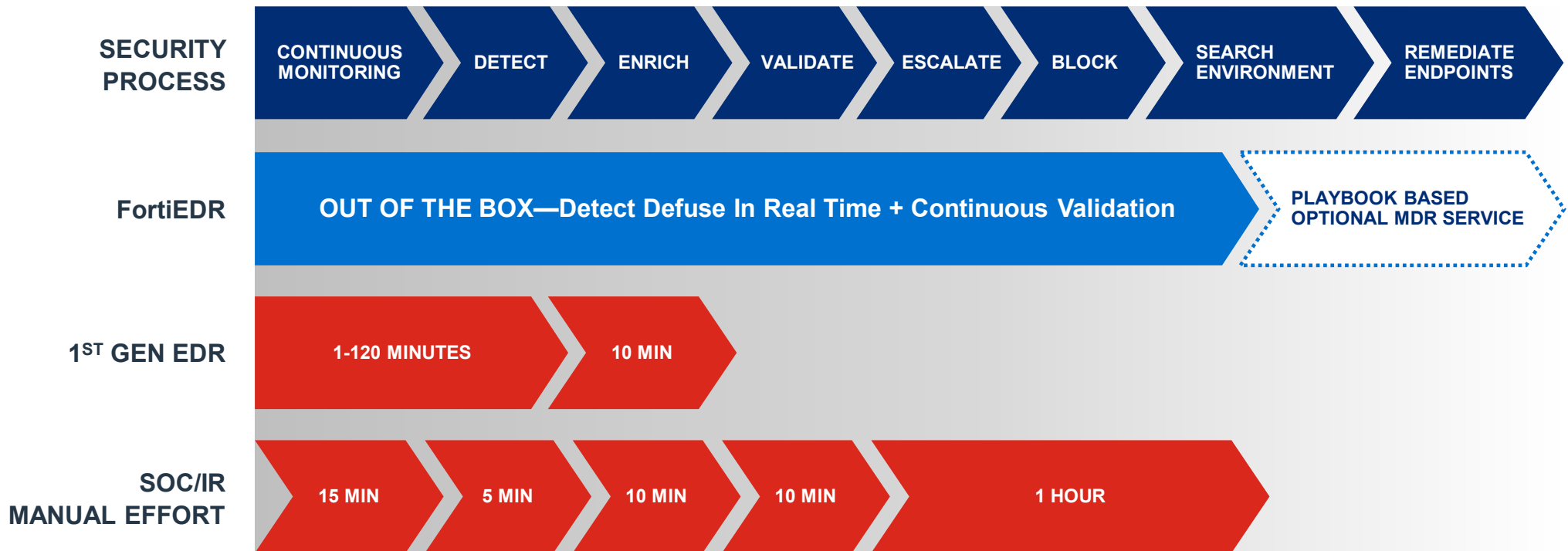


Advanced Endpoint Protection, Detection and Response

Table stakes vs. extra mile

| Prevent | Detect | Respond | Predict/attack surface reduction |
|--|--|---|--|
| <p>File based malware Signatureless Pre-executive protection Detect and block exploits</p> | <p>Behavioral based detection for File-less attacks/ living off the land attacks</p> | <p>Respond to security incidents Alert Triage Containment Remediate Investigate Optional MDR services</p> | <p>Discovery Visibility Vulnerabilities</p> |
| <ul style="list-style-type: none"> • Pre- and <i>post-infection</i> protection | <ul style="list-style-type: none"> • <i>Defuse</i> potential threats automatically • Stop ransomware damage • Continuous validation • No business interruption | <ul style="list-style-type: none"> • Automated Response & Remediation • Playbook Orchestrated • Memory snapshot for forensic investigation | <p><i>Attack Surface reduction</i> Discover Applications Rogue devices and IoT Virtual patching</p> |

Automated vs. Manual



Reduce Noise, Boost SOC maturity

The screenshot displays the ENSILO security management interface. The top navigation bar includes the ENSILO logo, a user dropdown menu (ensilofordev), and several menu items: DASHBOARD, EVENT VIEWER (with a notification badge of 18564), FORENSICS, COMMUNICATION CONTROL (with a notification badge of 1006), SECURITY SETTINGS, INVENTORY, and ADMINISTRATION (with a notification badge of 12156). A 'Protection' toggle is turned on, and the user 'roy' is logged in.

The main content area is divided into two sections: 'EVENTS' and 'CLASSIFICATION DETAILS'.

EVENTS

Tools: Archive, Mark As, Export, Handle Event, Delete, Forensics, Exception Manager.

| Unhandled | ID | DEVICE | PROCESS | CLASSIFICATION | DESTINATIONS | RECEIVED | LAST UPDATED |
|-------------------------------------|---------------------------|-------------|---|----------------|---------------------|-----------------------|-----------------------|
| <input type="checkbox"/> | ensw-lap117 (1 event) | | | Suspicious | | 31-Dec-2018, 02:10:21 | |
| <input type="checkbox"/> | 1167471 | ensw-lap117 | MSIE5B5.tmp | Safe | Modify OS Settin... | 31-Dec-2018, 02:10:21 | 31-Dec-2018, 02:10:48 |
| | Certificate: Unsigned | | Process path: \Device\HarddiskVolume3\Windows\Installer\MSIE5B5.tmp | | Raw data items: 2 | | |
| <input checked="" type="checkbox"/> | DESKTOP-BS09MQF (1 event) | | | Suspicious | | 18-Nov-2018, 15:37:07 | |
| <input type="checkbox"/> | ensw-lap151 (1 event) | | | Inconclusive | | 28-Oct-2018, 03:32:11 | |
| <input type="checkbox"/> | ensw-lap146 (2 events) | | | Suspicious | | 25-Oct-2018, 10:47:03 | |
| <input checked="" type="checkbox"/> | ENSW-LAP108 (3 events) | | | Malicious | | 10-Oct-2018, 01:57:50 | |
| <input checked="" type="checkbox"/> | ensw-lap-152 (3 events) | | | Malicious | | 04-Oct-2018, 08:02:28 | |

CLASSIFICATION DETAILS

Safe ENSILO
By ReversingLabs

Threat name: Unknown
Threat family: Unknown
Threat type: Unknown

History

- Safe, by enSiloCloudServices, on 08-Nov-2018, 06:21:11
- Inconclusive, by enSilo, on 08-Nov-2018, 06:21:07

Guided Interface

| | | | | | | | | | | | |
|---|--|---------|--|-----------------|-----------|--|-----------------------|---------------------|-----------------------|-----------------------|--|
| <input type="checkbox"/> | e5262db186c97bbe533f0a674b08ecdfa3798ea... (3 events) | | | | Malicious | | 29-Jan-2020, 23:18:24 | | | | |
| <input type="checkbox"/> | NO-AV.exe (7 events) | | | | Malicious | | 13-Dec-2019, 14:56:24 | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | 2142851 | | DESKTOP-P0K01MU | NO-AV.exe | | Malicious | File Delete Atte... | 13-Dec-2019, 14:56:24 | 13-Dec-2019, 14:56:24 | |
| <input type="checkbox"/> User: DESKTOP-P0K01MU\User Certificate: Unsigned Process path: \Device\HarddiskVolume2\Users\User\Desktop\NO-AV.exe Raw data items: 1 | | | | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | 2142773 | | DESKTOP-P0K01MU | NO-AV.exe | | Malicious | File Write Access | 13-Dec-2019, 14:55:50 | 13-Dec-2019, 14:56:23 | |
| <input type="checkbox"/> | <input type="checkbox"/> | 2142755 | | DESKTOP-P0K01MU | NO-AV.exe | | Malicious | Modify OS Settin... | 13-Dec-2019, 14:55:50 | 13-Dec-2019, 14:55:50 | |
| <input type="checkbox"/> | <input type="checkbox"/> | 2142734 | | DESKTOP-P0K01MU | NO-AV.exe | | Malicious | File Creation | 13-Dec-2019, 14:55:50 | 13-Dec-2019, 14:55:50 | |
| <input type="checkbox"/> | <input type="checkbox"/> | 2142714 | | DESKTOP-P0K01MU | NO-AV.exe | | Malicious | File | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | 2142696 | | DESKTOP-P0K01MU | NO-AV.exe | | Malicious | 12 | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | 2142682 | | DESKTOP-P0K01MU | NO-AV.exe | | Malicious | File | | | |
| <input type="checkbox"/> | Pre-AV.exe (1 event) | | | | | | Malicious | | | | |
| <input type="checkbox"/> | 7682b842ed75b69e23c5deecf05a45ee79c723d98... (2 events) | | | | | | Malicious | | | | |
| <input type="checkbox"/> | cc13afd5ffdd769c66118f4f5eec7f80655c14cfdc6e8... (1 event) | | | | | | Malicious | | | | |

Malicious **ENSILO**
By *ReversingLabs*

Threat name: Win32.Trojan.Gandcrab
Threat family: Gandcrab
Threat type: Trojan

History

Malicious, by enSilo, on 13-Dec-2019, 14:56:26

Process Hollowing - Process Code Was Replaced

Process Hollowing is a technique used by malware to masquerade as a legitimate process by stripping the original process from its code and replacing it with malicious payload. Attackers find this technique very efficient as the process will appear to be valid, and even signed, when examined.

MITRE Techniques:
[T1186 - Process Doppelganging](#)
[T1093 - Process Hollowing](#)

Retrieve the executable file of the parent process from the targeted device according to its Path by using the Forensic Tab. In addition, retrieve a full executable file memory of the process for deeper analysis

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Customer Reviews

"EnSilo Is The First Product In My 15 Year Career That Makes Me Think We Have A Chance."

CISO in a financial industry

"EnSilo is efficient in all aspects. The agent has almost no overhead, the management interface provides detail without needing to dig, and most importantly, blocking occurs with minimal user impact."

"Successfully Regain Advantage Over Malicious Actors"

Sr. Security Analyst from manufacturing

"The zero-day capabilities are outstanding. Changes the table on suspicious activity from "Opt out" to "Opt In" -- suspicious activity is stopped and only allowed after activity analysis."





FortiResponder Services

Managed Detection and Response
Incident Response Services

FortiResponder Team



Our Team is comprised of individuals with strong knowledge in:

- Malware Hunting/Analysis
Reverse Engineering
- Multiple Scripting Languages
- Forensics
- Incident Response Processes
- Threat Actors TTPs
- Chinese and Russian

Customers



32 Customers/600,000+ Devices

Team Focus

Preparation

Planning

Process

Technology

People

Testing
& Training

Deploy
?

Detection &
Analysis

Response

FortiResponder Services

Recover

Received
?

No

Reporting and Lessons Learned...

Recovery?

Yes

Contained
?

No

FortiResponder Managed Detection and Response

24x7 Monitoring and Response



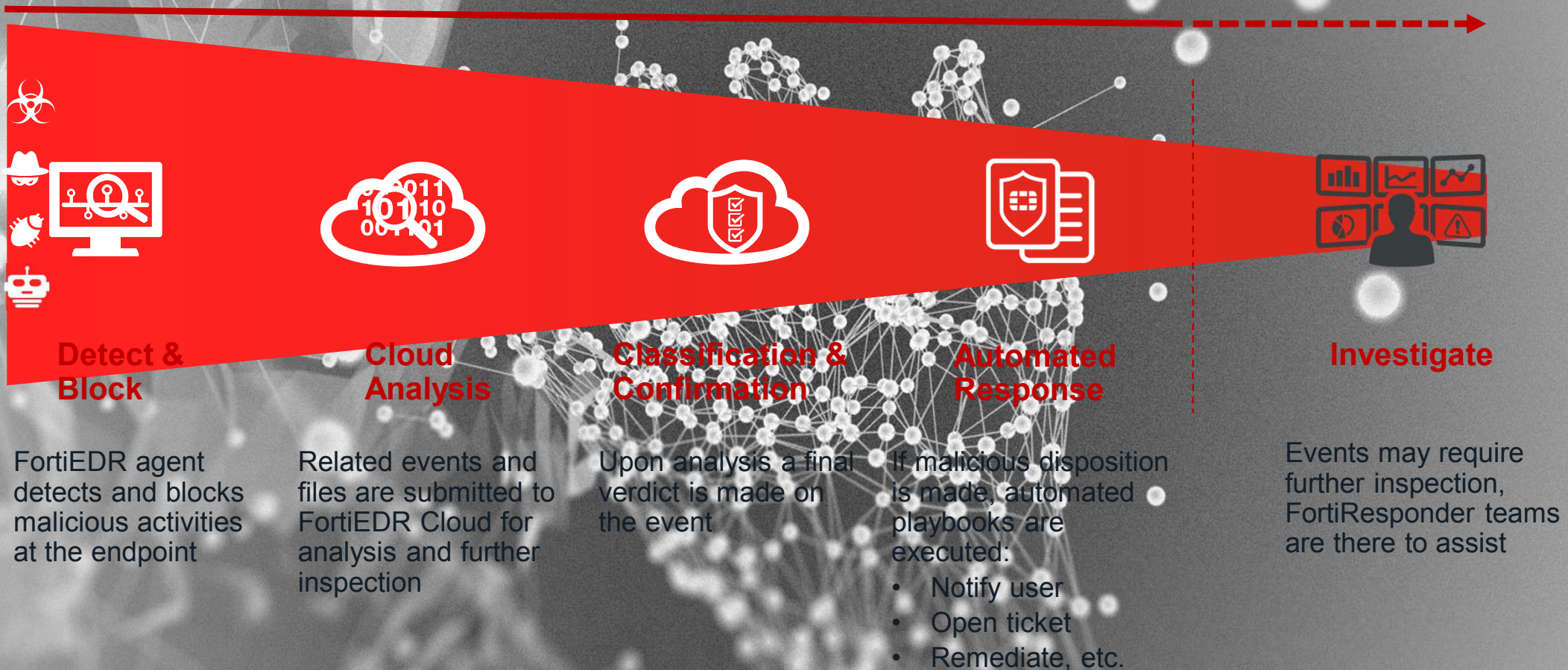
**Continuous
Monitoring**

Available as an add-on subscription or as part of:

- *FortiEDR premium bundle for servers*
- *FortiEDR ultimate bundle for endpoints*

FortiResponder MDR provides organizations with 24x7 continuous threat monitoring, alert triage, and incident handling by experienced analysts and the FortiEDR platform

Incident Response Workflow



Managed Detection and Response Task List

- Review & analyze FortiEDR alerts on a 24 x 7 basis with a 24-hour response time SLA
- Validate and (re)classify threats (Malware Analysis)
- Investigate and report on previously unknown malware and PUPs (Malware Analysis)
- Investigate and report on potential vulnerable applications
- Set micro exceptions for clean applications
- Make recommendations for review and remediation
- Quarterly Environment Reviews

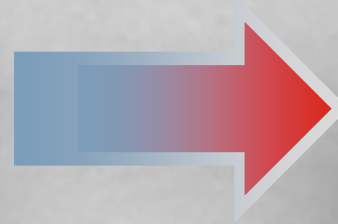
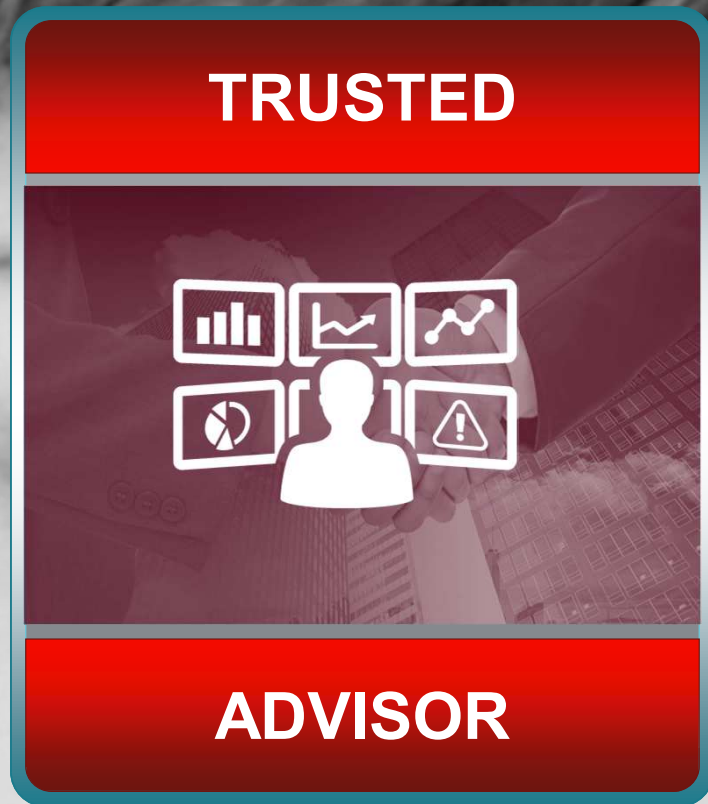


Investigate

Events may require further inspection, FortiResponder teams are there to assist

Trusted Advisor (TA)

Planting a team of TAs 24/7 365 to help drive “PULL THROUGH REVENUE.”



FortiResponder Incident Response

Additional IR Hour SKU



Per Incident

Forensics and Incident Response

SOW-based remote forensic analysis
and incident response

*Ideal for customers running FortiEDR who do not
already have continuous monitoring
subscriptions*

Assists clients with the
analysis, response,
containment and remediation
of security incidents to
decrease the time to resolution
limiting the overall impact to an
organization.

Benefits

FortiResponder Service



Accelerate
SOC Maturity



24/7 - Scale the
Existing SOC



Reduce Analyst
Burnout

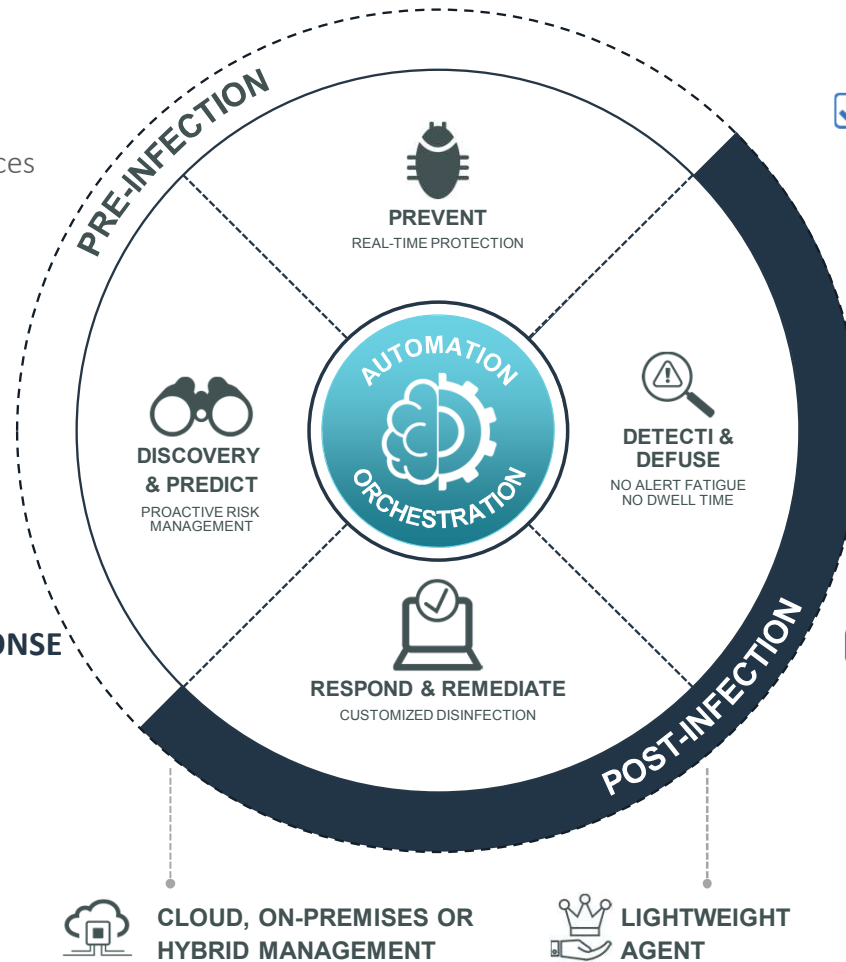
Real-time Automated Security with Orchestrated Incident Response

✓ REAL-TIME PROACTIVE RISK MITIGATION

- Discover and track applications and IoT devices
- CVE and application rating data enrichment
- Risk based proactive policies enabling attack surface reduction

✓ REAL-TIME ORCHESTRATED INCIDENT RESPONSE

- Automated event classification
- Automated remediation (notify users, isolate device, remediate device, open ticket)
- Automated investigation with minimal interruption for user



✓ REAL-TIME PREVENTION

- Machine learning, Kernel-based Next Generation AV
- Feeds from a continuously updated cloud database
- Real-time automated prevention of ransomware encryption

✓ REAL-TIME DETECTION AND DEFUSION

- Automated post-infection detection and blocking
- OS-centric technology
- Analysis of entire log history
- Surgical containment

FORTINET®

FortiEDR vs. Competitors

FortiEDR delivers comprehensive, fully automated protection, detection and response

| | Fortinet FortiEDR | CrowdStrike | CarbonBlack | Sentinel One | Symantec |
|---|-------------------|--|---|---|---|
| AUTOMATED PROTECTION | | | | | |
| Vulnerability scanning and virtual patching | ● | ◐ Requires add-on, no remediation options | ◐ Requires LiveResponse | ◐ no remediation options | ◐ Requires add-on and Windows 10 only |
| Real-Time, Pre-Execution Blocking (AV) | ● | ● | ● | ● | ● |
| Real-Time, Post-infection protection | ● | No, detect only and no real-time blocking | No, detect only and no real-time blocking | No, detect only and no real-time blocking | No, detect only and no real-time blocking |
| AUTOMATED EVENT MANAGEMENT | | | | | |
| Orchestrated & Automated Response | ● | ○ Manual | ○ Manual | ◐ Limited, not orchestrated | ○ Manual |
| Remediation in real time | ● | ○ | ○ | ○ | ○ |
| Eliminate Dwell Time and Alert Fatigue | ● | ○ | ○ | ○ | ○ |
| Available on-premises or in the Cloud | ● | Cloud-only | ◐ | ◐ | ◐ |

Electronic Manufacturer

Challenges

- Threat bypass the existing AV solution
- Under continuously state of attacks - 3% infection rate
- Ransomware attacks cause disruption of production
- Vulnerable systems with legacy manufacturing applications

Requirements

- Effective endpoint protection, detect and block ransomware
- Support legacy platforms
- Business continuity, system availability

Business outcome

- Immediately identified pre-existing infection
- Insure business continuity.
 - Blocked malicious activity from spreading or corrupting the manufacturing line
 - Allowed the infected devices to continue manufacturing without any service interruptions.
- Protects Legacy systems/Slimline laptops on the manufacturing floor



OT System environment
Windows legacy systems
Balance high availability and
Security

Deployment size – 7,000
endpoints

Financial Services

Challenges

- The financial services industry is a constant target
- Security is perimeter-focused, and prevention only with Endpoint security focus on static file analysis at pre-execution prevention
- Fileless malware undetected for extended periods of time.
- Ransomware interrupting business continuity.

Requirements

- Upgrade security posture. Move from perimeter-focused and prevention to include detection and response capabilities.
- Ability to detect fileless malware and ransomware attacks
- Identify pre-existing infection, Isolates malware and prevent data exfiltration from stealing data.

Business outcome

- Deliver comprehensive defense that includes a first line (pre-execution prevention) and last line of defense. Protects endpoints and data even during active infection states
- Behavioral-based detection identify suspicious processes and prevents malicious activity from calling home, exfiltration of data and stem lateral movement.
- Complete visibility of attacks. enSilo provides a precise view of where the actions are initiated from, the path to the process root, and the attempted destination.
- Provide remediation and automatic roll back

Financial Services

Deployment size – 9,000 end points

