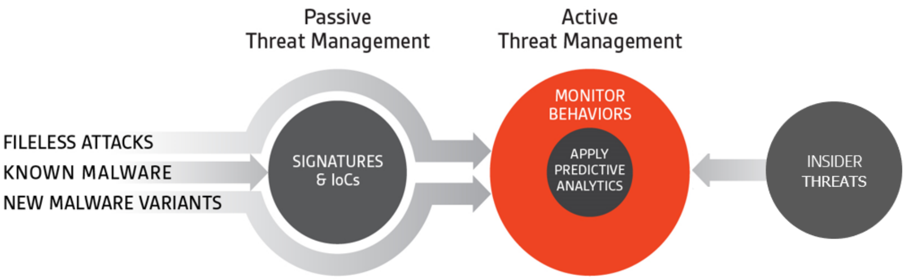
CounterTack®

Security Brief

Evolution of Threat Detection Technologies

Digital DNA is an in-memory threat detection technology introduced by CounterTack in 2009 and patented in 2014. It is the only in-memory detection technology available for endpoint security solutions. Digital DNA is in high demand and licensed by leading security vendors including Symantec, Rapid7 and Digital Guardian.



The New Normal

Endpoint security solutions like AV and Next Gen AV are important components of any security strategy. However, they are Passive Threat Management solutions. They scan files on disk against Signatures and Machine Learning models to detect and prevent malware attacks. Their vendors are engaged in a never ending game of cat and mouse with cybercriminals who continuously devise new malware variants to penetrate these solutions. AV and Next Gen AV do not capture fileless attacks.

In the new normal, Security Teams, both large and small, need to incorporate Active Threat Management into their security strategies. They need to look to new detection and response solution based on dynamic behavior monitoring and predictive analytics..

Digital DNA—The Cornerstone of Predictive EDR

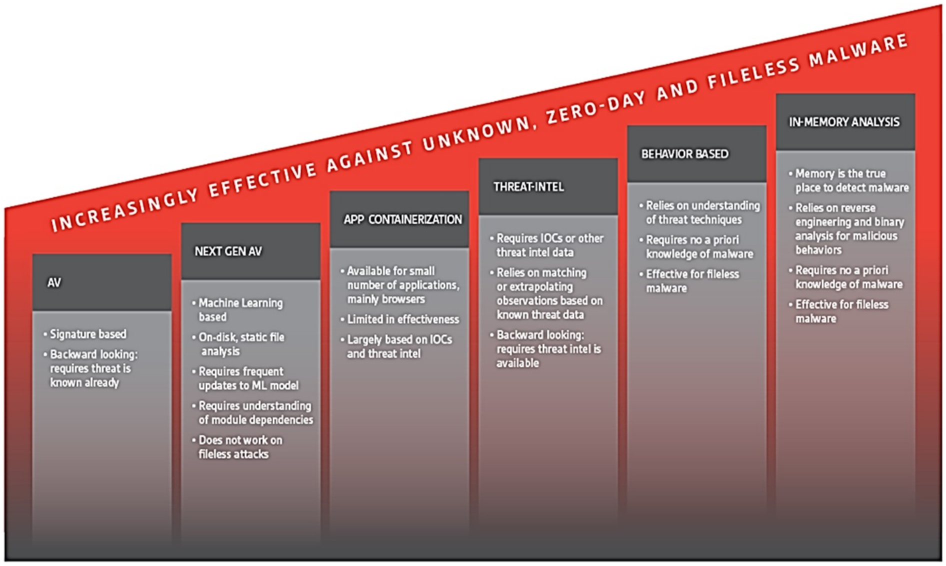
Digital DNA is the cornerstone of CounterTack's Predictive EDR solution. It is the most reliable technology for detecting new malware and fileless attacks. It enables CounterTack Predictive EDR to detect the most threats, without relying on signatures or IoCs. Digital DNA provides the insight behind accurate and actionable predictive analytics.

AV and Next Gen AV are passive threat management solutions

They are ineffective at detecting new malware variants and fileless attacks.

Security Teams need to incorporate active threat management into their security strategies

The Evolution of Threat Detection Technologies


INCREASINGLY EFFECTIVE AGAINST UNKNOWN, ZERO-DAY AND FILELESS MALWARE
AV
• Signature based
• Backward looking: requires threat is known already
NEXT GEN AV
• Machine Learning based
• On-disk, static file analysis
• Requires frequent updates to ML model
• Requires understanding of module dependencies
• Does not work on fileless attacks
APP CONTAINERIZATION
• Available for small number of applications, mainly browsers
• Limited in effectiveness
• Largely based on IOCs and threat intel
THREAT-INTEL
• Requires IOCs or other threat intel data
• Relies on matching or extrapolating observations based on known threat data
• Backward looking: requires threat intel is available
BEHAVIOR BASED
• Relies on understanding of threat techniques
• Requires no a priori knowledge of malware
• Effective for fileless malware
IN-MEMORY ANALYSIS
• Memory is the true place to detect malware
• Relies on reverse engineering and binary analysis for malicious behaviors
• Requires no a priori knowledge of malware
• Effective for fileless malware

Antivirus. Antivirus scans for malicious files using Signatures. However, hackers understand Antivirus techniques and continuously create new variants to bypass them. Antivirus vendors struggle to keep up. Antivirus is still relevant because it catches around 60% of today's malware. It is ineffective at catching 49% of todays threats – fileless attacks.

Next Gen Antivirus. Next Gen Antivirus extends threat coverage with machine learning. Vendors continuously analyze malware samples and build models that scan and parse files, and then match features to detect new malware. Next Gen AV needs to keep machine learning models up-to-date. It doesn't catch fileless attacks.

Application Containerization. Application containerization is a limited solution for browsers or applications like MS Office. It monitors applications in a sandbox. If it detects a malicious event it will remediate it. It works off of signatures and white listing. Application containerization effectivity is limited to what's going on in the sandbox.

Threat Intelligence. Threat intelligence is the staple of legacy EDR solutions that rely primarily on Incidents of Compromise (IoCs). IoCs are Signature-like. They look at OS events, filenames and Command and Control hosts and more extrapolate a pattern indicating malicious activity. IoCs need to be continuously updated to be effective.

Signatures, Machine Learning and IoCs are static technologies. The endpoint solutions that rely on them are engaged in a never ending cat and mouse game to keep pace with today's threats. They are ineffective at detecting new malware and fileless threats. They are post-breach solutions. They can't discover threats until they carry out their behaviors.

What You Need At a Glance:

- Antivirus scan for malicious files using Signatures
- Next Gen Antivirus adds machine learning to scan for malicious files.
- Legacy EDR solutions rely on threat intelligence (IoCs)
- Signatures, machine learning and IoCs are static technologies
- They are ineffective at detecting new malware variants and fileless attacks

Behavior-based. Many EDR solutions claim to behavior-based. True behavior-based solutions look for techniques that hackers use to carry out attacks. They look at processes, network connections, file and registry changes, and the pattern of those activities. Behavior-based solutions are effective because they don't look at files or rely on threat intelligence.

In-Memory Threat Detection. Advanced EDR solutions are evolving to predictive. Malware must run in memory to carry out and attack. In-memory threat detection looks at processes running in-memory and reverse engineers them to identify malicious behaviors and what the attack is trying to do. It is the most reliable technology for detecting new malware, fileless and insider attacks.

Detect | Predict | Prevent

CounterTack Predictive EDR is the only endpoint solution featuring in-memory threat detection – Digital DNA. With Digital DNA it **detects** suspicious behavior that other threat detection technologies can't. It is the only solution that **predicts** what these behaviors can do. It empowers Security Teams to adopt more agile and proactive threat management strategies to **prevent** attacks.

What You Need At a Glance:

- Behavior-based detection looks at processes, n/w connections, file and registry changes, and more
- In-Memory Threat Detection looks at processes running in memory
- The most reliable technology for detecting new malware, fileless and insider attacks
- CounterTack Predictive EDR is the only endpoint solution featuring in-memory threat detection
- It detects the most threats, predicts what they can do, and enables prevention of advanced attacks.