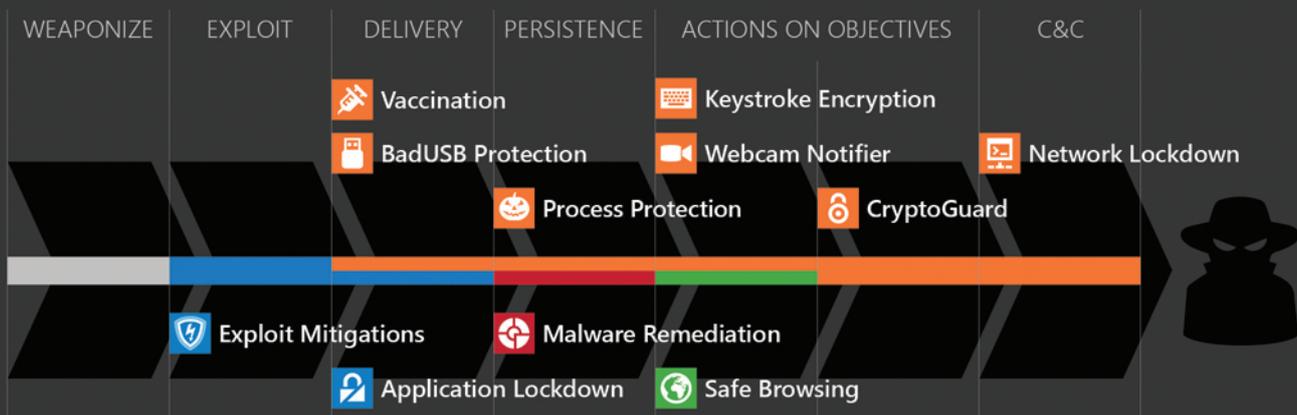


## Bullet-proof vest for your applications and data, stops exploits and malware from cyber-insurgents and (nation-state) attackers

### Disrupting the Cyber Kill Chain®

Alternative endpoint security solutions only focus on blocking malware delivery from web pages and email attachments, but HitmanPro.Alert also recognizes the capabilities of more devious attackers. It is purpose-built to disrupt attacks in real-time across the entire threat life-cycle or Cyber Kill Chain®. HitmanPro.Alert not only offers exemplary exploit technique prevention and advanced malware remediation, its many Risk Reduction features also limit motivated and skilled attackers' abilities when they do succeed in compromising the endpoint.



Disrupting individual chains of the Cyber Kill Chain® with multiple signature-less technologies

### CryptoGuard stops ransomware

The exclusive Risk Reduction features of HitmanPro.Alert include behavior-based protection against high-impact crypto-ransomware, a prolific threat that slips by web filters and antivirus defenses every day. This type of infection—also generalized as cryptolocker—goes after images, documents, and other personal and critical data on local disks and networked drives. Cryptolocker malware encrypts the computer files of its victims and demands ransom money for the decryption key. The signature-less operation of HitmanPro.Alert's **CryptoGuard** technology universally prevents spontaneous encryption of data by cryptolockers. Even when trusted files or processes are hijacked for unsolicited encryption—as observed in cryptolockers "VaultCrypt", "CryptoWall" and "CTB-Locker"—it is stopped and reverted by HitmanPro.Alert, without interaction from users or IT support personnel.



Advanced user interface for power users and IT professionals

### Risk reduction

Other Risk Reduction features focus e.g. on anti-espionage, such as kernel-level **Keystroke Encryption**, **Webcam Notifier** and **BadUSB Protection**. Moreover, **Vaccination** and **Process Protection** will deter or make malware self-terminate, where **Safe Browsing** and **Application Lockdown** reveal malware that hide inside or attempt to piggyback on trusted programs to gain persistence or hoist in additional payloads.

Whether computers are targeted indiscriminately or singled out in a watering-hole or spear-phishing attack, HitmanPro.Alert offers high-performance protection without requiring virus signatures or prior knowledge of attacks. The install-and-forget software is just 5 MB in size and runs on 32-bit and 64-bit versions of Windows XP, Windows Vista, Windows 7, Windows 8.1 and Windows 10.



CryptoLocker, TorrentLocker and CTB-Locker ransomware extortion screens

## Exemplary exploit technique prevention

### Hardware-assisted Control-Flow Integrity

HitmanPro.Alert further raises the bar for exploit attacks. Its innovative hardware-assisted Control-Flow Integrity (CFI) technology is a new approach to prevent attackers from hijacking control-flow of internet-facing applications, like web browsers, Office and other productivity software. To defeat security technologies like DEP and ASLR, control-flow attacks are nowadays common practice. These attacks are invisible to antivirus and other cyber-defenses as there are no malicious files involved. Instead, the attack is constructed in real-time by combining short pieces of benign code, that are part of existing applications, like Internet Explorer and Adobe Flash Player—a so-called code-reuse or return-oriented programming (ROP) attack.

HitmanPro.Alert achieves this new capability by leveraging an unused hardware feature in mainstream Intel® processors to track code execution, assisting detection of advanced exploit attacks in real-time. Employing hardware-traced records has a significant security benefit over software stack-based approaches. Stack-based solutions like Microsoft EMET, rely on stack data, which is—especially in case of a ROP attack—under control of the attacker, who in turn can mislead the defender. In contrast, the hardware-traced data examined by HitmanPro.Alert is more reliable and tamper resistant—a definite edge over existing solutions.

Description	 MBAE 1.06	 EMET 5.2	 Traps 3.1.3	 Alert 3.0
<b>Enforce Data Execution Prevention (DEP)</b> Prevents exploit code running from data memory	Yes	Yes	Yes	Yes
<b>Mandatory Address Space Layout Randomization (ASLR)</b> Prevents predictable code locations	- BottomUp only	Yes OS Limited	Yes Including XP	Yes Including XP
<b>Null Page</b> Stops exploits that jump via page 0	-	Yes	Yes	Yes
<b>Dynamic Heap Spray</b> Stops attacks that spray suspicious sequences on the heap	- Pre-allocated	- Pre-allocated	Yes	Yes
<b>Stack-based Anti-ROP</b> Stops return-oriented programming attacks (ROP)	Yes	Yes 32-bit only	Yes	Yes
 <b>Hardware-assisted Control-Flow Integrity (CFI)</b> Stops advanced ROP attacks	-	-	-	Yes Intel® only
<b>Caller</b> Stops exploit code that facilitates attacks executing on the heap	Yes	Yes 32-bit only	-	Yes
<b>Import Address Table Filtering (IAF)</b> Stops attackers that lookup API addresses in the IAT	-	- EAF, EAF+	-	Yes
<b>Stack Pivot</b> Stops abuse of the stack pointer	Yes	Yes	Yes	Yes
<b>Stack Exec</b> Stops attacker's code on the stack	Yes	Yes	-	Yes
<b>Load Library</b> Blocks libraries that load reflectively or from UNC paths	Yes UNC path only	Yes UNC path only	Yes	Yes
<b>Shellcode</b> Stops code execution in the presense of exploit shellcode	-	-	-	Yes
<b>Application Lockdown</b> Stops logic-flaw attacks that bypass mitigations	Yes	-	Yes Manually	Yes
<b>Process Protection</b> Stops attacks that perform process hijacking or replacement	-	-	-	Yes
<b>Ransomware Protection</b> Stops attackers that encrypt documents for extortion	-	-	-	Yes
<b>Man-in-the-Browser Detection</b> Reveals intruders that manipulate critical browser functions	-	-	-	Yes
<b>Malware Scan and Remediation</b> Integrated Anti-Malware	-	-	-	Yes

The table above is a product feature comparison, not a review.

For an independent product review and comparison, see "MRG Effitas Real World Exploit Prevention Test March 2015", available from: [www.hitmanpro.com/reviews](http://www.hitmanpro.com/reviews)