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by Oi Lam Siu - Friday, 10 January 2025, 3:14 AM

In my initial post, I highlighted the security flaws discussed in the Open Crypto Audit Project's assessment of TrueCrypt, notably underscoring the serious risks associated with its outdated encryption methods and lack of ongoing support (Junestam & Guigo, 2014). Among the key vulnerabilities identified were the weak PBKDF2 iteration count, which leaves volume encryption susceptible to brute-force attacks, and improper handling of sensitive data in memory, creating risks of exposure (Junestam & Guigo, 2014). I also drew attention to kernel pointer disclosure, a lower-severity issue that nonetheless facilitates sinister exploitation by disclosing kernel memory locations. Consequently, I proposed VeraCrypt as a secure and actively maintained alternative (Rubens, 2014), given the evolution of modern cybersecurity threats.

One of the central ideas from the peer responses emphasised how an ontology can map out various data points and relationships beyond hierarchical structures. It was suggested that adding an extra layer—such as "memory" as a system-related attribute—would help capture areas where multiple vulnerabilities overlap. Moreover, including a "fixedBy" attribute could help identify solutions or patches, while also highlighting vulnerabilities that remain unaddressed.

The peers also deliberated on the longevity of TrueCrypt's reputation. They noted that, despite being discontinued a decade ago, no dramatic new flaws have surfaced—and discussions continue about whether BitLocker is entirely sufficient (Privacy Guides, 2024; Hernandez, 2024). While these points reflect ongoing debates, the consensus remains that TrueCrypt itself is too outdated to be trustworthy today.

Moreover, there was mention of practical methods to mitigate some of TrueCrypt's issues, such as ensuring the entire drive is encrypted to avoid paging file leaks (Tech ARP, n.d.). However, the overriding conclusion is that TrueCrypt no longer aligns with contemporary hardware and software developments, rendering it inadvisable for modern-day secure data storage.

All participants concur that relying on TrueCrypt is unwise due to the cryptographic weaknesses and the absence of ongoing maintenance. As they pointed out, the necessity for modern solutions is more pressing than ever, given the changing threat landscape and the continuing emergence of new exploits (Hernandez, 2024). Proposed strategies include migrating to actively developed alternatives like VeraCrypt, enhancing ontologies by adding attributes for memory and "fixedBy" relationships, and undertaking further real-world analyses of how vulnerabilities impact organisational security. These insights collectively affirm that, despite TrueCrypt's historical significance, contemporary encryption and maintenance standards demand a shift towards newer, professionally supported tools.

References

Hernandez, J. (2024) What is BitLocker: features, limitations, and how to use it. Prey Project. Available from: https://preyproject.com/blog/bitlocker

Junestam, A. & Guigo, N. (2014) Open Crypto Audit Project Truecrypt Security Assessment. Open Crypto Audit Project.

Privacy Guides (2024) Why people still believe Truecrypt is much better than Veracrypt?. Privacy Guides. Available from: https://discuss.privacyguides.net/t/why-people-still-believe-truecrypt-is-much-better-than-veracrypt/18295

Rubens, P. (2014) VeraCrypt a Worthy TrueCrypt Alternative. Available from: https://www.esecurityplanet.com/applications/vera- worthy-truecrypt-alternative/

Tech ARP (n.d.) How To Optimize Your SSD. Tech ARP Archive. Available from: https://archive.techarp.com/showarticlef74b.html?artno=817&pgno=5

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