

ISO 20243: Product Security Trust Through Certification

The threat landscape is constantly evolving across all sectors of the technology industry. To meet this challenge, customers require an enhanced level of trust in products that form the foundation of the datasphere. Seagate is dedicated to achieving an industry leading security posture that addresses contemporary risks while providing adaptive resilience against new threats. This approach is grounded in a holistic approach toward Product Security.

What is Product Security?

Product Security is the unification of security disciplines that have traditionally been considered separate. The end goal is to provide a product that has been designed, manufactured, and delivered with integrated security at every phase of the product life cycle. If a chain is only as strong as its weakest link, so too is a product only as secure as its weakest design feature or supply chain state.

Lifecycle Security is Risk Management

The digital storage industry is centered on trust. Storage is vital for most digital products and services in the digital economy, and customers want to trust that their storage solutions will not fail and that their data is protected. For Seagate, this means product integrity has an immense impact on the brand. In addition to improving and aligning our own internal development processes with security in mind, Seagate's extensive supply chain must also fall under a security umbrella that ensures no stone left unturned, no threat vector left unaddressed. Critical components and suppliers must be and are a vital link in this chain. For these unique challenges, a flagship standard for life cycle security is required—one that can guide not only product development but serve as a means to hold suppliers to a high standard of security best practices.

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Understanding OTTP-S / ISO20243

Product lifecycle security is a relatively new concept and as a result, the means of attestation are also new. The Open Trusted Technology Provider Standard (OTTP-S), also known as ISO20243, certifies a product line for secure technology development, secure engineering development, and secure supply chain. Every phase and aspect of the product's production and delivery are addressed, with the aim of minimizing vulnerability to malicious tampering and counterfeit components. ISO20243 requires established operating procedures to enforce these secure best practices, ensuring that the production processes are resilient and enduring. The comprehensive nature of this standard allows it to be deployed across both internal and external development and supply chain phases. While Seagate uses these requirements to organize, articulate, and improve our own best practices, these same requirements are expressed to Seagate's most critical suppliers. Seagate has undertaken an effort to document the posture of these critical suppliers relative to the requirements contained in ISO20243. Any gaps are addressed via mitigation plans so that risk relative to product supply chain is documented and minimized.

The Path to Certification and Security Maturity

In August of 2019 Seagate achieved ISO20243 certification for its HDD product lines via an independent third party assessor. The certification process requires that an applicant demonstrate not only secure practices at the time of assessment, but also that these practices are embedded in the organization via process and policy documentation. ISO20243 is very much concerned with the institutional inertia behind the security practices that accompany the creation of a given product line. Certification in this standard is a highly visible representation of product life cycle security maturity.

Other Benefits and Lessons Learned

Seagate has found that our standards-oriented approach to product life cycle risk has greatly streamlined the overall security risk management processes. Utilizing a certified assessor gives our supplier security requirements a defensible position and makes compliance attractive to suppliers and business partners concerned about their own security posture. Because of the clear assessment guidance, this approach can scale to Seagate's enormous supply chain demands and can be applied to virtually every supplier in the market.

- **Standards-oriented requirements simplify Cyber Supply Chain Risk Management (CSCRM.)** Managing risks across a large number of diverse suppliers necessitates a clear, scalable, and defensible foundation. Seagate achieves this by leveraging international standards.
- **Internal alignment streamlines incident management.** Supply chain incident response requires cross-organizational cooperation. Seagate eliminates friction between disparate functional teams by aligning incident management processes and procedures across all security and risk teams.
- **Continuous improvement.** CSCRM processes must rapidly incorporate information about new hardware and software vulnerabilities. Seagate leverages open source intelligence, cross-functional tabletop exercises, and post-incident reporting to improve their incident management practices.
- **Suppliers welcome CSCRM support.** Many suppliers now recognize the value of robust cybersecurity and supply chain risk management programs. Seagate finds that most suppliers are willing to work together to mature their internal practices.

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Conclusion

Seagate is a leader in the area of Product Security and the certification of Seagate HDD products is only the first step toward a product portfolio that reflects a growing commitment to protecting customers and their data. Though the threat environment is evolving and uncertain, a cohesive, standards-based approach to product life cycle and supply chain security represents the clearest and surest way to establish trust between the manufacturer and the consumer.

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