



Robert Thibadeau, PhD, Chief Technologist, Seagate Technology LLC



TITLE

TRUSTED STORAGE: Putting Security Where Data Lives

ABSTRACT

Storage systems, such as disk drives, are critical components of a security, privacy, and trust configuration of a computing platform. In fact, data spends most of its productive life in storage. This session provides a framework with which to understand why and how storage devices can be secured as independent roots of trust, providing robust protection for data. The session begins with security measures for storage systems that exist today and their relative effectiveness, going into where and how to secure access control of the storage system. The Trusted Computing Group's Trusted Storage Use Cases will be reviewed, highlighting the technical requirements being solved by the formal specifications. Relationships and cooperation with other industry storage standards (eg, SCSI and ATA, SNIA) will be discussed, and the TCG's recently published Specification for secure and trusted storage will be outlined. Representative use cases for trusted storage include:

- Enrollment and Connection: trusted relationship – Storage Device (SD) + host
- Protected Storage: for storing sensitive data
- Locking and Encryption: mating SD and host; encrypting stored data at rest
- Logging: for forensic purposes
- Cryptographic Services: supporting a variety of security services
- Assigning Storage Device Feature Sets to Hosts: trusted/exclusive use
- Secure Download of Firmware: trusting firmware upgrade

The security and trust capabilities underlying these use cases, such as cryptographic functions and protected/hidden storage, can serve as the core building blocks for a variety of content protection schemes.

BIOGRAPHY

Bob Thibadeau leads Seagate's venture into trusted computing. He is Chair of the Storage Workgroup of the Trusted Computing Group (www.trustedcomputinggroup.org), and an elected member of the Board of Directors. In addition to this standards work, he architected the current generation of full disk encrypting drives offered by Seagate. Prior to joining Seagate in 2002, he was a Professor in the School of Computer Science at Carnegie Mellon University.

Bob Thibadeau may be reached at Robert.thibadeau@seagate.com.