

# Security Selection Guide

Marketing Bulletin

## Comparing Security Options Across Seagate Drives

By leveraging Seagate Secure™ drives, users securely manage data stored on their systems with no performance degradation and can securely erase all of their data, if needed, in a matter of seconds.

With TCG encryption for both personal computing and enterprise environments, Seagate empowers users to manage their security by supporting three configurations: ISE, SED and SED + FIPS.

- Seagate Instant Secure Erase (ISE) is included on several Seagate enterprise drives and allows users to cryptographically erase all of their data by changing the encryption key, which helps enable easy and secure disposal or repurposing of drives. Cryptographically erasing your drive can be performed in two ways: 1) using ISE ATA commands, or 2) leveraging the PSID (Physical Secure ID) number found on all Seagate Secure drives. Both features reset the drive to factory settings and allow for safe disposal or reuse of the drive in less than 4 seconds.
- Self-Encrypting Drives (SED) give users the ability to manage drive security at both an individual and corporate level and can be scaled for data center use. Leveraging third-party software, passwords cannot be hacked since they're encrypted and will remain encrypted until the correct password is entered. Drives can also be erased using the ISE or PSID features.



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- Seagate offers the world's only SED + FIPS drives, which have the highest possible level of security, and is the only drive manufacturer with FIPS (Federal Information Processing Standard) 140-2 validation, a U.S. government standard that describes the encryption and related security requirements that IT products should meet for sensitive but unclassified (SBU) use. SED + FIPS drives include all features of Seagate SED and ISE configurations plus a tamper-resistant FIPS label to clearly demonstrate if a drive has been physically compromised. FIPS configurations are validated for U.S. and Canadian governments.

Seagate enables users to protect data on devices that may be lost or stolen and gives them the ability to manage fast and secure erase and disposal of their data.

Features	Laptop Thin HDD	Enterprise Value HDD/Terascale	Enterprise Capacity 2.5 HDD	Enterprise Capacity 3.5 HDD
Drive Type	HDD	HDD	HDD	HDD
Form Factor (inches)	2.5	3.5	2.5	3.5
Seagate® Instant Secure Erase		•	•	•
Self-Encrypting Drive (SED)	•		•	•
FIPS SED <sup>1</sup>	•		•	•
Primary Applications	Personal computing, laptop computing and external storage	Build cost-effective, low-power bulk storage solutions for unstructured data in clouds	<ul style="list-style-type: none"> <li>Maximize capacity in servers and blade servers</li> <li>Build high-density direct-attached storage (DAS), storage area networks (SAN) and network-attached storage (Enterprise NAS)</li> <li>Store rich media content and centralized surveillance data</li> <li>Serve cloud-computing storage requirements</li> </ul>	Store vast amounts of unstructured data with minimum power for reliable, secure and consistent storage performance in all chassis and storage environments
Typical Data Type	Portable computing, files, databases, applications	<ul style="list-style-type: none"> <li>Cloud storage servers</li> <li>Cloud storage arrays</li> <li>Cloud backup storage</li> <li>Direct-attached external storage devices (DAS)</li> <li>Network-attached storage devices (NAS)</li> </ul>	<ul style="list-style-type: none"> <li>Space-constrained data centers</li> <li>Storage-hungry business applications</li> <li>SAN, NAS and DAS</li> <li>Maximum-capacity servers and blade servers</li> <li>Rich media content storage</li> <li>Enterprise backup and restore—D2D and virtual tape</li> <li>Cloud computing</li> </ul>	<ul style="list-style-type: none"> <li>High-capacity RAID storage</li> <li>Mainstream enterprise external storage arrays (SAN, NAS, DAS)</li> <li>Cloud bulk data storage</li> <li>Enterprise backup and restore—D2D, virtual tape</li> <li>Centralized surveillance</li> </ul>
Environments	Portable, laptop computer for on-the-go convenience	Multi-drive systems in SME, cloud and enterprise-class data centers	Temperature- and humidity-controlled data centers, and multi-drive systems	Temperature- and humidity-controlled data centers, and multi-drive systems
Power-On Hours	8x5—On as needed	24x7—Always on	24x7—Always on	24x7—Always on
Interface	SATA	SATA	SATA, SAS	SATA, SAS
Operation Duty Cycle	Low	Medium	High	High
Rotation Vibration (RV) Support	N	Y	Y	Y
Capacities <sup>2</sup>	250GB to 500GB	1TB to 4TB	250GB to 1TB	1TB to 4TB

<sup>1</sup> See FIPS 140-2 Level 2 Certificate at <http://csrc.nist.gov/groups/STM/cmvp/validation.html#05>

<sup>2</sup> One gigabyte, or GB, equals one billion bytes and one terabyte, TB, equals one trillion bytes when referring to drive capacity.

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Features	Enterprise Performance 10K HDD	Enterprise Performance 15K HDD	Cheetah® 15K	1200 SSD
Drive Type	HDD	HDD	HDD	SSD
Form Factor (inches)	2.5	2.5	3.5	2.5
Seagate® Instant Secure Erase			•	
Self-Encrypting Drive (SED)	•	•	•	•
FIPS SED <sup>1</sup>	•	•	•	•
Primary Applications	<ul style="list-style-type: none"> <li>Build mission-critical servers and external storage arrays</li> <li>Equip power- and space-constrained data centers</li> <li>Comply with security-driven IT requirements</li> <li>Enable green IT initiatives</li> <li>Migrate from 3.5-inch drive systems to next-generation technology</li> </ul>	<ul style="list-style-type: none"> <li>Create blade, rack or tower servers to host transaction-based applications</li> <li>Deliver solutions for power- and space-constrained data centers</li> <li>Transition from legacy 3.5-inch systems to more efficient 2.5-inch solutions</li> </ul>	Business and transaction processing in external 3.5-inch SAN, NAS and DAS storage platforms	<ul style="list-style-type: none"> <li>IOPS-hungry enterprise applications, such as high-performance computing, online transaction processing and heavy data analytics</li> <li>Enterprise applications that demand high data availability and integrity as well as interface failover redundancy</li> <li>External enterprise storage solutions and servers</li> </ul>
Typical Data Type	<ul style="list-style-type: none"> <li>Mission-critical servers and external storage arrays</li> <li>Power- and space-constrained data centers</li> <li>Green IT and drive-retirement cost reduction initiatives</li> <li>Compliance or data security initiatives</li> <li>Migration from 3.5-inch drive systems to next-generation technology</li> </ul>	<ul style="list-style-type: none"> <li>High-performance Tier 1 enterprise servers</li> <li>Blade, rack and tower servers hosting transaction-based applications</li> <li>Power- and space-constrained data centers</li> <li>Compliance and data security initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Business and transaction processing</li> <li>Storage area networks (SAN) and networked-attached storage (NAS)</li> <li>Email, decision support, Internet and e-commerce</li> </ul>	Demanding enterprise applications with complex, write-intensive and mixed workloads
Environments	Temperature- and humidity-controlled data centers, and multi-drive systems	Temperature and humidity-controlled data centers, and multi-drive systems	Temperature and humidity-controlled data centers, and multi-drive systems	Temperature and humidity-controlled data centers, and multi-drive systems
Power-On Hours	24x7—Always on	24x7—Always on	24x7—Always on	24x7—Always on
Interface	SAS	SAS	SAS	SAS
Operation Duty Cycle	High	High	High	High
Rotation Vibration (RV) Support	Y	Y	Y	—
Capacities <sup>2</sup>	300GB to 1200GB	146GB to 600GB	300GB to 600GB	200GB to 800GB

<sup>1</sup> See FIPS 140-2 Level 2 Certificate at <http://csrc.nist.gov/groups/STM/cmvp/validation.html#05>

<sup>2</sup> One gigabyte, or GB, equals one billion bytes and one terabyte, TB, equals one trillion bytes when referring to drive capacity.



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AMERICAS  
ASIA/PACIFIC  
EUROPE, MIDDLE EAST AND AFRICA

Seagate Technology LLC 10200 South De Anza Boulevard, Cupertino, California 95014, United States, 408-658-1000  
Seagate Singapore International Headquarters Pte. Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888  
Seagate Technology SAS 16-18, rue du Dôme, 92100 Boulogne-Billancourt, France, 33 1-4186 10 00

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