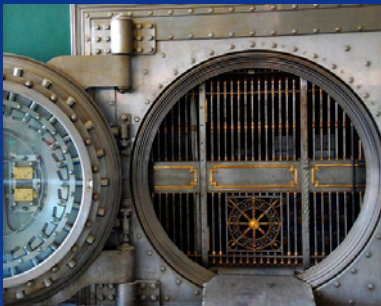




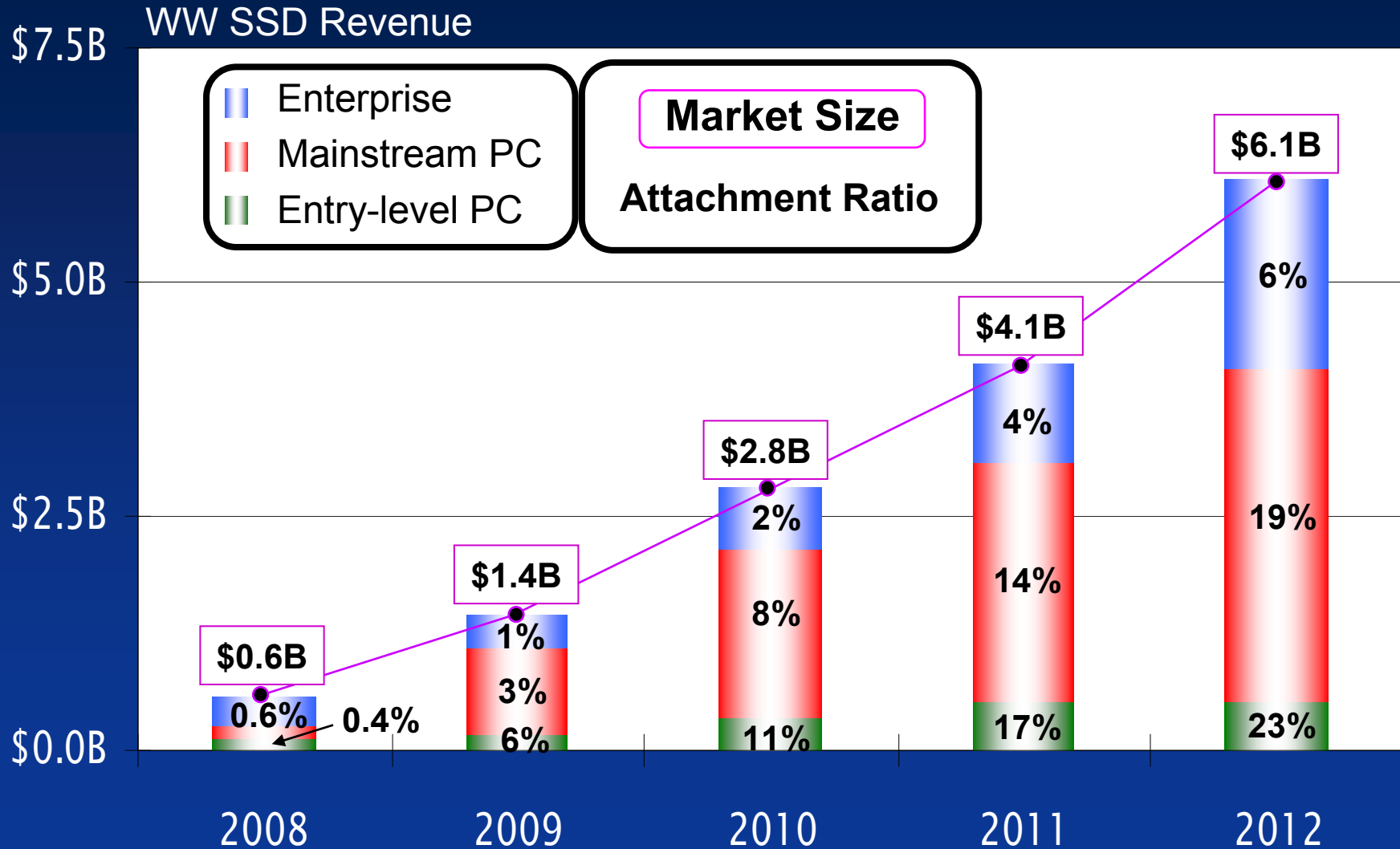
Encryption Comes to Near-Mainstream SSDs

Tony Kim

Technical Marketing Director
Samsung Semiconductor Inc.



SSD Market Overview



[Source : Gartner 1Q'09]

SSD Security

- Reasons for SED (Self Encryption Drive)
 - Protects data when laptop is lost or stolen
 - Better than encrypted file system (EFS)
 - Helps meet regulatory concerns
 - Security beyond user name & password for the operating system
 - Transparent to user



The State of Data Protection

- The average financial losses from laptop hardware theft have risen 65% in the last year
- Personal data lost >50%
 - 35% (lost laptop or other device) + 19% (lost backup device)
- Even the FBI had at least 160 laptops lost or stolen over the past four years
- 46 States have Notice of Breach legislation
 - “Safe harbor” IF encryption can be proven
 - MA requires encryption – others likely to follow



Encrypting drives is a MUST for all laptop purchases!



Why Don't Organizations Encrypt?

- Primary reasons for not encrypting sensitive or confidential information:

Performance

69%



Complexity

44%



Cost

25%



The 'Cost' of Data Protection

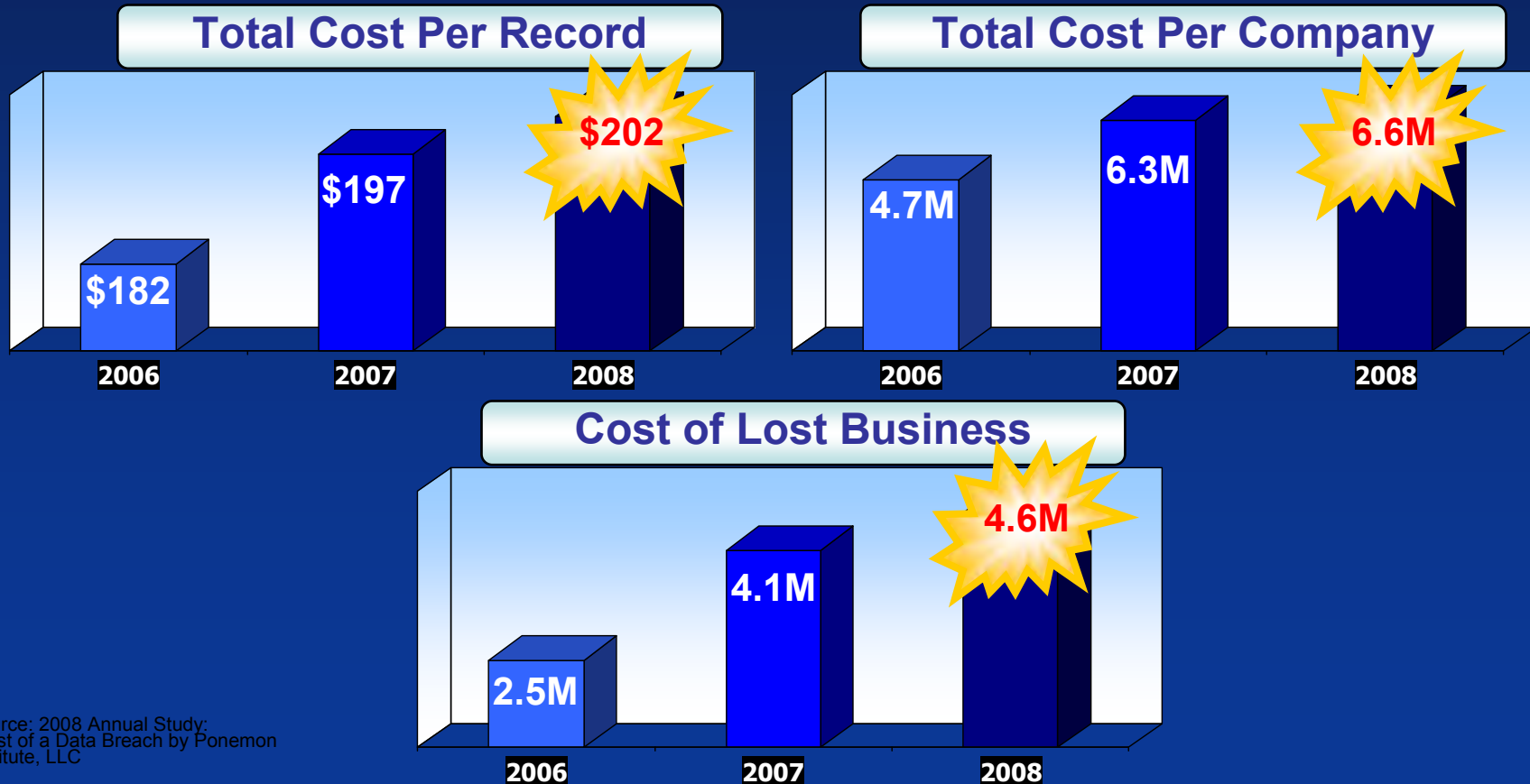


Any security solution has costs ...

... but doing nothing can be much more expensive

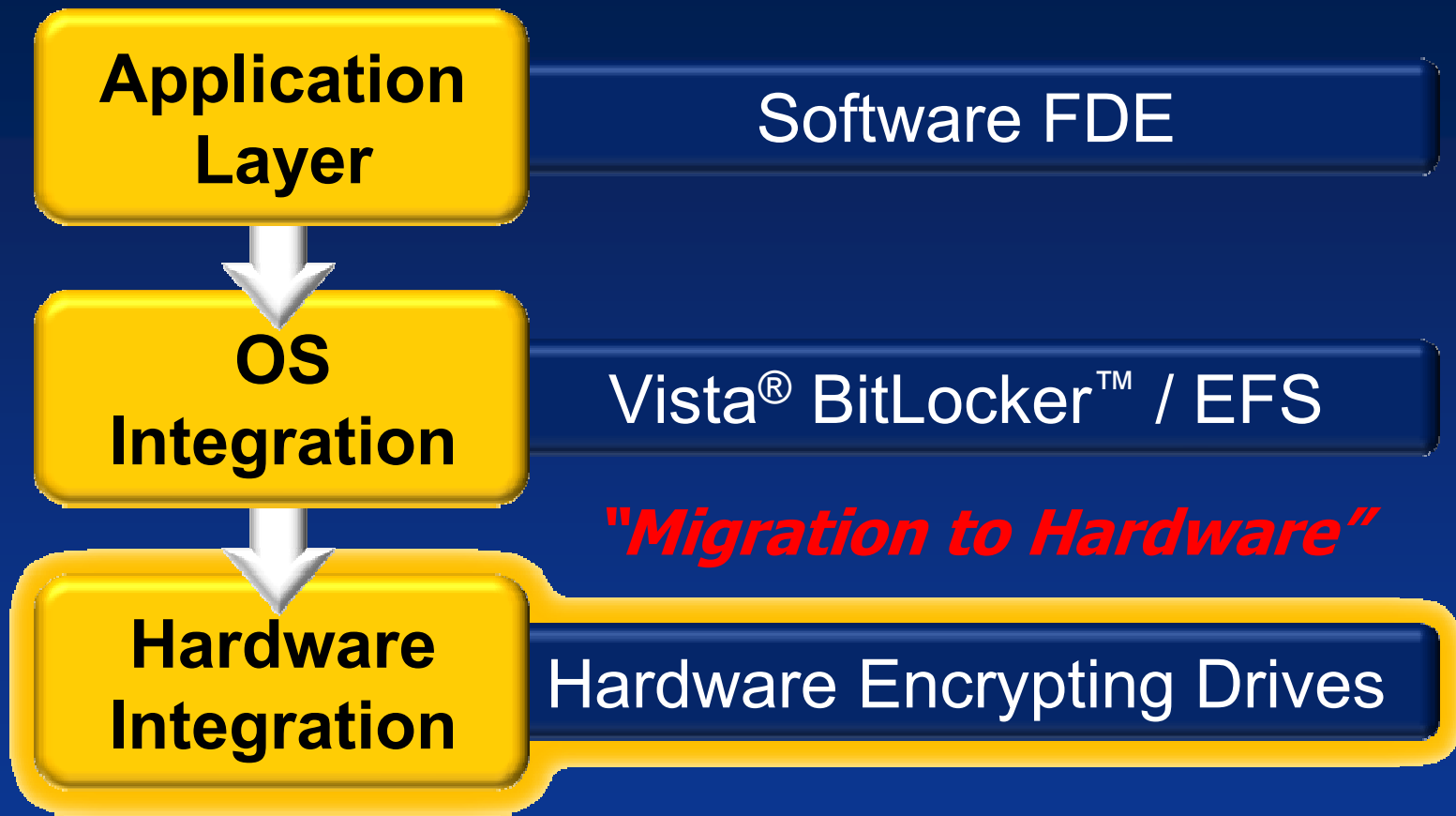
Data Breach Cost

- Survey of 43 organizations including 17 different industry sectors



Source: 2008 Annual Study:
Cost of a Data Breach by Ponemon
Institute, LLC

Evolution of Data Protection

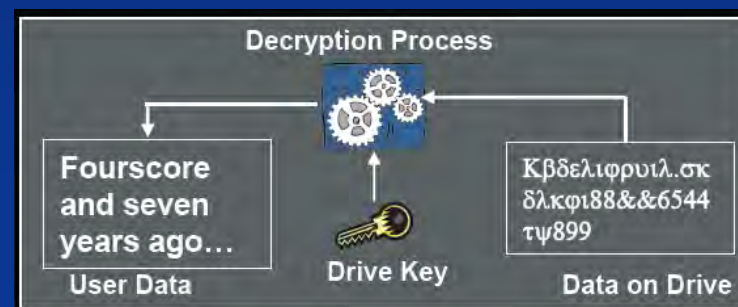
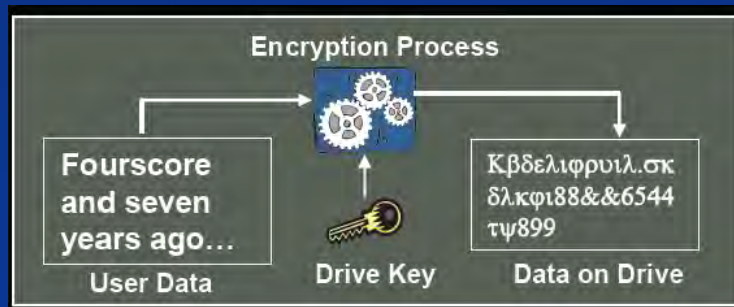


Faster...More Simple...Lower Cost!

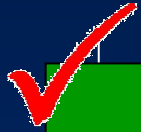
Data Encryption Technologies

- All new controllers support encryption
 - No impact on performance
- AES-128 → AES-256
 - No practical need
 - Marketing reasons
- Multifactor authentication

	TrueCrypt (Software Encryption)	Samsung SED (Hardware Encryption)
Throughput	- 41%	No change
CPU Load	+8.7 X	No change



Storage Security - Overall trends



Products are available for OEMs



Race for interoperability

Now Available:
256GB capacity
Ultra-fast speed
Self Encryption

SED Products are available for general public

Practical security issues

Features-based competition



H1'09

H2'09

H1'10

H2'10



Thank you!

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