Hitachi and Hitachi Data Systems

- **Hitachi Ltd**
  - Founded 1910
  - One of the World’s Largest Integrated Electronics Companies
  - Manufacturer of over 20,000 products
  - Over 1,000 subsidiaries
  - Over 300,000 employees

- **Hitachi Data Systems**
  - Hitachi, Ltd.’s focal point for storage infrastructure solutions
  - Recognized by Gartner in December 2003 as the market leader in high-end storage
Regulations

- **SEC 17a-4**
  - **Objective**
    - Defines what types of records must be stored and for how long (retention period), and describes the media requirements
    - Records associated with securities trades, customers, and accounts
  - **Coverage**
    - Broker / dealers, members of exchanges within the US financial services industry

- **HIPAA (Health Insurance Portability and Accountability Act)**
  - **Privacy Rule**
    - Everything (from a patient’s address to his/her medical records) must be kept confidential
    - Certain health care records must be retained for a minimum of six years, or two years after a patient’s death
  - **Security Rule**: Covered entities must:
    - Ensure the confidentiality, integrity and of all electronic protected health availability information they create, receive, maintain, or transmit
    - Protect against any reasonably anticipated threats to the security or integrity of such information
    - Protect against any reasonably anticipated uses or disclosures of such information that are not permitted.

- **Gramm-Leach-Bliley Act**
  - Financial institutions have an obligation to develop sufficient safeguards
    - to insure the security and confidentiality of customer records and information;
    - to protect against any anticipated threats or hazards to the security or integrity of such records; and
    - to protect against unauthorized access to or use of such records or information which could result in substantial harm or inconvenience to any customer

- **And Others**
Message Archive Solution
Introduction: Message Archive for Compliance

- SEC 17a-4 Requirement
  - To preserve for a period of three years, and/or preserve in an accessible place for two years, electronic communications relating to the business of the firm, including inter-office memoranda and communication.

- HDS’s Approach
  - Alliance with Message Archive Software Vendor
  - Management of Data Life Cycle
  - WORM capability in Storage System
LDEV Guard software:
- Eliminates the need for special-purpose storage to comply with data retention regulations
- Enables secure and compliant storage environments for z/OS and Open Systems applications
- Locks disk volumes as “read-only” for proscribed retention period
- Assigns access attributes to logical volumes
- Protects logical volumes against read and write operations
Storage Area Network (SAN) Security

- **Management Security**
  - Access Control for Management Software
  - Access Control for Storage Network Resources
  - ...

- **Network Security**
  - IP Security for Storage Resource Management Interfaces
  - Fibre Channel Security for Data Transactions Interfaces

- **Stored Data Security**
  - Confidentiality of Stored Data
Storage Area Network (SAN) Security
~ Management Security

- Issues Examples
  - Storage administrators who manage SAN configurations may not necessarily need to have access to data inside storage systems.
  - There are auditing requirements regarding storage usage, but it may cause privacy problems.
  - ....

→ Easy to Use and Secure Enough Access Control is Required
Storage Area Network (SAN) Security
~ Network Security

- Fibre Channel network used to be secure just because the protocol was not known to many people
  - SAN are widely deployed and may be no longer secure in near future

- Several Standards are coming out
  - iSCSI mandates IPSec implementation
  - FC-SP (Fibre Channel Security Protocol, which includes authentication protocols between devices in SAN environment) is being developed

- Securing Everything is Technically Easy, but it should not be Overkill
Storage Area Network (SAN) Security
~ Stored Data Security

- Four Major Vendors for Data Security

- Decru/NeoScale
- Vormetric
- Kasten Chase

Storage Area Network

Server
- APP
- FS
- Driver/HBA

Server
- APP
- FS
- Driver/HBA

Storage

Switch

Appliance

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Thank you for your attention

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