

SOS10 Security Panel

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Preamble

- I am not a security person
- I am a performance weenie
- I worry about factors of 10...
- ...particularly when they occur in the exponent

What is a factor of 10?



Issues

- Spatial key management for “trillions” of files/objects
- Temporal key management for the above
- How will security “infect” performance?
- How do security functions scale with respect to storage system scaling dimensions?
- What is the Trusted Computing Group doing?

Spatial key management for “trillions” of files/objects

- How much space is this?
- Where is it and are there copies?
- What are the key manager access characteristics?
- Will the “commodity” solutions to security problems scale in this dimension?

Temporal key management

- 1-10,000 years – Very different problems at each factor of 10
- Changing security levels over time for data/collections
- Managing keys through technology refresh cycles
 - Exposure of data or to key loss?
- Do the security mechanisms change over time and how should the old security mechanisms be migrated to the new ones?

How will security “infect” performance?

- Sustainable bandwidth with encryption/decryption?
- Sustainable file creation/deletion rates?
- Impact of security operations in the data and/or control path on overall performance metrics
- Can the security mechanisms be ubiquitous in terms of performance?
- Will the “commodity” solutions to security problems scale in this dimension?

What is the Trusted Computing Group doing?

- How will their work help/hinder performance?
- How does their work address the previously mentioned issues
- Will this include all sorts of media including but not limited to
 - Disk
 - Tape
 - Optical
 - Other?

My new auto-security system

