iSCSI – a SCSI over TCP mapping

IETF - 49

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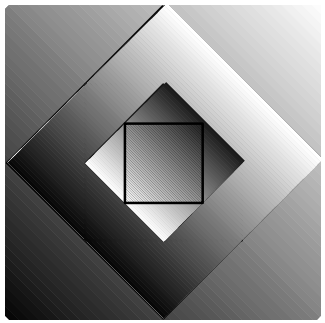
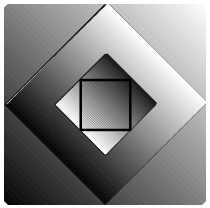
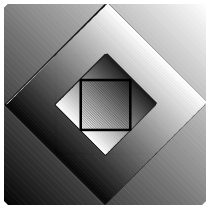




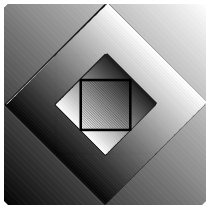
Status summary

- Session model
  - Symmetric
  - Multiple connections optional
- Login
  - Session context – good understanding
  - Security context – more work needed (outline follows)
- Commands, messages, tasks and tags
  - Almost complete
  - Items open – coding, some layout
- Ordered delivery
  - Function well understood
  - Numbering scheme complete and optional



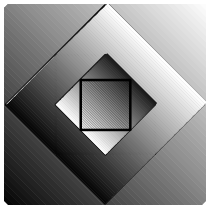
Status summary (cont.)

- Response numbering scheme
  - Well understood
  - Complete
- Data numbering scheme
  - *Not complete consensus*
  - Optional and comes at low cost
- Recovery
  - Command Restart is well understood
  - Status Recovery well understood
  - No consensus on data recovery (yet)
  - Digest failure recovery – see security and authentication



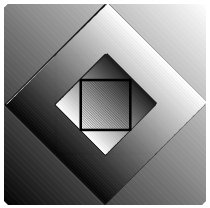
Status summary (cont.)

- Text commands
  - Negotiation mechanism done
- Mapping – moved to T10 (aliasing)



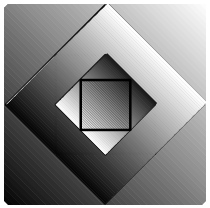
Open

- RDMA/Synch Recovery
- Security/Authentication



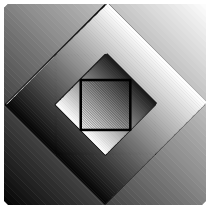
Authentication & Data Integrity

- Authentication
  - Login Phase
  - Every iSCSI PDU – to provide data integrity and authentication
- What is required:
  - A mechanism that should enable optional end2end data protection/authentication effective for all data lengths
  - A mechanism that should not interfere with any other end2end mechanism – like RDMA



Authentication & Data Integrity (cont.)

- A mechanism that will use TCP recovery in presence of errors
- A mechanism that can be activated on demand – ideally at Login
- All the above mechanisms are provided by IPsec – the transport flavor
  - IPsec enables data integrity through an AH and we can provide iSCSI or vendor specific policies (e.g., a simple polynomial as data integrity safeguard and mandate it for iSCSI use of IPsec



Authentication & Data Integrity (cont)

- What are we going to loose
  - Separate header data digests
- What are we going to gain
  - Data integrity as good as we are willing to pay
  - Good integration with encryption – where needed