X3T10 Project 1155D

Serial Bus Protocol 2

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Technical Editor

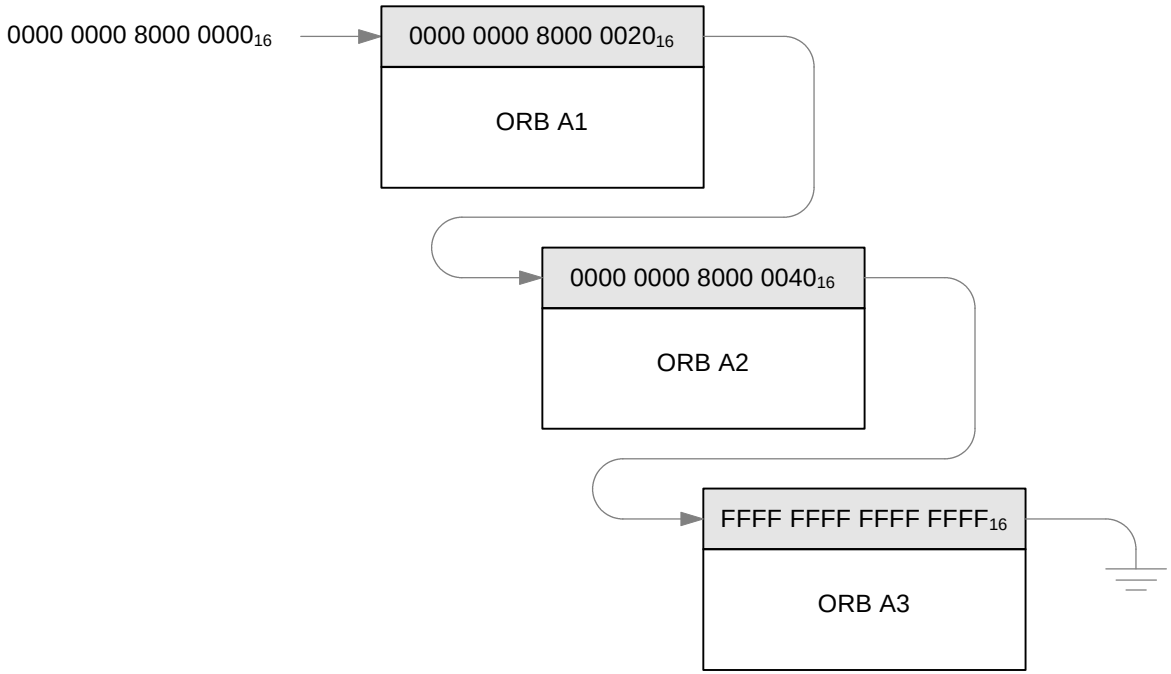
What is SBP-2?

- Transport protocol tailored to 1394
  - Command, data and status
- Simple framework for 1394 systems
  - Initiators (computers, set-top boxes, etc.)
  - Targets (disks, printers, other peripherals)
- Command set neutral
  - ATAPI
  - SCSI
  - New command sets
- Isochronous support designed in from the start

What isn't SBP-2?

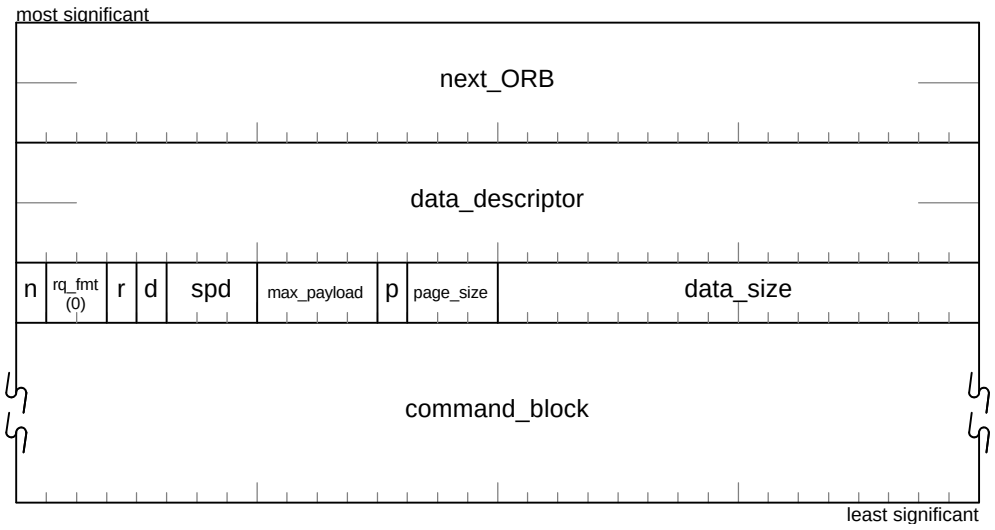
- It's not SBP
  - Focus on low-cost, high volume environment
- It's not a SCSI protocol
  - SCSI is just one of many command sets
- It's not complicated
  - Target designs can be simple

Command delivery



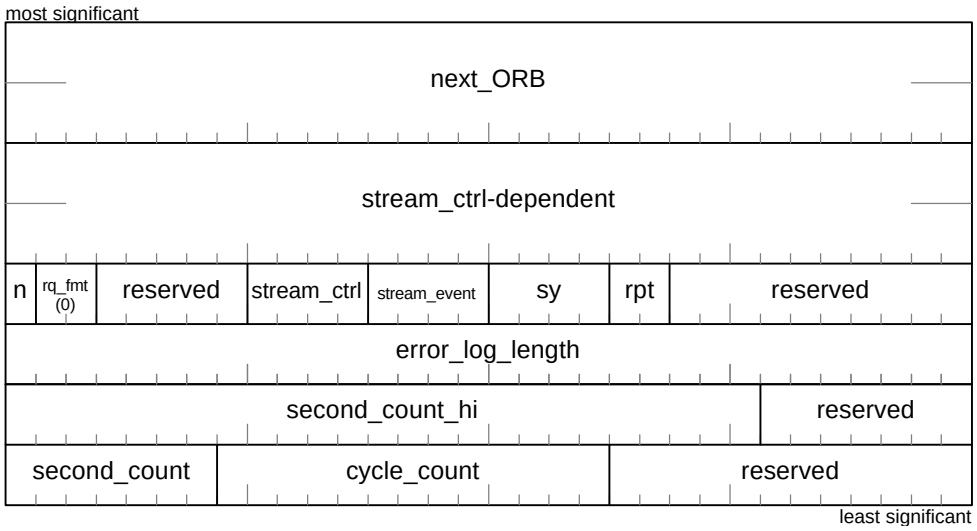
- Initiator rings target DOORBELL
- Target fetches commands at its own pace

Normal command block ORB



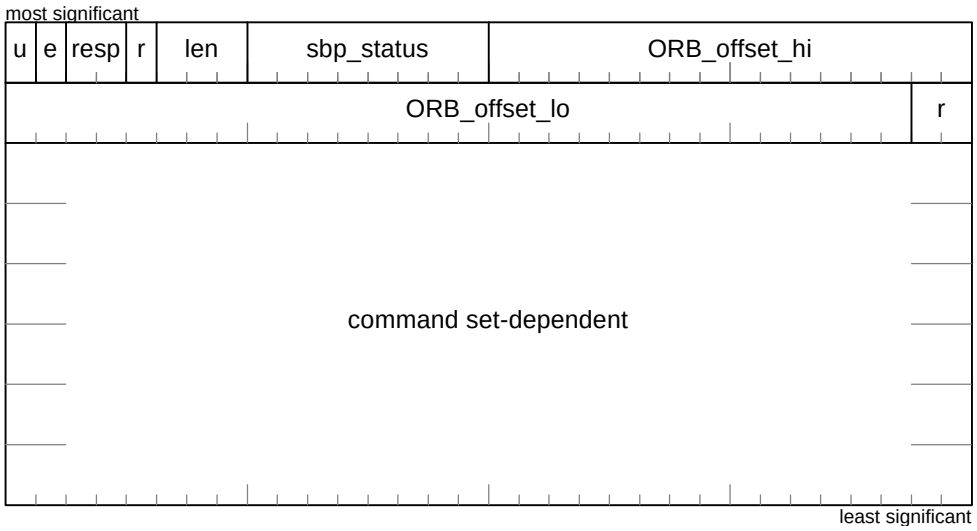
- Data descriptor suits 1394 characteristics
  - Speed, maximum payload per packet
  - Paged versus nonpaged
- Command block length device dependent

Stream control ORB



- Meters isochronous data—talker or listener
  - START, STOP or PAUSE functions
- Synchronize to cycle time
- Works in conjunction with plug control registers

Completion status



- Target writes to initiator's status FIFO
- ORB address used to identify status block
- Status block contents are device dependent
  - SBP-2 status for 1394 transport errors

Who should consider SBP-2?

- Computer peripheral designers
  - OS support for all major platforms
    Device Bay support in SIPC / PC '97
  - Command set reuse possible
- Set-top box designers
  - Disks, printers, scanners, etc. shareable with PC
  - Commodity peripheral availability
- System designers and integrators
  - Consumer electronics
  - Computer systems
  - Hybrid systems

More information

- Draft standard PDF file
  - X3T10 FTP site

    ftp.symbios.com:/pub/standards/io/x3t10/drafts/sbp2
- Technical editor
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