Alternative Proposal

-Efficient bi-directional communication over single login -

Simple High Performance Transport (SHPT)

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Requirement and Ordered Model

The Requirement says ...

- **Each endpoint can send data**

(On the other hand…..)

Ordered Model is characterized as ...

- **Initiator schedules whole data transfer**
- **Target executes and completes each requests in-order**

Some mechanism is necessary to fill up the gap between them. BUT, …

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To fill up the gap…Problems

Scheme 1 *Initiator appends only ORBs those Target GUARANTEEs to complete.*

Scheme 2 *Initiator RE-SCHEDULEs the tasks in the task list by complying with Target.*

Problems

- *Redundant Bus traffic (scheme1, scheme2)*
- *Inefficient use of bus bandwidth (scheme1)*
- *Extra work load on both Initiator and Target to re-schedule tasks (scheme2)*

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Why we propose ….

Those problems prevent ORDERED MODEL from meeting the requirement "efficient data transmission ".

Originated from trying to fill up the gap between the requirement and ORDERED MODEL?

A simple way to avoid the gap itself,

->Examine
"UNORDERED (QUEUING)MODEL"
over single login at first

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SHPT is…

- *A command set on top of SBP-2*
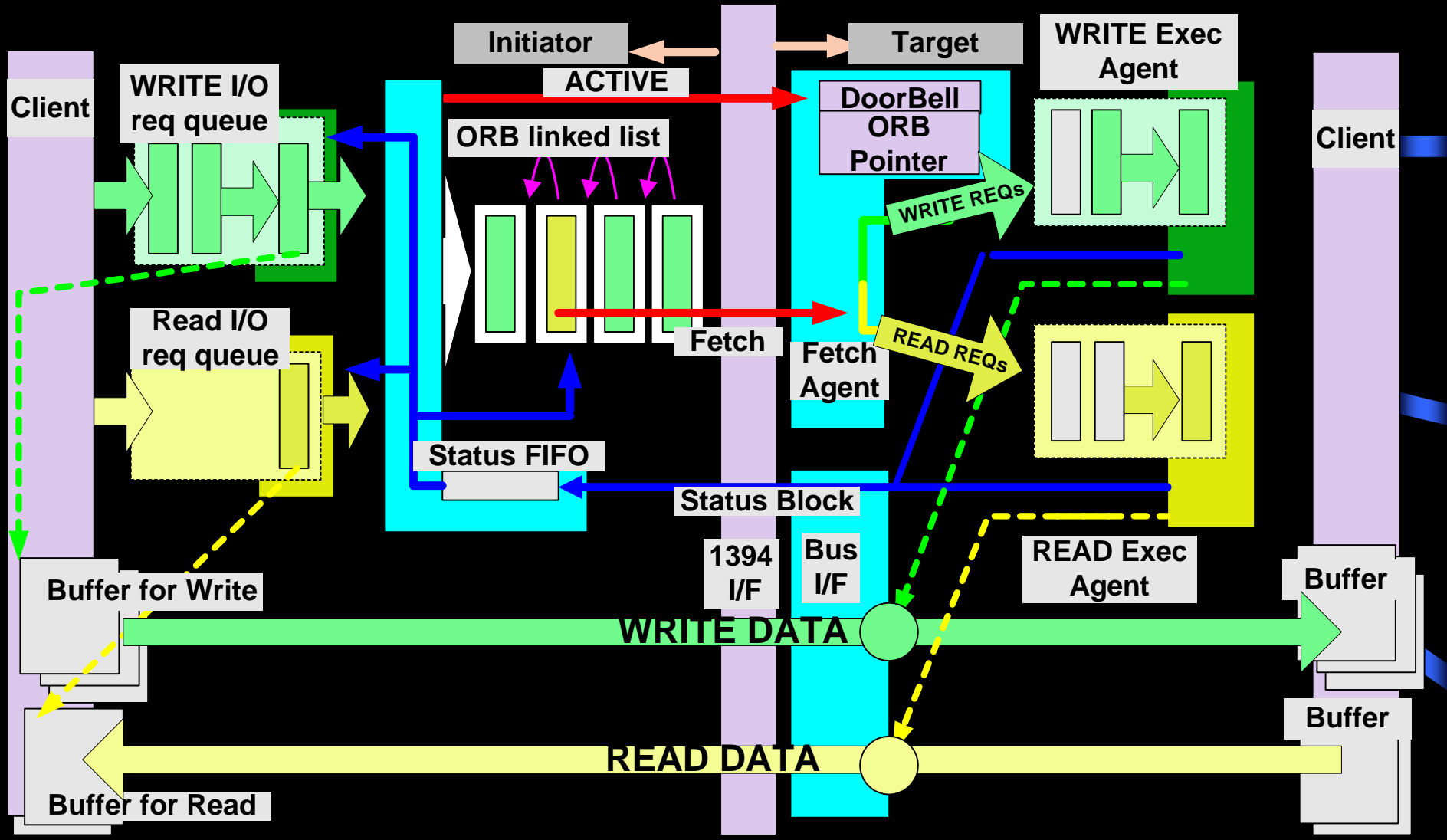
SHPT includes...

- *Command-set dependent task management model(QUEUING model)*

SHPT enables..

- *Full duplex communication efficient for Both Directions.*

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Whole Model

Initiator ⟷ **Target**

WRITE Exec Agent

Client

WRITE I/O req queue

ACTIVE

DoorBell ORB Pointer

Client

ORB linked list

WRITE REQs

Read I/O req queue

Fetch

Fetch Agent

READ REQs

Status FIFO

Status Block

1394 I/F   **Bus I/F**

READ Exec Agent

Buffer

Buffer for Write

WRITE DATA

Buffer

Buffer for Read

READ DATA

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Conclusion

Let Target re-order !

Issue

"Unordered(Queuing) model
over SINGLE login"

or

"Ordered model
over DUAL login"?

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Thank you for your interest

Detail Document :

　file: *SHPT04d.PDF*

 you can get it from

　http://www.pwg.org/p1394/

If you have any questions or suggestions to this material,

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