

X3T9.2/90-191

Gary R. Stephens

FIBER CHANNEL for SCSI

SMALL COMPUTER FIBER INTERFACE

SCFI

What's New and Different

Physical Layer

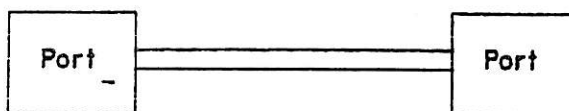
Simplifies Parallel Bus

Adds Fiber Channel Bus

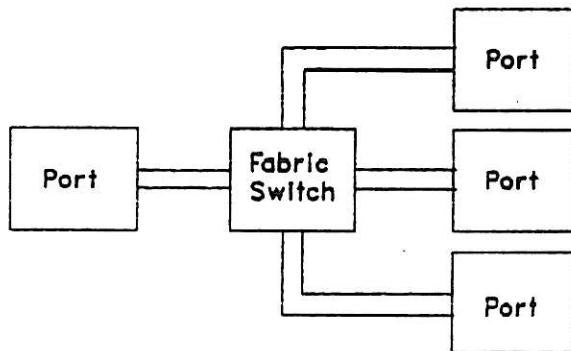
Eliminates Artifacts

FIBER CHANNEL TOPOLOGIES

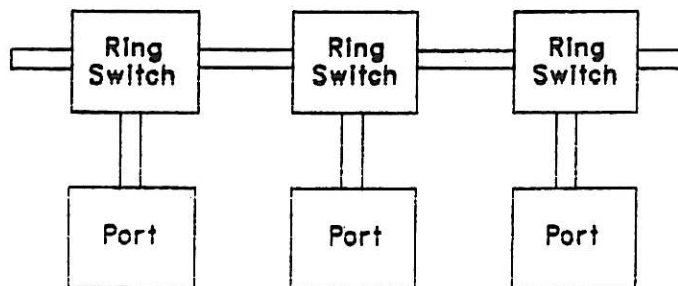
POINT-TO-POINT



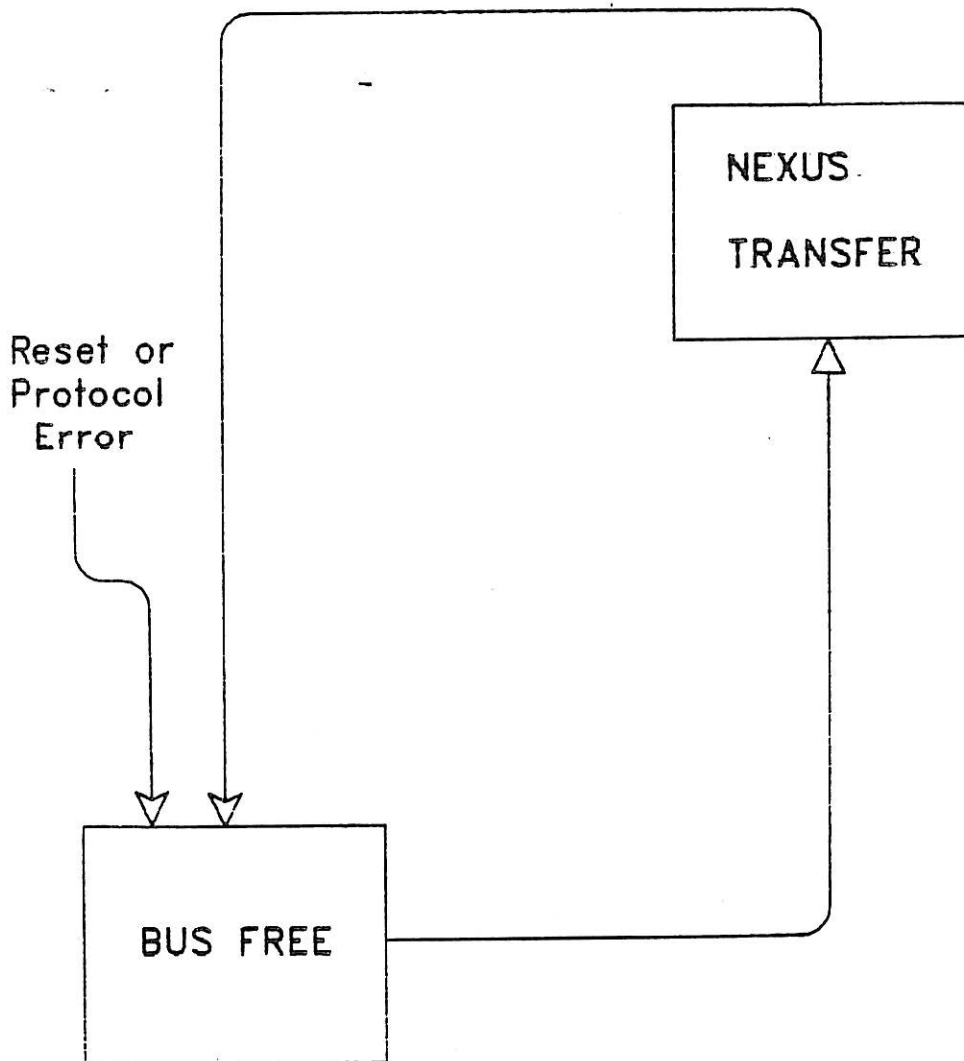
SWITCHED POINT-TO-POINT



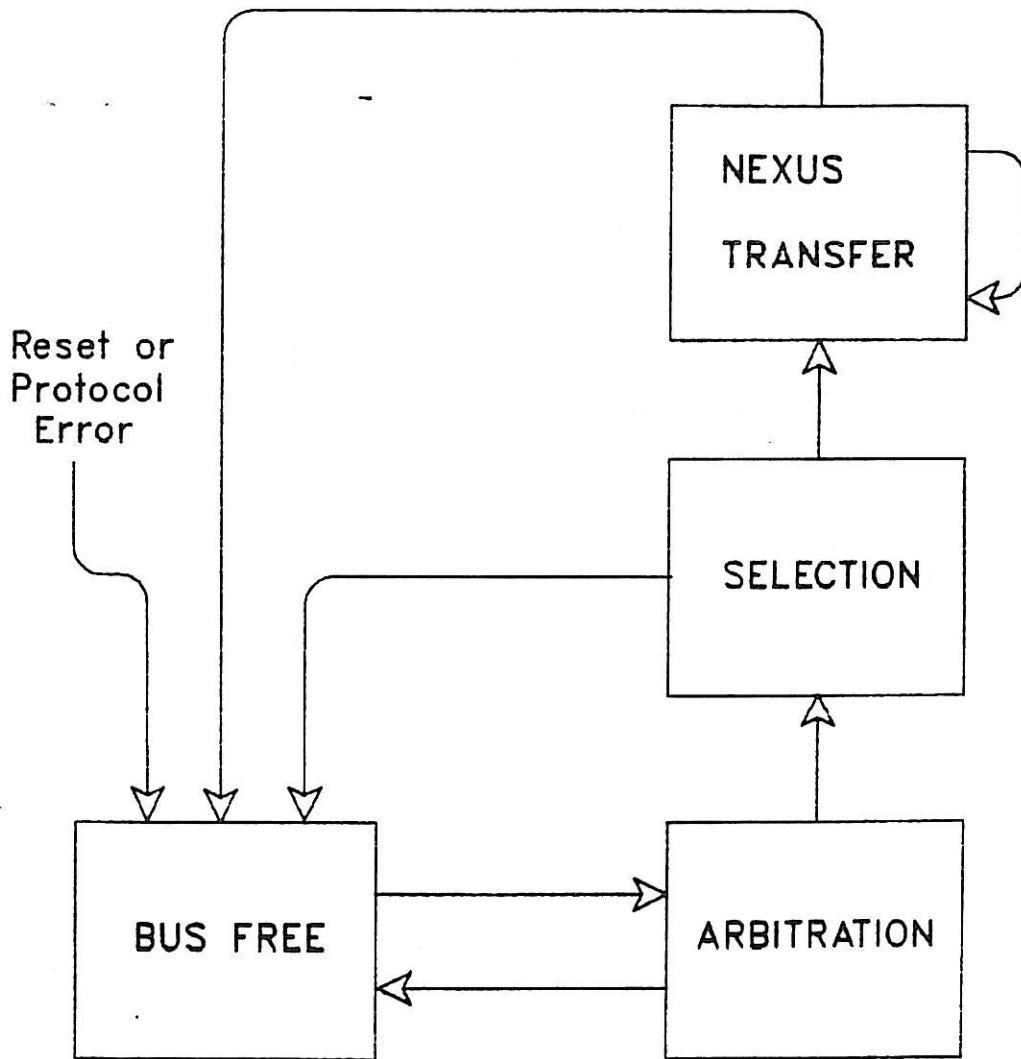
RING (String)



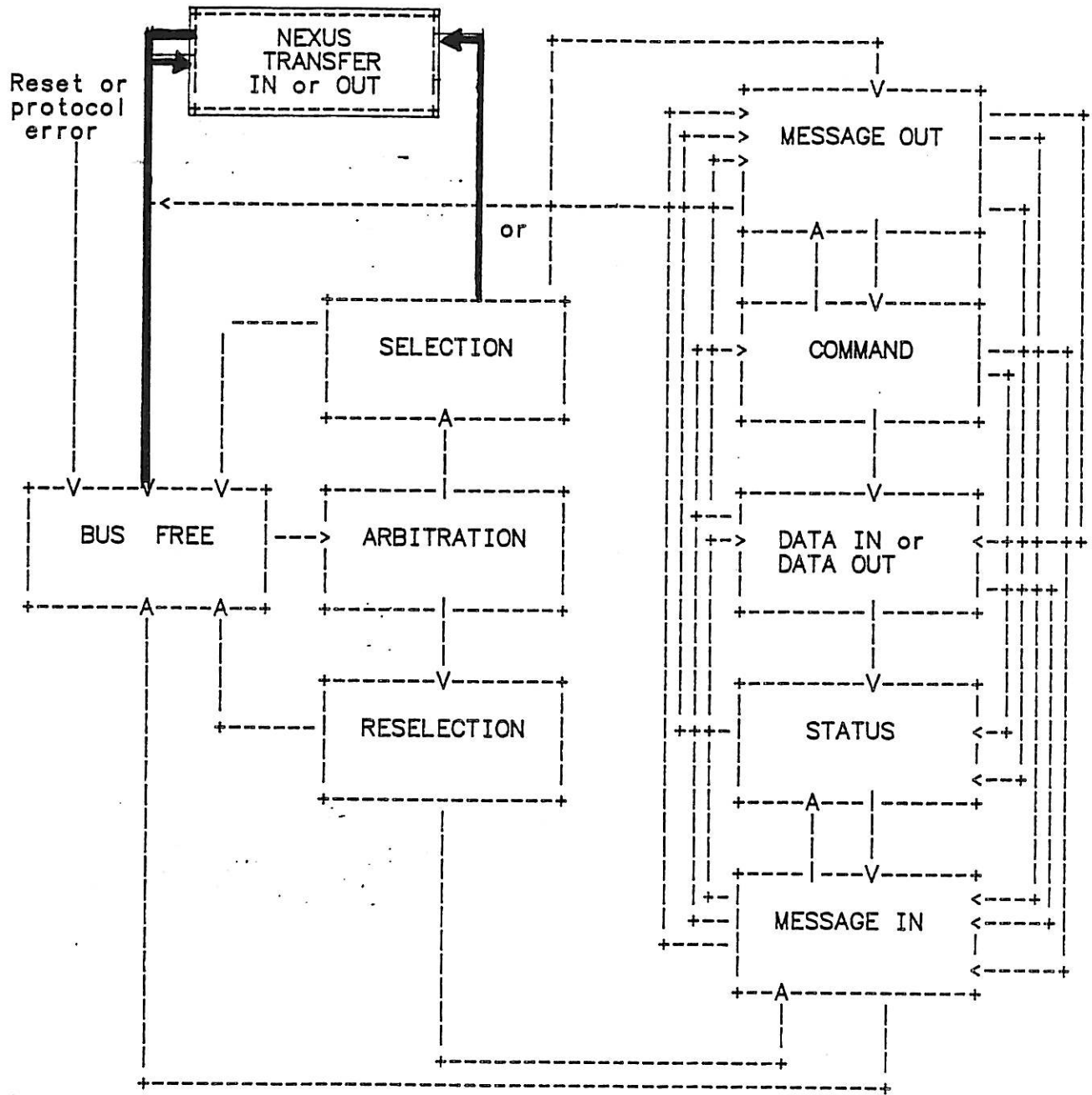
FIBER CHANNEL BUS



SIMPLIFIED PARALLEL BUS



SCSI-3 PARALLEL Bus Phase Sequences



The word "or" in the figure indicates a mutually exclusive choice of phase sets during a connection.

PARALLEL BUS SELECTION MENU

SINGLE ENDED

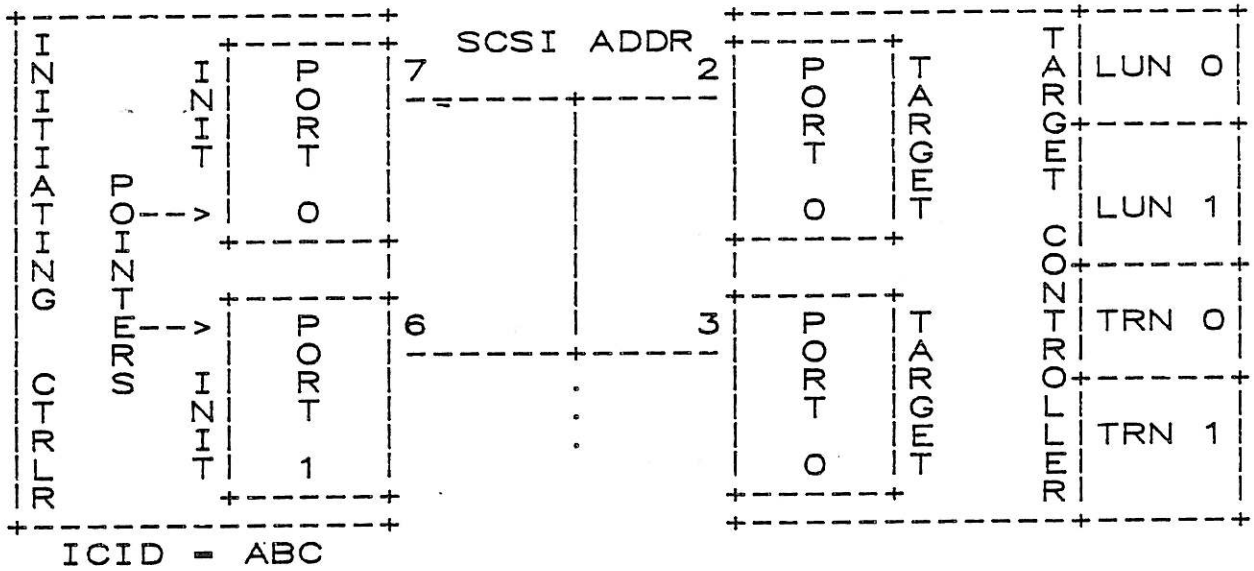
Shielded Alternative 1
Termination Alternative 2
8 or 16 Bit -- No Intermix
Synchronous
Wide (16 bit only)

DIFFERENTIAL

Shielded Alternative 1
Termination (Best)
8 or 16 Bit -- No Intermix
Synchronous
Fast
Wide (16 bit only)

LOGICAL OPERATION MODEL

A SCSI-3 MULTIPLE PATH LOGICAL SYSTEM



LOGICAL PATHS
(ICID || LUNTAR)
ABC LUN 0
ABC LUN 1
ABC TRN 0
ABC TRN 1

HOST	INIT	PHYSICAL TARG	PATHS TAR	PORT	LUNTAR
ABC	7	2		0	LUN 0
ABC	7	3		1	LUN 0
ABC	6	2		0	LUN 0
ABC	6	3		1	LUN 0
(potential path group)					
ABC	7	2		0	TRN 0
ABC	7	3		1	TRN 0
ABC	6	2		0	TRN 0
ABC	6	3		1	TRN 0
etc.					

SMALL COMPUTER FIBER INTERFACE

SCFI

What's New and Different

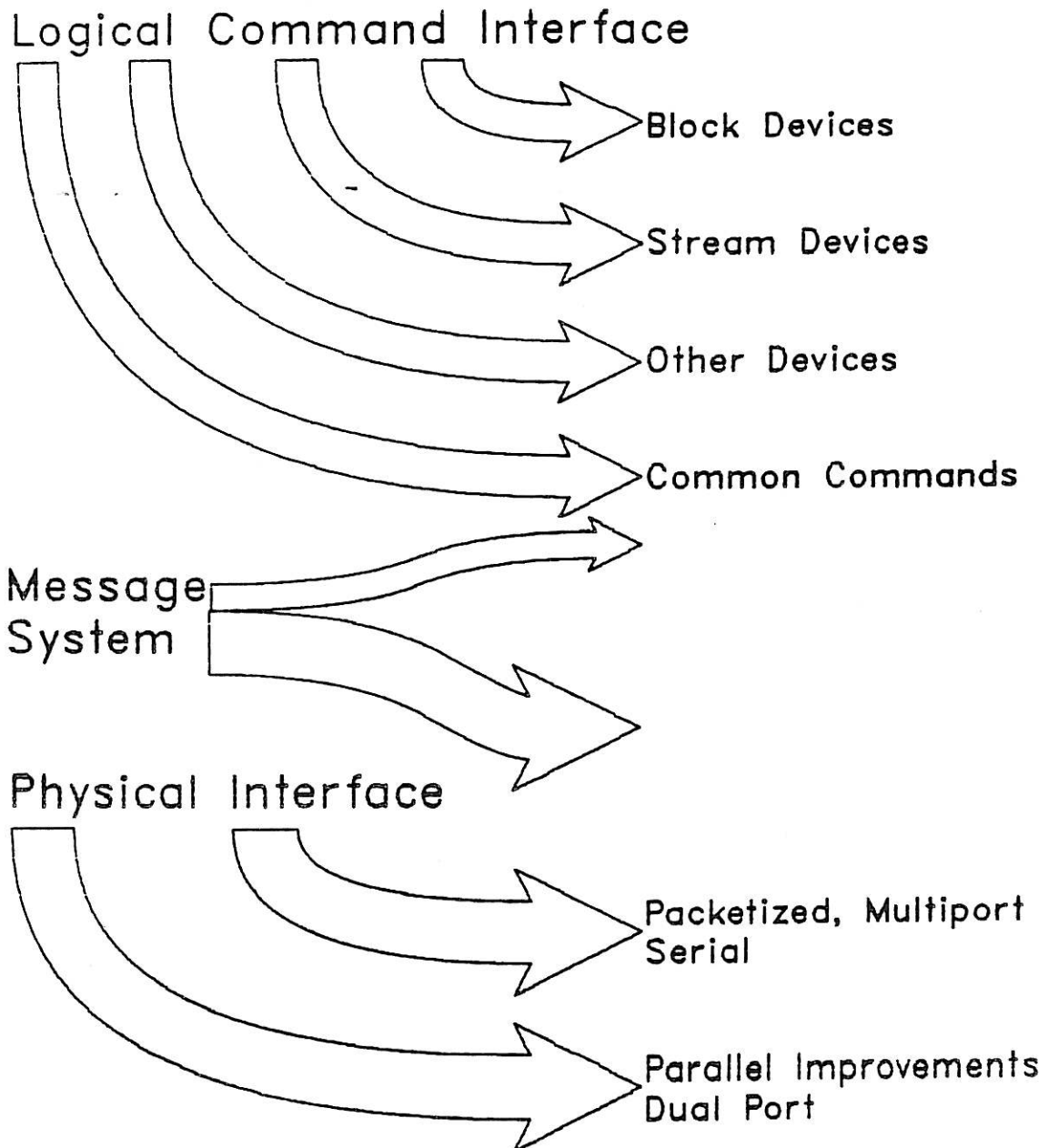
Logical Layer – Packetized

Preserves Command Set

Multiple Port Operation

Bus Independent

Packetizing SCSI



Packetizing SCSI

IDENTIFY DATA CONTENT TYPES

Interface Logical Elements

Message

Command Descriptor Block

Command Parameter Data

Command Response Data

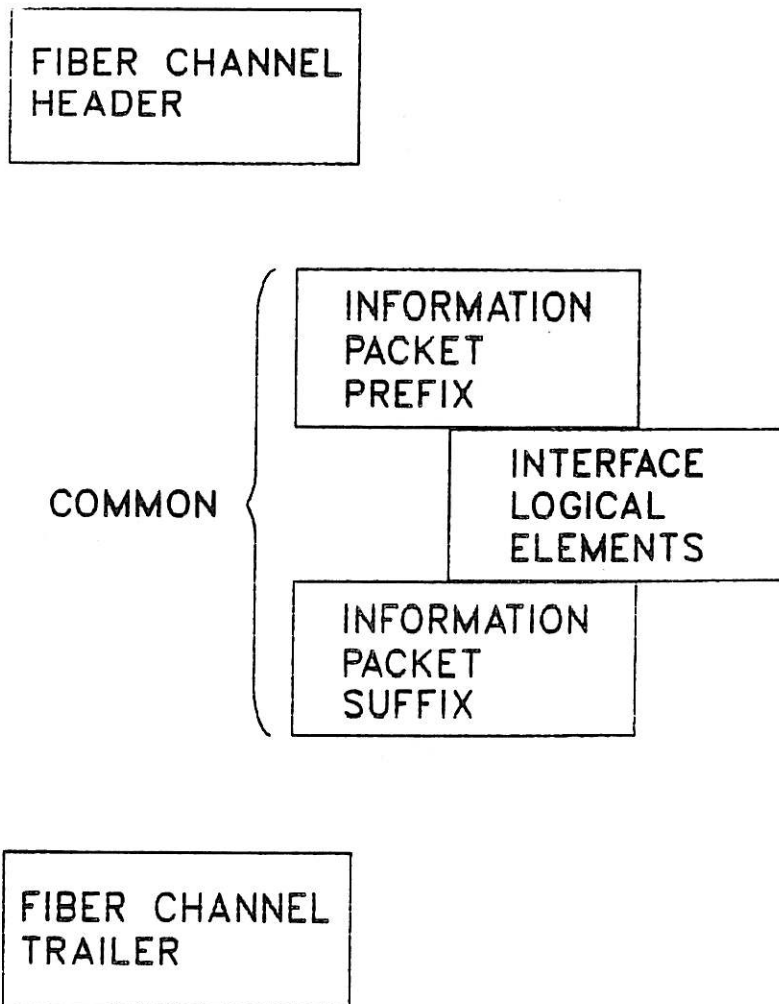
Logical Block Data

Status

Autosense (New)

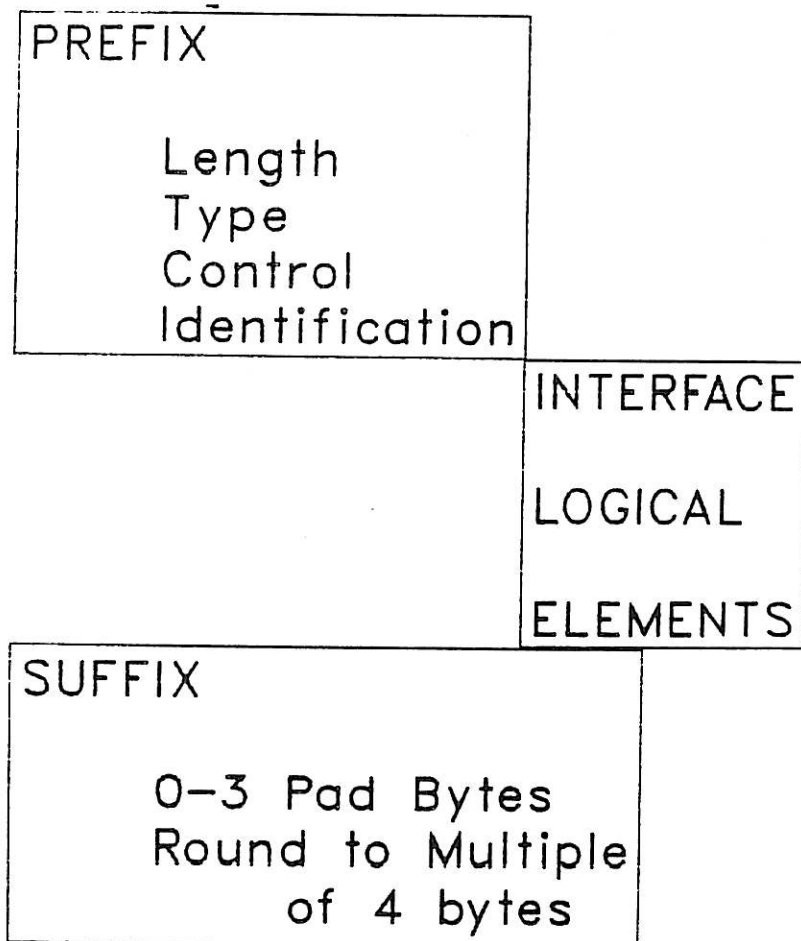
Packetizing SCSI

INFORMATION PACKETS

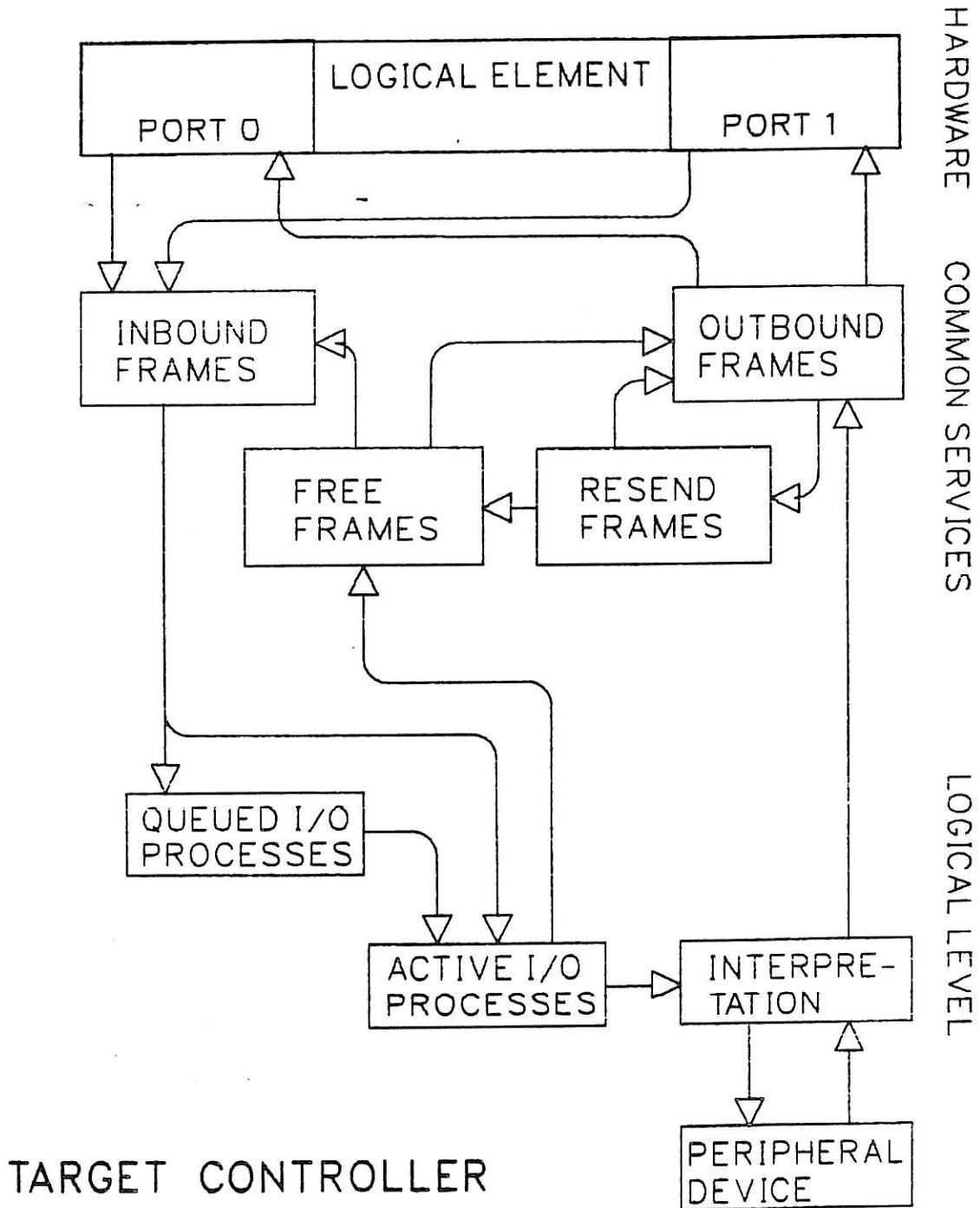


Packetizing SCSI

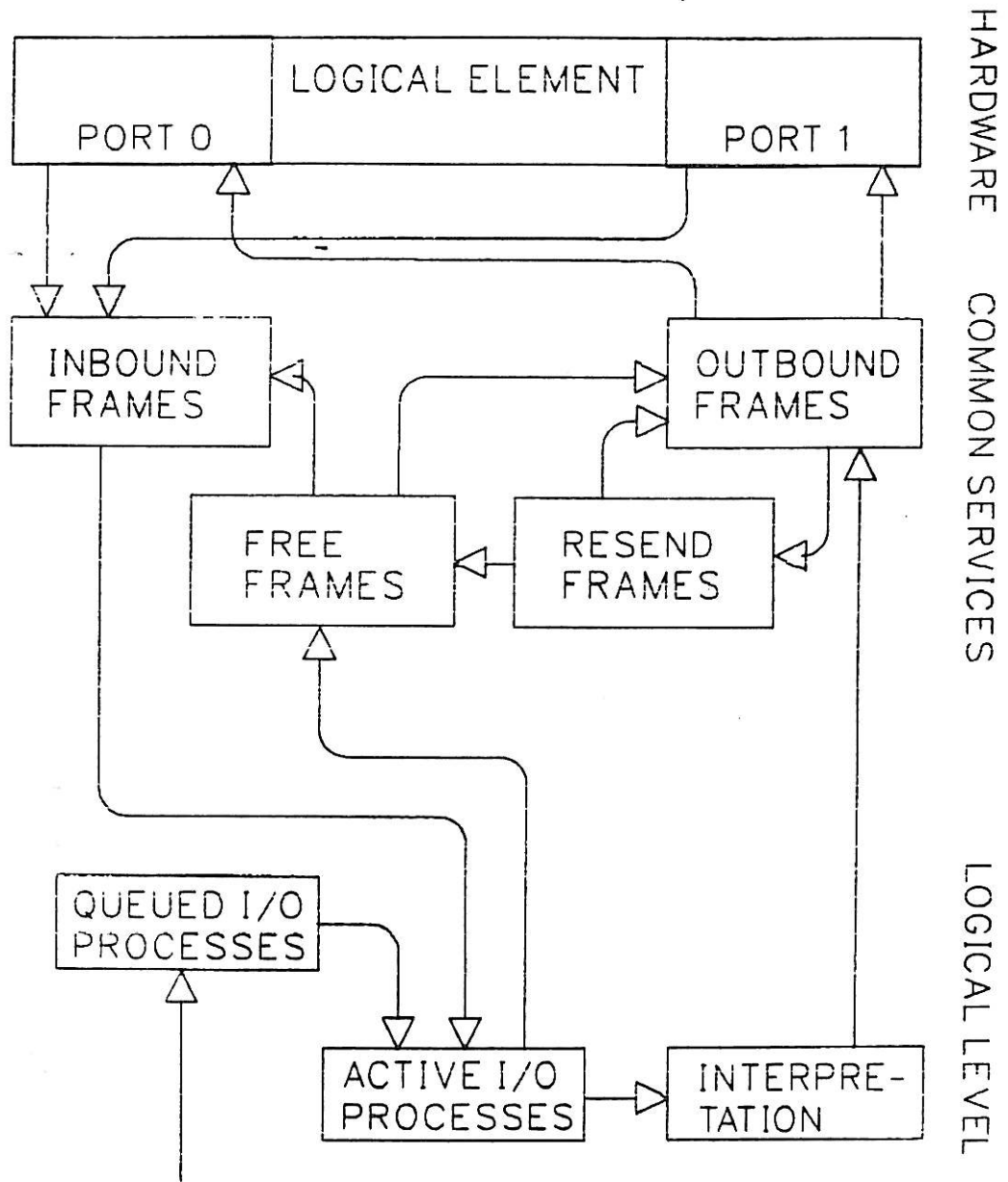
INFORMATION PACKETS



SCFI LOGICAL MODEL - INFORMATION FLOW



SCFI LOGICAL MODEL - INFORMATION FLOW



INITIATING CONTROLLER