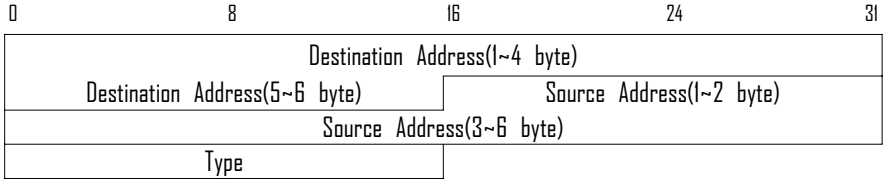
LPX(Lean Packet eXchange) Protocol Specification.

□□□ field Big-endian(Network byte order) .

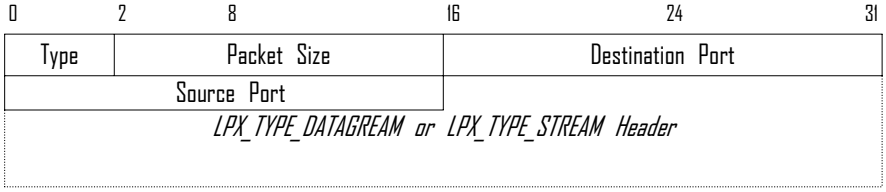
1. Ethernet Header



Type = 0x88ad

2. LPX Header structure.

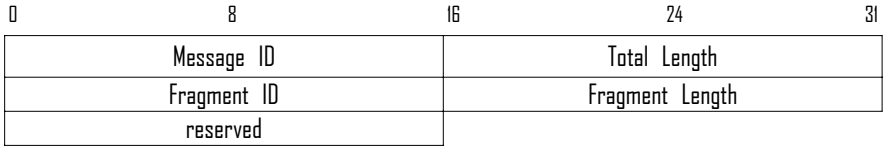
2.1. LPX Header.



Type = LPX_TYPE_RAW 0x0 // □□□ □
LPX_TYPE_DATAGRAM 0x2
LPX_TYPE_STREAM 0x3
Packet Size = Header size□ □□□□ □□□□□ (bytes).
Destination Port = □□ Port
Source Port = □□ Port

LPX□ □ □Type □□ □ □ □□ □ □□□ □ □ . 10Bytes □□□□□ . (3)

2.2. DATAGRAM Type Header.



Message ID = Message □□
Total Length = Datagram □ □□
Fragment ID = Message□□□□□□□□□□□□□□ □□
Fragment Length = □□ □□□□

2.3. STREAM Type Header.

0 ~ 15	16 ~ 31
LSCTL	Sequence
ACK Sequence	Window Size
reserved	

LSCTL(Lpx Stream ConTroL Bits) =

- LSCTL_CONNREQ 0x0001
- LSCTL_DATA 0x0002
- LSCTL_DISCONNREQ 0x0004
- LSCTL_ACKREQ 0x0008

[illegible] flag [illegible] 2 [illegible] setting [illegible].
ACKREQ [illegible] Sequence / [illegible] ACKREQ [illegible].

- LSCTL_ACK 0x1000

[illegible] ACK [illegible].

Sequence = [illegible] packet sequence.
ACK Sequence = ACK[illegible] sequence.
ACK Sequence[illegible] Sequence [illegible].
Window Size = [illegible].

3. Ethernet + LPX(Stream Type)

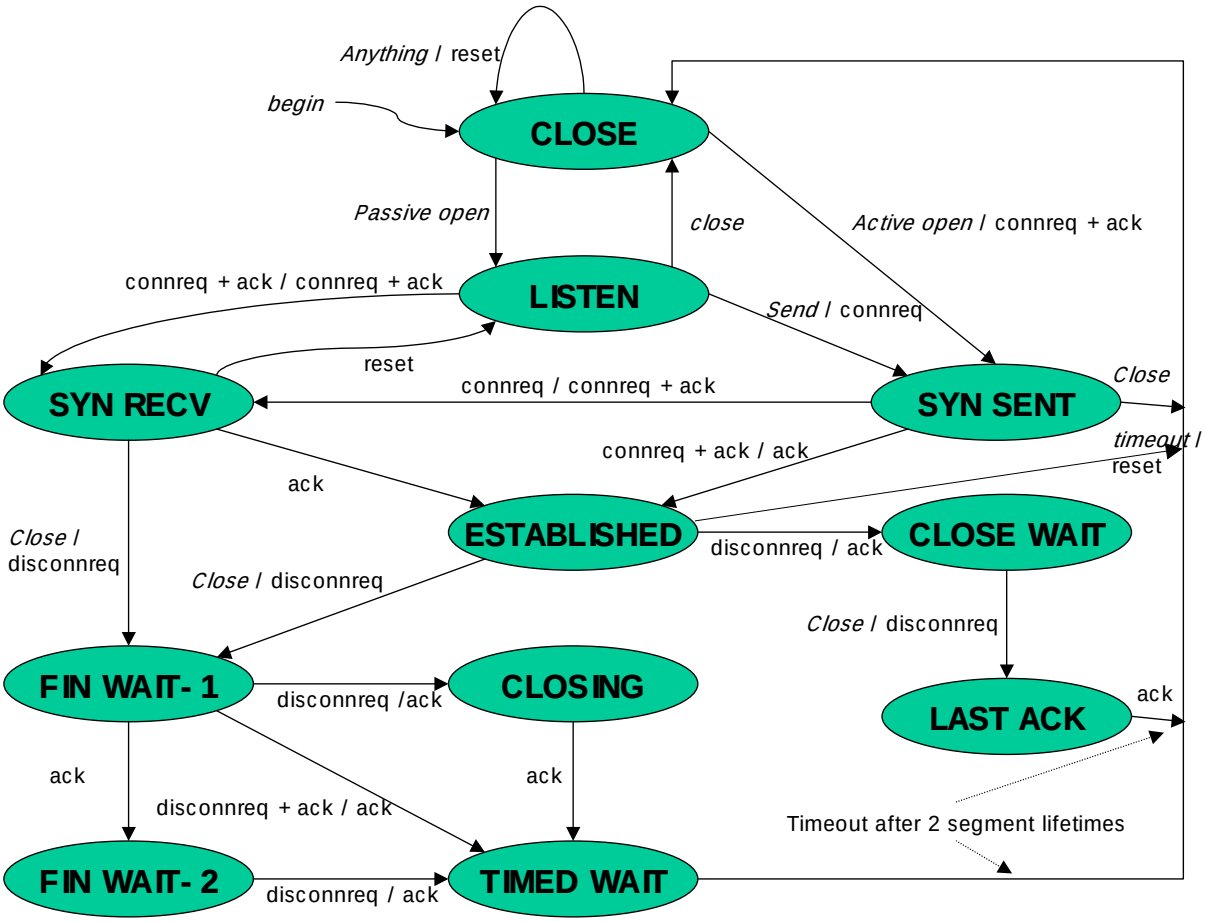
3.1. Datagram Type

0 ~ 15	16 ~ 23	24 ~ 31
Destination Address(1~4 byte)		
Destination Address(5~6 byte)	Source Address(1~2 byte)	
Source Address(3~6 byte)		
Type(Ethernet)	Type	Packet Size
Destination Port	Source Port	
Message ID	Total Length	
Fragment ID	Fragment Length	
reserved		

3.2. Stream Type

0 ~ 15	16 ~ 23	24 ~ 31
Destination Address(1~4 byte)		
Destination Address(5~6 byte)	Source Address(1~2 byte)	
Source Address(3~6 byte)		
Type(Ethernet)	Type	Packet Size
Destination Port	Source Port	
LSCTL	Sequence	
ACK Sequence	Window Size	
reserved		

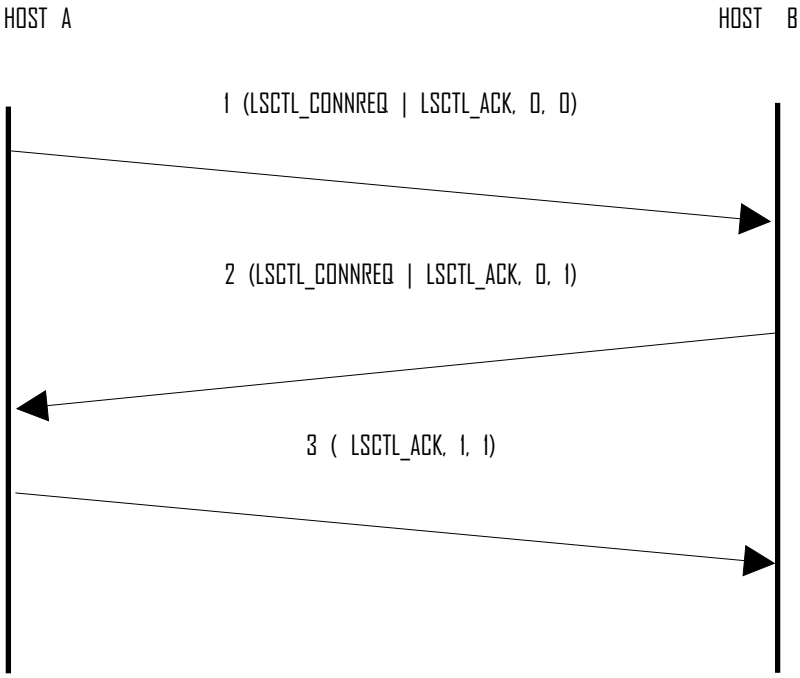
4. LPX Stream finite state machine



LanDisk [illegible] . [illegible] connecting [illegible] disconnecting Host . LanDisk [illegible] connection [illegible] passive open .

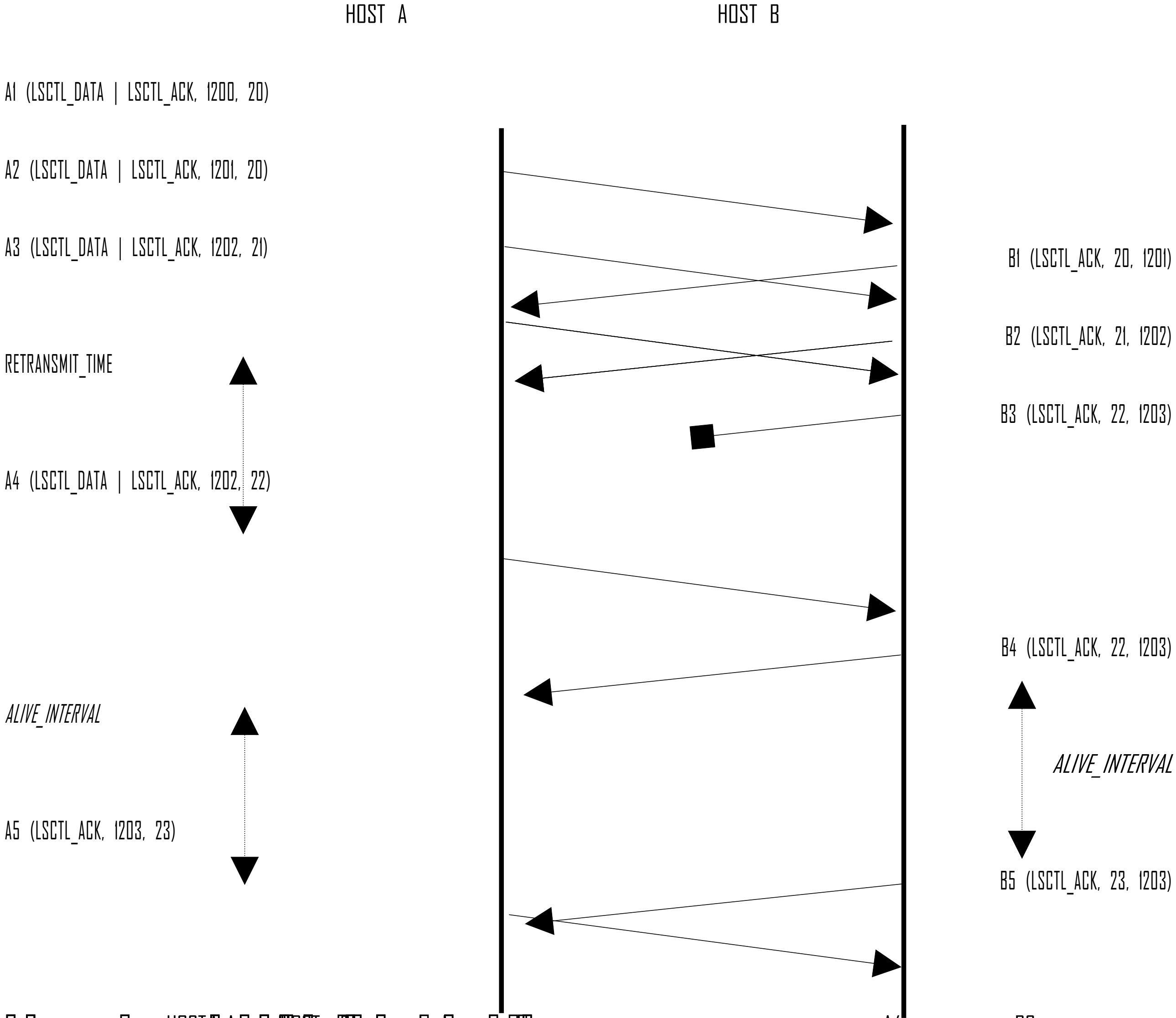
5. Connecting

LPX Stream connection TCP 3-way handshaking .
HOST A HOST B connection . LPX Stream Type
(LSCTL, Sequence, ACK Sequence) . LSCTL
flag (Server) .
HOST A sequence 100
(LSCTL_CONNREQ | LSCTL_ACK, 100, 0), (LSCTL_CONNREQ | LSCTL_ACK, 0, 101),
(LSCTL_ACK, 101, 1) .
LanDisk system LanDisk HOST B
. LanDisk LISTEN host connection (LSCTL_CONNREQ |
LSCTL_ACK) SYN_RECV host ack ESTABLISHED
.



6. Data Transferring

LPX Stream Type ... sequence ... (Most recently) ... sequence ... .
... ACK ... sequence 1 ... .
LPX Stream Type ... ESTABLISHED ... LPX Stream Type ... LSCTL (LSCTL_DATA ... LSCTL_ACK) . LPX Stream Type Header ... ACK sequence ... (ACK piggy-bag) , LPX Stream Type ... Header ... . ACK sequence ...
LPX Stream Type ... ACK ... acknowledge ... .
... DATA ... HOST ... HOST ACK ... .

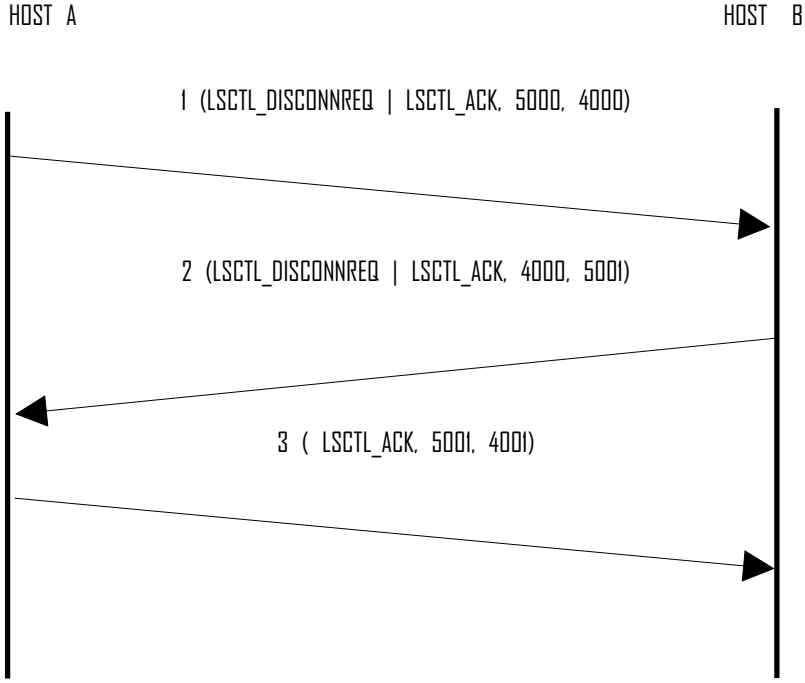


... HOST A ... HOST ... . A4 ... B3 ... A5 ... B5 ... connection ... idle ... .
Connection ... . (10 20) ... ACK ... idle ... connection alive_count ... idle ... ACK

(Alive_interval * 10
) connection .

7. Disconnecting

LPX Stream Disconnecting connecting 3-way Windows Baking .
HOST A HOST B Disconnecting . HOST B 1
CLOSE_WAIT 2 LAST_ACK
connection .



Host A HOST B disconnection .
FIN_WAIT-1, TIMED_WAIT .