T10/03-078r0

Hewlett Packard Corporation
Filton Road, Stoke Gifford
Stoke Gifford
Bristol BS34 8QZ
United Kingdom

Phone +44 117 979 9910
Web www.hp.com

ADT Proposal

Header Reserved Bit Error

Introduction

In ADT r01 the frame header contains two reserved bits, one in byte 0, bit 7 and one in byte 1, bit 3.

The existing text does not describe the behaviour of a port that receives a frame with a reserved bit in the header equal to one. Furthermore, no existing NAK status value covers this case (see Table 5 in sub-clause 6.5.3 NAK Frame).

HP believes that the lack of specification for this case will lead to interoperability problems.

HP wishes to add text that instructs the frame receiver to NAK a frame containing a header reserved bit equal to one and to add a NAK status value for this error case.

Current Text

6.3 ADT frame header

An ADT frame header is included in all frame types. The ADT frame header contains the information needed to validate and route the frame to the proper protocol handler. Table 2 defines the ADT Frame Header.

The first byte in the header is a set of bit fields collectively referred to as the Frame Type byte.

Table 2 — ADT frame header

Bit Byte	7	6	5	4	3	2	1	0
0	Reserved	Protocol			PAYLOAD TYPE			
1	X_ORIGIN	EXCHANGE ID			Reserved	FRAME NUMBER		
2 - 3	Payload Size							

[…]

The PAYLOAD SIZE field contains a count of byte in the Payload area of the frame. This count does not include the SOF, EOF, ADT Frame Header, Checksum, or Escape bytes within the payload.

6.5.3 NAK frame

NAK frames are sent by the transport layer to indicate that the port has detected an error during the reception of a frame. The Payload of a NAK frame contains 1 byte indicating the status. The FRAME

NUMBER field in the ADT Header of the NAK frame shall be the next expected frame. Table 5 lists the status values:

Table 5 — NAK frame status code value

Status	Description
00h	Reserved
01h	Bad checksum
02h	Over-length (more bytes received than PAYLOAD SIZE indicates)
03h	Under-length (less bytes received than PAYLOAD SIZE indicates)
04h	Framing error
05h	Hardware over-run
06h	Non-sequential frame numbers
07h	Awaiting Initiate Recovery frame
08h - 7Fh	Reserved
80h	Unsupported protocol
81h	Out of resources, retry later. The receiving port has run out of buffers to store the frame.
82h	Aborted, login in progress
83h	Invalid or illegal Pause frame received
84h	Illegal operation is Special state
85h	Rejected, port is logged out
86h	Maximum ACK offset exceeded
87h	Maximum frame size exceeded
88h	Unsupported frame type
89h – FFh	Reserved

Detailed Changes to Draft Technical Standard

6.3 ADT frame header

An ADT frame header is included in all frame types. The ADT frame header contains the information needed to validate and route the frame to the proper protocol handler. Table 2 defines the ADT Frame Header.

The first byte in the header is a set of bit fields collectively referred to as the Frame Type byte.

Table 2 — ADT frame header

Bit Byte	7	6	5	4	3	2	1	0
0	Reserved	Protocol			PAYLOAD TYPE			
1	X_ORIGIN	EXCHANGE ID			Reserved	FRAME NUMBER		
2 - 3	Payload Size							

[…]

The PAYLOAD SIZE field contains a count of byte in the Payload area of the frame. This count does not include the SOF, EOF, ADT Frame Header, Checksum, or Escape bytes within the payload.

A receiving port shall NAK any frame, except an ACK or a NAK frame, containing a header Reserved bit equal to one. The receiving port shall set the NAK status code value equal to Header Reserved Bit Set.

6.5.3 NAK frame

NAK frames are sent by the transport layer to indicate that the port has detected an error during the reception of a frame. The Payload of a NAK frame contains 1 byte indicating the status. The FRAME NUMBER field in the ADT Header of the NAK frame shall be the next expected frame. Table 5 lists the status values:

Table 5 — NAK frame status code value

Status	Description
00h	Reserved
01h	Bad checksum
02h	Over-length (more bytes received than PAYLOAD SIZE indicates)
03h	Under-length (less bytes received than PAYLOAD SIZE indicates)
04h	Framing error
05h	Hardware over-run
06h	Non-sequential frame numbers
07h	Awaiting Initiate Recovery frame
08h	Header reserved bit set
089h - 7Fh	Reserved
80h	Unsupported protocol
81h	Out of resources, retry later. The receiving port has run out of buffers to store the frame.
82h	Aborted, login in progress
83h	Invalid or illegal Pause frame received
84h	Illegal operation is Special state
85h	Rejected, port is logged out
86h	Maximum ACK offset exceeded
87h	Maximum frame size exceeded
88h	Unsupported frame type
89h – FFh	Reserved