
Subject: Re: PCIe-AS - Tutorial -- Is there a CRC for the address header ?

Posted by [David Slogsnat](#) on Wed, 15 Sep 2004 14:40:19 GMT

[View Forum Message](#) <> [Reply to Message](#)

Walter F.J. Müller wrote on Wed, 15 September 2004 16:05David Slogsnat wrote on Wed, 15 September 2004 14:59This is true. However, things get more complicated when looking at the ASI specification:

- The Turn Pointer is not included in the header CRC.

- The final receiver of an AS Packet has to check the CRC. The intermediate switches may check it, but they don't have to.

One thing you can observe from this is that a packet may reach a wrong receiver due to an bit error in the Turn Pointer. The sender cannot be notified of this failed message transfer, since the Turn Pool in reverse direction does not lead to it.

Also, i wonder how the wrong receiver finds out that the packet was intended for another destination, since the header CRC check will not show an error!!!

How were all these header corruption issues solved in ATOLL, which uses a quite similar path addressing scheme ?

ATOLL does not use something like a turn pointer. Instead, there is just a routing string, which is composed of routing bytes. The first routing byte contains the routing information for the next switch(crossbar). At every switch, the leading routing byte is removed. And so on.... Every single routing byte is parity checked at each hop(parity check is only a very small overhead). If there is an error, the packet is retransmitted on link level.