Exchange Diagnostic Parameters – Port Congestion Visibility

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Exchange Diagnostic Parameters

Port Congestion Descriptor

Word	31 24	23 16	15 08	07 00
0	Port Congestion Information Data Descriptor Tag = 0001 000X			
1	Port Congestion Information Data Descriptor Length (76 Bytes)			
2	Counter Validity Mask (16 Bits Used)			
3	Transmit Buffer to Buffer Credit Transitions to Zero			
4	Receiver Buffer to Buffer Credit Transitions to Zero			
5	Txwait events			
6	Rxwait events			
7	Transmit Buffer to Buffer Credit at 0 for 100ms events			
8	Receive Buffer to Buffer Credit at 0 for 100ms events			
9	Reserved			
10	Reserved			
11	Reserved			
12	Reserved			
13	Reserved			
14	Reserved			
15	Reserved			
16	Reserved			
17	Reserved			
18	Reserved			

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  Command for one port to be able to determine port configuration and status information about another port in the fabric.

  1. Add the ability for a port to be able to gather information related to port congestion for other ports so that this information can be used for understanding and resolving performance issues.
  2. Define an extendable descriptor to pass supported information to the requestor – specifically leaving room for future types of data to be passed.
  3. Masking ability to allow different platforms to be able to indicate which field are supported in the reply.
  4. Vision is that this information can be gathered both periodically as well as at the time of suspected issues to enable first failure issue determination.

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Counter Validity Mask: 16 bit masking for each of the 16 possible counters (including future reserved fields). A value of 1 indicates that a valid value is present, 0 indicates no value. When a 0 is marked for any counter, the contents of that counter shall be ignored.

Transmit Buffer to Buffer Credit Transitions to Zero: Number of times that transmit B2B has transitioned to zero. Validity of this counter is indicated with bit[0] in Counter Validity Mask.

Receive Buffer to Buffer Credit Transitions to Zero: Number of times that receive B2B has transitioned to zero. Validity of this counter is indicated with bit[1] in Counter Validity Mask.

TxWait events: Number of times that transmit B2B credits have been at zero for 2.5 microseconds while there is data waiting to be transmitted. Validity of this counter is indicated with bit[2] in Counter Validity Mask.

RxWait events: Number of times that receive B2B credits have been at zero for 2.5 microseconds. Validity of this counter is indicated with bit[3] in Counter Validity Mask.

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Transmit Buffer to Buffer Credit at 0 for 100ms: Number of times that transmit B2B credits have been at zero for 100ms (or longer). Validity of this counter is indicated with bit[4] in Counter Validity Mask.

Receive Buffer to Buffer Credit at 0 for 100ms: Number of times that receive B2B credits have been at zero for 100ms (or longer). Validity of this counter is indicated with bit[5] in Counter Validity Mask.

Reserved: Fields reserved for future counter or information related port congestion of this port. Validity of these future fields will be learned by successive bits in the Counter Validity Mask.


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