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Memo

To:

From:

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# Comments on FH Bridge Demo Program

Select text you would like to replace, and type your memo. Use styles such as Heading 1-3 and Body Text in the Style control on the Formatting toolbar. To save changes to this template for future use, choose Save As from the File menu. In the Save As Type box, choose Document Template. Next time you want to use it, choose New from the File menu, and then double-click your template.

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| Startup MENU |
| ------------------ Partition Change: Start ------------------ Policers: 8000 PCE HW rules 32000 Chip Revision: WP3 Rev B.2 Re-init PCE Hash Re-init INT RAM ------------------ Partition Change: Finish ----------------- CREATING PECS: handle returned: d8100001 CREATING PECS: handle returned: d8100002 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Ethernet Bridge Demo  Hot keys: m=Main Menu, u=Upper Menu, d=Display Cur Menu, q=Quit  Name: Main Menu  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  **1. -> FH Test Menu 2. -> Vlan Menu 3. -> Aging Menu 4. -> Learning Menu 5. -> System Statistics 6. <> Dump FDB entry 7. <> Flush FDB by Vlan 8. -> Performance test 9. <> Quit 10. FiberHome Test Menu** # Enter your command: |
| \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Ethernet Bridge Demo  Hot keys: m=Main Menu, u=Upper Menu, d=Display Cur Menu, q=Quit  Name: FiberHome Test Menu  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 1**. -> IPV6 filtering** 2. **-> L4 port filtering(有流控， 发的太快会被丢弃. 只检测port.代码里写死了限速7000k. WPE\_Create\_Pce\_Policer()定义了限速)** 3. **-> L4 subtype filtering(WTE\_CreateUDFSet()这个函数里定义了L4的子类型的位置， 也就是偏移量， 目前是十进制的10)** **4. -> Reserved MAC filtering(PCE\_RulesAdd()里的mac定义了这个保留的mac地址.也可以通过手工在菜单输入.符合这个MAC地址的包将被转发到HOST在串口上打印出来)** 5. -> Max Learned Mac by port # Enter your command:1  Enter IPV6 address > e.g. **00-01-02-03-04-05-06-07-08-09-0a-0b-0c-0d-0e-0f**   * (comments: ipv6的地址的输入就按照上面这个输入， 不要搞些花哨的东西免得出错 * 如果收到的包不匹配任何规则， 那么就定向到host port去了， 会在串口上打印出来. * 我们只匹配Dest IPv6的地址， 不匹配Source的IPV6的地址 * Jerry测试的时候， 在我们的IXIA仪表上使用了仪表的PORT1, 4, 使用的不是光纤， 而是网线及其对应的copper SFP, 使用什么样的激光器， 仪表上需要对应的设置.) |
| 测试注意事项 |
| 在IXIA仪表中， 选择了IPv6以后， 在协议自选项里面必须选择TCP/IP, 或者UDP/IP选项， 不能选择None, 否则会所有的包都让通过， 无法解释 |
| L4端口设置的时候，   1. 如果是TCP/IP子协议类型， 端口号是16进制的， 不是10进制的 2. 然后如果是UDP/IP子协议类型， 端口号是10进制的， 不是16进制的。 3. 注意， 多个规则之间不要冲突 4. ICMP/IP协议包是过不了的 5. M.6是打印学习到的MAC地址 6. M.4.1是使能学习 7. **L3子协议功能只有在UDP下才能起作用， TCP下是不起作用的。 因为DHCP是基于UDP的.** |

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|  | There is no **freerun** mode, only **interactive** mode |
|  | This demo run in **Linux** env, not in **WinMon** . |
| Req 1 | 128-bit complete IPv6 address.  **WPE\_CreateIPV6MatchPceRule()** |

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| OCS with Jane | 17:34Jane Li  Morris?  17:34Morris Deng  yes  17:34Jane Li  Do you have any questions regarding the current demo?  17:35Morris Deng  not still, i'm reading the source code and the excel sheet  17:35Jane Li  Thanks.  **for terminating the ICMPV6, you just need to use the PCE next header..**  **and match the value to be ICMPV6, then to flowagg**.  17:35Morris Deng  next header, OK  17:36Jane Li  **The value of ICMPV6 is 0x3A**..  So this is easy..  17:36Morris Deng  understand.  thanks  17:37Jane Li  For unknown multicast.. just set the it on IWPORT  Let me know if you get any questions..  17:38Morris Deng  OK |
|  | 10:53Jane Li  Morris?  10:53Morris Deng  yes  i'm home now  10:54Jane Li  10:54Morris Deng  quit peace now  10:54Jane Li  Great!  I can have 1 hour to review the demo.  10:54Morris Deng  ok  thanks  10:54Jane Li  Let's open the demo and the excel  10:55Morris Deng  not all the function and the MENU is usable. only some of them will be used this time.  10:55Jane Li  O.K.  10:56Morris Deng  the Demo is modified from and old one whose name is 'bridge', the 'bridge' is a comparative bigger one program. Jerry reduced something based on it.  only 3 ports are used, host-port, enet7, enet8,  10:56Jane Li  O.K.  10:56Morris Deng  all the packets are send from enet7 to enet8  in the single direction.  though packets from ENET8 to ENET7 is OK, but Jerry does not use them.  10:57Jane Li  That's find  fine  10:58Morris Deng  about the flowAgg, i think Jerry use only 1 flowAgg which pointing at ENET8 only, all the rules are inside PCE.  10:58Jane Li  that's not good.  I know.  10:58Morris Deng  OK  10:58Jane Li  Different rules should use different flowagg.  10:58Morris Deng  OK  10:58Jane Li  Or how can we tell the custoemrs which rule is working.  You can tell him to improve this.  10:59Morris Deng  and the remain requirement CVLAN insertion is still worked by Jeff now. when i discuss with Jeff, he said he will insert CVLAN in some IW port.  Jerry has left now from today for he will go back to his hometown for his wedding .  in fact, Jerry's wedding is WuChang city too.  But i can not expect Jerry help at that time.  11:00Jane Li  I heard from Jeff about this..  congratulations to Jerry.  11:01Morris Deng  all the function except CVLAN insertioin were tested and seems good now.  11:02Jane Li  O.K.  11:02Morris Deng  and,  Jane, how abou use PCE basic ipv6 CLASSIFICATION rules with MASK to do the GIMP in IPv6?  for according to the docs,  11:04Jane Li  GIMP in IPV6?  11:04Morris Deng  IPv6 broadcast is decided by the first byte of the IPv6 address, if the first IPv6 address byte is all '1' , then it is group broadcast address.  Group Broadcast  11:05Jane Li  O.K.  11:05Morris Deng  i think it is in the excel sheet, requirement 9, 10  11:05Jane Li  Let's have a talk  faster  Connected to ‎Jane Li‎ (jane\_li@pmc-sierra.com).  11:45Morris Deng  0 – 255 IPv6 next header permitted values. One of the predefined IPv6 next header values can be configured as well (instead of configuring a raw value). Predefined values are: WP\_IPV6\_NEXT\_HEADER\_TCP (6) WP\_IPV6\_NEXT\_HEADER\_UDP (17) WP\_IPV6\_NEXT\_HEADER\_OSPF (89) WP\_IPV6\_NEXT\_HEADER\_IGMP (2) WP\_IPV6\_NEXT\_HEADER\_IGP (9) WP\_IPV6\_NEXT\_HEADER\_GRP (7) WP\_IPV6\_NEXT\_HEADER\_IGRP (88) WP\_IPV6\_NEXT\_HEADER\_IPV4 (4) WP\_IPV6\_NEXT\_HEADER\_IPV6 (6) WP\_IPV6\_NEXT\_HEADER\_EIGRP (88) WP\_IPV6\_NEXT\_HEADER\_GRE (47) WP\_IPV6\_NEXT\_HEADER\_IGRE (47) WP\_IPV6\_NEXT\_HEADER\_ICMP (1)  5.1.87  typedef WP\_U8 WP\_ipv6\_next\_header; WP\_ipv6\_next\_header Holds 1 byte of the IPv6 next header Permitted Values 0 – 255 IPv6 next header permitted values. One of the predefined IPv6 next header values can be configured as well (instead of configuring a raw value). Predefined values are: WP\_IPV6\_NEXT\_HEADER\_TCP (6) WP\_IPV6\_NEXT\_HEADER\_UDP (17) WP\_IPV6\_NEXT\_HEADER\_OSPF (89) WP\_IPV6\_NEXT\_HEADER\_IGMP (2) WP\_IPV6\_NEXT\_HEADER\_IGP (9) WP\_IPV6\_NEXT\_HEADER\_GRP (7) WP\_IPV6\_NEXT\_HEADER\_IGRP (88) WP\_IPV6\_NEXT\_HEADER\_IPV4 (4) WP\_IPV6\_NEXT\_HEADER\_IPV6 (6) WP\_IPV6\_NEXT\_HEADER\_EIGRP (88) WP\_IPV6\_NEXT\_HEADER\_GRE (47) WP\_IPV6\_NEXT\_HEADER\_IGRE (47) WP\_IPV6\_NEXT\_HEADER\_ICMP (1)  11:55Jane Li  /\* reserved Mc mac is devided into 3 types: **0x0180C2000000 - 0x0180C200000F, 0x0180C2000010, 0x0180C2000020 - 0x0180C200002F** other Mac addresses are not considered reserved Mc Mac addresses.\*/  Line 791.  **WP\_PCE\_FIELD\_ID\_IPV6\_NEXT\_HEADER** |
|  | 15:29Morris Deng  Hello Oren?  15:31Morris Deng  For layer 3 broadcast, I mean IPv6 broadcast,  is there any easy way in our WDDI to implement the IPv6 broadcast?  thanks.'  15:32Oren Berman  what is required by ipv6 boradcast?  which excel issue it is  15:33Morris Deng  recognize the IPv6 broadcast packet, discard the unkown group broadcast packets, and flood the known group broadcast packets.  15:33Oren Berman  well this is easy  15:33Morris Deng  in the excel, line 10  15:33Oren Berman  the ipv6 is an ipv6 address and the extact match will og ot a multicast group  this hreuires using group create and multicats flow aggregation  15:34Morris Deng  in IPv6 address, the 1st byte should be 0xff  15:34Oren Berman  OK  15:34Morris Deng  create a multicast flowagg  15:34Oren Berman  but do you meean to flood all 0xff or specific 0xff  15:34Morris Deng  and in the IPv6 address, the last 32 bits are group id.  i think flood in the same group  flood in the same broadcast group  i think  15:35Oren Berman  ok so you need exatct match on uipv6 and send to a group  then you add the memebres you wnat trAFFIC TO BE FLOODED TO  15:35Morris Deng  add members to the multicast flowagg?  but multicast flow agg deals with packets in layer2, right? not in layer3?  15:36Oren Berman  no  multicasst flow agg does not care who came  he takes the received packet and forwards it to all memebers  15:37Morris Deng  OK  understand.  15:37Oren Berman  each mebeber can focurse change the packet remove headers add headres etc  but multicast flow agg casn be used by any packet  you ccan claissify the packet ion ipv6 and then the result is MC flow agg  15:38Morris Deng  understand, multicast flowagg can be used by any packets.  OK  use **WP\_IW\_GENERIC\_MC\_MODE** when creating flowagg right?  15:38Oren Berman  yes  15:40Morris Deng  thanks  thank you very much  15:43Oren Berman  **you can look at folder wddi/tests/72\_multicast**  15:43Morris Deng  OK  15:43Oren Berman  there you have **iwgp** tests that use multicast  15:43Morris Deng  thank u so much.  15:43Oren Berman  you need iwgp  15:43Morris Deng  IWGP  ok |
|  | **WPE\_CreateMCgroups** |

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| From oren | Hi  You can look in folder wddi/tests/95\_pce  Search for the use of **WP\_PCE\_FIELD\_ID\_IPV6\_NEXT\_HEADER**  And see how it is defined |

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| Keatin’s TestCase | **From:** Keatin Chen  **Sent:** Sunday, August 12, 2012 19:08 **To:** Jeff Zhang; Jane Li; Phenix Wen; Morris Deng **Subject:** Please help to merge // RE: IPv6 TC remarking seems good now.  Phenix, Morris  I am not sure whom of you have the latest code.  Please merge my code, which are tested and passed yesterday.  You can change them into variable parameters by user input  case34  in this case, uc packet, change vlan prio = 1  in this case, bc packet, change vlan prio = 2  case 35  smac=00..01, dmac=00..02, sip=10.0.0.1,dip=10.0.0.2,tos=1 vlan ->100  smac=00..03, dmac=00..04, sip=10.0.0.3,dip=10.0.0.4,tos=3 vlan ->300  this case is not tested pass in WDDS4.1 for not able to set INT\_VLAN update and FA together in one filter  I believed it can be set in WDDS4.3  if in WDDS4.3 can not do it either, we shall split the mathing result into 2 filters.  please refer to Case36, which is an example of spliting.  case36  in this case,  match ext vlan range from 0x100 - 0x200, change ext vlan = 1  for no matching packet, drop  case37  in this case, add a s-tag vlan, or not change anything.  use int vlan range 1 - 0x200  the matching one: vlan = 1, add stag 0x81000100, by pecs fa  the matching one: vlan = 0x300, pass through, by bport fa  Keatin |
|  | **1550 ^M**  **1551 filter\_class.filter\_fields[0].field\_mode = WP\_PCE\_FIELD\_MODE\_COMPARE\_EXACT\_MATCH;^M**  **1552 filter\_class.filter\_fields[0].mask\_mode = WP\_PCE\_FIELD\_MASK\_USED;^M**  **1553 filter\_class.filter\_fields[0].mask.parser\_flags = WP\_PCE\_MASK\_PARSER\_FLAG\_BC;^M**  **1554 filter\_class.filter\_fields[0].field\_id = WP\_PCE\_FIELD\_ID\_PARSER\_FLAGS;^M**  **1555 ^M** |