

Meeting 2/14/2012

Attendees

- 1) Bob Noseworthy
- 2) Brent Rothermel
- 3) Jess Robel
- 4) Nick Wood
- 5) Rupert Dance
- 6) Slava Pekelis

Status

- 1) At least one connection between Mellanox and QLogic Port came up as QDR. He can reboot and it still stays as QDR. On the original port, it sometimes comes up as QDR but just as often at DDR.
- 2) Two issues
 - a) He does not see behavior in Slava's lab and he feels it may be that the switches at UNH-IOL have been used a lot.
 - b) If he changes equalization, he can reproduce the problem. So he agrees that it may be signal

Slava:

I have got an approval to send you the latest improved FW image. This way we can easily update images without being tied down.

This will require from you to perform following steps:

- 1) Install mft package on the host connected to the Switch
- 2) Run opensm
- 3) Burn the image using flint command
 - a) Flint -d /dev/mst<device_name> -I <image> b
- 4) Halt the system and remove the management board.
- 5) Power on the system

I will take a guess and consider that your system is MSX6036F-A1 but I would like to ask you to verify this. I think there should be some sticker on the box with the numbers it would be great if I can get those.

Slava:

- 1) He is asking to remove the management board but after the first update. This will allow him to deploy and send firmware.
- 2) After it has been burned once then you can leave the board out and update.
- 3) Use "showinventory" to get firmware information

Brent:

- 1) Do I need any special Mellanox HCA or will any ConnectX do?
 - a) Slava: any Mellanox QSFP should work
- 2) Management board should stay out. So Slava can send new images as needed.

Logo Status

- 1) QLogic
 - a) Number one goal is the end customer. The reason OFA and IBTA does this is to make sure customer knows things will work together.
 - b) We need a way to feel comfortable that firmware will be made available within a reasonable period of time. So he suggests an evaluation period or a time.
 - c) Let's create a draft that covers this scenario.
- 2) Slava
 - a) Next Interop event is coming. Should we work together in the next PlugFest to solve it?
 - b) They have shortened their firmware release program and it will not take more than a couple of months to diagnose and resolve the issues
 - c) They have many more hooks in the firmware developed during QDR debug event that should allow faster debugging.
 - d) Receiver tweaking is hard than transmitter debugging.
- 3) Summary
 - a) Work hard for 2-3 weeks
 - b) If solution does not occur, then they work at Interop Debug Event.
 - c) Firmware will be available within 2-3 months of the Debug Event.

Bob Noseworthy

- 1) Getting close to the next event – need to make decisions in the next week or so
- 2) Need to know what testing may need to be done based on new firmware. Need to determine
- 3) Very happy to do testing on new firmware.

Brent

- 1) Should we just leave devices off until the solution has been found and then re-test using On-Demand.
- 2) Rupert points out that there is a cost to the On-Demand program.
- 3) Slava is OK adding the devices to the list and indicating that Link Init failed as a result of the link negotiation between Mellanox and QLogic and they are working hard to resolve it.

Rupert

Suggestion – let's create two separate lists like we are going to do for IBTA.

- 1) QDR Logo List
- 2) FDR Beta List

Next Meeting

Mellanox and QLogic work together during this week and meeting next Tuesday 2/21/2012 at 10 AM EST.

Meeting 2/9/2012

Attendees

- 7) Brent Rothermel
- 8) Jess Robel
- 9) Nick Wood
- 10) Rupert Dance
- 11) Slava Pekelis

Slava

- 1) Slava has tried a new image on the switch and it did not improve results on the switch. Sees stable and good link on one port and the other port is only DDR. He tried to work on the receiver side but remote options are very limited. When he works locally everything is working at QDR.
- 2) In process of providing image to QLogic. It may take another day or so. He will try and respond tonight with more details and information. He will know what he can and cannot do.

Brent

- 1) What he will do is sweep transmit equalization and make sure it works across all revs of the switch. He will give the intersection of them all and then he will provide his opinion as to how much they need to change Receive EQ
- 2) Managed firmware is hard to update. Slava needs to go through proper channels in order to change from managed
- 3) Mellanox has 2 managed and 2 unmanaged QLogic switches. Brent asks Slava to run show inventory command which will show the hardware version of the switch. Older hardware may explain the difference between the local and remote results.
- 4) Brent says by improving the loss budget, you need less equalization and so the Mellanox switch may need to go down.

Next meeting on Tuesday 2/14/2012 at 8:00 PM Israel, 1:00 PM EST, 10:00 AM PST

Meeting 2/6/2012

Attendees

- 1) Bob Jaworski
- 2) Brent Rothermel
- 3) Jess Robel
- 4) Nick Wood
- 5) Oren Sela
- 6) Rupert Dance
- 7) Slava Pekelis

Agenda

- 1) FDR HCA – Nick – the minimal spot checking they did confirms that the problem
- 2) Mellanox FDR Switch to QLogic Switch
- 3) QLogic- wants to talk about offline Interoperability testing and sharing of firmware etc

Current Status

- 1) Testing has been with FDR
- 2) Brent
 - a) He looked into switch and sees what states are being transitioned. What is being exchanged?
 - b) Standard IB state machine and trying QDR initially but in all cases it fails and reverts to DDR. QLogic switch refuses DDR at first,
 - c) He feels Mellanox switch is failing. QLogic is passing QDR config test. He is using standard transmitter settings that work with other Mellanox QDR devices
 - d) He adjusted switch equalization he can come up to QDR
 - e) He feels it is a receiver issue on the Mellanox switch
 - f) He wants to offer to work with Mellanox and exchange Debug firmware to quantify margins so we can optimize transmitter and receiver.
 - g) He can tell Mellanox whether their transmitter
- 3) Oren
 - a) Can Mellanox try the same on the QLogic transmitter?
 - b) It is easier for Mellanox to give them debug FW for unmanaged switch.
- 4) Slava
 - a) He understands what Brent has said and has a similar experience in his lab. He has 4 QLogic switches in his lab and is using the latest FW from QLogic website.
 - b) He used the latest FDR cables from Mellanox and used the spare cables provided at PF20.
 - c) He verified they have a signal integrity issues but not with cables that pass the 12 dB range.
 - d) The OFA issues are not related to logical part but signal integrity and IBTA stuff. It needs to be solved but should not be part of the Logo Granting. He feels shorter cable or another port is OK to make sure link comes.
 - e) 3 of 4 links come up at QDR at his lab. The switches at UNH-IOL are used heavily and may have bad ports. The issue should be solved in IBTA

- f) Should be able to use QDR cables
 - g) This problem did not occur during the IBTA Plugfest. He thinks the QLogic switch is worn out.
 - h) The FDR switch is new and QLogic switch has been used
- 5) Nick
- a) How many ports and cables. He had a colleague do the work and every link with FDR used a Mellanox FDR cable (3 meter). When they see a failure they go from edge port to inner ports. Many tries before the count as failure. Check top and mezzanine. They try 12-15 individual tests. If they get any single link that shows it is linking correctly, then they pass it regardless of how many failures they get.
 - b) Only Link Init checks for Link quality. Other tests just make sure the device is up and not the speed.
 - c) It is only the managed switch that is failing.
 - d) The QLogic 12200 links with every other device in the switch.
- 6) Brent
- a) He saw some of the links come up at QDR depending on ports. He feels they are right on the edge and sometimes it works and sometimes it does not.
 - b) He feels that the ports are not worn out. He would like to see the revision number of the switches
- 7) Oren
- a) IBTA relies on physical link and 100% success
 - b) Asking for those kind of results in the OFA is not appropriate.
 - c) End user does not want to see QDR device come up in SDR.
- 8) Rupert
- a) IBTA does not do all to all testing
- 9) Slava
- a) He says there are two links between the FDR switch and the QLogic switch. One comes up as QDR and the other links at DDR.
 - b) Nick says he was not aware of this. The results Slava gathered were debugged after the GA event.
 - c) Managed switch is still in development and he cannot outsource the image. He asks Brent if he will disable management card. Slava will send procedures. Slava would like to have Mellanox FAE update the image.
- 10) Nick
- a) Personally check 25% of the ports. He has no way of burning the Managed Switch.
 - i) Slava check version and time stamp.
- 11) Oren
- a) It works in Slava's lab. With cooperation and exchange of firmware we should be able to resolve it.
- 12) Rupert
- a) We have agreed
 - b) We need to get this resolved in the next two weeks.
- 13) Brent and Bob
- a) No further questions
- 14) Bob Noseworthy

- a) The insertion life is 250 plus and so he does not think wear is the issues. This is not a degraded issue. This is a systemic issue.
- b) He suggests that if IBTA takes this over, then IBTA must be mandatory

15) Brent

- a) Brent is gone next week so we will try for a meeting on Thursday 2/9/2012