

The Journey of OCP NIC3.0 Solution Integration and Demo

Presenter: Ben Wei, Software Engineer, Facebook Damien Chong, Hardware Engineer, Facebook

Guest speaker: Gady Rosenfeld, Broadcom Yuval Itkin, Mellanox





NIC 3.0 Development



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NIC3.0 integration into Yosemite V2















Design Journey: Analysis









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| NIC | 3.0 | |
|--------------------------|-----------|----|
| OCP NIC3.0.1 | .1 | |
| Total. | 168 pin . | |
| GND.1 | 50.1 | |
| NCSI.1 | 9.1 | |
| P12V.1 | 6.1 | |
| P3V3.1 | 1., | |
| .1 | | |
| .1 | л | |
| PE CLK P/N.1 | 8., | |
| PE RST#. | 4.1 | |
| PE_R P/N.1 | 32.1 | |
| PE_T P/N. | 32.1 | |
| PWR CNTL ₁ | 4.1 | |
| Scan Chain. ₁ | 4.1 | |
| USB. | 2.1 | |
| SMBUS.1 | 3.1 | |
| PRSNT. | 5.1 | |
| BIF.a | 3.1 | |
| WAKE. | 1.1 | |
| SLOT_ID. | 2.1 | |
| RFU.1 | 2., | |
| .1 | .1 | |
| .1 | л | |
| .1 | .1 | .1 |

Baseboard

| | Current adaptor pin | |
|---|----------------------|--------------|
| | definition. | .1 |
| | Total. | 240 pin., |
| | GND.1 | 79 .1 |
| | NCSI.1 | 8.1 |
| | P12V_STBY. | 8.1 |
| | P3V3.1 | 14.1 |
| | P3V3_STBY. | 4.1 |
| | P5V_STBY. | 6.1 |
| | PE CLK P/N. | 8., |
| | PE RST#. | 4.1 |
| | PE_R P/N. | 32.1 |
| | PE_T P/N. | 32.1 |
| | л | .1 |
| | | .1 |
| | .1 | .1 |
| | SMB/MDC/MDIO. | 5.1 |
| | PRSNT. | 4.1 |
| | PWR_BTN_N/RST_BTN_N. | 2.1 |
| | UART. | 4., |
| | WAKE.1 | 1., |
| | HAND_SW_ID. | 4.1 |
| | LED_POSTCODE. | 8.1 |
| | SLED_SEATED_N.1 | 1.1 |
| | KR., | 16.1 |
| _ | | |

AUX_PWR_EN

BIF[2:0]#



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Main Power Mode

Design Journey: Game Plan











Design Journey: Lea

| NIC Power O | ff | ID Mode | AUX Power Mode Transition | AUX Power Mode |
|---|---|--|--|-------------------|
| T ₀ (Card present or system power on) | Hot Swap Soft Start T _{ss} | Min ID Mode Time T _{ID} | Aux Payload Power Ramp T _{APL} <25ms | |

Table 37: Power States

| Power State | AUX_PWR | MAIN_PW | PERSTn | FRU | Scan | WAKEn | RBT | PCle | +3.3V | +12V |
|---------------|---------|---------|--------|-----|-------|-------|------|------|-------|----------------|
| | _EN | R_EN | | | Chain | | Link | Link | _EDGE | _EDGE |
| NIC Power Off | Low | Low | Low | | | | | | | |
| ID Mode | Low | Low | Low | х | X1 | | | | х | X ² |
| Aux Power | High | Low | Low | х | x | х | х | | х | X3 |
| Mode (S5) | | | | | | | | | | |
| Main Power | High | High | High | Х | х | х | Х | Х | Х | х |
| Mode (S0) | | | | | | | | | | |

| C 3.0 | NIC_PWR_GOOD | | | |
|-------|-----------------------|--|--|--|
| OCP N | NIC Power Ramp (Main) | | | |
| | | | | |



| arni | ngs | | |
|----------------------------------|-----------------|-----------|------|
| Main Power Mode Transition | Main Power Mode | Workshops | |
| Main Payload Power Ramp | | Summits | SERV |
| <25ms | | | |



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Design Journey: Spec input

Signal Description

The USB interface shall be based on a $V_{BUS} = 3.3$ V. Both the baseboard and NIC device shall be capable of driving signals using 3.3 V logic. The OCP NIC 3.0 card may implement protection diodes and is up to the adapter vendor for placement.

To prevent leakage paths, a baseboard shall not use USB pull up resistors on the USB_DATp/n lines to indicate the bus data transmission rate. If used, pull up resistors shall only exist on the NIC side.



77 Workshops SERVER Summits



















NIC3.0 supplier community partnership







* Pictures supplied by named companies







The Journey of OCP NIC3.0 Solution Integration and Demo

Guest speaker: Gady Rosenfeld, Broadcom





NIC 3.0 Development



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Thor – Industry's High Performance Ethernet NIC







- 200Gbps Ethernet Controller
- 8x 56G PAM4 SERDES
- Native PCIe Gen4 Host Interface
- < 800ns Latency
- 100 Million Packets Per Second
- **RoCEv2 with Smart Congestion Control**
- **TruFlowTM** Virtualization Offloads, Up to 1K VFs
- **BroadSafeTM** Security Secure Boot/Erasure, Si RoT
- Quad-Port 200G Controller
- Cloud, Storage, Web 2.0, Machine Learning & more



New Broadcom OCP3.0 Portfolio - NetXtreme E-Series

| Name | Port Speed | I/O | Host I/F | Multi- Host | Chip Eamily | Part Number |
|---------|---------------|--------|------------------|----------------|----------------|--------------------|
| N41GBT | 4x 1G | RJ45 | PCIe 2.0 x4 | nost | NX1 | BCM95719-N1905C |
| N210P | 2x 10G | SFP+ | PCIe 3.0 x8 | | Whitney+ | BCM957412-N4120C |
| N210GBT | 2x 10GBase-T | RJ45 | PCIe 3.0 x8 | | Whitney+ | BCM957416-N4160C |
| N410G | 4x 10G | SFP+ | PCIe 3.0 x8 | Y | Stratus | BCM957452-N410SG |
| N410GBT | 4x 10GBase-T | RJ45 | PCIe 3.0 x8 | Y | Stratus | BCM957452-N410SGBT |
| N225P | 2x 25G | SFP28 | PCIe 3.0 x8 | | Whitney+ | BCM957414-N4140C |
| N425G | 4x 25G | SFP28 | PCIe 3.0/4.0 x16 | Y | Thor | BCM957504-N425G |
| N250G | 2x 50G | SFP56 | PCIe 3.0/4.0 x16 | Y | Thor | BCM957504-N250G |
| N1100G | 1x 100G | QSFP56 | PCIe 3.0/4.0 x16 | Y | Thor | BCM957504-N1100G |
| N2100G | 2x 100G | QSFP56 | PCIe 3.0/4.0 x16 | Y | Thor | BCM957508-N2100G |
| N2200G | 2x 200G | QSFP56 | PCIe 3.0/4.0 x16 | Y | Thor | BCM957508-N2200G |

Complete Portfolio of OCP NIC 3.0 Adapters 1G to 200G









The Journey of OCP NIC3.0 Solution Integration and Demo

Guest speaker: Yuval Itkin, Mellanox





NIC 3.0 Development



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OCP NIC 3.0: Mellanox's Journey

Shaping The Standard Early participation | Active Contributor

Sharing Knowledge Millions of OCP 0.5/2.0 | Hyperscale | Smart-NICs

Management Features Auto-adjusting mode | PLDMoRMII FW Update

Hardware

Mechanical and Thermal













ConnectX-5

2*100G, Gen4 x16, 150 MPPS Hardware-based XDP acceleration 100 MPPS

Secured Firmware

Multi-Host and Management Up to 4 hosts | NCSI | MCTPoPCIe | PLDM

Storage and Cloud Offloads NVMeF | VXLAN | Header Re-writes | Erasure Coding...

Shipping in Volumes OCP | Major OEMs | Hyperscale







and Beyond

200G PAM4/NRZ SerDes 150-200 MPPS

Advanced Security Inline IPsec and TLS encryption, Secured Boot

Advanced Networking Enhanced Multi-host buffer | congestion handling

Advanced Offloads Flexible program' pipeline | vSwitch/vRouter

Sampling Soon







PLDM Firmware Update over RMI

- Platform Level Data Model
- **OpenBMC** in OCP platforms perform: Firmware updates through the BMC Inventory management operations
- Hardware monitoring: temperature, health, cable state, etc. Open source and standard environment • Based on **DMTF** pre-standard draft (expected e/2019)









The Journey of OCP NIC3.0 Solution Integration and Demo

Presenter: Ben Wei, Software Engineer, Facebook Damien Chong, Hardware Engineer, Facebook





NIC 3.0 Development





OpenBMC NIC Bring-Up journey: NIC3.0

- OCP 3.0 NIC:

 - unresponsive
- We worked with Mellanox, Broadcom, & ODM partners to bring up NIC3.0 on Yosemite V2 platforms as a proof of concept
 Yosemite V2 already supports OCP 2.0
 To support OCP 3.0, OpenBMC implements auto NIC type detection (OCP v2.0 vs v3.0) via MEZZ_PRSNT pins.
- MAIN PWR EN



имит

Supports NC-SI v1.1 standard (firmware pending)
 Allows BMC to power on/off NIC independent of sled platform power
 Provides more flexibility for management controller, BMC may power cycle NIC as a last resort recovery mechanism if a NIC fatal error is detected or NIC becomes

Upon detection of OCP NIC 3.0, OpenBMC powers up NIC via AUX_PWR_EN &

NIC Sensor monitoring – both through I2C bus and through PLDM over NC-SI



OpenBMC Initialization flow for OCP 3.0 NIC

- - OCP3.0 cards only has PRSNT_A2 to baseboard
- If OCP 3.0 NIC is detected, turn on Aux and Main power Initialize NC-SI interface
- Read NIC firmware version to determine NIC vendor



Read MEZZ_PRSNT pins to determine NIC type

 use GPIOL0 (MEZZ_PRSNTA2_N) and GPIOL1 (MEZZ_PRSNTB2_N).
 the supported OCP 2.0 NIC on Yosemite V2 all have 2 connectors, that is, PRSNT_A2 and PRSNT_B2 to baseboard

Continue with vendor-specific initialization process
 Sending NC-SI OEM commands to continue NIC initialization



NIC Sensor Monitoring

- OCP 3.0 NIC contains onboard I2C temperature sensor
- real time sensor values Addition sensors will be added once they are available

root@sled2004dc-oob:~# uptime

root@sled2004dc-oob:~#





Additionally, new NIC firmware supports PLDM Type 2 (PLDM For Platform Monitoring and Control) that allows BMC to access and monitor additional sensors

As part of OCP 3.0 NIC Bring-Up, we added PLDM sensor monitoring to OpenBMC
 Sensor are accessed through PLDM over NC-SI/RBT
 BMC tracks sensor history and logs min/max value over time, in addition to display

```
11:16:35 up 46 days, 31 min, load average: 4.90, 5.13, 5.67
root@sled2004dc-oob:~# sensor-util nic --history 30d
MEZZ_SENSOR_TEMP (0x82) min = 45.00, average = 70.06, max = 72.00
root@sled2004dc-oob:~# sensor-util nic --history 7d
MEZZ_SENSOR_TEMP (0x82) min = 69.00, average = 70.09, max = 72.00
```



PLDM Firmware Update

- As part of the bring-up process, we worked with our partners to prototyped PLDM over NC-SI/RMII
- In addition to reading sensors over PLDM, OpenBMC supports NIC firmware update through PLDM over NC-SI/RBT
- Firmware supports delayed-activation: at the end of firmware update process, new firmware is not activated until host power cycles or BMC resets NIC



JMMIT

```
handlePldmReqFwData offset = 0x39ee00, length = 0x40, compBytesLeft=48, numPadding=16
handlePldmReqFwData 16 bytes padding added
handle CMD_TRANSFER_COMPLETE
dbgPrintCdb
   common: 990516
  payload: 00ee3900
  iid=25, cmd=0x16 (CMD_TRANSFER_COMPLETE)
handle CMD_VERIFY_COMPLETE
dbgPrintCdb
   common: 9a0517
  payload: 00ee3900
  iid=26, cmd=0x17 (CMD_VERIFY_COMPLETE)
handle CMD_APPLY_COMPLETE
dbgPrintCdb
   common: 9b0518
  payload: 00000000 4000
  iid=27, cmd=0x18 (CMD_APPLY_COMPLETE)
Apply result = 0x0, compActivationMethodsModification=0x0
CMD_ACTIVATE_FIRMWARE
```

05 PldmActivateFirmwareOp PLDM Completion Code = 0x0 (SUCCESS)

24m50.044s real 0m1.910s user 0m8.120s sys



Power-on journey: Expect the unexpected

| le <u>k</u> Prevu | | | Ú | | | l rig? |
|--|---|-------------------------------|---------------------------------------|---------------------------------------|------------------------------|---|
| 10-Kohn | י pull-dowi | 1 | · · · · · · · · · · · · · · · · · · · | | □ -1.02 ○ -4.000 △1.02 | 4 s (a) 3.320 V Oms (b) 1.300 V 20 s △2.020 V |
| | | | | · · · · · · · · · · · · · · · · · · · | | |
| a | | | | | - | |
| b. | | · · · · · | | | | |
| 1 NIC_AUX_PWR_EN | | | | | | |
| | | | | | | |
| 2 NIC_MAIN_PWR_EN | | | | | | |
| 1 1.00 V № 2 1 Value | .00 V № Mean Min | Max | Std Dev | 400ms | 1.25MS/s 5M points | 2 <i>J</i> 1.66 V |
| 1 Low 2 High 2 Lov 3.30 V 1.30 V 3.34 V 20.0mV | 3.30 3.30 1.30 1.30 3.34 3.34 20.0m 20.0m | 3.30 1.30 3.34 20.0m | 0.00 0.00 0.00 0.00 | | | 29 Jan 2019 16:28:22 |
| Low ~1 High ~3 | .3∨ .3∨ | | | | | |





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No change to NIC3.0 spec yet

| lek PreVu | |
|--|--|
| 100-ohm pull-down | ↓ |
| AU a | |
| 1 NIC_AUX_PWR_EN | |
| 2 NIC_MAIN_PWR_EN | |
| 1 1.00 V № 2 1.00 V № Value Mean Min Max Std 1 High 3.02 V 3.02 3.02 0.0 1 Low 4 140mV 140m 140m 0.0 | Dev 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 29 Jan 2019 16:38:33 |



Power-on journey: 4-hosts (multi-host) data transfer







| | | OCP3.0_Slot1_TX | | |
|--|---|---|---|--------|
| 0.0 sec 3395 | MBytes 2848 Mb | bits/sec | | |
| 0.0 sec 3370 | MBytes 2827 Mb | bits/sec | | |
| 0.0 sec 1362 | 1 MBytes 11426 | Mbits/sec | | |
| 0.0 sec 3478 | MBytes 2918 Mg | pits/sec | | |
| 0.0 sec 3444 | MBytes 2889 Mb | pits/sec | | |
| 0.0 sec 3017 | MBytes 2531 Mb | pits/sec | | |
| 0.0 sec 3066 | MBytes 2572 Mb | Dits/sec | | |
| 0.0 sec 1300 | 6 MBytes 10910 _. | Mbits/sec | | |
| 4] 110 0 100 | 0.000 MD.t | OCP3.0_SI | ot2_IX | |
| 4] 110.0-120. | 0 sec 3394 MByt | tes 284/ Mbits/sec | | |
| 5] II0.0-I∠0. M] II0.0 I20 | 0 SEC 3428 MBYL 0 SOC 12670 MBYL | too 11475 Mbite/sec | | |
| 6] 120 0-120. | 0 SEC 13079 MBy 0 SEC 3477 MBy+ | ae 2017 Mbite/sec | | |
| 3] 120.0-130. | 0 sec 3477 MByt 0 sec 3478 MByt | es 2017 Mbits/sec | | |
| 4] 120.0-130. | 0 sec 3442 MBvt | es 2888 Mbits/sec | | |
| 5] 120.0-130. | 0 sec 3478 MBvt | es 2918 Mbits/sec | | |
| M] 120.0-130. | 0 sec 13875 MBv | tes 11639 Mbits/sec | | |
| 6] 130.0-140. | 0 sec 3428 MByt | es 2876 Mbits/sec | | |
| 3] 130.0-14 🕂 | | | OCP3.0_Slot3_TX | : |
| 4] 130.0-1/[| 5] 80.0-90.0 se | c 3428 MBytes 2875 I | Mbits/sec | |
| 5] 130.0-14[SU | M] 80.0-90.0 se | c 13606 MBytes 11413 | 3 Mbits/sec | |
| M] 130.0-14[| 6] 90.0-100.0 s | ec 3441 MBytes 2887 | Mbits/sec | |
| 6] 140.0-1 | 4] 90.0-100.0 s | ec 3478 MBytes 2918 | Mbits/sec | |
| 4] 140.0-1:[| 3] 90.0-100.0 s | ec 3407 MBytes 2858 | Mbits/sec | |
| 5] 140.0-1: | 5 00 0_100 0 ev | ac 2/170 MRvtac 2010 | Mbite /coc | |
| ວ່າ ທີ່ ຄຳນີ້ 🗠 | 5] 90.0-100.0 S | ec 3479 MBytes 2919 | MDILS/Sec | |
| 3] 140.0-1(st M] 140.0-14 | M] 90.0-100.0 s | ec 13805 MBytes 1150 | Mbits/sec 1 Mbits/sec | |
| 3] 140.0-1:[su M] 140.0-1![4] 150.0-1([| M] 90.0-100.0 se 6] 100.0-110.0 4] 100.0-110.0 | ec 13805 MBytes 1150 | Mbits/sec A Mbits/sec OCP3.0 Sk | ot4 TX |
| 3] 140.0-15[SL M] 140.0-15[4] 150.0-16[6] 150.0-16[| M] 90.0-100.0 se 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 | ec 13805 MBytes 1156 | MBIts/sec Bl Mbits/sec OCP3.0_Sk 3423 MBvtes 2872 Mbits/sec | ot4_TX |
| 3] 140.0-15[SL M] 140.0-15[4] 150.0-16[6] 150.0-16[3] 150.0-16[| M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 | ec 13805 MBytes 115 ec 13805 MBytes 115 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec | Mbits/sec 31 Mbits/sec <u>OCP3.0_Sk</u> 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec | ot4_TX |
| 3] 140.0-15[SL M] 140.0-15[4] 150.0-16[6] 150.0-16[3] 150.0-16[5] 150.0-16[SL | M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 | ec 13805 MBytes 1156 2201 MDytes 1156 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec | OCP3.0_Sl OCP3.0_Sl 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec | ot4_TX |
| 3] 140.0-15[SL M] 140.0-15[4] 150.0-16[6] 150.0-16[3] 150.0-16[5] 150.0-16[SL M] 150.0-16[| M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 | ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec | Mbits/sec 31 Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec | ot4_TX |
| 3] 140.0-15[SL M] 140.0-15[4] 150.0-16[6] 150.0-16[3] 150.0-16[5] 150.0-16[SL M] 150.0-16[[| M] 90.0-100.0 s 6] 100.0-110.0 s 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 | ec 13805 MBytes 2919 ec 13805 MBytes 1156 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-130.0 sec | Mbits/sec 31 Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec | ot4_TX |
| 3] 140.0-15[SL M] 140.0-15[4] 150.0-16[6] 150.0-16[3] 150.0-16[5] 150.0-16[5] 150.0-16[M] 150.0-16[[| M] 90.0-100.0 s 6] 100.0-110.0 s 6] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 | ec 13805 MBytes 2919 ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec | Mbits/sec 31 Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec | ot4_TX |
| 3] 140.0-15[SL M] 140.0-15[4] 150.0-16[6] 150.0-16[3] 150.0-16[5] 150.0-16[M] 150.0-16[[[| M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 | ec 13805 MBytes 1156 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec | OCP3.0_Sk OCP3.0_Sk 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec | ot4_TX |
| 3] 140.0-15[SL M] 140.0-15[4] 150.0-16[6] 150.0-16[3] 150.0-16[5] 150.0-16[5] 150.0-16[M] 150.0-16[[[[[[[[[[[[[[[[[[[| M] 90.0-100.0 s 6] 100.0-110.0 s 6] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 M] 110.0-120.0 | ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec | OCP3.0_Slo 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec | ot4_TX |
| 3] 140.0-1:[SU M] 140.0-1:[4] 150.0-1([6] 150.0-1([3] 150.0-1([5] 150.0-1([SU M] 150.0-1([[[[[[[[[[[[[[[[[[[| M] 90.0-100.0 s 6] 100.0-110.0 s 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 M] 110.0-120.0 M] 110.0-120.0 | <pre>ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec [6] 130.0-140.0 sec [4] 130.0-140.0 sec</pre> | OCP3.0_Slo 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec 3427 MBytes 2875 Mbits/sec 3427 MBytes 2875 Mbits/sec | ot4_TX |
| 3] 140.0-1:[s M] 140.0-1:[4] 150.0-1([6] 150.0-1([3] 150.0-1([5] 150.0-1([s M] 150.0-1([[[[[[[[[[[[[| M] 90.0-100.0 s 6] 100.0-110.0 s 6] 100.0-110.0 s 3] 100.0-110.0 s 3] 100.0-110.0 s 6] 100.0-110.0 s 6] 110.0-120.0 s 3] 110.0-120.0 s 5] 110.0-120.0 s 6] 110.0-120.0 s 6] 110.0-120.0 s 6] 110.0-120.0 s 6] 120.0-130.0 s 6] 120.0-130.0 s 6] 120.0-130.0 s | <pre>ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec [6] 130.0-140.0 sec [4] 130.0-140.0 sec [3] 130.0-140.0 sec</pre> | OCP3.0_Slo 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2876 Mbits/sec | ot4_TX |
| 3] 140.0-1:[su M] 140.0-1:[4] 150.0-1:[6] 150.0-1:[3] 150.0-1:[5] 150.0-1:[M] 150.0-1:[[[[[[[[| M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 6] 120.0-130.0 4] 120.0-130.0 3] 120.0-130.0 | ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 130.0-140.0 sec [3] 130.0-140.0 sec [5] 130.0-140.0 sec [5] 130.0-140.0 sec [5] 130.0-140.0 sec | OCP3.0_Sk OCP3.0_Sk 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec 3427 MBytes 2875 Mbits/sec 3428 MBytes 2876 Mbits/sec 3423 MBytes 2871 Mbits/sec 3423 MBytes 2871 Mbits/sec | ot4_TX |
| 3] 140.0-1:[s M] 140.0-1:[4] 150.0-1([6] 150.0-1([3] 150.0-1([5] 150.0-1([s M] 150.0-1([[[[[[[[[[[[[[[[[[[| M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 4] 120.0-130.0 4] 120.0-130.0 5] 120.0-130.0 5] 120.0-130.0 5] 120.0-130.0 | ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-140.0 sec [4] 130.0-140.0 sec [3] 130.0-140.0 sec [5] 130.0-140.0 sec | Mbits/sec 31 Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec 3427 MBytes 2875 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2871 Mbits/sec 3423 MBytes 11497 Mbits/sec | ot4_TX |
| 3] 140.0-1:[s M] 140.0-1:[4] 150.0-1([6] 150.0-1([3] 150.0-1([s 5] 150.0-1([s [[[[[[[[[[[[[| M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 M] 110.0-120.0 6] 120.0-130.0 4] 120.0-130.0 5] 120.0-130.0 M] 120.0-130.0 M] 120.0-130.0 | ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-140.0 sec [3] 130.0-140.0 sec [3] 140.0-150.0 sec [3] 140.0-150.0 sec | Mbits/sec 31 Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec 3427 MBytes 2875 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2871 Mbits/sec 3423 MBytes 11497 Mbits/sec 3502 MBytes 2938 Mbits/sec | ot4_TX |
| 3] 140.0-1:[s M] 140.0-1:[4] 150.0-1([6] 150.0-1([3] 150.0-1([s 5] 150.0-1([s [[[[[[[[[[[[[| <pre>M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 6] 110.0-110.0 6] 110.0-120.0 6] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 6] 120.0-130.0 4] 120.0-130.0 3] 120.0-130.0 5] 120.0-130.0 </pre> | <pre>ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec [6] 130.0-140.0 sec [4] 130.0-140.0 sec [3] 140.0-150.0 sec [3] 140.0-150.0 sec [4] 140.0-150.0 sec</pre> | Mbits/sec 31 Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec 3427 MBytes 2875 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2871 Mbits/sec 3423 MBytes 11497 Mbits/sec 3502 MBytes 2938 Mbits/sec 3502 MBytes 2937 Mbits/sec 3504 MBytes 2939 Mbits/sec | ot4_TX |
| 3] 140.0-1:[s M] 140.0-1:[4] 150.0-1(6] 150.0-1(3] 150.0-1(5] 150.0-1([s M] 150.0-1([s [[[[[[[[[[[[[[[[[[| M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 5] 110.0-120.0 4] 120.0-130.0 3] 120.0-130.0 5] 120.0-130.0 M] 120.0-130.0 M] 120.0-130.0 | ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [3] 120.0-140.0 sec [5] 130.0-140.0 sec [6] 130.0-140.0 sec [3] 130.0-140.0 sec [3] 130.0-140.0 sec [3] 130.0-140.0 sec [3] 130.0-140.0 sec [5] 130.0-140.0 sec [5] 140.0-150.0 sec [5] 140.0-150.0 sec | Mbits/sec 31 Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec 3427 MBytes 2875 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2871 Mbits/sec 3428 MBytes 2871 Mbits/sec 3502 MBytes 2938 Mbits/sec 3502 MBytes 2938 Mbits/sec 3504 MBytes 2939 Mbits/sec 3500 MBytes 2936 Mbits/sec | ot4_TX |
| 3] 140.0-1:[s M] 140.0-1:[4] 150.0-1([6] 150.0-1([3] 150.0-1([5] 150.0-1([s M] 150.0-1([[[[[[[[[[[[[[[[[[[| <pre>M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 6] 110.0-110.0 6] 110.0-120.0 6] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 6] 120.0-130.0 6] 120.0-130.0 3] 120.0-130.0 5] 120.0-130.0 M] 120.0-130.0</pre> | ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-140.0 sec [5] 130.0-140.0 sec [6] 130.0-140.0 sec [5] 130.0-140.0 sec [3] 130.0-140.0 sec [4] 140.0-150.0 sec [5] 140.0-150.0 sec [5] 140.0-150.0 sec [5] 140.0-150.0 sec | Mbits/sec 31 Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3476 MBytes 2914 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec 3428 MBytes 2875 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2871 Mbits/sec 3423 MBytes 2938 Mbits/sec 3502 MBytes 2938 Mbits/sec 3502 MBytes 2937 Mbits/sec 3504 MBytes 2936 Mbits/sec 3500 MBytes 2936 Mbits/sec 3500 MBytes 11751 Mbits/sec | ot4_TX |
| 3] 140.0-1:[s M] 140.0-1:[4] 150.0-1(6] 150.0-1(3] 150.0-1(5] 150.0-1([s M] 150.0-1([s [[[[[[[[[[[[[[[[[[| M] 90.0-100.0 s 6] 100.0-110.0 s 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 5] 110.0-120.0 4] 120.0-130.0 4] 120.0-130.0 5] 120.0-130.0 5] 120.0-130.0 M] 120.0-130.0 M] 120.0-130.0 | ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [3] 120.0-130.0 sec [3] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-140.0 sec [5] 130.0-140.0 sec [6] 130.0-140.0 sec [5] 130.0-140.0 sec [5] 130.0-140.0 sec [6] 140.0-150.0 sec [5] 140.0-150.0 sec [5] 140.0-150.0 sec [6] 140.0-150.0 sec [6] 140.0-150.0 sec | Mbits/sec Mbits/sec Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec 3427 MBytes 2875 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2876 Mbits/sec 3423 MBytes 2871 Mbits/sec 3502 MBytes 2938 Mbits/sec 3502 MBytes 2938 Mbits/sec 3502 MBytes 2937 Mbits/sec 3504 MBytes 2939 Mbits/sec 3500 MBytes 2936 Mbits/sec 3500 MBytes 11751 Mbits/sec 3641 MBytes 3055 Mbits/sec | ot4_TX |
| 3] 140.0-1:[SU M] 140.0-1:[4] 150.0-1([6] 150.0-1([3] 150.0-1([SU 5] 150.0-1([SU [] [] [] [] [] [] [] [] [] [] [] [] | M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 5] 110.0-120.0 4] 120.0-130.0 4] 120.0-130.0 5] 120.0-130.0 5] 120.0-130.0 M] 120.0-130.0 | ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [4] 120.0-130.0 sec [3] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [5] 120.0-130.0 sec [6] 130.0-140.0 sec [4] 130.0-140.0 sec [3] 140.0-150.0 sec [3] 140.0-150.0 sec [3] 140.0-150.0 sec [5] 140.0-150.0 sec [5] 140.0-150.0 sec [5] 140.0-150.0 sec [5] 150.0-160.0 sec | Mbits/sec 31 Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 3473 MBytes 2914 Mbits/sec 3426 MBytes 2874 Mbits/sec 3426 MBytes 2874 Mbits/sec 3428 MBytes 2875 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2871 Mbits/sec 3423 MBytes 2938 Mbits/sec 3502 MBytes 2938 Mbits/sec 3502 MBytes 2937 Mbits/sec 3504 MBytes 2939 Mbits/sec 3504 MBytes 2936 Mbits/sec 3500 MBytes 11751 Mbits/sec 3641 MBytes 3055 Mbits/sec 3639 MBytes 3052 Mbits/sec | ot4_TX |
| 3] 140.0-1:[SU M] 140.0-1:[4] 150.0-1:[6] 150.0-1:[3] 150.0-1:[5] 150.0-1:[SU [] 150.0-1:[[[[[[[[[] | M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 6] 120.0-120.0 6] 120.0-130.0 3] 120.0-130.0 5] 120.0-130.0 M] 120.0-130.0 M] 120.0-130.0 | ec 13805 MBytes 1158 [5] 110.0-120.0 sec [SUM] 110.0-120.0 sec [6] 120.0-130.0 sec [3] 120.0-130.0 sec [3] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 120.0-130.0 sec [3] 120.0-130.0 sec [5] 130.0-140.0 sec [6] 130.0-140.0 sec [5] 130.0-140.0 sec [5] 130.0-140.0 sec [5] 140.0-150.0 sec [6] 140.0-150.0 sec [5] 140.0-150.0 sec [5] 140.0-150.0 sec [6] 150.0-160.0 sec [6] 150.0-160.0 sec | Mbits/sec Mbits/sec Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3476 MBytes 2914 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec 3427 MBytes 2875 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2876 Mbits/sec 13705 MBytes 11497 Mbits/sec 3502 MBytes 2938 Mbits/sec 3502 MBytes 2938 Mbits/sec 3504 MBytes 2939 Mbits/sec 3500 MBytes 2936 Mbits/sec 3500 MBytes 11751 Mbits/sec 3639 MBytes 3055 Mbits/sec 3639 MBytes 3056 Mbits/sec | ot4_TX |
| 3] 140.0-1:[s M] 140.0-1:[4] 150.0-1(6] 150.0-1(3] 150.0-1(5] 150.0-1([s M] 150.0-1([s [[[[[[[[[[[[[[[[[[| M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 M] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 6] 120.0-130.0 4] 120.0-130.0 3] 120.0-130.0 5] 120.0-130.0 M] 120.0-130.0 | ec 13805 MBytes 1158 ec 13805 MBytes 1158 [5] 110.0-120.0 sec 200 [SUM] 110.0-120.0 sec 300 [6] 120.0-130.0 sec 31 [3] 120.0-130.0 sec 31 [5] 120.0-130.0 sec 31 [5] 120.0-130.0 sec 31 [5] 120.0-130.0 sec 31 [5] 120.0-130.0 sec 300 [5] 120.0-130.0 sec 300 [5] 120.0-140.0 sec 31 [6] 130.0-140.0 sec 31 [5] 130.0-140.0 sec 31 [5] 130.0-140.0 sec 31 [5] 130.0-140.0 sec 31 [5] 140.0-150.0 sec 31 [6] 140.0-150.0 sec 31 [7] 140.0-150.0 sec 31 [8] 140.0-150.0 sec 31 [9] 140.0-150.0 sec 31 [9] 140.0-150.0 sec 31 [9] 150.0-160.0 sec 31 [9] | Mbits/sec Mbits/sec Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3473 MBytes 2914 Mbits/sec 13903 MBytes 11662 Mbits/sec 3426 MBytes 2874 Mbits/sec 3428 MBytes 2875 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2876 Mbits/sec 3502 MBytes 2938 Mbits/sec 3502 MBytes 2938 Mbits/sec 3502 MBytes 2937 Mbits/sec 3504 MBytes 2936 Mbits/sec 3500 MBytes 2936 Mbits/sec 3641 MBytes 3055 Mbits/sec 3643 MBytes 3056 Mbits/sec 3643 MBytes 3056 Mbits/sec | ot4_TX |
| 3] 140.0-1:[SU M] 140.0-1:[4] 150.0-1:[5] 150.0-1:[5] 150.0-1:[SU M] 150.0-1:[[[[[[[[[[[[[[[[[[[| M] 90.0-100.0 s 6] 100.0-110.0 4] 100.0-110.0 3] 100.0-110.0 5] 100.0-110.0 6] 110.0-120.0 4] 110.0-120.0 3] 110.0-120.0 5] 110.0-120.0 6] 120.0-120.0 6] 120.0-130.0 3] 120.0-130.0 5] 120.0-130.0 M] 120.0-130.0 M] 120.0-130.0 | ec 13805 MBytes 1158 [5] 110.0-120.0 sec 304 [6] 120.0-130.0 sec 31 [6] 120.0-130.0 sec 31 [3] 120.0-130.0 sec 31 [3] 120.0-130.0 sec 31 [3] 120.0-130.0 sec 31 [3] 120.0-130.0 sec 326 [3] 120.0-130.0 sec 326 [5] 130.0-140.0 sec 326 [6] 130.0-140.0 sec 326 [5] 130.0-140.0 sec 326 [5] 130.0-140.0 sec 326 [5] 140.0-150.0 sec 326 [5] 140.0-150.0 sec 326 [5] 140.0-150.0 sec 326 [5] 150.0-160.0 sec 326 [5] 150.0-160.0 sec 33 [5] 150.0-160.0 sec 33 [| MD1ts/sec 31 Mbits/sec 3423 MBytes 2872 Mbits/sec 13706 MBytes 11497 Mbits/sec 3477 MBytes 2917 Mbits/sec 3477 MBytes 2917 Mbits/sec 3476 MBytes 2915 Mbits/sec 3476 MBytes 2914 Mbits/sec 3473 MBytes 2914 Mbits/sec 3426 MBytes 2874 Mbits/sec 3426 MBytes 2874 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2876 Mbits/sec 3428 MBytes 2871 Mbits/sec 3502 MBytes 2938 Mbits/sec 3502 MBytes 2938 Mbits/sec 3502 MBytes 2937 Mbits/sec 3504 MBytes 2939 Mbits/sec 3504 MBytes 3055 Mbits/sec 3641 MBytes 3055 Mbits/sec 3643 MBytes 3056 Mbits/sec | ot4_TX |





Power-on journey: Out-of-band data transfer



| [3] | 90.0-100. |
|-------------------|-----------|
| [3] _. | 0.0-100. |
| root@b | mc-oob:~# |
| | |
| CLIENT | connecti |
| ICP W1 | ndow size |
| ເ ລາ | local 3ff |
| | Interval |
| [3] | 0.0-10.0 |
| [3] | 10.0-20.0 |
| [3] | 20.0-30.0 |
| [3] | 30.0-40.0 |
| [3] | 40.0-50.0 |
| [3] | 50.0-60.0 |
| [3] | 60.0-70.0 |
| [3] [3] | /0.0-80.0 |
| [2] | 90.0-90.0 |
| [3] | 100 0-110 |
| i 31 | 110.0-120 |
| [3] | 120.0-130 |
| [3] | 130.0-140 |
| [3] | 140.0-150 |
| | |





root@quanta:~/Desktop 97x25 sec 36.4 MBytes 30.5 Mbits/sec sec 343 MBytes 28.7 Mbits/sec ./iperf_ncsi -c 3ffe:78::9a03:9bff:fe89:7430 -w 150k -t 1000 -i 10 -V ng to 3ffe:78::9a03:9bff:fe89:7430, TCP port 5001 : 300 KByte (WARNING: requested 150 KByte) e:78::8982:5532 port 60310 connected with 3ffe:78::9a03:9bff:fe89:7430 port 5001 Bandwidth Transfer sec 35.6 MBytes 29.9 Mbits/sec sec 36.9 MBytes 30.9 Mbits/sec 30.6 MBytes 25.7 Mbits/sec 34.5 MBytes 28.9 Mbits/sec 36.5 MBytes 30.6 Mbits/sec sec 37.2 MBytes 31.2 Mbits/sec sec 31.9 MBytes 26.7 Mbits/sec 36.8 MBytes 30.8 Mbits/sec sec 37.2 MBytes 31.2 Mbits/sec sec 33.0 MBytes 27.7 Mbits/sec 0 sec 38.8 MBytes 32.5 Mbits/sec 0.0 sec 38.0 MBytes 31.9 Mbits/sec 0 sec 31.8 MBytes 26.6 Mbits/sec 0.0 sec 36.5 MBytes 30.6 Mbits/sec).0 sec 36.6 MBytes 30.7 Mbits/sec









THIS JOURNEY 1% FINISHED



Call to Action

Join OCP NIC3.0 community in defining and developing scalable solution.

OCP NIC3.0 Wiki with latest specification : <u>http://www.opencompute.org/wiki/Server/Mezz</u>

Visit us at OCP Experience Lab for live demo

Mini plug-fest 3-4pm today!











Back-up







Open. Together. OCP Global Summit | March 14–15, 2019





