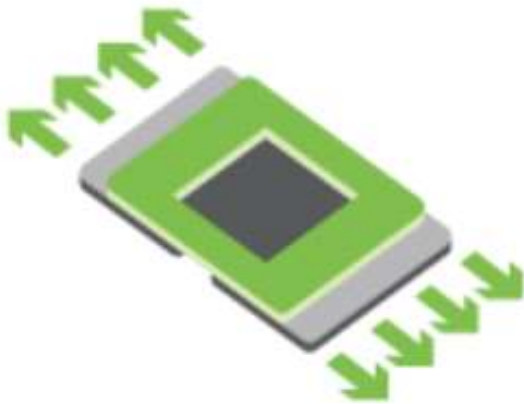




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OCP OAI Group Monthly Call

11132019

Agenda

- UBB/Reference system Status Update
- Multi-Host support is on hold
- BMC Security
- OAM Tool
- PCIe and PHY retimer update
- UBB Spec Contribution
- OAM Spec v1.1 in progress
- Call for participation for 2020 OCP Global Summit

UBB/Reference system Status Update

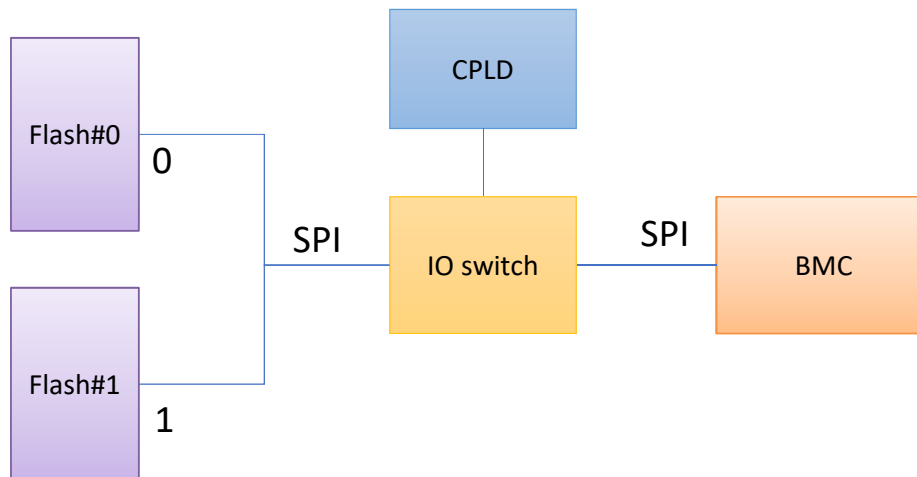
- Fab1 boards available on 11/11. Powering on without OAM:
 - Impedance measurement done
 - UBB and HIB power on
- Will perform EA and D2D VR test after EE power on.
- Test with 8 OAMs populated is planned from 11/19, however for now only 2pcs Intel OAMs available. Waiting for further updates from Intel for more OAMs availability.

Multi-Host Support is on Hold

- Multi-Host support is currently on-hold, OAI JDA group is focusing on other important matters.
- If you need the Multi-Host support, please contact and talk to us.

BMC Security

- Root of Trust chip: CPLD
 1. CPLD: contains security key to verify flash image and configuration data for secure boot
 2. Flash#0: BMC run-time fw
 3. Flash#1: ready-only, BMC golden image
 4. When system is power on, CPLD checks integrity of BMC fw image in flash#0.
 5. If valid, let BMC SPI routes to flash#0 SPI.
 6. If invalid, recover flash#0 with flash#1 image.
 7. CPLD monitors SPI activities in between BMC and flash#0.
For example, limited BMC to access specified range of flash#0.

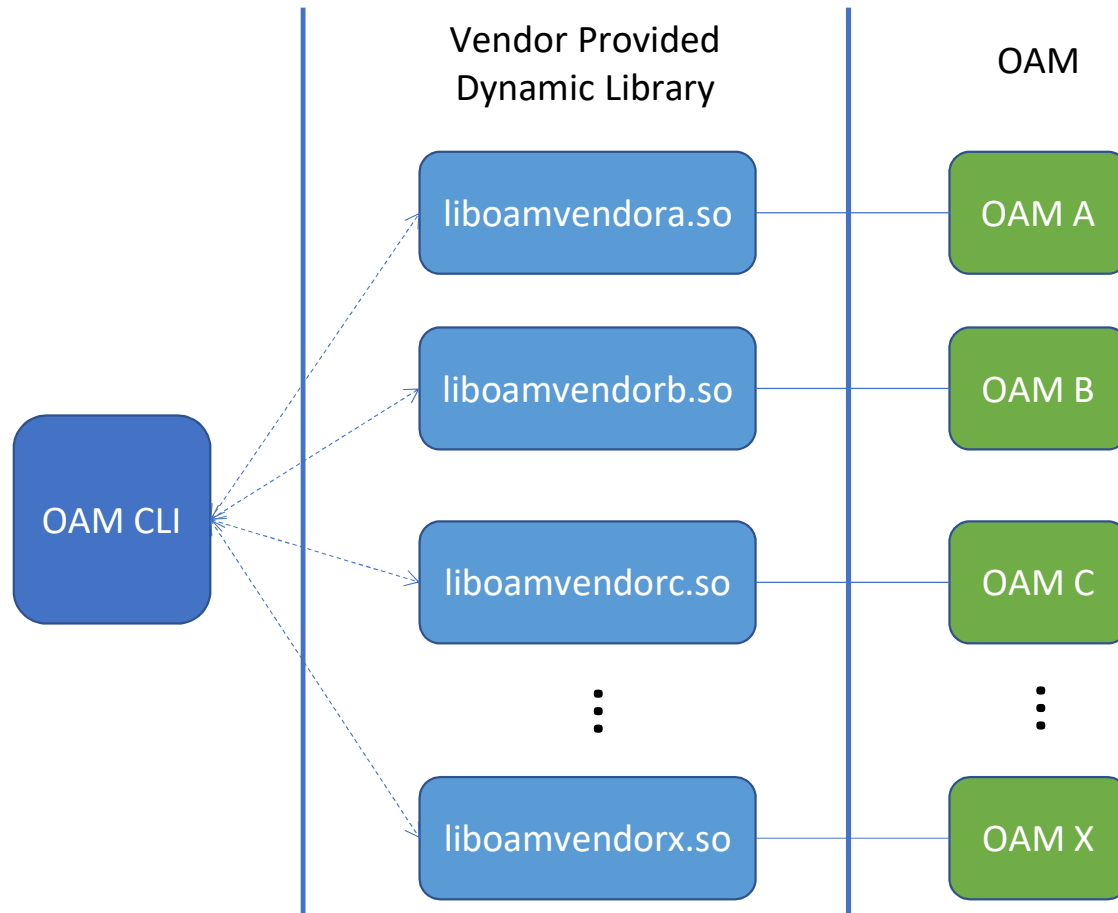


OAMTool

OAMTool Object and Scope

- Objectives
 - Standardizing the management of the OAMs in a vendor-agnostic way
- Scope
 - Information and status display
 - Perf stats and error counter collections
 - Firmware management
 - Configuration options
 - Debug log collection
 - Hardware validation (such as burn-in tests)

Proposed Architecture



PCIe Gen4 Retimer update

Parameter	Broadcom	Asteralabs
Lanes	16x16 lanes	16x16 & 8x8 & 4x4 lanes
SerDes Performance	39 dB loss handling	TBD
Latency	105 ns	~14 ns
Package Size	23x27 mm (x16)	8.5 x 13.4 mm (x8) 8.9 x 22.8 mm (x16)
Power	15 W	TBD (x8) 8W (x16)
Availability	In production - July'19	Sampling now MP in Q2 2020
Cost Ratio	3 (Single Chip, 1 x16)	1 (Single Chip, 1 x16)

PHY Retimer update

	Broadcom 81358	Broadcom 81356	Credo Bald Eagle CRT50216P
Lanes	x8	x16	x16
Protocol	56Gbps PAM-4 or 10/28Gbps NRZ	56Gbps PAM-4 or 10/28Gbps NRZ	56Gbps PAM-4 or 10/28Gbps NRZ
Loss budget	30dB	30dB	30dB @ PAM-4 mode 35dB @ NRZ mode
Process	16nm	16nm	28nm
Power	5.8W(typical)	11.86W(typical)	19.05W (max), 13.94W (typical)
Dimension	15x15mm, 0.8mm pitch	23x23 mm, 0.8mm pitch	23x23 mm, 0.8mm pitch
Management	MDIO/JTAG/SPI	MDIO/JTAG/SPI	MDIO / I2C / JTAG
Schedule	production Q1/2020	production Q2/2020	Already MP (rev.B)
Qty used per UBB	8	4	4
Note	81358/81356 (16nm) migrate to 87326/87328 (7nm), pin to pin compatible, with lower power.	81358/81356 (16nm) migrate to 87326/87328 (7nm), pin to pin compatible, with lower power.	Ccreo: power is competitive in actual customer system as our device has lots of flexibility to manage power based on actual use case. Will discuss power in OAI use case and come up with actual power number.

UBB Spec Contribution

- Jose Perez from Intel and Peter Chu from ZT systems did UBB spec v0.4 review with OCP incubation committee, in process contributing spec v0.4

OAM Spec v1.1 in progress

- Update MNGMT_LINK routing diagram
- Update LINK_Config
- Define signal sequence for how signals are to be applied to OAM. No signal should be driven to OAM until OAM asserts Module_PWRGD to UBB
- Update input/output signal type more clearly
- OOB FW update capability
- Add OAM security requirement
- Add MCTP support for management interface
- ME/Thermal updates

Call for participation for 2020 OCP Global Summit

- OAI group has 3hr workshop during global summit
- Contact us if you'd like to join our workshop and present:
- <https://www.opencompute.org/wiki/Server/OAI>

Workshop	Session Title	
1	OAM Tool Spec Contribution	
2	UBB/OAM Spec Update	
3	OAM Reference systems live demo	
4		
5		
6		

Thank you