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OCP SUMMIT
OCP NIC 3.0 Power with Intel® Products

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Goal

• OCP NIC 3.0 Specification
• Ethernet Power Challenge
• Power State Machine
• Power Delivery Example
• Power Envelope Flexibility
• Baseboard Power Options
• Intel Product Details
• Call to Action
OCP NIC 3.0 Specification

- OCP Mezz provided a small NIC focused form factor with management interfaces optimized for datacenters.
- OCP NIC 3.0 improves serviceability, power delivery, management, specification clarity, and is ready for broad market servers.
Ethernet Power Challenge

- PCIe CEM allows for about 1 W AUX power mode
- Ethernet optics may require 1.5 W+ per port
- Power consumption can’t be pre-determined on a PCIe CEM
Power State Machine

- No Separate pins for AUX power. Enable pins drive state.
- ID Mode: Determine card capabilities
- AUX: Enable Ethernet link and management
- Main: Full function
Power Delivery Example

Specifications

Network Silicon

AUX/Single Power Domain

Optional Dedicated MAIN Power Domain

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Power Envelope Flexibility

Power delivery envelopes:
SFF: 15, 25, 35, 80 W
LFF: 150 W
Baseboard Power Design Options

- Optionally pre-qualify OCP NIC 3.0 cards prior to use
  - Card is simultaneously powered on with baseboard

- Optionally design in a BMC with AUX power mode support

- Optionally provide hot plug support
## Intel® OCP NIC 3.0 Product Family

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<td>Quad-Port</td>
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<td>~4 W + Optics</td>
<td>~ 4 W</td>
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**Next-Generation 10GBASE-T Ethernet Adapter for OCP NIC 3.0**

- **Speed**: 10/5/25/1GbE
- **Connector**: RJ45 (10G/NBASE-T)
- **Ethernet Controller**: Intel® Ethernet Controller I350
- **Port Count Options**: Quad-Port, Dual-Port
- **Power Profile**: TBD

**Next-Generation Intel® Ethernet Adapters for OCP NIC 3.0**

- **Speed**: Up to 100GbE
- **Connector**: SFP28, QSFP28
- **Ethernet Controller**: Next-Generation Intel® Ethernet Controller
- **Port Count Options**: Quad-Port, Dual-Port
- **Power Profile**: TBD + Optics
Call to Action

Contact Thomas and Paul if you have questions about how we implement our cards and alignment to the specification.

Where to buy: https://intel.com/ethernet
OCP NIC Project Wiki with latest specification: http://www.opencompute.org/wiki/Server/Mezz
Mailing list: https://ocp-all.groups.io/g/OCP-NIC