OPEN POSSIBILITIES.

OCP NIC 3.0 Management with NC-SI 1.2
OCP NIC 3.0 Management with NC-SI 1.2

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Agenda

• OCP NIC 3.0 Manageability
• Sideband Management Interfaces and Transports
• OCP NIC 3.0 Manageability Features
• Network Controller Sideband Interface (NC-SI)
• NC-SI 1.2
• Call to Action
OCP NIC 3.0 Manageability

• OCP NIC 3.0 specification has enabled a wide spectrum of next generation NIC board designs
• One of the key aspects of OCP NIC 3.0 specification is standards-based manageability
Sideband Interfaces and Transports

- Based on DMTF NC-SI and MCTP Standards
- Three possible physical interface implementations

<table>
<thead>
<tr>
<th>Management Type</th>
<th>Definition</th>
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<tbody>
<tr>
<td>RBT Type</td>
<td>The RBT Type management interface is exclusive to the Reduced Media Independent Interface (RMII) Based Transport (RBT) as defined in DMTF DSP0222 Network Controller Sideband Interface (NC-SI) Specification</td>
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OCP NIC 3.0 Manageability Features

- BMC MAC Address provisioning
- Temperature Monitoring
- Power reporting
- Firmware inventory and update
- FRU enhancements
Network Controller Sideband Interface

- Network Controller Sideband Interface (NC-SI) spec defines
  1. Pass-through, Commands/Responses, and Notifications
  2. NC-SI over RBT: Physical-level: RMII, HW arb; Media-level: Ethernet
  3. NC-SI over MCTP: Enables NC-SI comms over an MCTP network

- OCP NIC 3.0 spec leverages NC-SI over both RBT and MCTP
- Spec defines NC-SI package addressing & HW arb requirements
- SMBus and RBT pins are defined on the primary connector
- NC-SI over RBT timings are defined to help NIC/baseboard implementations
- NC-SI routing guidelines are defined to help NIC/baseboard implementations
NC-SI 1.2

• Enhancement to NC-SI 1.1 to cover OCP NIC 3.0 and other use cases
• Work-In-Progress Specification
• Covers specific enhancements for OCP NIC 3.0 Manageability
  1. Command to retrieve provisioned BMC MAC address
  2. Reporting of ASIC, Ambient, and SFF module temperatures
  3. Ethernet link status reporting enhancements – new speeds, modules, PHY cfg..

• Other enhancements
  1. PLDM over RBT improvements
  2. Management of NIC partitions
  3. Get/Set boot configuration for Ethernet, FC, and IB
  4. Link status and statistics reporting for FC and IB
Call to Action

• OCP NIC 3.0 Manageability – standards based, leverages NC-SI 1.2
• Contribute to OCP NIC 3.0 and NC-SI specifications
• Submit proposals for specification considerations

OCP NIC 3.0 1.2 Specification:

NC-SI 1.2 Specification (Work-In-Progress):
https://www.dmtf.org/sites/default/files/standards/documents/DSP0222_1.2.0WIP80.pdf
Thank you!