



OPEN
Compute Project

Open Hardware Management

Multi-Node Management

Glossary

Version 0.6

Revision History

Version	Date	Description
0.1	11/12/2013	Initial Draft version
0.3	12/11/2013	For OCP Multi-Node management team review
0.5	01/08/2014	Incorporated comments from the multi-node management review on December 2013
0.55	01/12/2014	Incorporated comments from the multi-node management review on January 2014
0.551	01/21/2014	Document format conformed to OCP template
0.552	01/24/2014	Minor syntax corrections from Doug Hughes and added open section based on feedback.
0.56	01/27/2014	Incorporated comments from Hemal Shah
0.6	02/03/2014	Incorporated OCP Summit 2014 Hardware Management Track review feedback

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1. Summary

This document defines the terminologies that will be utilized in the future OCP - Multi-Node Management specification.

2. License

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3. Glossary

Multi-Node System

An aggregation of multiple nodes that share IOs, power, thermal and system management can be defined as Multi-Node System.

Node

A Node as defined by this specification is an independent unit that acts as the building block for the multi-node system. The node can be built for specific targets such as Compute, IO, Memory or Storage. Each node is an independent manageable unit.

Examples of system management functions provided by Node are

1. Node level power control support (On, Off, Reset)
2. Node level thermal monitoring
3. Node level events
4. Node console redirection capability

System Management Aggregator

System Management Aggregator is a multi-node system attribute that provides the capability for the Trays and the Sleds to participate in the System Management control and data path.

The System Management Aggregator can be defined as Transparent or Non-Transparent or semi-transparent system management aggregator.

The system management aggregator could be logical or physical aggregation

Transparent System Management Aggregator (TSMA)

Transparent System Management Aggregator provides only signal aggregation and does not participate in the system management control and data traffic.

Non-Transparent System Management Aggregator (NTSMA)

Non-Transparent System Management Aggregator provides management protocol termination and intercepts all system management traffic.

Semi-Transparent System Management Aggregator (STSMA)

Semi-transparent System Management Aggregators provide partial management protocol termination and interception of system management traffic.

Sled

A collection of nodes sharing a common circuit board and have a common connector to a backplane. Sled is a FRU. Sleds may be designed to provide Transparent or Non-Transparent system management aggregation point.

Tray

A multi-node chassis may be built as a single tray or multi-trays in a chassis. A tray has multiple sleds, aligned horizontally or vertically, that provides the level of aggregation. The tray may provide system management aggregation for all the nodes available in the sled. The tray provides the backplane support for all the system management signals originating from each of the sleds.

Multi-Node Chassis Management Controller

The management controller is a chassis level controller that provides local and remote interfacing and performs chassis level system management responsibilities.

The controller maintains the multi-node system management policies and propagates it to non-transparent tray, sleds, and nodes.

The controller system management responsibilities include:

1. Chassis power control management
2. Thermal profiling at all levels
3. Fan speed control
4. Front panel features such as power button, status and faults
5. Chassis power utilization management
6. Diagnostic and health monitoring at all levels
7. Tray, Sled and Node provisioning
8. Identification and inventory at all levels

Node ID

Node ID is a unique addressable identifier for each of the nodes. The uniqueness of the identifier is based on the non-transparent system management controller controlling the Node. The non-transparent System Management Controller could be a Sled, Tray or the Chassis Management Controller.

Sled ID

Sled ID is a unique addressable identifier of the non-transparent sleds. The uniqueness of the identifier is based on the non-transparent system management controller controlling the non-transparent sled such as tray or chassis management controller. A sled based on transparent system management aggregator may support Sled ID

Tray ID

Tray ID is a unique addressable identifier of the non-transparent trays, the uniqueness of the identifier is based on the chassis management controller.

Trays based on transparent system management aggregator may support Tray ID

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1. Addressing Shared Communication resources
2. Adding different multi-node system models as examples
3. Chassis management responsibilities with respect to Node, Sled and Trays
4. FRU expectations at Node, Sled and Trays
5. Scope of uniqueness of the the IDs
6. Discussion on Node interfacing with multiple nodes.
7. Multi-Node Chassis definition

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