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OPENBMC: MIGRATING "INSIDE THE BOX" COMMUNICATIONS FROM IPMI TO PLDM

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OpenBMC

- Open Source BMC firmware stack
- Linux Foundation Project
- <https://github.com/openbmc>
- 2.8 release in the works



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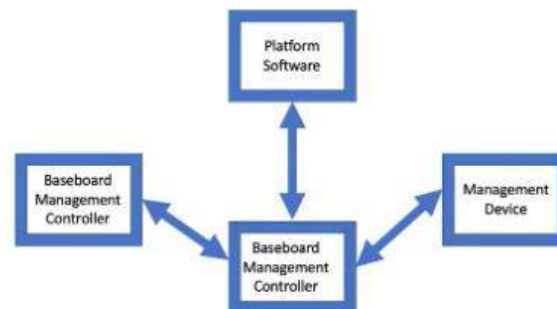


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Inside the Box Communication



- State Control
- Monitoring and Health
- FRU information
- BIOS information



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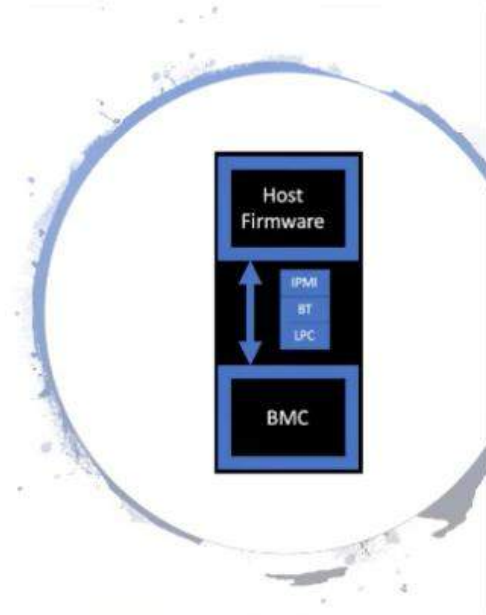
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Host-BMC communication on IBM servers : Limitations of inband IPMI

- IPMI limits number of sensors to 255
- Same limitation applies to entity IDs, entity instances, etc
- Lack of a robust BIOS settings transfer
- Coupling with IPMI system interfaces (eg BlockTransfer)
- Lack of active spec development



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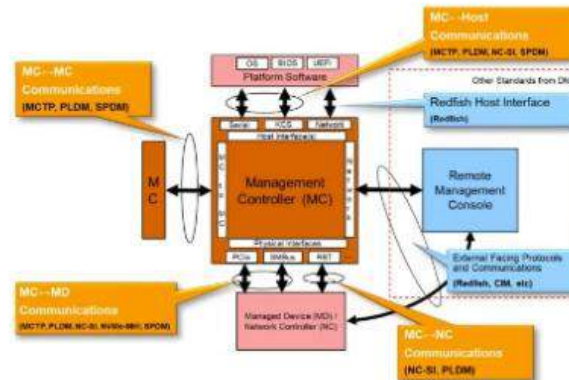


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PMCI : Platform Management Components Intercommunication



Enable intercommunications between different types of platform components using a set of standard protocols, interfaces, and platform level data models

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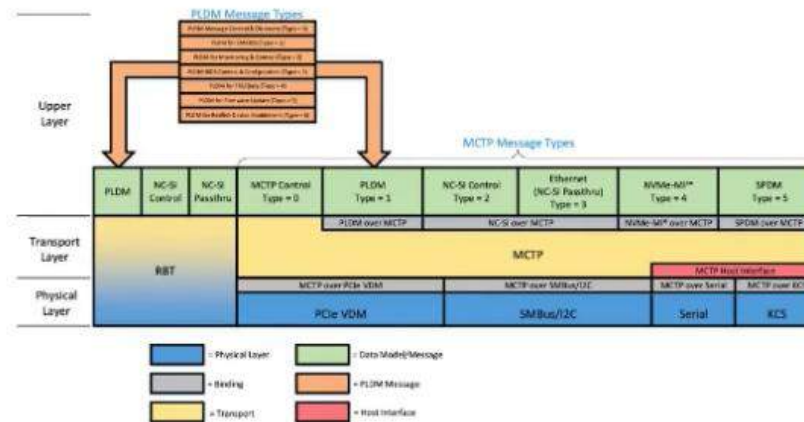


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PMCI Full Stack



PMCI stack enables separation of physical busses, transport protocol and the upper layer protocols

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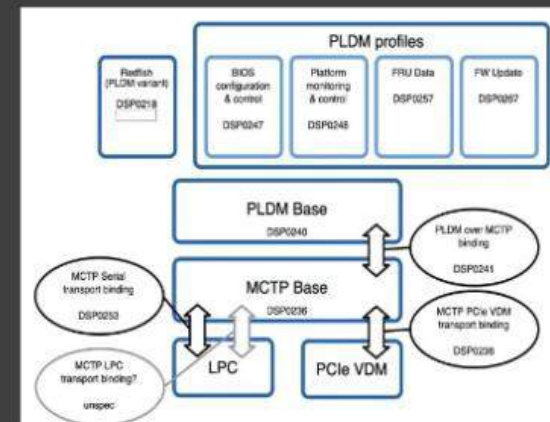
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IBM servers running OpenBMC : Adoption of the PMCI stack

- OpenBMC has open source PLDM and MCTP stack – libpldm and libmctp are platform agnostic
 - Supports Host-BMC PLDM communication. BMC – Device is WIP
- PLDM scales better for enterprise servers, for eg 2 byte sensors
- Active PMCI workgroup for spec development



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Getting Involved and References

- Design Docs
 - <https://github.com/openbmc/docs/blob/master/designs/pldm-stack.md>
 - <https://github.com/openbmc/docs/blob/master/designs/mctp.md>
- Source Code
 - <https://github.com/openbmc/pldm/>
 - <https://github.com/openbmc/libmctp>
- PMCI
 - <https://www.dmtf.org/standards/pmci>
- PMCI whitepaper
 - https://www.dmtf.org/sites/default/files/standards/documents/DSP2015_2.0.0.pdf

