**NGC.Ready Multi-node system tuning for NGC v2.3**

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| **Item** | **Description** |
| ConnectX-6 Firmware version | 20.29.2002 |
| ConnectX-6 Dx Firmware version | 22.29.2002 |
| BlueField-2 Firmware version | 24.29.2002 |
| MLNX\_OFED Version | MLNX\_OFED\_LINUX-5.2-2.2.0.0 |
| Eth Switch ports | Set MTU to 9216  Enable PFC and ECN using the single “Do ROCE” command |
| IB Switch OpenSM | Change IPoIB MTU to 4K:  [standalone: master] > en  [standalone: master] # conf t  [standalone: master] (config) # ib partition Default mtu 4K force |
| **AMD CPUs: EPYC 7002 and 7003 series** | |
| BIOS Settings | CPU Power Management -> Maximum Performance  Memory Frequency -> Maximum Performance  Alg. Performance Boost Disable (ApbDis) -> Enabled  ApbDis Fixed Socket P-State -> P0  NUMA Nodes Per Socket -> 2  L3 cache as NUMA Domain -> Enabled  x2APIC Mode -> Enabled  PCIe ACS -> Disabled  Preferred IO -> Disabled  Enhanced Preferred IO -> Enabled |
| Boot grub settings | iommu=pt numa\_balancing=disable processor.max\_cstate=0 |
| **Intel CPUs: Xeon Gold and Platinum** | |
| BIOS Settings | Out of the box |
| Boot grub settings | intel\_idle.max\_cstate=0 processor.max\_cstate=0 intel\_pstate=disable |
| NIC PCIe settings | For each NIC PCIe function:  Change PCI MaxReadReq to 4096B  Run "setpci -s $PCI\_FUNCTION 68.w", it will return 4 digits ABCD  --> Run "setpci -s $PCI\_FUNCTION 68.w=5BCD" |
| Test Repository | <https://github.com/Mellanox/ngc_multinode_perf> |