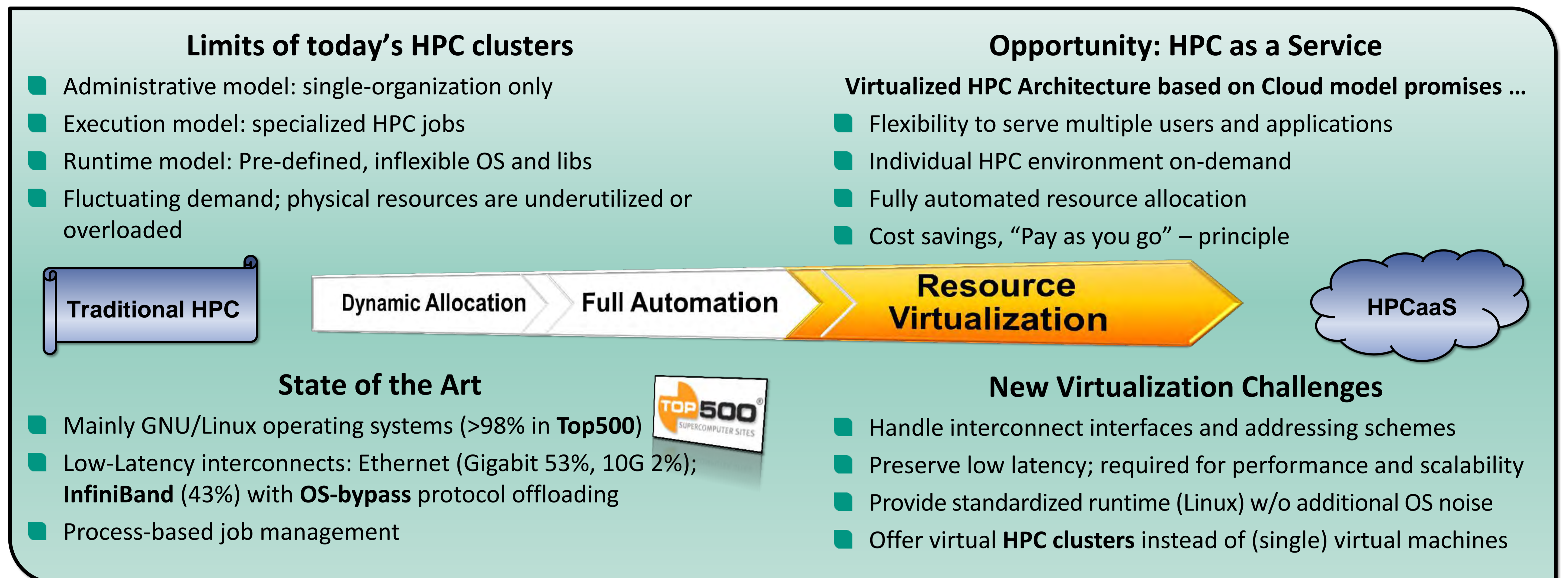
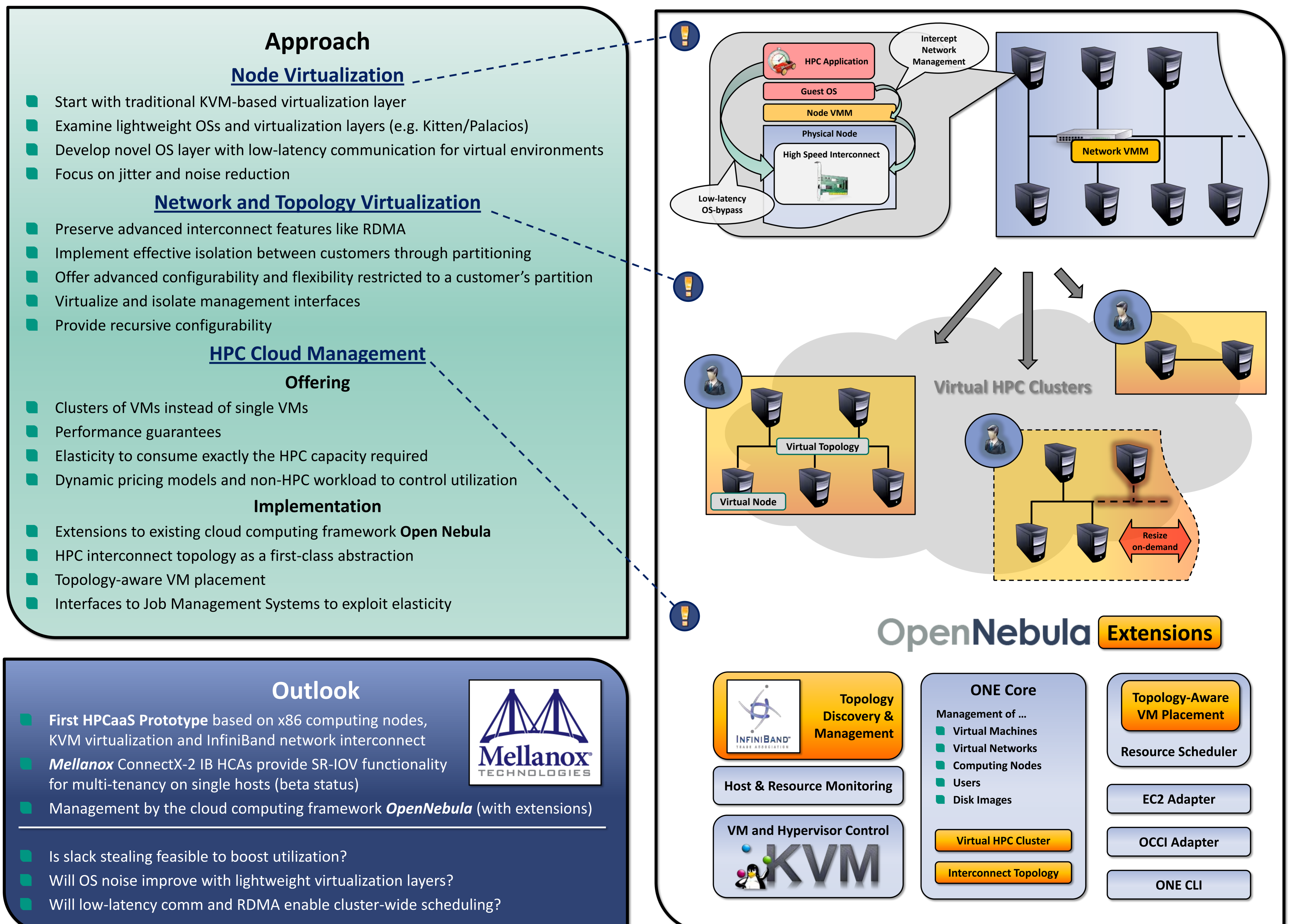


Towards High-performance Cloud Computing for x86/InfiniBand Clusters

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Challenge: Virtualize cluster interconnects to provide HPC cloud computing



Outlook

- First HPCaaS Prototype based on x86 computing nodes, KVM virtualization and InfiniBand network interconnect
 - Mellanox ConnectX-2 IB HCAs provide SR-IOV functionality for multi-tenancy on single hosts (beta status)
 - Management by the cloud computing framework **OpenNebula** (with extensions)
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- Is slack stealing feasible to boost utilization?
 - Will OS noise improve with lightweight virtualization layers?
 - Will low-latency comm and RDMA enable cluster-wide scheduling?

