



Network Requirement for Building HPC & Challenges

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Requirement for Building an HPC

- Setting up an HPC begins with understanding what you are trying to achieve, the assumptions you make to get there, and the resulting boundaries and limitations imposed on you and your HPC
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Network Requirement for HPC



Network Traffic Generated by a Cluster

- Computation traffic between compute nodes.
 - File system traffic — often from an NFS (Network File System) server
 - Administration traffic that provides node monitoring and job control across the cluster.
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Network Services

- Domain Name System (DNS)
 - Dynamic Host Configuration Protocol (DHCP)
 - Network File System (NFS)
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Characteristics of High Speed HPC Network

- Low Latency
 - High Bandwidth between nodes
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Technology to Achieve High Speed HPC

- 10GigE
- InfiniBand



Challenges in Building HPC

- How do you choose the components that best meet your business and budget requirements?
 - How do you integrate the components into a solution that works seamlessly?
 - How do you make sure that your solution will be able to accommodate changes in workloads and storage requirements over time?
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Thank you

