

Some Issues with Extension of an HPC Cluster

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Abstract : Homemade HPC clusters are widely used in many small labs, because they are easy to build and cost-effective. Even though incremental growth is an advantage of clusters, it results in heterogeneous systems anyhow. Instead of adding new nodes to the cluster, we can extend clusters to include some other Internet servers working independently on the same LAN, so that we can make use of their idle times, especially during the night. However extension across a firewall raises some security problems with NFS. In this paper, we propose a method to solve such a problem using SSH tunneling, and suggest a modified structure of the cluster that implements it.

Keywords : extension of HPC clusters, security, NFS, SSH tunneling

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