

The Networking of the IHEP Data Center

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With constantly increasing volume of data from years of institutional research programs and sharply increasing use of server storage, the Data Center of Institute of High Energy Physics is facing heavy pressure of space layout, system wiring, and power consumption and thus needs further improvements and network architecture expansion. As the artery of Data Center business, the basic network architecture is in particular facing constantly and strictly challenges.

This paper elaborated on the network current condition of Data Center of IHEP, including the operation aspect of the wan network, campus network and Data Center network and related topological structure. Moreover, it showed new network update plans and wiring plans, focusing on solving the Data Center's current issues. These plans divided the Functional Network Area into five major regions, namely Management Network, Local Computing Environment, UI-DMZ1, Deposit -DMZ2 and Virtualization and helped to complete the transfer of servers and computing resources of research groups like juno and dyb. The serial test of the Data Center's whole network after these plans' implements proves that the performance and stability of the network is much better than the previous state and equipment management is getting smoother. More importantly, this paper explained how the real-time network monitoring of personar make contribution to overseeing and solving operation problems immediately and how independently developed public application service, such as IHEP unified authentication, IHEP IT Services Desk, Vidyo and IHEPBox, bring benefits to scientific research users.

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