

Network Information and Monitoring Infrastructure (NIMI)

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Fermilab is a high energy physics research lab that maintains a highly dynamic network which typically supports around 15,000 active nodes. Due to the open nature of the scientific research conducted at FNAL, the portion of the network used to support open scientific research requires high bandwidth connectivity to numerous collaborating institutions around the world, and must facilitate convenient access by scientists at those institutions. Network Information and Monitoring Infrastructure (NIMI) is a framework built to help network management personnel and the computer security team monitor and manage the FNAL network. This includes the portions of the network used to support open scientific research as well as the portions for more tightly controlled administrative and scientific support activities. As an infrastructure, NIMI has been used to build such applications as Node Directory, Network Inventory Database and Computer Security Issue Tracking System (Tissue). These applications have been successfully used by FNAL Computing Division personnel to manage local network, maintain necessary level of protection of LAN participants against external threats and promptly respond to computer security incidents. The article will discuss NIMI structure, functionality of major NIMI-based applications, history of the project, its current status and future plans.

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