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The Network Monitoring System based on Cacti for EAST

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During the smooth running of EAST (Experimental Advanced Superconducting Tokamak), a perfect network management system guaranteeing a robust network is important. In the present complex network infrastructure, it is a daunting task to manage all the devices manually in a network and make sure they are not only up and running but also performing optimally. Therefore, a web-based software system is developed to implement the real-time monitoring of the EAST network in this paper.

Written by the language of PHP, the system based on Cacti uses the RRDTool (Round-robin database tool) engine to store data, stores the systems configuration information by MySQL, and collects periodical data through Net-SNMP. It has realized data acquisition, network weathermap, fault alarm, user management and other modules. Compared with the previous management way, our system can dynamically monitor the network link state, bandwidth usage, the information of network devices load in real time, and give the real monitoring effect; it can also find the various faults and give alarm by sending text messages and emails respectively, so that we can take appropriate measures to resolve them in time. Compared to Email alarm, SMS (Short Message Service) based on the hardware of GSM Modem has the advantages of faster speed and more reliable communication signal.

So far, the monitoring system has been successfully applied in the network of EAST and greatly improved the efficiency of network management.

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