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IPv6 testing and deployment at Prague Tier 2

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Computing Centre of the Institute of Physics in Prague provides computing and storage resources for various HEP experiments (D0, Atlas, Alice, Auger) and currently operates more than 300 worker nodes with more than 2500 cores and provides more than 2PB of disk space. Our site is limited to one C-sized block of IPv4 addresses, and hence we had to move most of our worker nodes behind the NAT. However this solution demands more difficult routing setup. We see the IPv6 deployment as a solution that provides less routing, more switching and therefore promises higher network throughput.

The administrators of the Computing Centre strive to configure and install all provided services automatically. For installation tasks we use PXE and kickstart, for network configuration we use DHCP and for software configuration we use CFengine. Many hardware boxes are configured via specific web pages or telnet/ssh protocol provided by the box itself. All our services are monitored with several tools e.g. Nagios, Munin, Ganglia. We rely heavily on the SNMP protocol for hardware health monitoring.

All these installation, configuration and monitoring tools must be tested before we can switch completely to IPv6 network stack. In this contribution we present the tests we have made, limitations we have faced and configuration decisions that we have made during IPv6 testing. We also present testbed built on virtual machines that was used for all the testing and evaluation.

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