

GridKa network development towards LHC run 3 and run 4 (HL)

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The LAN and WAN development of DE-KIT will be shown from the very beginning to the current status. DE-KIT is the German Tier-1 center collaborating with the Large Hadron Collider (LHC) at CERN. This includes the local area network capacity level ramp up from 10Gbps over 40 Gbps to 100 Gbps as well as the wide area connections. It will be demonstrated how the deployed setup serves the current capacity requirements and enables scaling.

The changes include the IPv6 dual-stack setup of DE-KIT, some of the challenges overcome during the deployment, the necessary tweaking that all routing requirements are fitting and the prevention of the two interface strategy. At IPv4 one interface is for internal use only with private addresses and the second interface has a public address. All systems are going to receive only one IPv6 address.

In the talk a network forecast about a prediction of LAN and WAN of a LHC collaborating center including the two LHC VPNs, LHCOPN and LHCONE, which will offer the resources for LHC RUN 3 and moreover beyond lookout to RUN 4 (High Luminosity) will be presented. One focus will cover the challenges to build network connections and offer bandwidth capacities to LHC collaborating cloud providers. This last chapter will be written in close cooperation with NRENs.

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