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LHCb Online migration to ISC Kea - the modern DHCP server.

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DHCP is an often overlooked, but incredibly important component of the operation of every data center. With constantly scaling and dynamic environments, managing DHCP servers that rely on configuration files, which must be in sync, becomes both expensive engineering wise and slow. The LHCb Online infrastructure currently consists of over 2500 DHCP enabled devices - physical and virtual machines, switches, containers and miscellaneous electronics, with plans for the upcoming upgrade to move to over 6000 DHCP client devices. At the same time, up until recently the mentioned infrastructure was served by ISC DHCP servers, with the only high availability assurance being the redundant hardware configuration. With view of the modern data center operating practices, aging features of ISC DHCP, readily available solutions for highly available database backends, great benefits to using stateless services and need for easy and effortless scalability and recovery, the LHCb Online team decided to move away to a modern DHCP Server - Kea. For the upcoming upgrade, the LHCb Online team migrated all of our old ISC DHCP infrastructure to ISC Kea. This submission will take a look at the benefits provided by using a modern DHCP server, the pitfalls and problems we experienced during the migration and the benefits acquired by the team from this migration.

Consider for promotion

Yes

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