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## Running version control systems and continuous integration to fulfill CERN and LHC experiments needs

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GitLab Runners have been deployed at CERN since 2015. A GitLab runner is an application that works with GitLab Continuous Integration and Continuous Delivery (CI/CD) to run jobs in a pipeline. CERN provides runners that are available to the whole GitLab instance and can be used by all eligible users. Until 2023, CERN was providing a fixed amount of Docker runners executing in OpenStack virtual machines, following an in-house, customized solution that utilized the Docker+machine executor. This solution served its purpose for several years, however needed to be reviewed due to the deprecation by Docker Inc., and only a fork maintained by GitLab Inc.

During the last few years, the demand and the number of running pipelines have substantially increased, as the adoption of Continuous Integration and Delivery has been rapidly growing.

In view of the above, CERN needed to provide a supported, scalable infrastructure that would accommodate our users' demand.

This paper describes the process of how CERN migrated from the legacy in-house solution to a new scalable, reliable and easy-to-maintain solution of runners based on Kubernetes, including the challenges and lessons learned that have been faced during this complex migration process.

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