Development pipeline for continuous experimentation

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Abstract—Currently more and more software companies are moving to lean practices, which often include shorter delivery cycles and thus shorter feedback loops. However, to achieve continuous customer feedback and to eliminate work that doesn't generate value, even shorter cycles are required. In continuous deployment the software functionality is deployed continuously at customer environment. This process includes both automated builds and automated testing, but also automated deployment. This adds more elements to the development pipeline, which often in a lean team consists of a version control system and a continuous integration server. Automating the whole process minimizes the time required for implementing new features in software, and allows for faster customer feedback. In this paper we review the architecture of existing software development pipelines that implement continuous deployment. We investigate the challenges a company typically faces during the transition to continuous deployment. We also explore the main issues and attributes required for the architecture of the the pipeline to allow gathering feedback in real-time. We aim for a coherent view of essential features required to build a development pipeline in such manner.

I. Introduction

References