Google Summer of Code 2020 @ Jenkins

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Google Summer of Code 2020
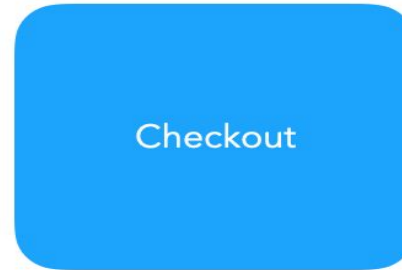
Git Plugin Performance Improvement Project

Enhancing user experience with faster checkouts

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Checkout

- Introduced a new feature:
  GitToolChooser
  This feature takes the responsibility to choose an implementation from the user to the system

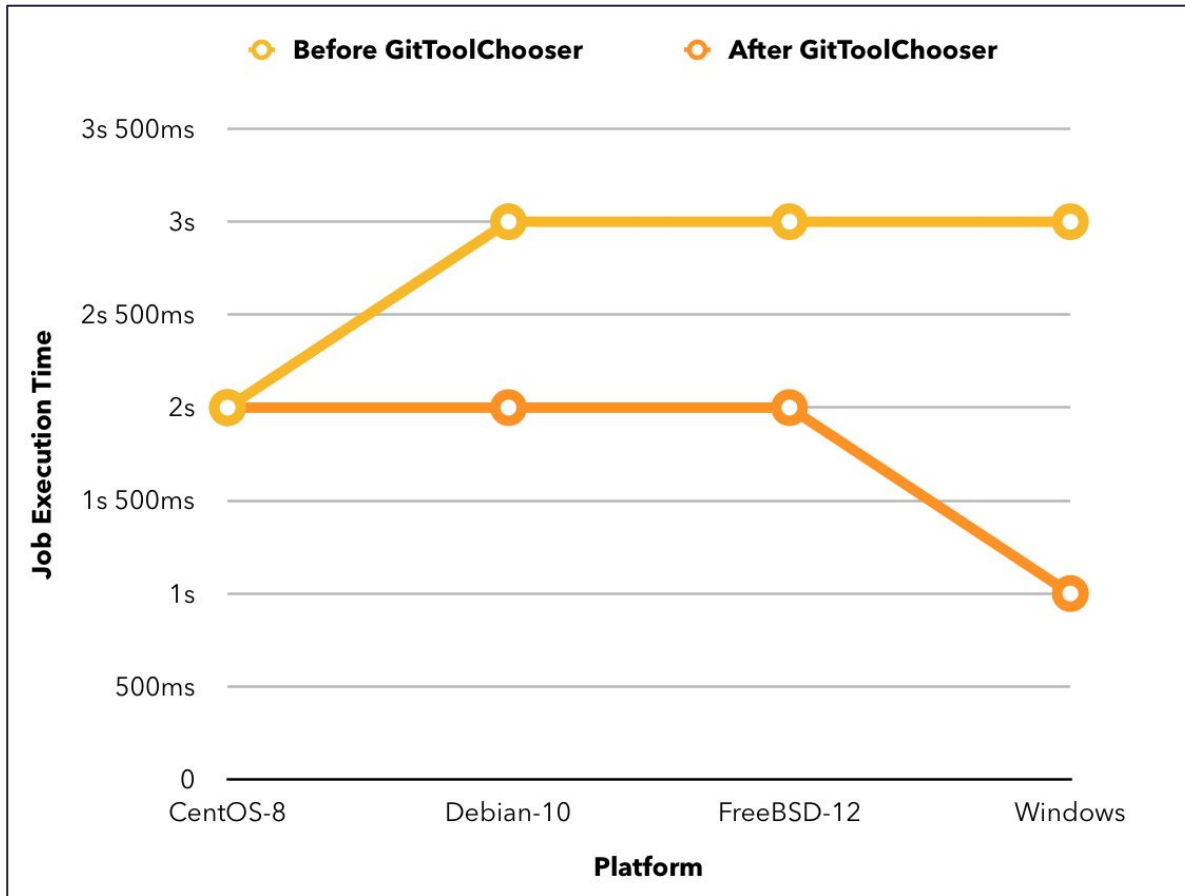- Removed a second fetch which was
  redundant in most cases

50% reduction in overall time spent

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Major Performance Improvements

- Building Tensorflow (~800 MiB) using a Jenkins pipeline

- Over 50% reduction in overall time spent in completing a job!

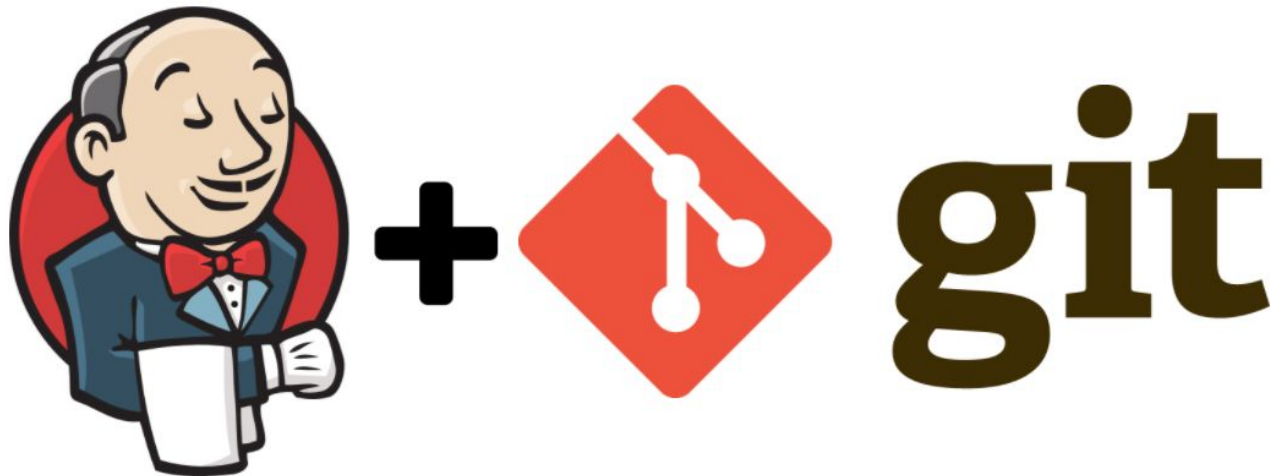- The result is consistent multiple platforms

Minor Performance Improvements

Before GitToolChooser · After GitToolChooser

Job Execution Time vs Platform
(Y-axis: 0, 500ms, 1s, 1s 500ms, 2s, 2s 500ms, 3s, 3s 500ms)
(X-axis: CentOS-8, Debian-10, FreeBSD-12, Windows)

- Building the git plugin (~ 20 MiB) using a Jenkins pipeline

- There is a drop of a second across all platforms when performance enhancement is enabled!

- Eliminating a redundant fetch reduces unnecessary load on git servers

When and How Will I Get This Feature?

- Released in git plugin 4.4.0

- For more details:
https://www.jenkins.io/projects/gsoc/2020/projects/git-plugin-performance/

- For further queries:
https://gitter.im/jenkinsci/git-plugin

Thank You!

Shoutout to Mark E. Waite, Francisco Fernandez, Justin Harringa and Omkar!

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