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The History of DevOps

DevOps is the joining of Development and Operations in regard to professions that, before the many movements that will be discussed, were always in conflict. The movement is based around software developers and IT operations to help integrate both into a process that allowed more efficient building, testing, and deploying software that was both reliable and in the hands of the customer as quickly as possible (Atlassian). This report will cover the evolution of changes that currently results in DevOps starting with the Lean movement, followed by the Agile Manifesto, and ending (for now) in the Continuous Delivery movement.

The Lean movement is known with many different applications, but started with the Toyota Production System and was developed in Japan after WWII. Key points of Lean are to reduce waste, optimize processes, and target continuously improving efficiency. A book regarded as the “bible” for anyone that is a part of manufacturing is the[*Toyota Way Fieldbook*](https://www.accessengineeringlibrary.com/content/book/9780071448932)that walks through the principles of the movement and how to implement change in an environment that has not absorbed these ideals. Process optimization would be the biggest value added to the DevOps process that is managed through value stream mapping and continuous improvement (lean.org). DevOps has many visual aides that show there is no actual end to development as something can always be improved or the needs may change.

The [Agile Manifesto](https://agilemanifesto.org/) was made in 2001 in Snowbird, Utah. A group of developers got together to discuss different methods used that either help, hinder, or outright conflict with another in the current state of software development. The manifesto was not long and only had four key points declaring what was more important than what was actually occurring in the professional world at the time. The winning items were individuals and interaction, working software, customer collaboration, and responding to change. Items deemed as hinderances to these were processes and tools, overly comprehensive documentation, negotiations, and sticking to a set plan (Atlassian). DevOps has integrated the ideals of open communication and collaboration, being flexible, and work towards rapid deployment with many iterations rather than one lump product.

Continuous Delivery is the movement that has been gaining momentum in the last fifteen years after a book by Jez Humble and David Farley in 2010 made it mainstream. That book is [*Continuous Delivery: Reliable Software Releases through Build, Test, and Deployment Automation*](https://continuousdelivery.com/about/) and pushed for developers to automate their steps so that code changes can occur quickly and safely. Key successes that the automated steps of the movement drive for developers to achieve are to have low risk releases, faster releases, high quality releases, lower the costs of development, result in superior products, all while having a happier development team (Humble).

All of what DevOps is today is the result of an industry growing through different paradigms and ideals to move towards a comprehensive approach that integrates all of the best of these influences. The elements from Lean, Agile, and Continuous Delivery are the foundation of DevOps are what is changing the industry today.

References:

Kim, G., Debois, P., Willis, J., & Humble, J. (2015). The DevOps Handbook: How to Create World-Class Speed, Reliability, and Security in Technology Organizations. It Revolution Press.

Atlassian. (n.d.-d). History of DevOps | Atlassian. <https://www.atlassian.com/devops/what-is-devops/history-of-devops>

Atlassian. (n.d.-e). Is the Agile Manifesto Still a Thing? | Atlassian. <https://www.atlassian.com/agile/manifesto>

Continuous deployment. (n.d.). Best Practices. <https://bestpractices.cd.foundation/learn/cd/>

Lean Enterprise Institute. (2023, January 27). What is Lean? | Lean Thinking - Lean Enterprise Institute. <https://www.lean.org/explore-lean/what-is-lean/>

Liker, Jeffrey K., and David Meier. 2006. Toyota Way Fieldbook. 1st ed. New York: McGraw-Hill Education. <https://www.accessengineeringlibrary.com/content/book/9780071448932>

Humble, Jez (n.d.). [https://continuousdelivery.com/](https://continuousdelivery.com/about/)