

Towards Definitions for Release Engineering and DevOps

Andrej Dyck
Software Construction
RWTH Aachen University
Aachen, Germany
andrej.dyck@swc.rwth-aachen.de

Ralf Penners
RWTH Aachen University
Aachen, Germany
ralf.penners@rwth-aachen.de

Horst Lichter
Software Construction
RWTH Aachen University
Aachen, Germany
horst.lichter@swc.rwth-aachen.de

Abstract—Delivering software fast, reliable, and predictable is essential for software development organizations. Yet, they often struggle to implement proper approaches and practices like release engineering and DevOps. One reason is the lack of consistent definitions for both of these terms, making it difficult to grasp the meaning and adding further confusion.

To the best of our knowledge, there are no uniform definitions for both terms, and thus, many inadequate or even wrong interpretations exist. Consequently, these terms are often confused, misinterpreted, or used as synonyms. In this paper, we propose definitions for release engineering and DevOps to tell both apart.

I. DEFINITIONS

Release engineering and DevOps, both, try to improve product value by enabling the organization to deliver high-quality software and react to changes and issues faster [1], [2]. While release engineering is a discipline concerned with building and improving a predictable and reliable release process [3], [4], DevOps is an organizational approach stressing on good communication and empathy between teams [5], [6], [7], [8]. To this end, they rely on established practices and tools.

Seeking to take action against the lack of uniform definitions, we consolidated with experts and, subsequently, propose our definitions for release engineering and DevOps.

Release engineering is a software engineering discipline concerned with the development, implementation, and improvement of processes to deploy high-quality software reliably and predictably.

Note that, here, improving processes also mean, i.a., improving information flow between the people involved. Meaning, that in order to improve the release process, a release engineer has to establish a good communication between those responsible for various tasks and stress acceptance for other team's goals.

DevOps is an organizational approach that stresses empathy and cross-functional collaboration within and between teams – especially development and IT operations – in software development organizations, in order to operate resilient systems and accelerate delivery of changes.

Note that although DevOps is an abbreviation of development and IT operations, it is not limited to those two teams

[8], [9]; thus, there is no need for “extending” acronyms like DevSecOps or DevNetOps.

Some consider that there is no need for definitions, e.g., argued by Goat Can in [10]. There are many similar cases where some people thought a definition is not needed, e.g., the agile movement. Furthermore, ScriptRock stated that it is “not only necessary, but important, that DevOps [is] defined [..]” [11]; this also holds true for release engineering.

In fact, there exist many definitions; people (or organizations) use their own, or rely on definitions from influential individuals or sources like Wikipedia. Those definitions vary in important aspects and focuses. However, they are often too coarse, specific, or complex in formulation. Additionally, they often miss to state the goals or miss important aspects.

In summary, this work should be seen as a first attempt to develop uniform definitions for both terms and we hope it will kick off discussions and further research.

II. ACKNOWLEDGMENTS

Many thanks to J. Humble, J. Sussna, G. Kim, B. Adams, and A. Steffens for their contribution and discussions. We are equally thankful to A. Frohner, K. Moir, C. Rossi, D. McNutt, P. Debois, and reviewers of RELENG 2015 for giving us helpful reviews.

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