

DevOps Glossary

Glossary Terms	Description
Agile	Agile is a time-boxed and iterative approach of software delivery. It aims to build software incrementally from the start of the project.
Agile Benefits	<p>Visibility: As Product Owner and business are involved with product development on a regular basis, for instance by attending the sprintly demo (or by launching new shippable features on a regular basis), visibility of what is delivered is far higher than is the case with traditional development methods. Parts of the product are delivered on a regular basis.</p> <p>Risk: Optimization of product visibility lowers the risk, as it becomes clear early in the process whether the team is moving into the right direction and building the right things. It is all about feedback and using this feedback to lower risk.</p> <p>Business Value: By delivering a shippable product at the end of each sprint, this product can actually be used to generate business value throughout the product development cycle. Features are prevented to get 'stuck' in the development cycle and are shipped straight away. This as opposed to the "traditional way of working", where the product is shipped only near the end of the project</p>

<p>Automated Provisioning</p>	<p>Automated provisioning is defined as the fully automated delivery and maintenance of application environment components. Application environment components are the deployment target containers of the application. For example, a database server or application runtime server. In a DevOps organization, automated provisioning can be the responsibility of DevOps Platform teams.</p>
<p>Backlog Refinement Session</p>	<p>Scrum Term - This session is used to anticipate and define what User Stories are expected in next sprint and communicate uncertainties for in case User Stories are unclear. The session typically takes place half-way a sprint, leaving room for Business and Product Owner to improve User Stories where needed, prior to the starts of the next sprint.</p>
<p>Build Automation</p>	<p>Build automation transforms code changes, committed by team members, automatically to published deployment artifacts, ready for deployment and validation in (test) environments.</p>
<p>Burn Down Chart</p>	<p>Scrum Term - During Planning Poker, features are assigned so called velocity points. When progressing in time, team estimations will become more reliable. The Burn Down chart outlines the burn rate for the running sprint over times. This way, a team can steer on on making the needed progress to burn all points for the sprint.</p>

CALMS	Key ingredients for DevOps as defined by Damon Edwards and John Willis. Culture, Automation, Lean, Measure and Sharing.
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Continuous Delivery	<p>Defined by Jez Humble - "Continuous Delivery is about putting the release schedule in the hands of the business, not in the hands of IT. Implementing Continuous Delivery means making sure your software is always production ready throughout its entire lifecycle – that any build could potentially be released to users at the touch of a button using a fully automated process in a matter of seconds or minutes".</p>
Continuous Delivery Base Principles	<ul style="list-style-type: none"> • Rigorous Automation • Extreme Feedback • Continuous Change
Continuous Delivery Benefits	<p>Teams that adopted Continuous Delivery:</p> <ul style="list-style-type: none"> • Increase speed and repetitiveness through automation. • are Agile as there is no Work in Progress. • make sure there is flow in their delivery. • are able to operate largely autonomously. • are doing the right things right.
Continuous Deployment	<p>"Continuous Deployment is subtly different to Continuous Delivery in that release are automatically pushed into production when all tests pass. In Continuous Delivery, release is a human decision." Dave Farley</p>
Continuous Improvement Objectives	<ul style="list-style-type: none"> • Deliver value faster • Deliver value better • Supply services cheaper • Create more meaning in work • Create a healthier environmental footprint

<p>Continuous Integration (CI)</p>	<p>Continuous Integration (CI) is the practice, in software engineering, of merging all developer working copies to a shared mainline several times a day. (Wikipedia, March 2016)</p> <p>“Continuous Integration usually refers to integrating, building, and testing code within the development environment.” Martin Fowler</p>
<p>Culture</p>	<p>Four elements of a DevOps culture:</p> <ul style="list-style-type: none"> • Teambuilding • Courage • Continuous Improvement • Leadership
<p>Daily Stand-up</p>	<p>Scrum Term - Every day, the team comes up to the scrum board where each member will explain what he/she did yesterday, where he/she is now and what he/she will be doing today. Impediments, blocking a team member from progressing, are also raised in this standup. A stand-up should never take up more than 15 minutes of time.</p>
<p>DASA Competence Framework</p>	<p>The DASA Competence Framework identifies 8 Knowledge Areas and 4 Skills that are relevant in DevOps.</p>

DASA Knowledge Areas	<ol style="list-style-type: none">1. Business Value Optimization2. Business Analysis3. Architecture and Design4. Programming5. Continuous Delivery6. Test Specification7. Infrastructure Engineering8. Security, Risk and Compliance
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DASA Principles	<ol style="list-style-type: none"> 1. Customer Centric Action 2. End to End Responsibility 3. Continuous Improvement 4. Create with the End in Mind 5. Cross Functional Autonomous Teams 6. Automate Everything You can
DASA Skills	<ol style="list-style-type: none"> 1. Courage 2. Teambuilding 3. Leadership 4. Continuous Improvement
Defects	<p>Rework that is required because an activity was not properly executed in first instance. This requires one to task-switch back to the originating activity, stopping progress, analyse the issue and fix the issue.</p>
Definition of Done (DoD)	<p>Scrum Term - A list of criteria (preferably attached next to the scrum board) describing what topics need to be addressed in order for a product to be considered 'potentially shippable'. It's a simple list containing restraints like these: code, unit and coverage tested, functionally tested, performance tested, user acceptance tested, reviewed, documented. It clearly defines a finish- mark. The team only delivers part of the product that adhere to criteria on the list.</p>

Definition of Ready (DoR)	<p>Scrum Term - A list of rule (preferably attached next to the scrum board) describing to what standards a user story should adhere in order to be accepted by the Development team. Examples of topics on the list could be: "the user story is on the backlog", "the development team understands the problem", "the user story is estimated by the development team", etc. The DoR is there to make sure requirements are clear from its inception and additional conversations during sprint activity are kept to an absolute minimum. It eliminates the need for discussions as much as possible.</p>
DevOps	<p>DevOps is a cultural and operational model that fosters collaboration to enable high performance IT to achieve business goals.</p>
DMAIC	<p>A problem-solving method: Define, Measure, Analyze, Improve, Control.</p>
Engineering Culture	<p>A definition of an Engineering Culture (Palantir): "Engineers build things that solve problems. You don't have to be a computer scientist or have any particular degree to be an engineer. You just have to speak up when things aren't right, evaluate ideas on their merits, and build things that fix what's broken."</p>
Experimentation	<p>Experimentation means testing a hypothesis, and in practice, it means trying something new based on a need.</p>

<p>Feedback</p>	<p>Four types of feedback can be defined:</p> <ul style="list-style-type: none"> • Feedback on build and test activities. For example, automated unit test results, automated static code analysis results. • Feedback on deployability. For example, automated deployment execution results, automated application deployment “smoke” tests, automated application health checks. • Feedback on runtime behavior. For example, automated user interface functional test results or automated load test results. • Feedback from the customers! For example, revenue / conversion rates.
<p>Impediment Board</p>	<p>Scrum Term - This board contains topics that keeps the team from doing its work, but which is out of reach for the team itself. Typically, the scrum master makes sure impediments are dealt with. Impediment boards should only contain topics for which the team member itself already tried addressing it. i.e. not ‘everything’ is thrown onto this board. Items might include: “not enough desks”, “team divided over multiple locations slows us down”, “network is down several times a day”.</p>
<p>Inventory</p>	<p>Waste caused by excess product taking up space. In a software development context, it generally means that the work (story) that is not completely done as per your Definition of Done, and hence you cannot demo or release it, resulting tasks to remain in in-progress state.</p>

ITIL	Information Technology Infrastructure Library, is a set of practices for IT Service Management (ITSM) that focuses on aligning IT services with the needs of business.
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Kanban	Kanban is Japanese for “visual signal”. The Kanban’s visual nature allows teams to communicate more easily on what work needed attention to make sure flow remains in the process. Kanban is a great tool to visualize work-build up, bottlenecks and helps to reduce waste and maximize value.
Motion	An example could be one copy machine on only the second floor, requiring the user to walk around the building for making a copy. Another one is the unavailability of meeting rooms, forcing a team to search for a spot whenever they need some privacy to discuss. In SW development, handover-moments can also be considered a waste related to motion.
MTTR	Mean Time To Recover
Non-Utilized Talent	Waste caused by centering resources around specialized activities. If one has to perform only one type of task, other possible skills this resource might exhibit (like board management, organization, x-team communication, presenting customer cases) are not used!
Over-processing	Commonly this waste is caused when a team is unable to understand the Voice of Customer (VoC), or lack of understanding the product-vision, resulting in gold-plating a product. A product owner might play a significant role steadyng this type of waste.

Overproduction	<p>Producing more than is actually needed, generating WIP (work in progress), requiring the next step in the process to think about where to (temporarily) store/archive the superfluous artifacts and find it once it is needed again.</p>
Planning Poker	<p>Scrum Term - At the start of each sprint (and often during the backlog refinement session), the team plays so-called planning poker in order to size the amount of work that is required to fulfill a new activity. In this session a sizing is agreed by the complete team and a 'common view' is established on topics at hand. When performing more poker sessions over time, sizings will become more reliable and the team starts to exhibit a specific burn-rate, defining how fast the team is performing.</p>
Potentially Shippable Product	<p>Scrum Term - The product increment which is delivered at the end of each sprint. If the business deems required, this artifact can be shipped to production straight away as it does not have any tasks outstanding.</p>
Product Backlog	<p>Scrum Term - A continuously evolving and ordered list of requirements and topics, required to make sure optimal product value is achieved. The Product backlog is the one single source of truth for modifications to the product. One list to rule them all.</p>

Product Demo	Scrum Term - Each sprint closes off with a product demo for team, product owner and the business / customer. The demo is a way to provide and receive feedback from all stakeholder and inject this feedback into the product during a next sprint. Attending the product demo is essential for improving collaboration, the next product backlog and of course the product itself.
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<p>SCRUM</p>	<p>Scrum is the most commonly used manner of introducing Agility to an organization. Its simplicity and flexibility is appealing to many organizations. Scrum emphasizes empirical feedback, team self management, and performs product increments within short iterations.</p>
<p>Scrum Board</p>	<p>Scrum Term - A visual outline of activities in a Kanban style manner, where activities move from left to right over the board "To do", "Doing", "Done", "Impeded".</p>
<p>Scrum Master</p>	<p>Role in Scrum - Scrum Master – The person responsible for making sure the team adheres to scrum behaviors, rules and guidelines. It is the facilitator making sure everybody plays by the rules. The scrum master not only explains to the team, but also explains to the external stakeholders the way things are done. The Scrum-Master enables the team to do the things that are needed to make things work.</p>
<p>Scrum Product Owner</p>	<p>Role in Scrum - Product Owner is responsible for maximizing the value of the product. This means that the PO knows the business and customer and defines user stories that matter to the business and customer and holds off on other stories. The PO is the only person responsible for maintaining the product Backlog. The PO makes sure that User Stories adhere to the Definition of Ready (DoR) in terms of how requirements are described, that the board is properly prioritized in terms of value and that clear and transparent communication between development and business is achieved.</p>

SCRUM Roles	Team, Scrum Master, Product Owner
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Scrum Team	<p>Role in Scrum - Team – A multidisciplinary team which is allowed to work on the tasks agreed at start of a sprint. Every discipline required to deliver a shippable product (as output of a sprint) is contained within the team. Typically, a team might consist of members with skills to define, develop, test, deploy, maintain and communicate aspects of the product. The team members organize themselves and continuously improve their own process. They take responsibility for the way things are moving. A typical scrum team is about 5 maximum 9 members in size.</p>
Sprint	<p>Scrum Term - A predefined amount of time in which activities on the sprint backlog are performed. Sprints often are defined per week or per every two weeks, but longer is also used. Note that shortening a sprint will also result in shorter backlog refinement, poker and retrospective sessions, as the amount of topics to discuss will become much lesser as well.</p>
Sprint Backlog	<p>Scrum Term - Sprint Backlog – A set of product backlog items that have been selected for the sprint, including required tasks for delivering this new features at the end of a sprint (i.e. activities like develop, build, review, test, etc.). The sprint backlog contains an internal prognoses of the development team itself (no one else), for the coming increment.</p>
Story Mapping	<p>Story mapping is an engaging activity where all participants are involved in the process of building the product backlog on a wall.</p>

Story Mapping Benefits	<ul style="list-style-type: none"> • A lower risk in development as customer feedback is embedded into the design process. • An engaged customer as the system is designed to his or her immediate needs. • Shorter project startup time due to removal of endless up-front design sessions. • Fast ROI as the base-product is in the customer's hands at an early stage.
Task Classification Quadrant	<p>Task classification quadrant by Charles Perrow. Method to determine if tasks have a potential for automation. The quadrant is based on two dimensions: tasks analysability and task variability.</p> <ol style="list-style-type: none"> 1. Task Variability is defined by the number of exceptions to standard procedures encouraged in the application of a given technology. 2. Task Analyzability is defined as the extent to which, when an exception is encountered, there are known analytical methods for dealing with it.
Team Retrospective	<p>Scrum Term - After every sprint, the team evaluates what went well and what went not-so-well, thus could use improvement. This is an important aspect of scrum to continuously improve on the way of working.</p>

Transportation	Waste caused by the need for transportation (i.e. a refrigerator located far away from the sink). In SW development this might be task-switching as people are assigned by more than one project. The fastest way to complete two tasks is to perform them one at a time.
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Value Stream Mapping	<p>Lean Term - Value Stream Mapping (VSM) is a tool to gain insight in the workflow of a process and can be used to identify both Value Adding Activities and Non-Value Adding Activities in a process stream while providing handles for optimizing the process chain.</p>
Waiting	<p>Wasted time since one has to wait on another task (for instance caused by overproduction) to be finished. Commonly, a wait is caused by a bottleneck in the end-to- end process or by irregular meetings and handover- moments. Delays introduce discontinuity into a process.</p>
Waste	<p>Lean Term - Lean defines 8 forms of waste: Defects, Overproduction, Waiting, Non-Utilized Talent, Transportation, Inventory, Motion, and Overprocessing.</p>
Woodward Technology Typology	<p>When processes are highly programmed and automated, they will result in predicted and standardized output. Automated processes are repeatable. Cost of process execution is minimized.</p>