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The Technology Value Stream

CSD 380
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Introduction to the Technology Value Stream

Overview

The Technology Value Stream includes all the steps needed to turn a business idea or a customer's request into a software product or service that is delivered.
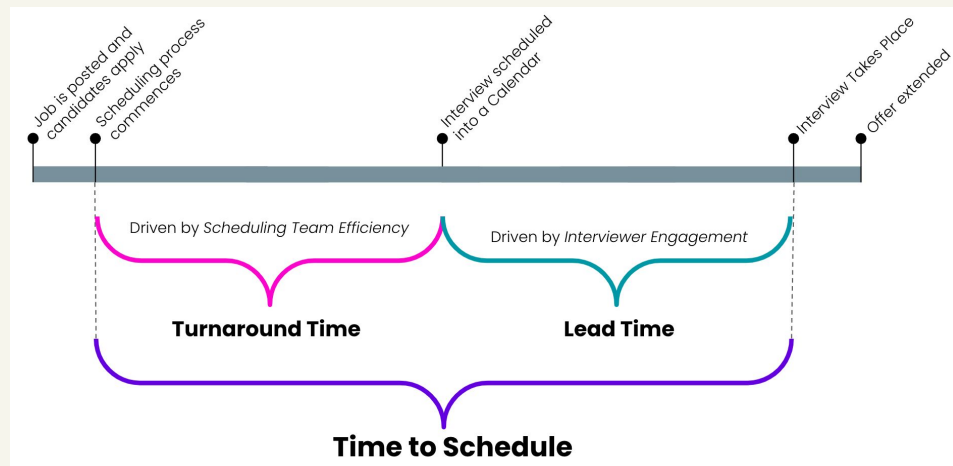
Improving how work flows is important for speeding things up, making everything run more smoothly, and providing great results for customers.

Get quick, reliable, and top-notch results.

Defining Lead Time vs. Processing Time

Lead time is the total time it takes from when you make a request until it's finished. Processing time is just the time spent actually working on that request. For instance, in software development, lead time includes waiting for approvals, testing, and getting the software out, while processing time is just the coding, reviewing, and testing part. This slide has a timeline to help show the difference between lead time and processing time.


Job is posted and candidates apply

Scheduling process commences

Interview scheduled into a Calendar

Interview Takes Place

Offer extended

Driven by *Scheduling Team Efficiency*

Driven by *Interviewer Engagement*

Turnaround Time

Lead Time

Time to Schedule

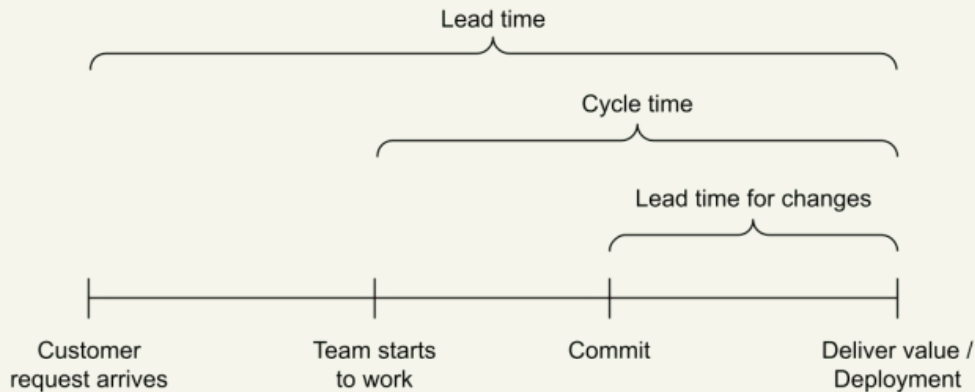# The Common Scenario: Lead Times Requiring Months

Overview

Many teams and organizations struggle with problems like overly complicated systems that are hard to work with, not enough places to test new features, long wait times to set up testing and production environments, a heavy dependence on manual testing, and complicated approval processes. These challenges force team members to work extra hard to fix issues, which leads to slow feedback and debugging, ultimately resulting in unhappy customers and a lot of frustration.
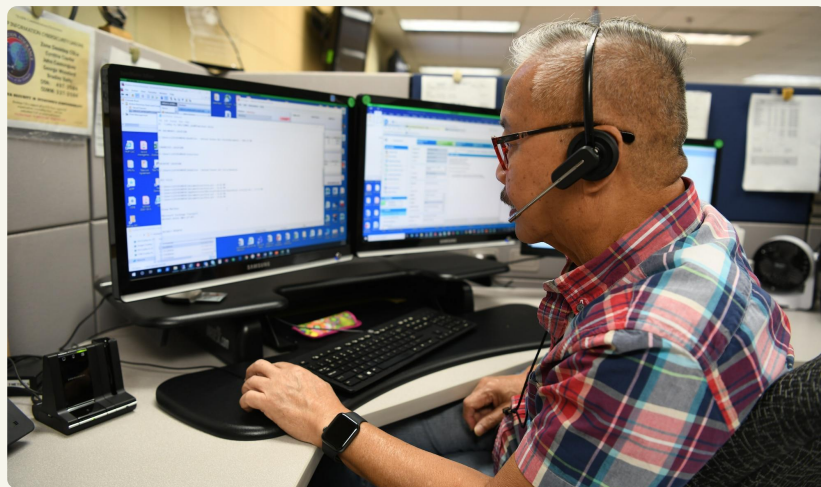
Example of Long Deployment Lead Times

Sometimes, the testing areas where different parts of the software are combined may not be ready for weeks. When the team finally puts everything together, they often find many problems and mistakes. It can take weeks to sort these out, which delays the project even more and leaves customers unhappy.

Lead time

Cycle time

Lead time for changes

Customer request arrives | Team starts to work | Commit | Deliver value / Deployment

DevOps Ideal: Lead Times of Minutes

Overview

The DevOps approach focuses on a few main ideas: developers get quick feedback, they make small updates to their code that are tested and put into use right away, and there are automatic checks to maintain quality and speed. The main advantages are that the teams feel sure their products are ready, they can quickly find and fix the problems with it, and customers are much happier in the long run.
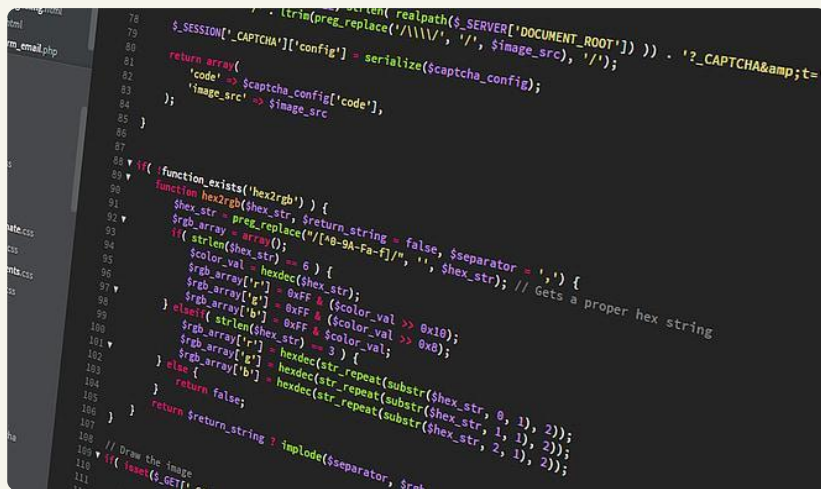
Achieving the Devops Ideal

To embrace the DevOps approach, organizations should move towards using smaller, independent services rather than large, complex systems. They should focus on automated testing and setting up processes that allow for continuous updates. It's important to create quick and dependable places for testing and live operations. Reducing the need for manual steps and approvals is key, as well as encouraging teamwork and ongoing progress.

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