



The Technology Value Stream

Module 1.2

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Introduction to Technology Value Stream

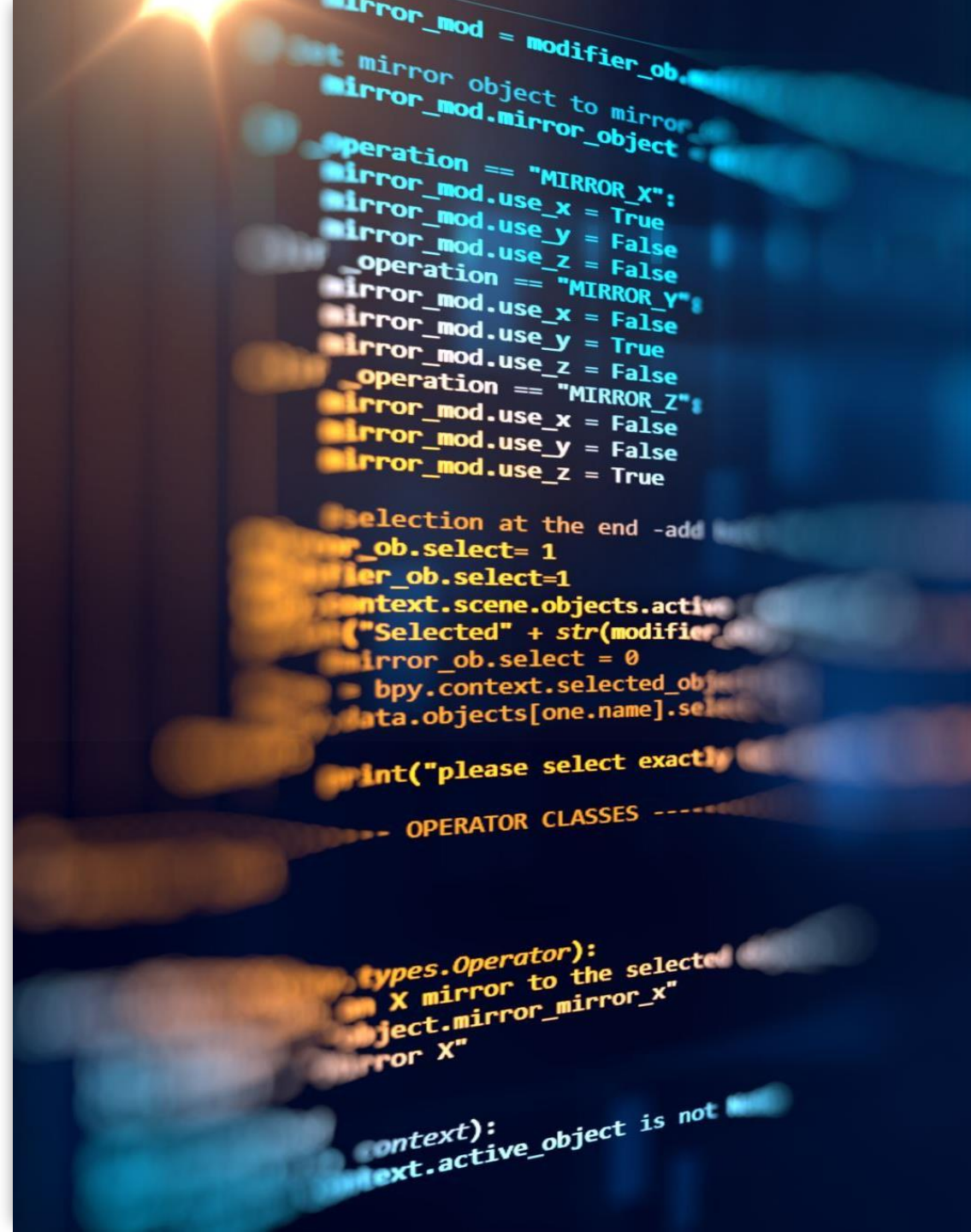
Technology value stream represents the flow of work from customer demand to delivery of value like a product or feature

In DevOps optimizing this flow is key to improve speed, reliability, and efficiency.

Focus areas include reducing delays, improving handoffs, and automating processes.

Lead Time vs. Processing Time

- **Lead Time:** The total time from a request being made like a feature request or bug fix to its delivery in production.
- **Processing Time:** The actual hands-on time spent working on the task like coding, testing
- **Difference:** Lead time includes waiting periods while processing time refers only to active work.
- **Example:** A task may take 2 days of processing time but lead time can be weeks due to approvals or deployment waiting times.



The Common Scenario: Deployment Lead Times Requiring Months

Traditional IT organizations often face deployment lead times measured in months.



Cause:

Long approval chains

Isolated teams

Manual testing and integration



Impact:

Slow delivery of customer "item"

Increase in risk of defects caused by delayed feedback loops

Reduced agility in responding to market changes

Our DevOps Ideal: Deployment Lead Times of Minutes

The goal of DevOps is to reduce lead time from months to minutes.

Achieved by:

- Continuous integration and continuous deployment (CI/CD)
- Automated testing
- Close collaboration between development, operations, and security teams

Benefits from:

- Faster time-to-market
- Lower risk through small frequent releases
- Real time feedback on features and fixes

Lead Time Reduction Strategies

1

Automate Repetitive Tasks: Use scripts and automation for testing, integration, and deployment.

2

Shorten Feedback Loops: Continuous monitoring and testing to catch problems early.

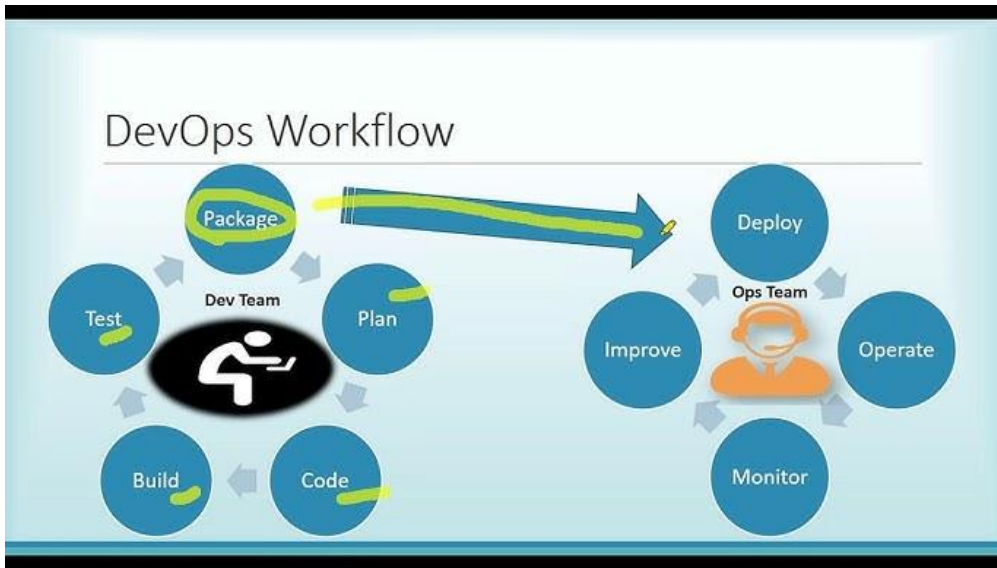
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Eliminate Bottlenecks: Fix areas causing delays like environment setup, approvals, and manual processes.

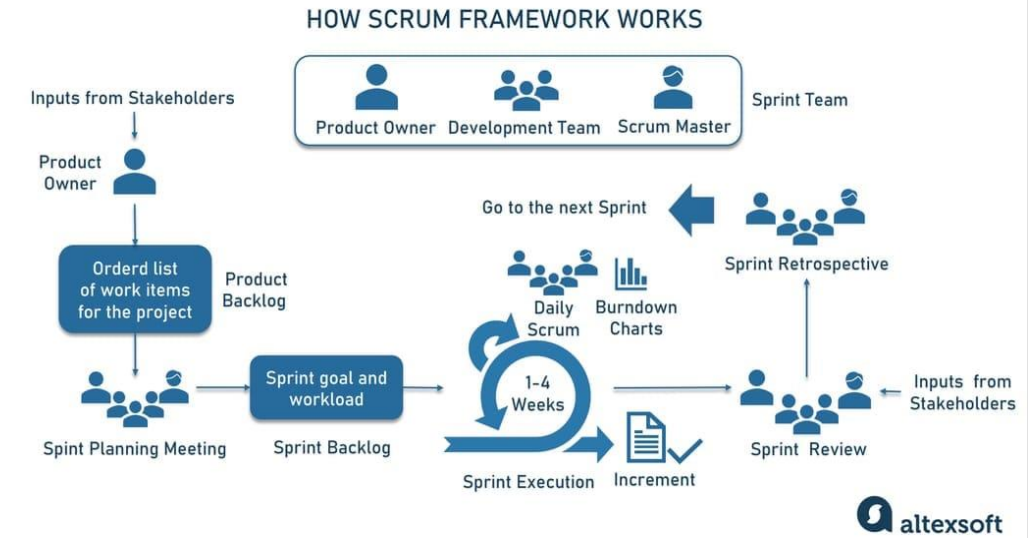
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Cross-Functional Teams: Break down silos between development, operations, and security.

Comparison of Lead Time and Processing Time



DevOps splits the two sides of a product. Keeping processes close together and reducing time.



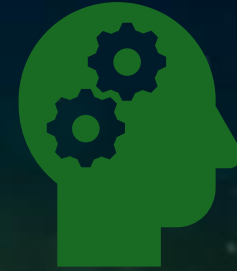
Traditional often works in sprints which as the graphic shows can take a long time between with multiple happening before even starting the building of the product.

Challenges in Achieving Lead Time Reductions



Common Challenges:

- Resistance to change
- Lack of automation
- Outdated infrastructure



Mitigation Strategies:

- Gradual transition to DevOps practices
- Invest in automation tools
- Promote culture of collaboration and continuous improvement

Source

Humble, J., Debois, P., Willis, J., & Allspaw, J. (2016). *The DevOps Handbook: How to Create World-Class Agility, Reliability, & Security in Technology Organizations* (2nd ed.). IT Revolution Press.