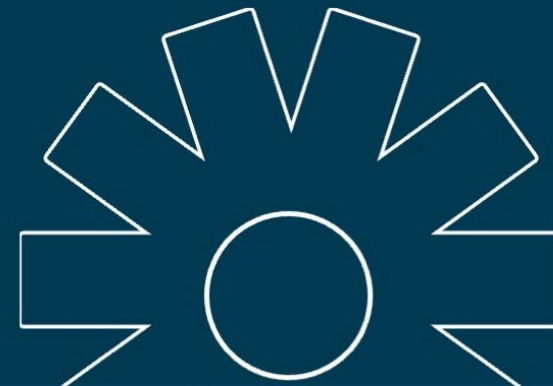# THE TECHNOLOGY VALUE STREAM

ZACHARIAH KING
CSD 380
08/17/25

- The process that facilitates innovation within DevOps products, new and old.

- The lifecycle of new ideas that blossom into valuable and loved features.

- Specifically:

  - Idea Evaluation & Acceptance

  - User Stories

  - Requirements Outline

  - Coding App/Service

  - VC Integration & Testing
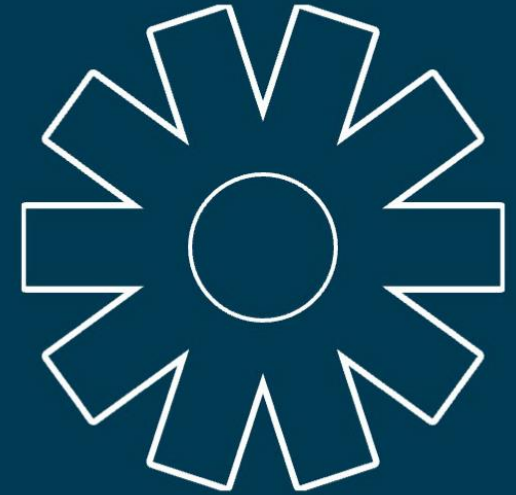
  (Jaison, 2024)

WHAT IS IT?

LEAD TIME & PROCESSING TIME

Part of the telemetry that goes into this Stream are the...

- Lead Time: The time it takes for a generated request to be fully acknowledged and completed from the second its created.

- Processing Time: The actual time it takes for developers to **work** on the request, without including waiting or queuing time periods.

- Both are used to measure overall performance of Value Streams, but Lead Time is often pushed sightly harder since it directly affects the client and extended lead times are never a desired thing.

(Brown, 2024)

- All too common especially within sizeable, in-depth corporations

- Other Causes Include:
  - complex & inflexible systems
  - lack of testing resources
  - manual testing
  - excessive human approval stages
  - Chaos usually follows these occurrences down to the last moment with the need to fix
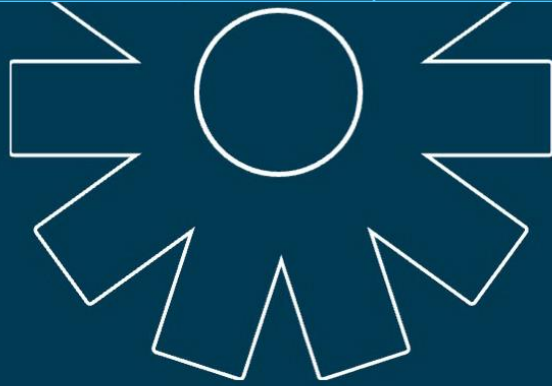   - Departmental conflicts
    - Broken builds

    (Kim, 2016)

WHEN DEPLOYMENT LEAD TIMES SPAN MONTHS
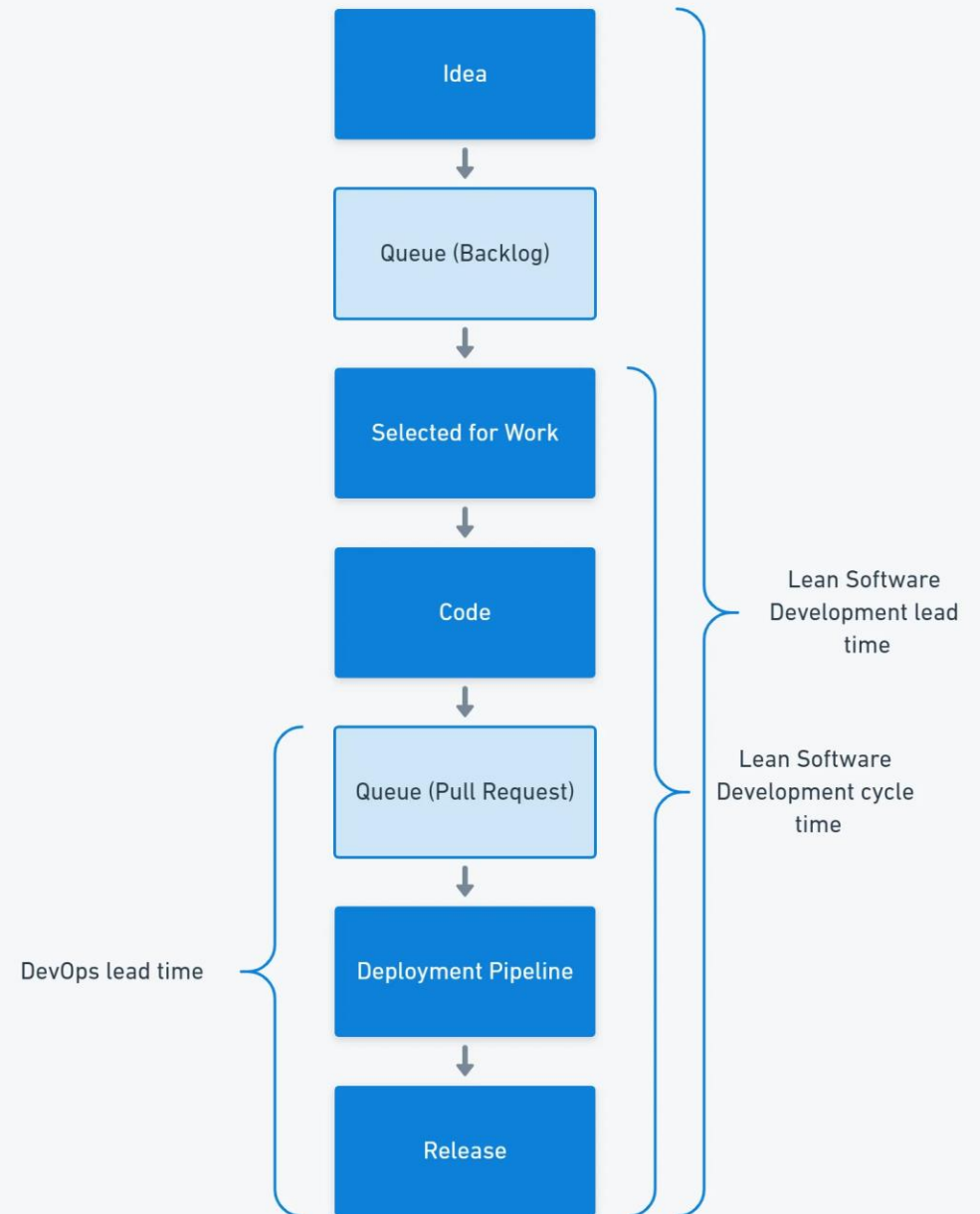
WHEN DEPLOYMENT LEAD TIMES SPAN MINUTES

- Ideally, deployment lead time would be only a matter of minutes and hours at most.

- The route to this takes:
    - A continuous stream of requested small batch changes
    - Automated testing
    - Automated deployment strategies
    - Compact, mostly uncoupled architecture allowing flexibility

(Kim, 2016)

This graphic shows how there are variations among the definitions of Lead Times and Processing Times, but generally, Lead Times include all the boxes on this visual while Processing Times consist of the 4th Box to the 7th Box

(Fenton, 2023)

This graphic shows tips on how to shorten lead times and this also shows how this applies to multiple environments and not just the DevOps one.

(Cashflow Inventory, 2023)

SUMMARY

Lead Time vs Processing Time

Total time for completion including waiting times vs Time spent actually working on request

Beware of Extensive Lead Times

Lookout for tightly coupled architecture and manual processes

Aim for Efficiency

Lead times of minutes from automation, modular builds, small batches

REFERENCES

- Cash Flow Inventory. (n.d.). *Lead times meaning, how it impacts your business, with example.* https://cashflowinventory.com/blog/lead-time/

- *Cycle Time vs. Lead time: A comprehensive guide*. IT Revolution. (n.d.). https://itrevolution.com/articles/cycle-time-vs-lead-time/

- Fenton, S. (2023a, February 20). *Why are there so many definitions of Lead time?*. Why Are There So Many Definitions Of Lead Time? | Octopus blog. https://octopus.com/blog/definitions-of-lead-time

- Jaison. (2024, May 25). Agile, continuous delivery and the three ways. https://thecontinuousjourney.com/agile-continuous-delivery-and-the-three-ways

- Kim, G., Humble, J., Debois, P., Willis, J., Forsgren, N., & Allspaw, J. (2016). *The devops handbook: How to create world-class agility, reliability, & Security in Technology Organizations* (2nd ed.). IT Revolution Press.