

The Technology Value Steam

A DevOps Perspective on Lead Time and Processing Time
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Introduction to Technology Value Stream

- The complete end to end flow of activities that deliver value to users- from idea inception through deployment, to customer delivery.
- This concept aligns with Lean and DevOps principles of waste reduction, automation, and continuous improvement.

Defining Lead Time vs Processing Time

- Lead time
 - The total elapsed time for a work item to move from initiation to delivery or deployment. It includes both active work and idle time.
- Processing Time
 - The actual time spent working on the item, active effort adding value (coding, testing, deploying)

Deployment Lead Times Requiring Months

- Many traditional IT setups suffer from lengthy deployment lead times, often spanning weeks or months due to:
- Manual processes, approvals, and coordination delays
- Toolchain fragmentation and numerous handoffs
- Large batch releases, testing bottlenecks, and scheduling conflicts
- This misalignment leads to slower feedback loops, delayed time to market, and reduced competitiveness

Deployment lead times of Minutes

- DevOps and CI/CD aim to slash lead times dramatically, from months to minutes by:
- Automating builds, tests, and deployment pipelines
- Adopting small, frequent releases
- Emphasizing continuous feedback and monitoring
- Reducing handoffs and batch sizes
- The goal is rapid, reliable delivery that improves responsiveness and stability

Traditional vs DevOps

Metric	Traditional Flow	DevOps Flow
Lead Time	Weeks or Months	Minutes or Hours
Process Time	Same order of magnitude	Similar, but more efficient
Waiting/Idle Time	High (manual delays)	Low (automated, continuous)
Batch Size	Large, infrequent	Small, frequent
Feedback Loop	Slow	Fast

Conclusion

- Lead time includes all elapsed time from request to delivery; Processing time is just the active work
- Traditional processes often suffer months-long lead times due to inefficiency
- DevOps, through lean automation and small releases, strives for lead times measured in minutes