THE TECHNOLOGY VALUE STREAM

Lead Time, Processing Time, and Deployment Cadence in DevOps

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WHAT IS THE TECHNOLOGY VALUE STREAM?

- The technology value stream shows how work moves from an idea to running code

- It includes planning, coding, testing, and deployment

- Value is not delivered until the change is live in production

- DevOps focuses on improving the flow of this entire process

WHY THE TECHNOLOGY VALUE STREAM MATTERS

- Customers only care about when they get the feature or fix

- Long delays mean slow feedback and unhappy users

- Most of the time spent is waiting, not actual work

- Improving flow helps teams deliver faster and more reliably

LEAD TIME VS PROCESSING TIME

Lead Time:

- Total time from request to delivery

Processing Time:

- Time Spent actively working on the task

Things to note:

- Lead time includes waiting, approvals, and handoffs
- Processing time is usually much shorter than lead time
- Customers experience lead time, not processing time

Reference – (Kim et al., 2016, p. 9)

COMMON SCENARIO: LEAD TIMES OF MONTHS

- Deployments often take weeks or even months

- Code waits in queues for testing or approval

- Manual testing and change approvals slow everything down

- Problems are discovered late, making fixes harder

- Teams rely on "hero" efforts to get releases out

Reference – (Kim et al., 2016, p. 10)

WHY LONG LEAD TIMES ARE A PROBLEM

- Delays feedback from users and the business

- Increases risk during deployments

- Bugs pile up and are harder to track

- Makes teams stressed and reactive instead of proactive

- Slows down innovation
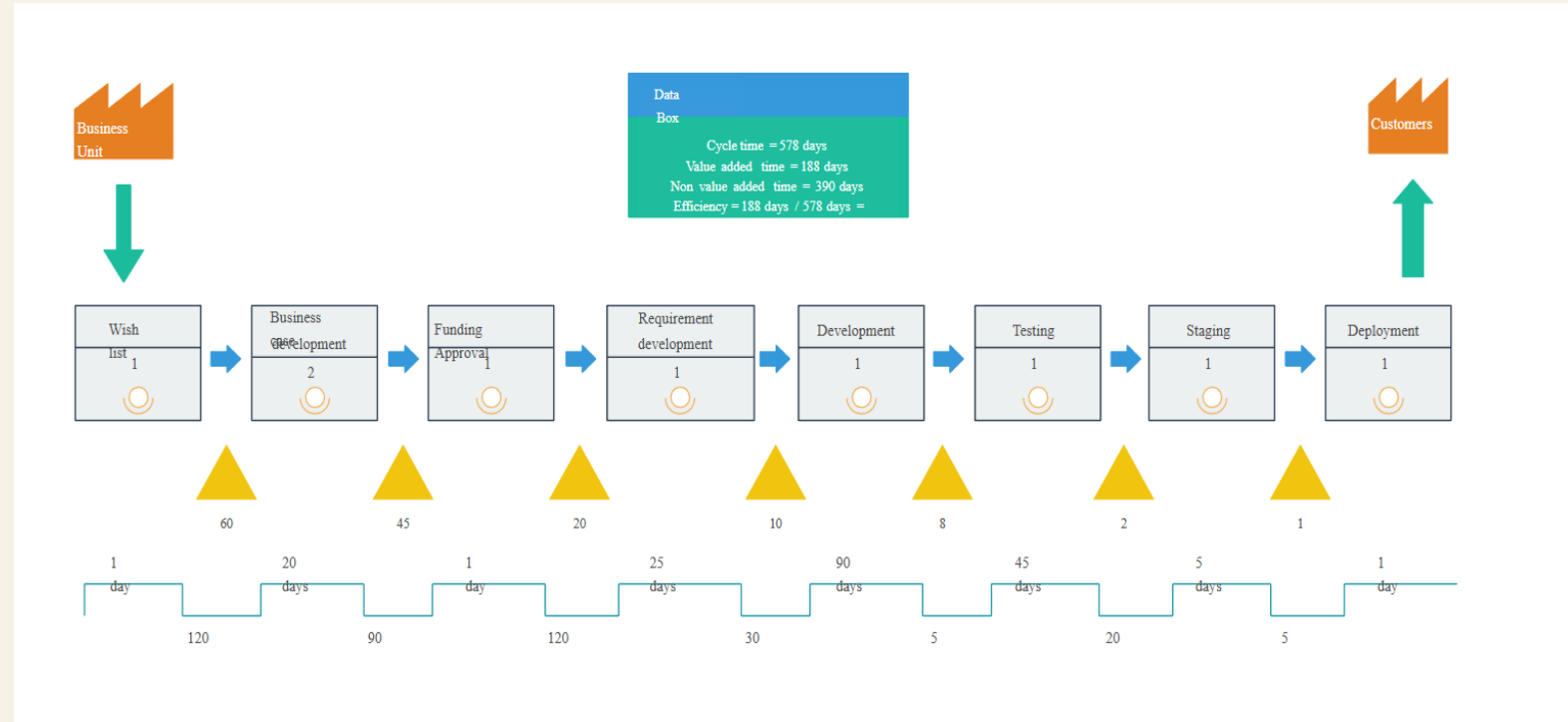
DEVOPS IDEAL: LEAD TIMES OF MINUTES

- Goal is to deploy changes in minutes, not months

- Small changes are easier to test and deploy

- Automation replaces manual steps

- Teams can deploy on demand

- Faster feedback leads to better quality

Reference – (Kim et al., 2016, p. 10)

HOW DEVOPS REDUCES LEAD TIME

- Continuous integration and automated testing

- Continuous delivery pipelines

- Smaller batch sizes

- Infrastructure as code

- Fewer handoffs between teams

- Problems are caught earlier instead of later

TECHNOLOGY VALUE STREAM

- Shows flow from idea to code to test to deploy

- Highlights waiting time vs processing time

- Compares traditional flow vs DevOps flow

https://creately.com/diagram/example/j0c6b2cp1/value-stream-map-for-software-development

Reference – (Kim et al., 2016)

CONCLUSION

- The technology value stream shows how work becomes value

- Lead time is what matters most to customers

- Traditional processes cause long delays

- DevOps practices shorten lead times dramatically

- Faster delivery improves quality and customer satisfaction

REFERENCES

Kim, Gene, et al. *The DevOps Handbook: How to Create World-Class Agility, Reliability, & Security in Technology Organizations*. 2nd ed., IT Revolution Press, 2016.

Images:

https://creately.com/diagram/example/j0c6b2cp1/value-stream-map-for-software-development