



# Version Control and Continuous Integration

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#jenkinsconf

## Overview

- Why version management for CI?
- Why CI for version management?
- The role of code review
- How all this can be done in Perforce

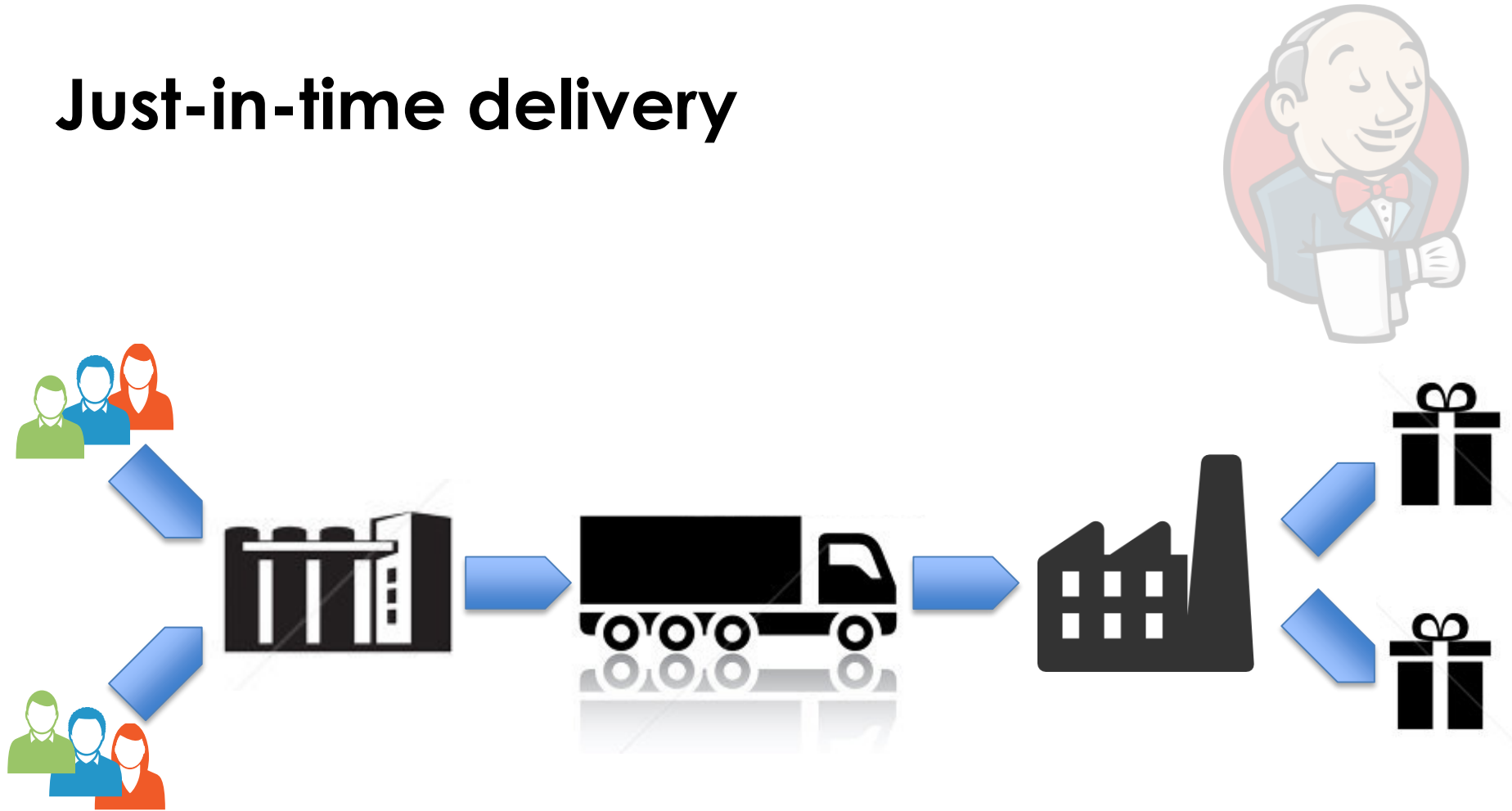


# Why version management for CI?



- Foundation of Continuous Integration
  - Has all the data CI requires
  - Keeps the history and audit trail
  - Reproducible builds
  - Triggers the build

# Just-in-time delivery



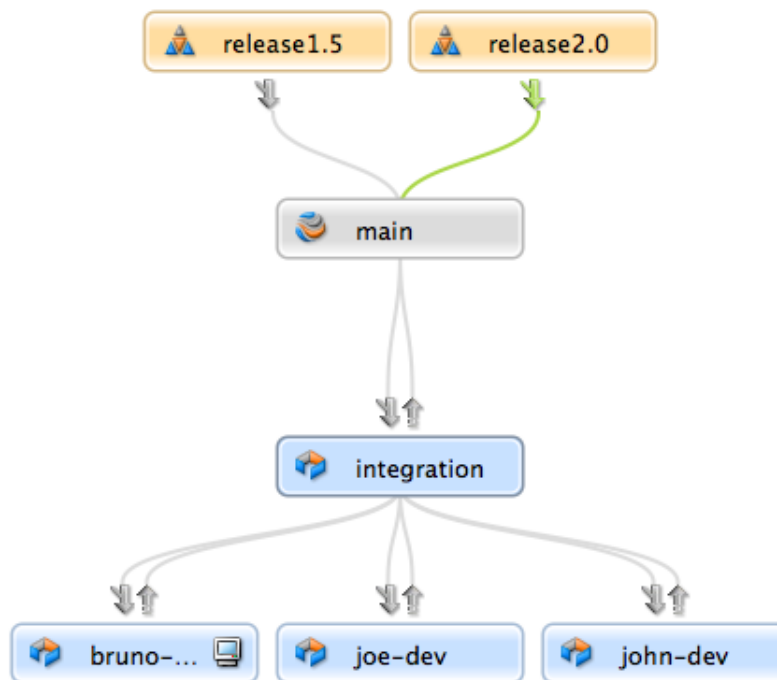
## Triggering the build

- Automatic
  - Committing into monitored code lines
- User initiated
  - Code review
  - Pull requests



# Why CI for Version Control?

- It's all about the mainline (master, trunk ...)



## Mainline

- The mainline model:
  - The source of all branches
  - The ultimate target of all changes
- The mainline should be:
  - Always buildable
  - Always testable
  - Always deployable
  - Ideal: Always deliverable



# CI protects your mainline

- Detect build and test errors early
- Stay production ready





# The role of code review



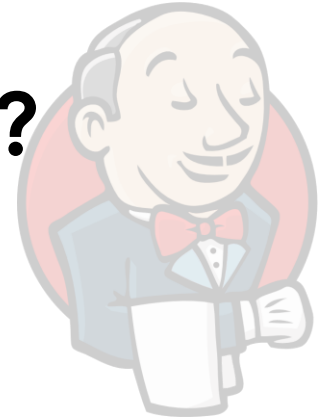
- Cost of bug fixing increases with the maturity of the product
- Good code review can
  - Catch problems early to increase productivity and save money
  - Improve compliance with coding standards
  - Educate team members about the code

# Improving your code review

- Optimize reviewer's productivity
- Link code review and CI
  - Ensure changes build and pass their tests before they are being reviewed



# How does this look like in Perforce?

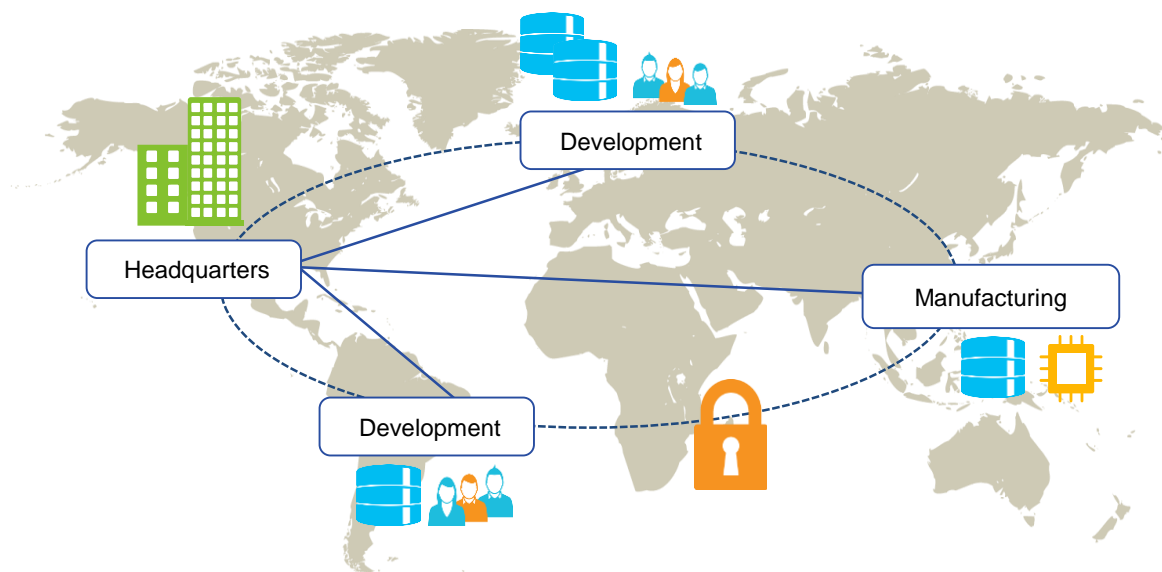


- What is Perforce?
- Development Pipeline
- Jenkins Integration

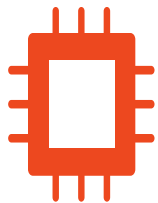
# What is Perforce?



- Massive Scalability
- Distributed or centralized workflows
- Collaboration
- Multi-site Teams
- Large Binaries
- IP Security



# Perforce Powers Market Leaders



Mobile ICs

Games  
& Animation

Cloud/SaaS

Electronics

Finance

Enterprise

**QUALCOMM**9,500 users  
500+ terabytes**EA  
GAMES**5,000+ users  
coders & designers**P X A R**  
ANIMATION STUDIOS

Everything!

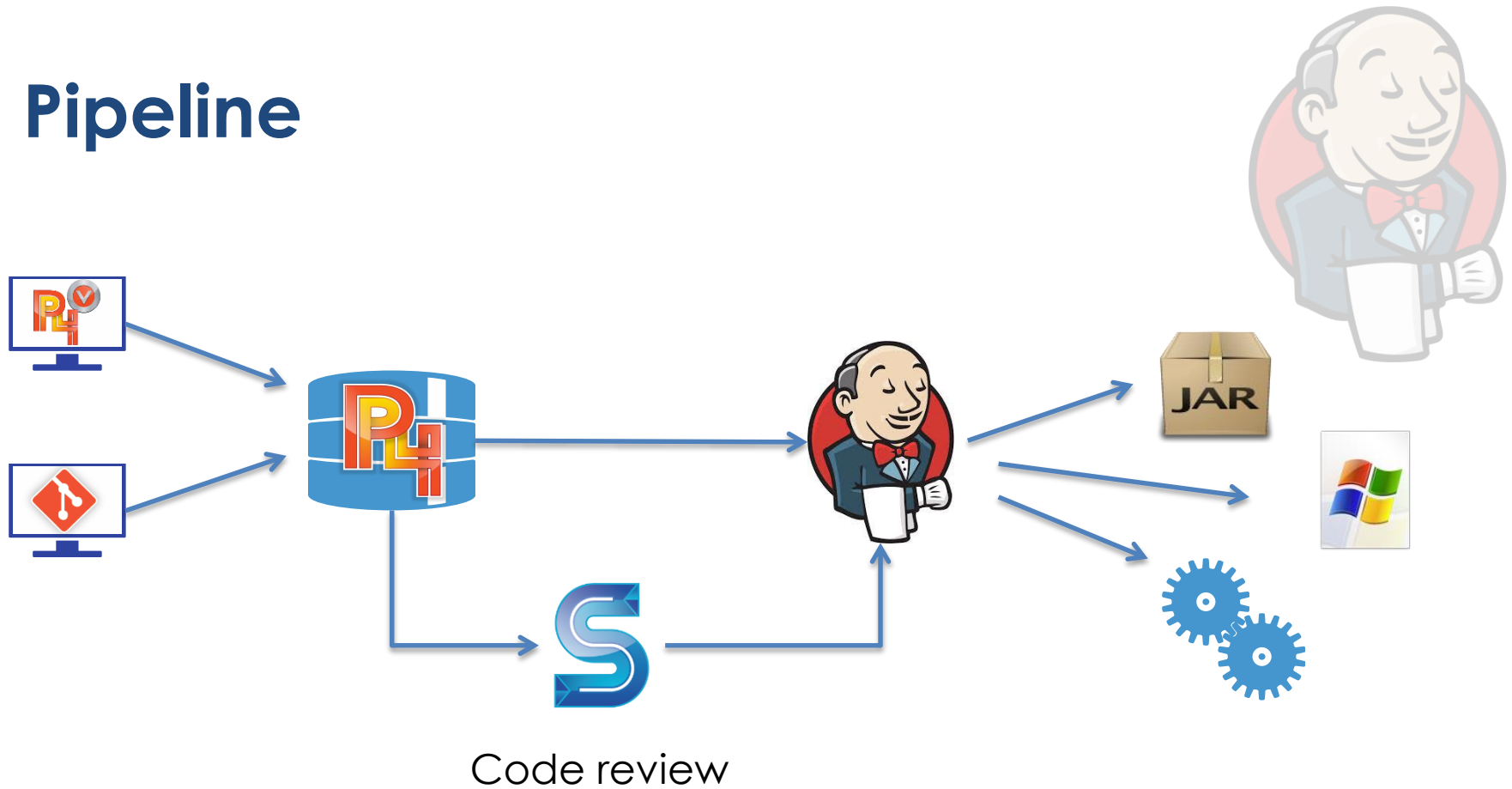
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**salesforce.com**2,500 users  
10,000,000  
Perforce xact/day**amazon.com**

11,000+ users

**NETFLIX****SAMSUNG**13,000 →  
20,000 users**NYSE  
EURONEXT**Complete delivery  
pipeline  
7,000+ releases/year**SAP**11,000+ users  
10+ sites

## Pipeline



## Jenkins Plugin



- Community
  - Old tech (P4 CLI)
  - Established
  - Base for other plugins (Job DSL)
- Perforce
  - New tech (P4JAVA)
  - Enterprise-friendly (Credentials)
  - Review-friendly (shelving)
  - Knows Swarm

## Demonstration





## Summary

- Version management needs CI
- CI needs version management



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## Silver

