NOKIA

CI with Gerrit and Jenkins in a way you would never imagine!

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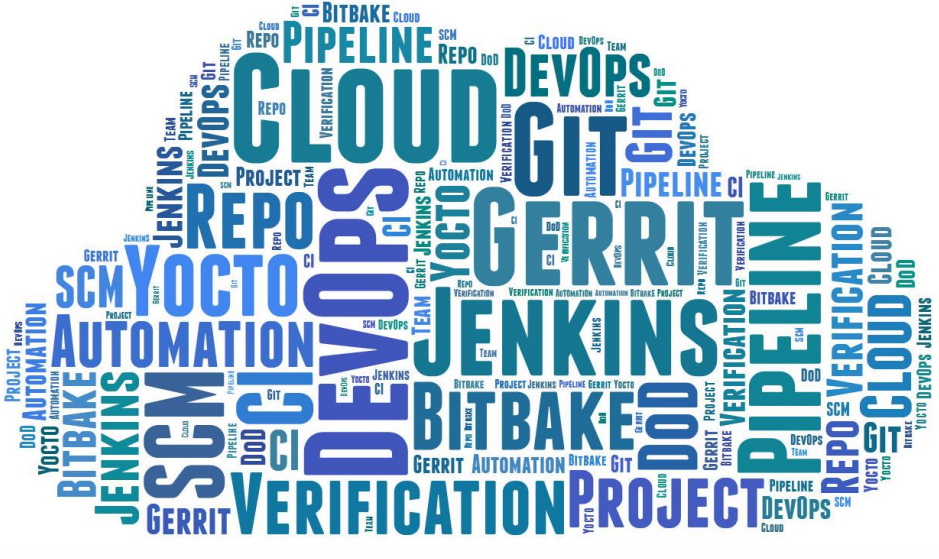
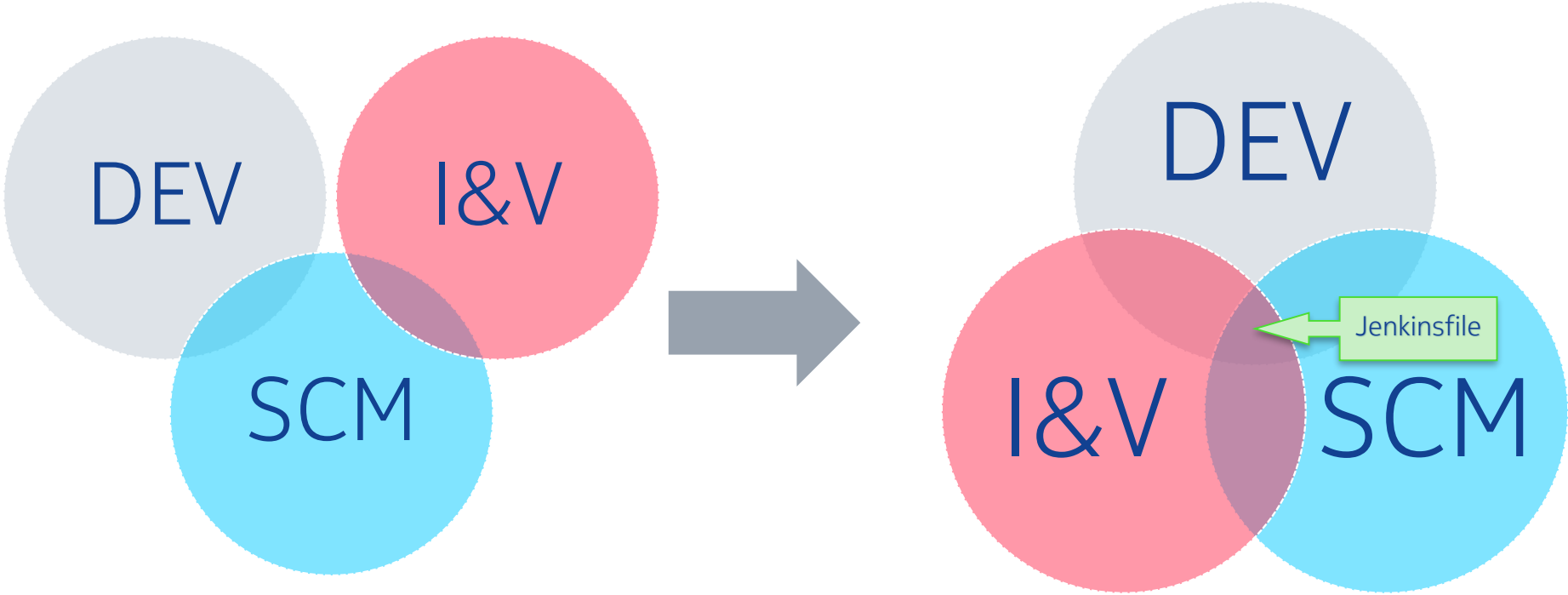
Agenda

- SCM roles overview
- Project Description
- Context & Constraints
- Jenkinsfile
- Two level build process
- Cloud
- items to do



SCM – Software Configuration Management - roles overview

SCM roles overview
Are you ready for DevOps?



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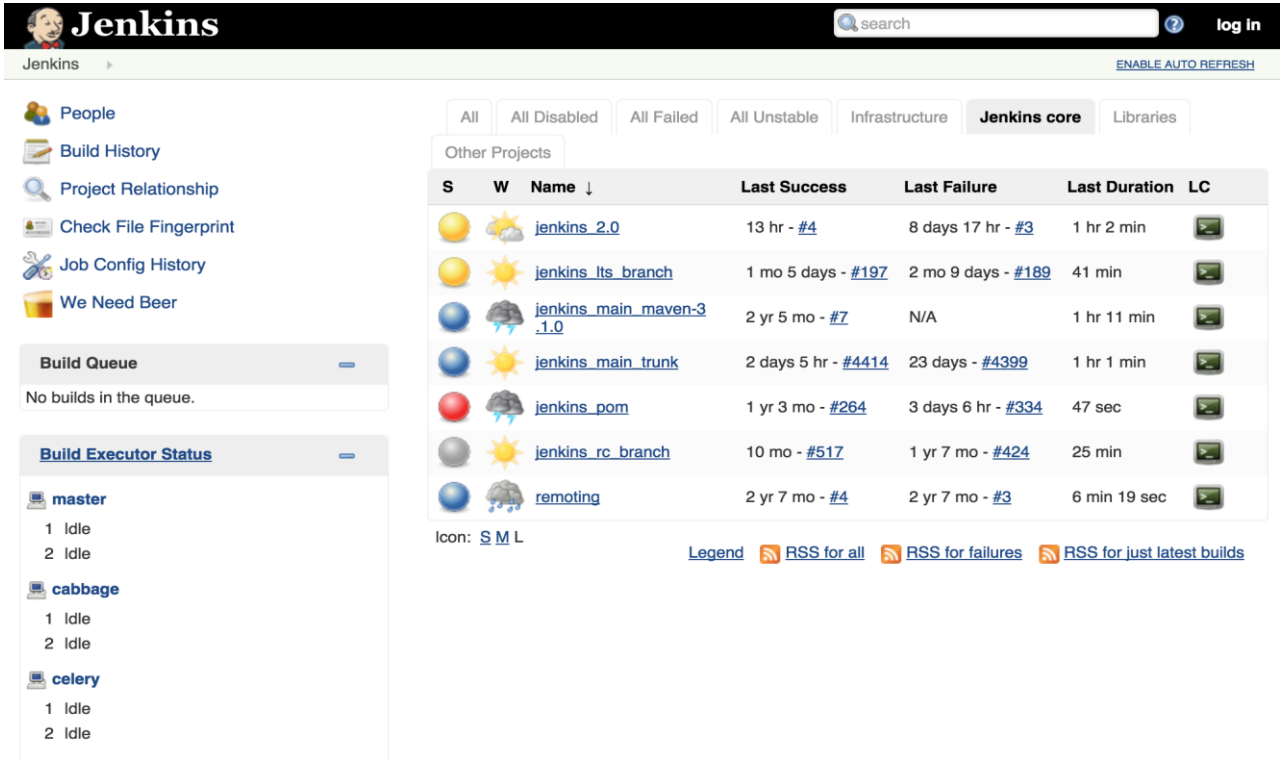
Context & Constraints



Testing environment
What we had

Readability was poor

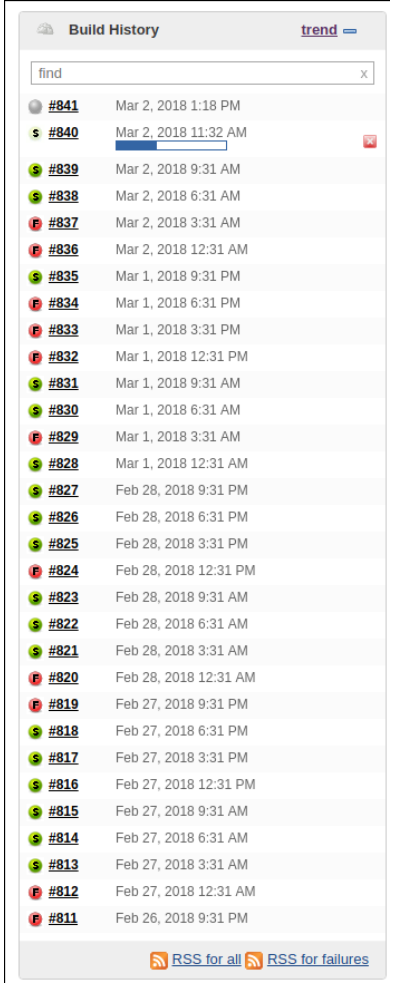
There was no easily available feedback

No Notification

No automated feedback for review proces

No way of verifying single delivery

Jobs running serially due to infrastructure underneath



Testing environment
What we had

Our initial attempts at utilizing cloud infrastructure were a bit rusty.

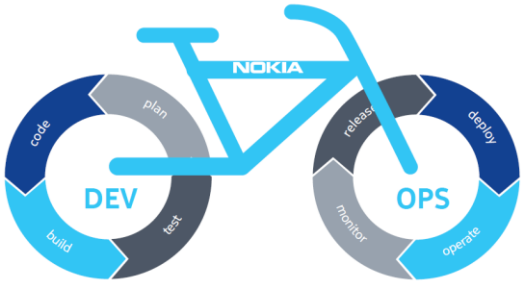
We statically linked Jenkins jobs and cloud instances to perform tests and verifications

Context & Constraints

- Context:
  - Adopt More Efficient, Reliable and Uniform Practices
  - Utilize IT hosted Cloud infrastructure
  - Scripts and Tooling to verification source code
  - Relieving Jenkins; Jenkins as a schedule and workflow manager, not a system for everything (collecting reports, analyzing logs, ...)

- Constraints:
  - Planning and discussions of common practices and implementations must include stakeholders from all collaborating organizations. The investment in time is likely to be significant and needs to be accounted for in the project planning.

Pipeline 2.0
Project Description



- The aim of the "Pipeline 2.0" project is to introduce a uniform and transparent code verification framework
- Continuous and automated monitoring and collection of feedback
- Workflow automation (e.g. lifecycle management)
- Continuous testing, delivery and deployment
- Renewing SW architecture to be cloud-native and modularized

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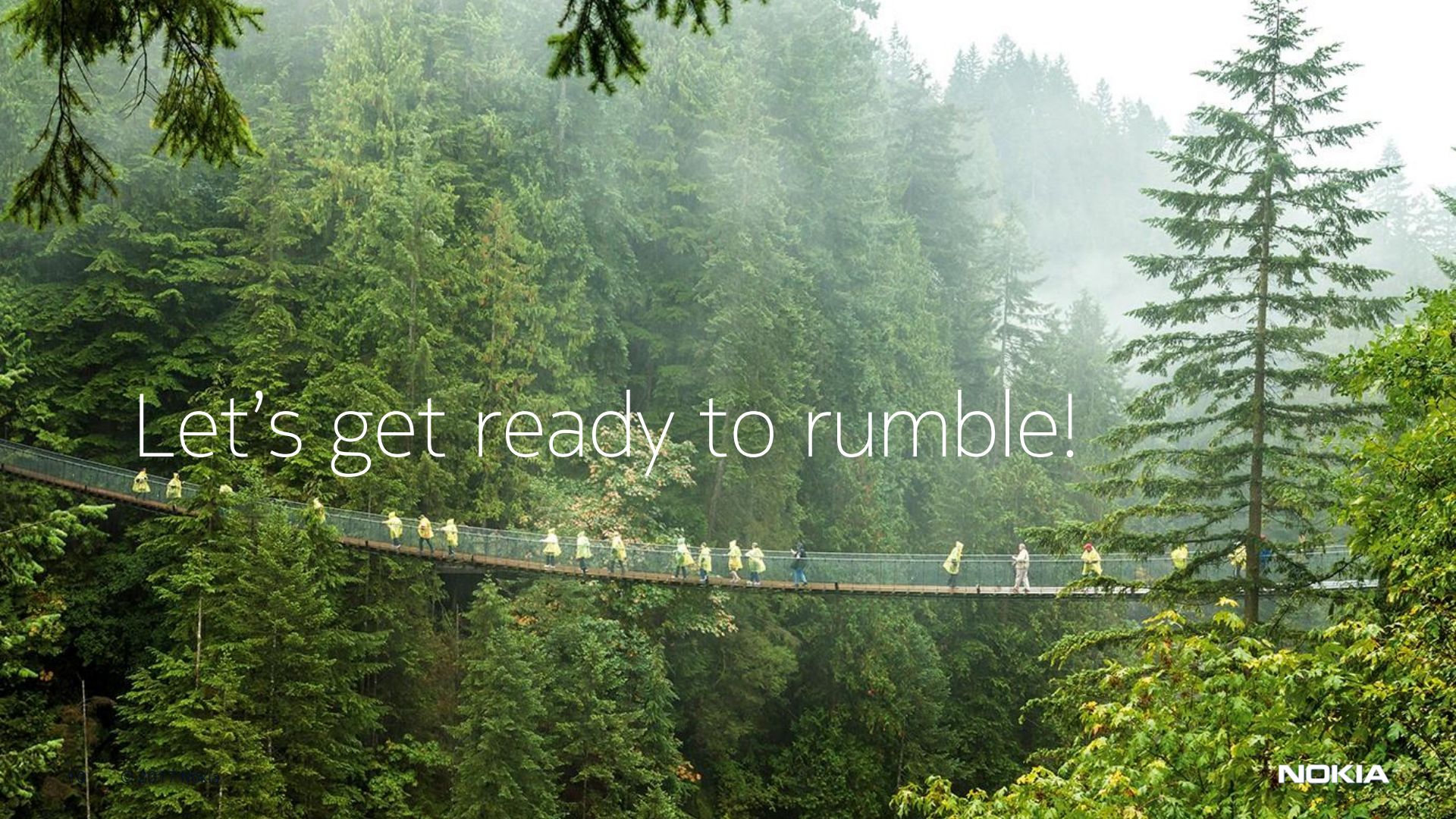


Testing environment

Then came the pipelines…

Testing environment
What we have

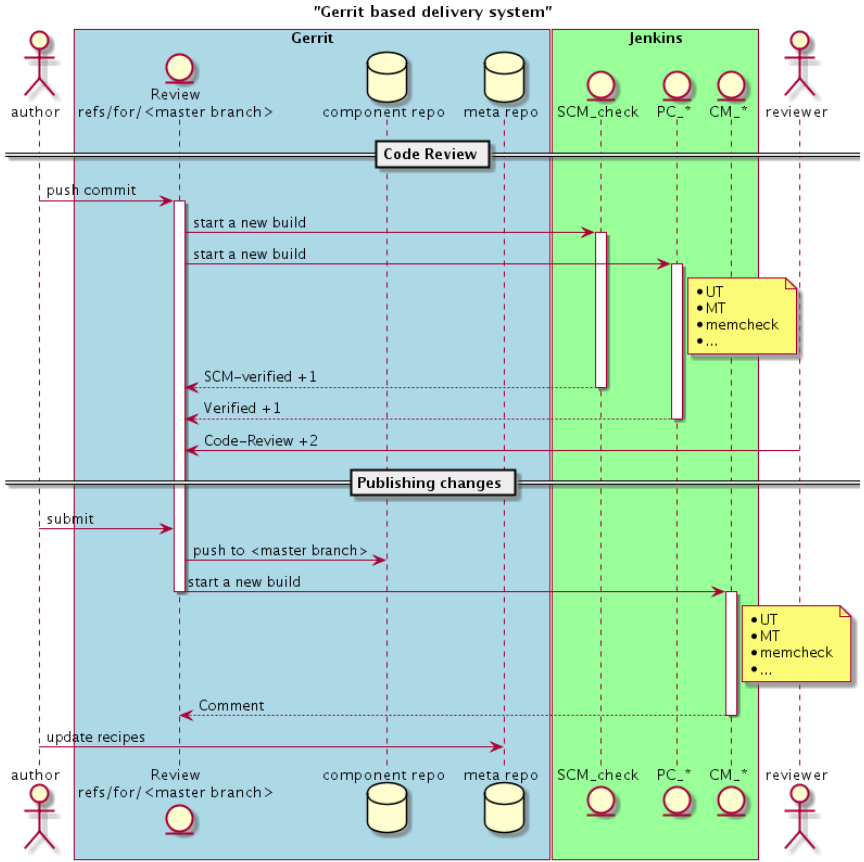
And together with Pipelines 1st_lvl we got:

- Good readability
- relatively fast verification
- Quick and automatic feedback
- Code-review partly automated

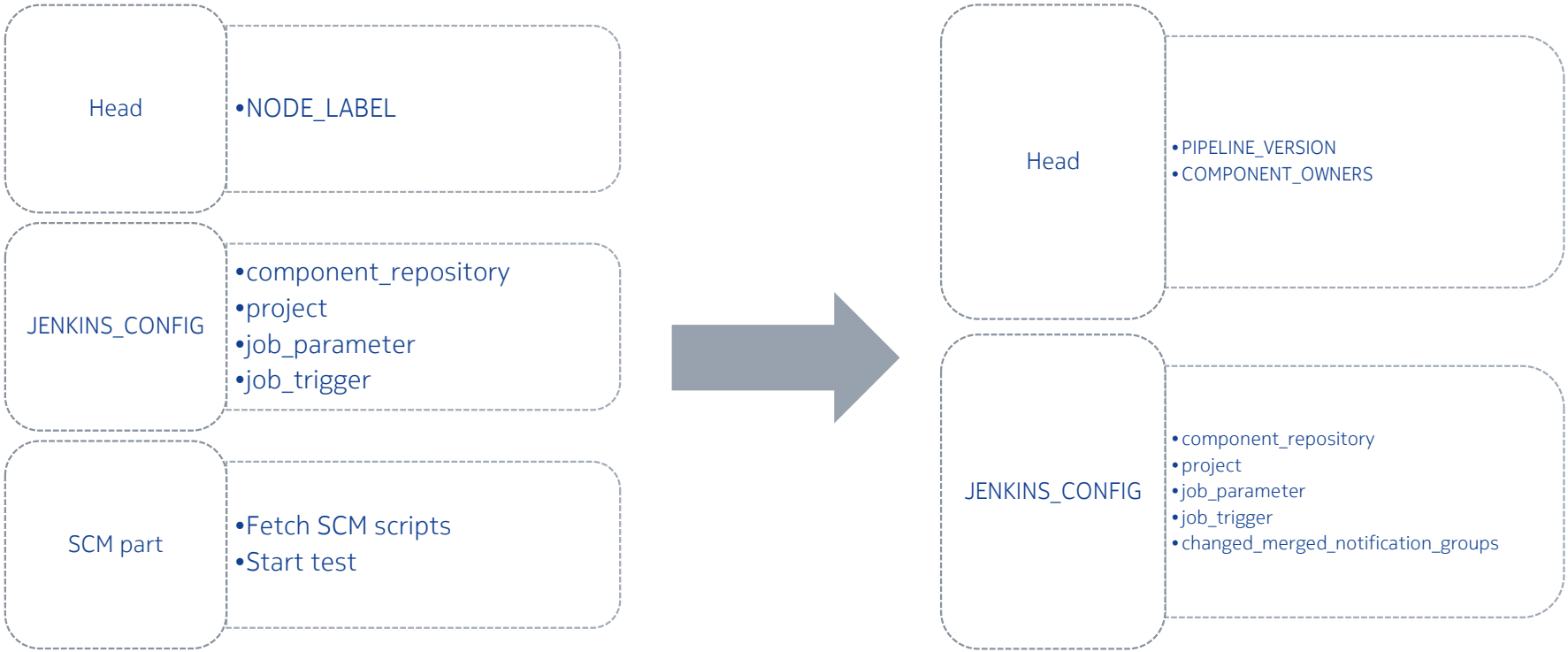
Not so long after introducing first Pipelines we managed to get them to run **parallelly**.
Thus making **verification** and feedback even **faster**.

Jenkinsfile
What can be determined there?

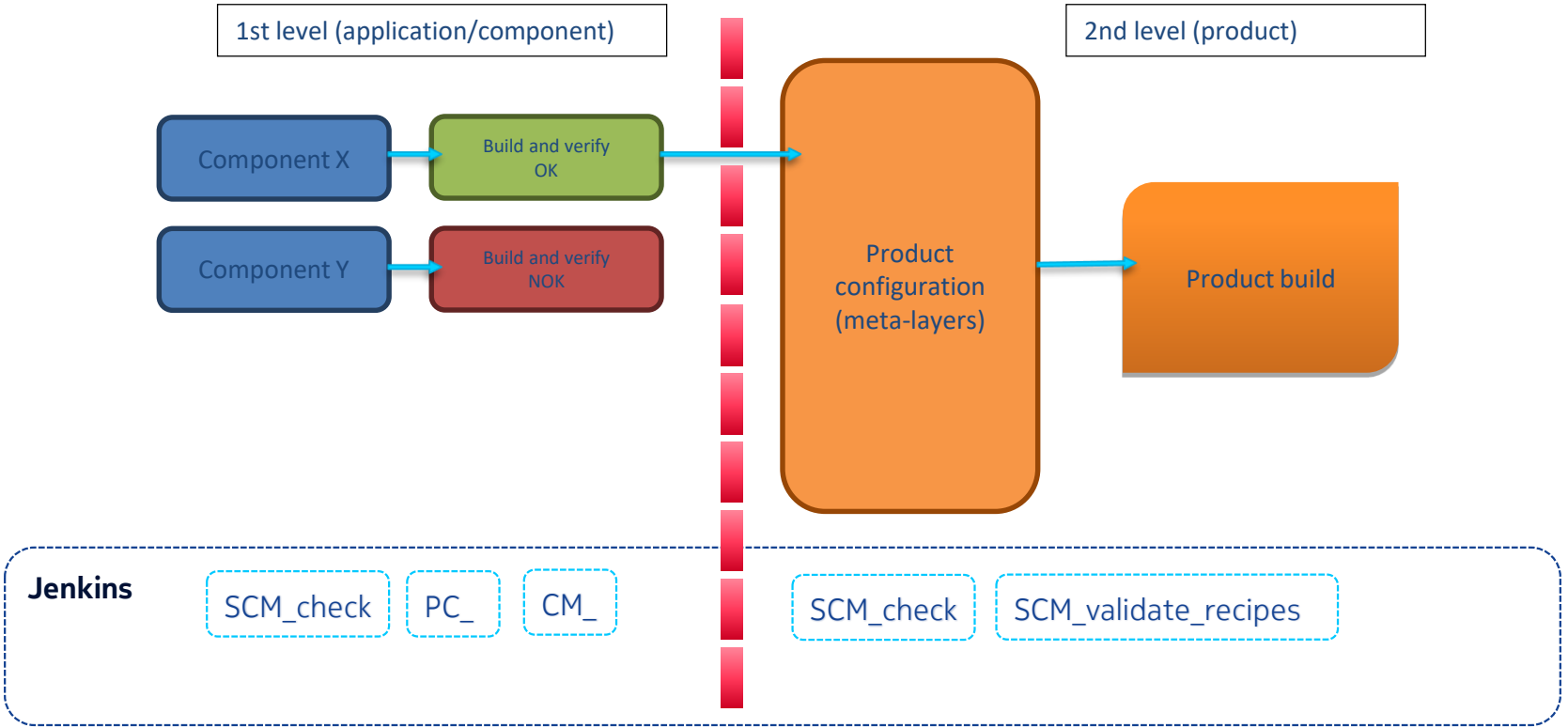
- Jenkinsfile is a text file that contains the definition of a Jenkins Pipeline and is checked into source control.



Jenkinsfile
Structure

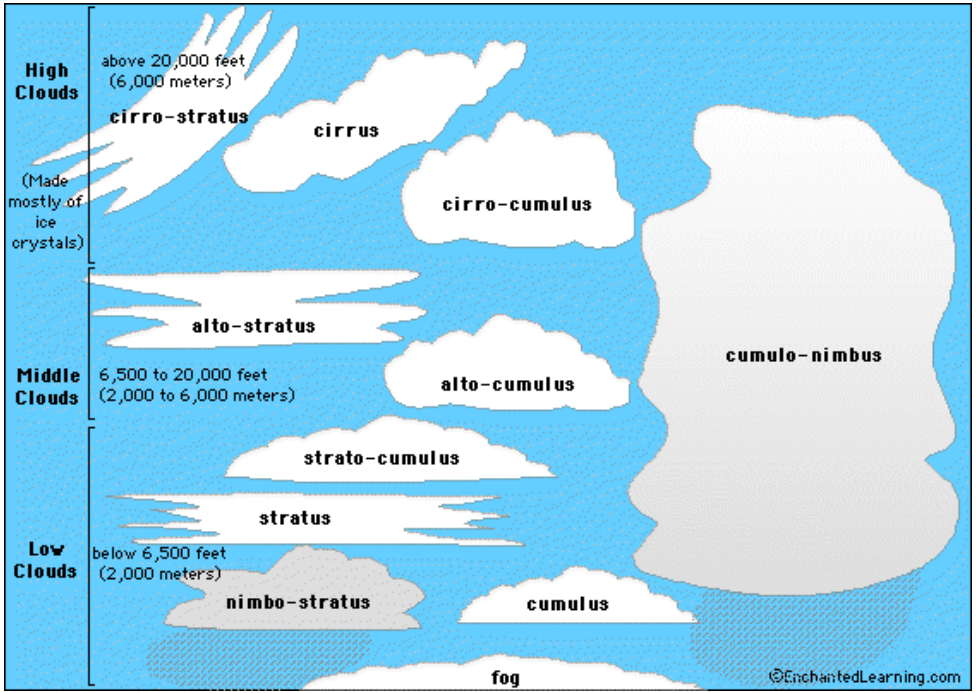


Two level build process
Application/component and product

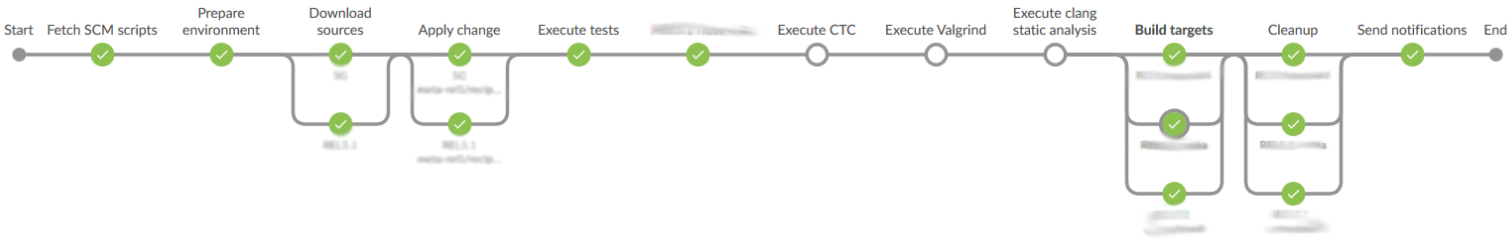


Testing environment
Cloud

Cloud instance is basically a dynamically allocated build server that we, as RF SCM team administer, proviosion and maintain.



Testing environment
Blue Ocean



Steps

✓	Print Message	<1s
✓	[WRAPPER] coop: [test_name: category:compiling] — Print Message	11s
✓	[BITBAKE] bitbake -c compile	5m 40s
✓	Start post Bitbake actions — Print Message	<1s
✓	End post Bitbake actions — Print Message	<1s
✓	Print Message	3s
✓	true — [COOP] Gerrit status	4s
✓	[COOP] Test result	6s
✓	[COOP] Test category	2s

Quo vadis?
items to do

- clouds everywhere
- tests (faster, better, more)
- specified framework
- visibility on every level
- DoD automation
- monitoring everything, everywhere, everywhen

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