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AVOCADO AND JENKINS

TEST-AUTOMATION AND CONTINUOUS INTEGRATION

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OVERVIEW

(What are we going to learn ?)

- **Previous Setup**
- **Problem Statement**
  - Patch handling
  - Development-Quality Engineering handoffs
  - Test-automation

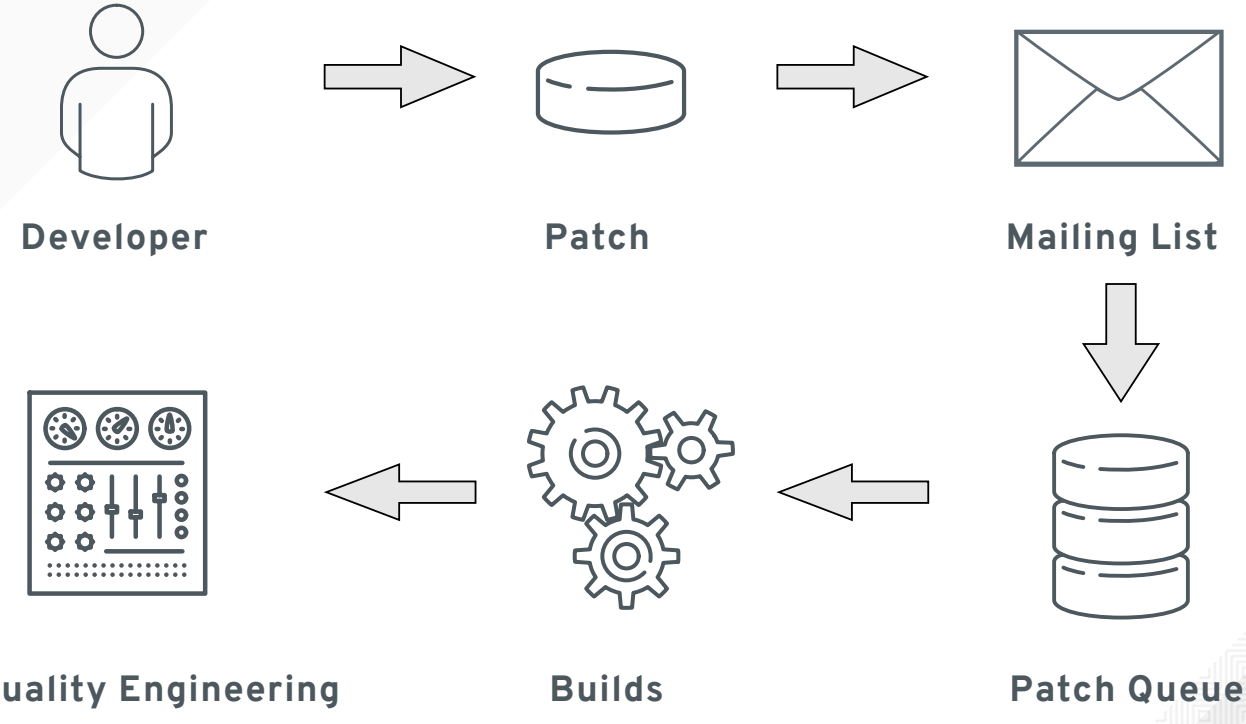
OVERVIEW

(What are we going to learn ?)

- **Design Goals**
  - Where did we start ?
- **Approach**
  - Integrating test-automation
  - Challenges faced
- **Why Avocado ?**
- **Demo**

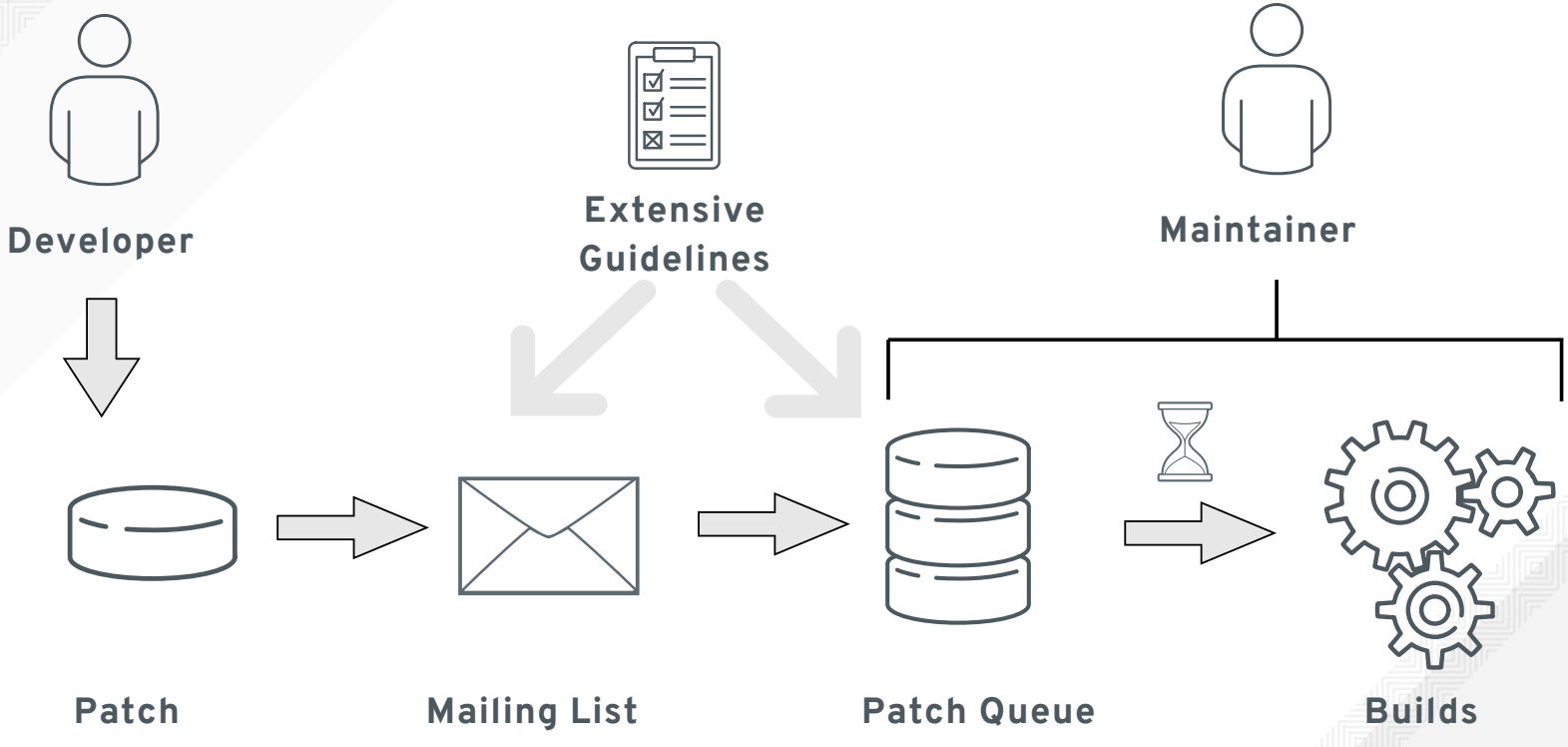
PREVIOUS SETUP

(How did it work before ?)



PROBLEM STATEMENT

(Why are we changing it ?)



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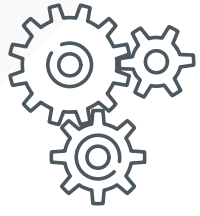
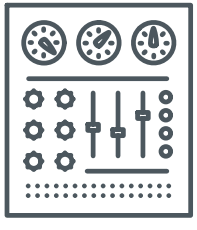




Development **Quality Engineering**

Development

- Patch Handling
- Extensive Patch guidelines
- Manual builds

Development-QE Handoffs

- Different testing schedules
- Time between patch submission and testing is too long

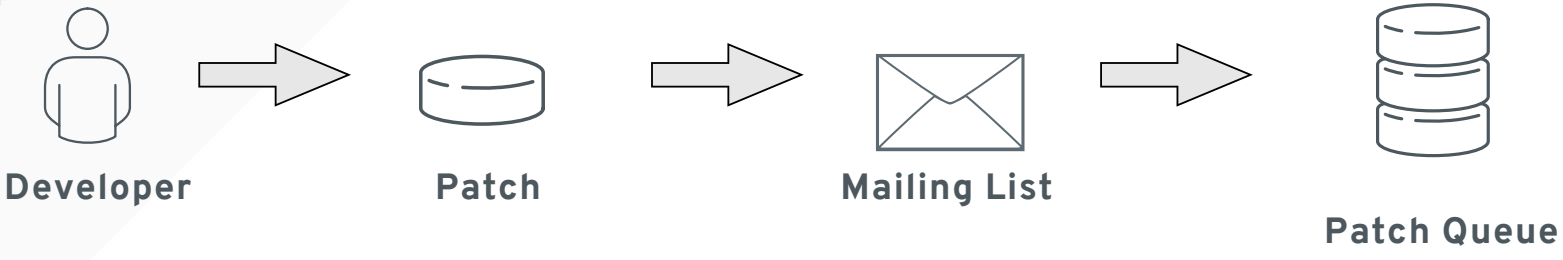
PROBLEM STATEMENT

(Why are we changing it ?)

- **Test-Automation**
  - Quality Engineering teams used Autotest framework
  - Quality Engineering has to use lot of tools on top of Autotest
  - Autotest is no longer maintained upstream

WHERE DID WE START?

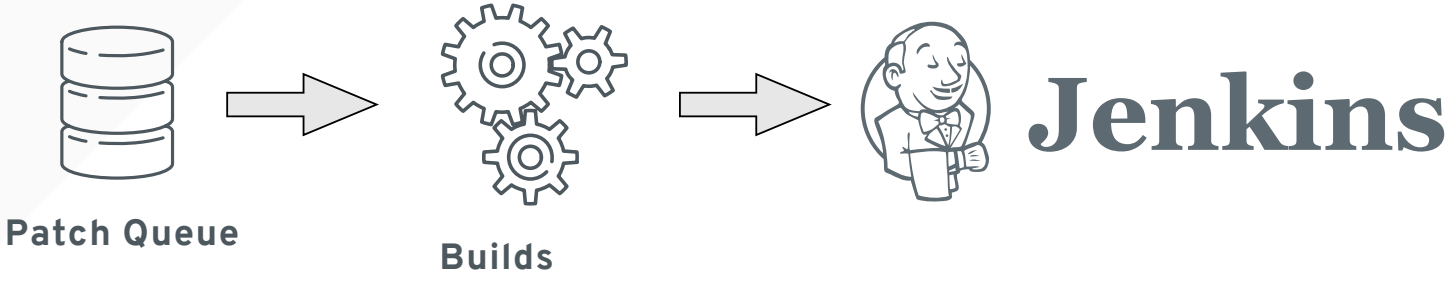
(Our initial efforts)



- Fail early, fail often
- Credit to Fam Zheng's Patchew (http://qemu.patchew.org/)
- Wrote a script that automates a part of the early testing process and runs functional sanity tests

WHERE DID WE START?

(Making things run more efficiently)



- Had to focus on Development-Quality Engineering handoff
- Script applies patches and triggers builds, which triggers the CI

INTEGRATING TEST-AUTOMATION

(How it is all coming together!)

- Tests run based on keywords such as boot, migrate, network, virtio, etc.
- Different Jenkins slave based on architecture and component

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CHALLENGES FACED

(What we had to overcome)

- Implement new features without affecting old features
- libvirt CI supports upstream community and downstream for RHEL
- Jenkins jobs and configuration are automated using scripts
- Currently, we are migrating from Autotest to Avocado

WHY AVOCADO ?

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- The only possible alternative for virtualization:
  - 40017 qemu, 56745 libvirt tests (Also supports libguestfs, lvsb, v2v, openvswitch, spice test providers)
  - 3 (5) types of cpu architecture
  - 147 versions of operating systems
  - 864 hardware variants
  - 25412395680 theoretical combinations

Measured on 2016-02-03 using x86_64 + RHEL.7.devel to evaluate the number of tests and hw variants

WHY AVOCADO ?

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- Talks to Jenkins
- Even our developers are using it locally
- You can actually run “anything” with it
- Gives you well defined results structure (with benefits)
- Supports neat features


Questions?

Thank You!

More questions?

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