



# Continuous Integration for Linux Images

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# Context: Image Production

- Linux Support Team make images
- Built with Koji
- Those images you see when you run:

```
% openstack image list
```

```
+-----+-----+
| ID                | Name                |
+-----+-----+
| 4c571e...ef5bbf   | Fedora Atomic 26 [2017-06-09] |
| 0fde50...ebf0d6   | Fedora Atomic 26 [2017-06-09] |
| 29262d...3c8fc9   | CC7 - x86_64 [2017-04-06]      |
| d8c28e...a9015b   | SLC6 - x86_64 [2017-04-06]    |
| f1c040...0c92c4   | SLC6 - i686 [2017-04-06]      |
| b2b7ba...e5c9c3   | CC7 TEST - x86_64 [2017-04-06] |
| ...              |                      |
```

# It's Critical That...

- We build images quickly
- We build images autonomously
- We make sure images work flawlessly

# Testing Out Images

Perform some manual checks:

- Try starting a VM
- Try logging into it
- Check Puppet reports
- Check cloud-init logs
- ...

# We Need To...

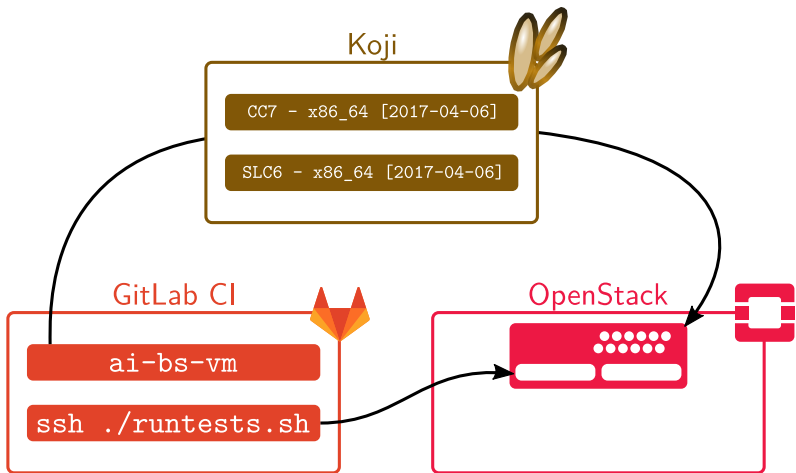
- Automate this process
- Perform more thorough tests
- Be able to manage tests
- Allow end-users to define their own tests

# CentOS Functional Tests

[https://github.com/CentOS/sig-core-t\\_functional](https://github.com/CentOS/sig-core-t_functional)

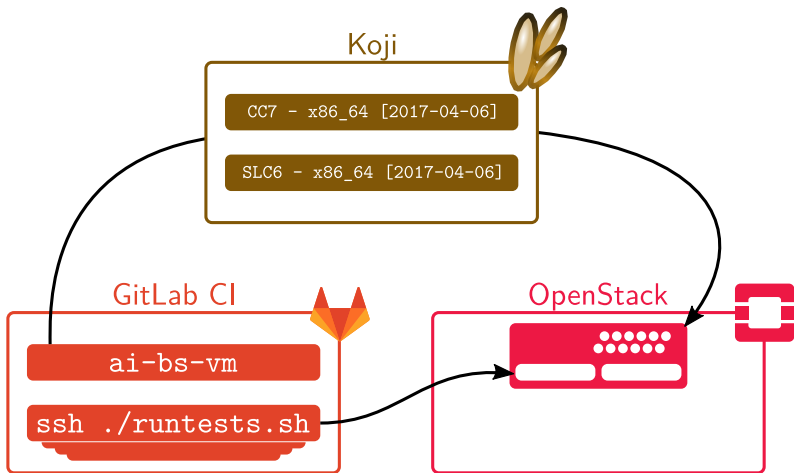
- Utilities (bzip2, curl, grep, ...)
- System bits (kernel, cron, iptables, ...)
- Services (MySQL, Apache, ...)
- Compilers (GCC, JDK, ...)
- File system (root files, ...)
- X Window
- ...

# Progress So Far

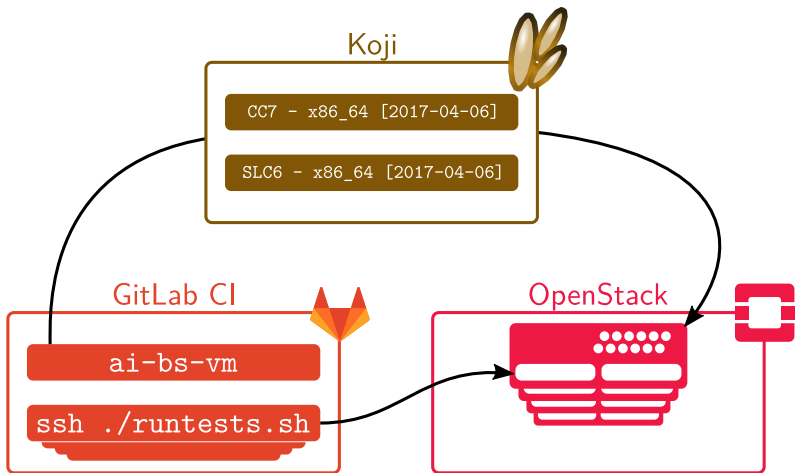




# Progress So Far



# Progress So Far



# A Job to Create a Node

Purpose:

- A prerequisite
- A test in its own right

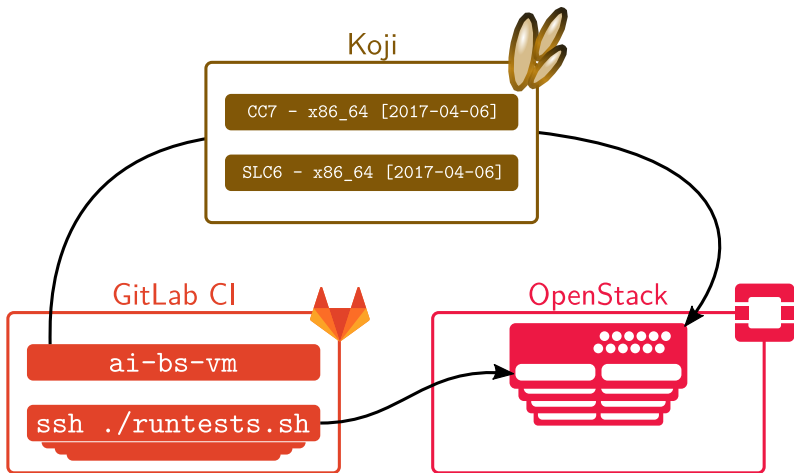
Not much in `cern/cc7-base` → `before_script`:

- Copy `.repo` files
- Install `ai-tools`

What it does:

- Run `ai-bs-vm`

# Progress So Far



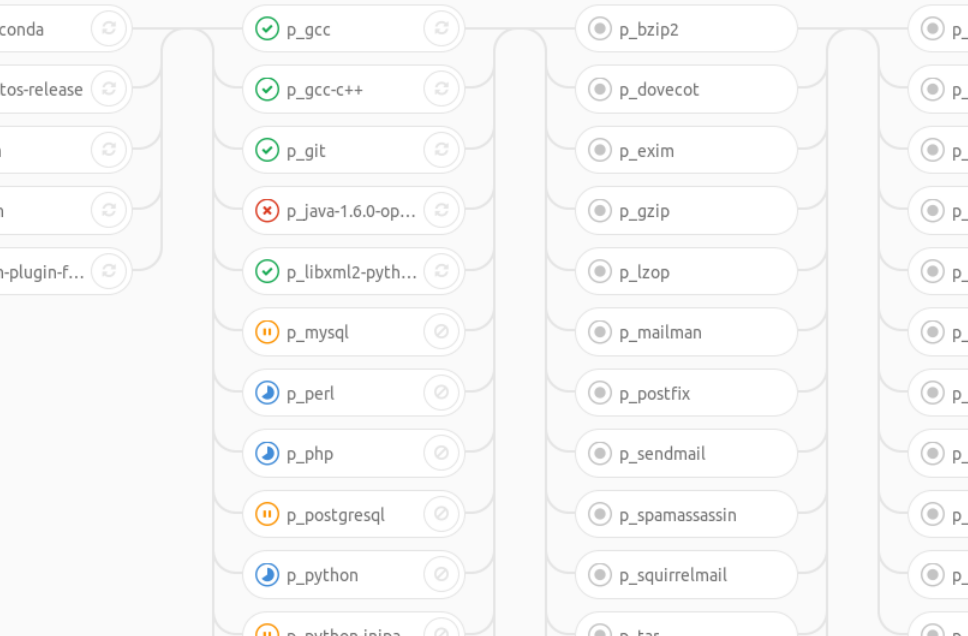
# Jobs To Run Each Test

before\_script:

- Install SSH
- Write a keytab from a secret variable
- Wait until we can SSH
- SSH and install git
- Clone [CentOS functional tests](#)

What they do:

- SSH and `./runtests.sh $TESTNAME`



# Concerns and Opportunities

- Jobs running for too long
- How many jobs can we run?
- Work to adapt **CentOS** functional tests

# Questions to *You*

- Working LXPLUS-like node
- Access to AFS, EOS, ...
- Typical error messages (e.g. soft lockups)
- Speed of common operations
- ...

Architecture?

End-users?





[home.cern](https://home.cern)