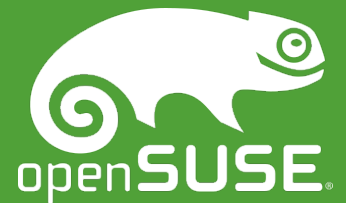
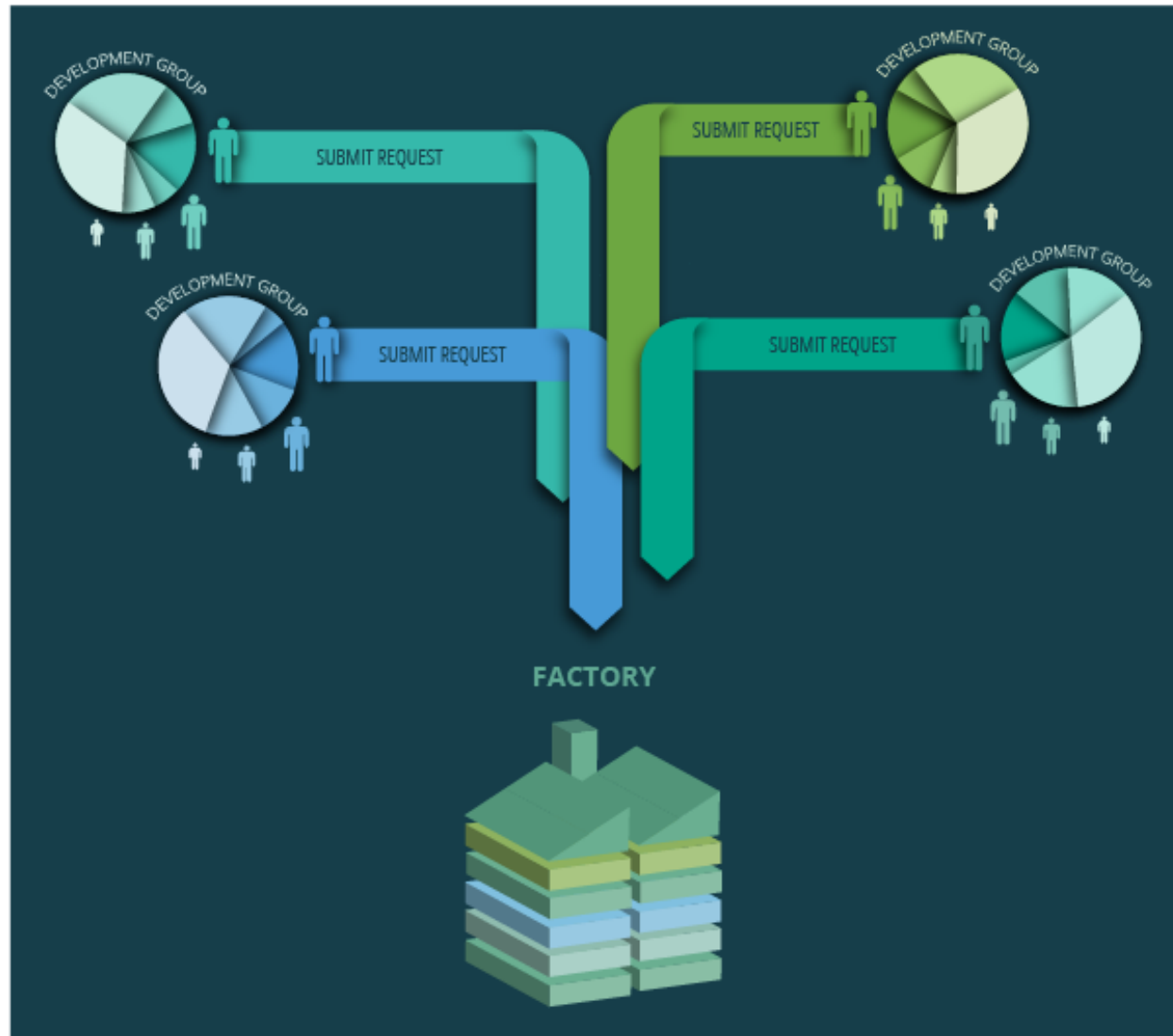


# How to Factory Staging Project work

Max Lin  
mlin@suse.com



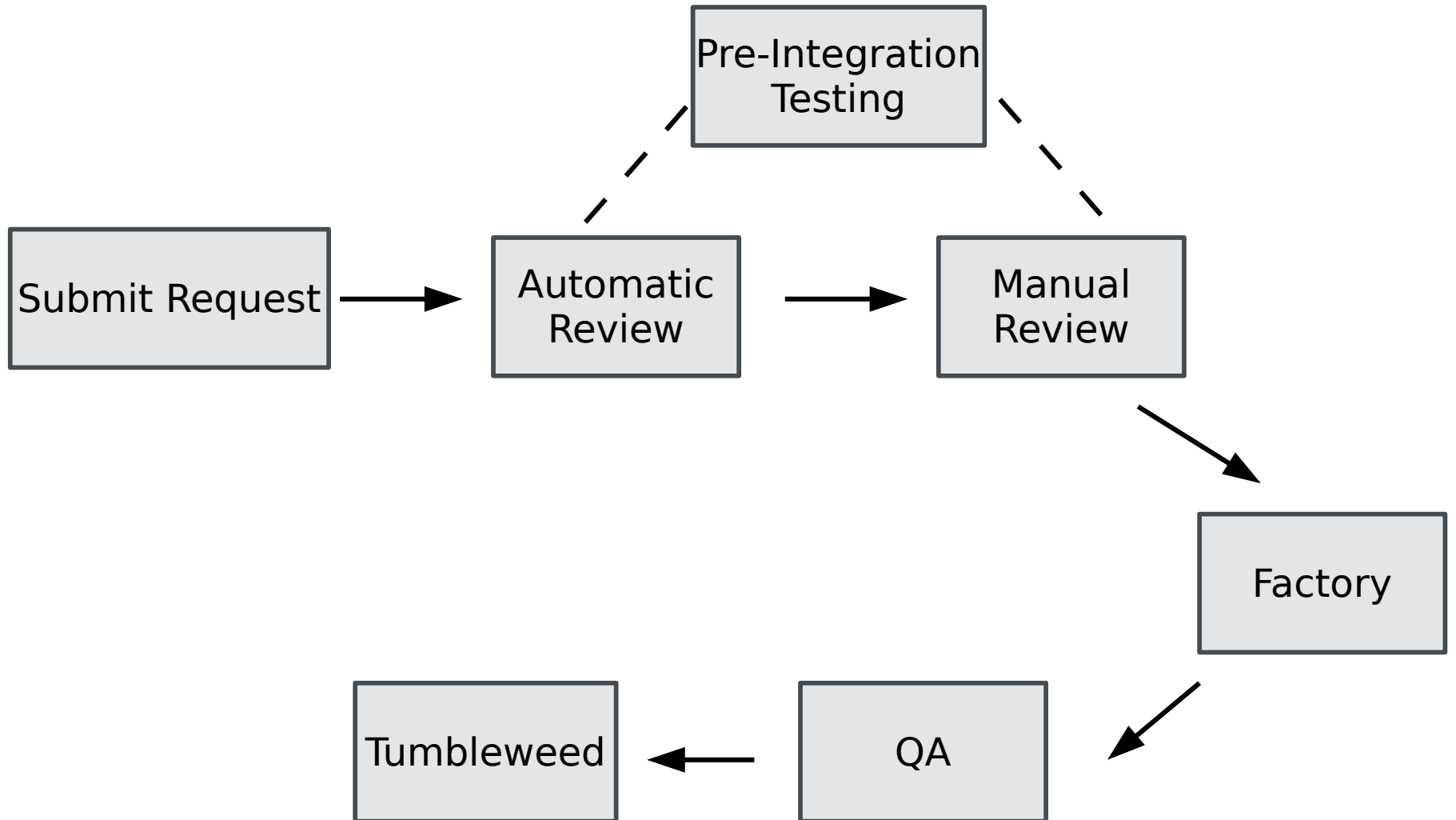
# Factory development



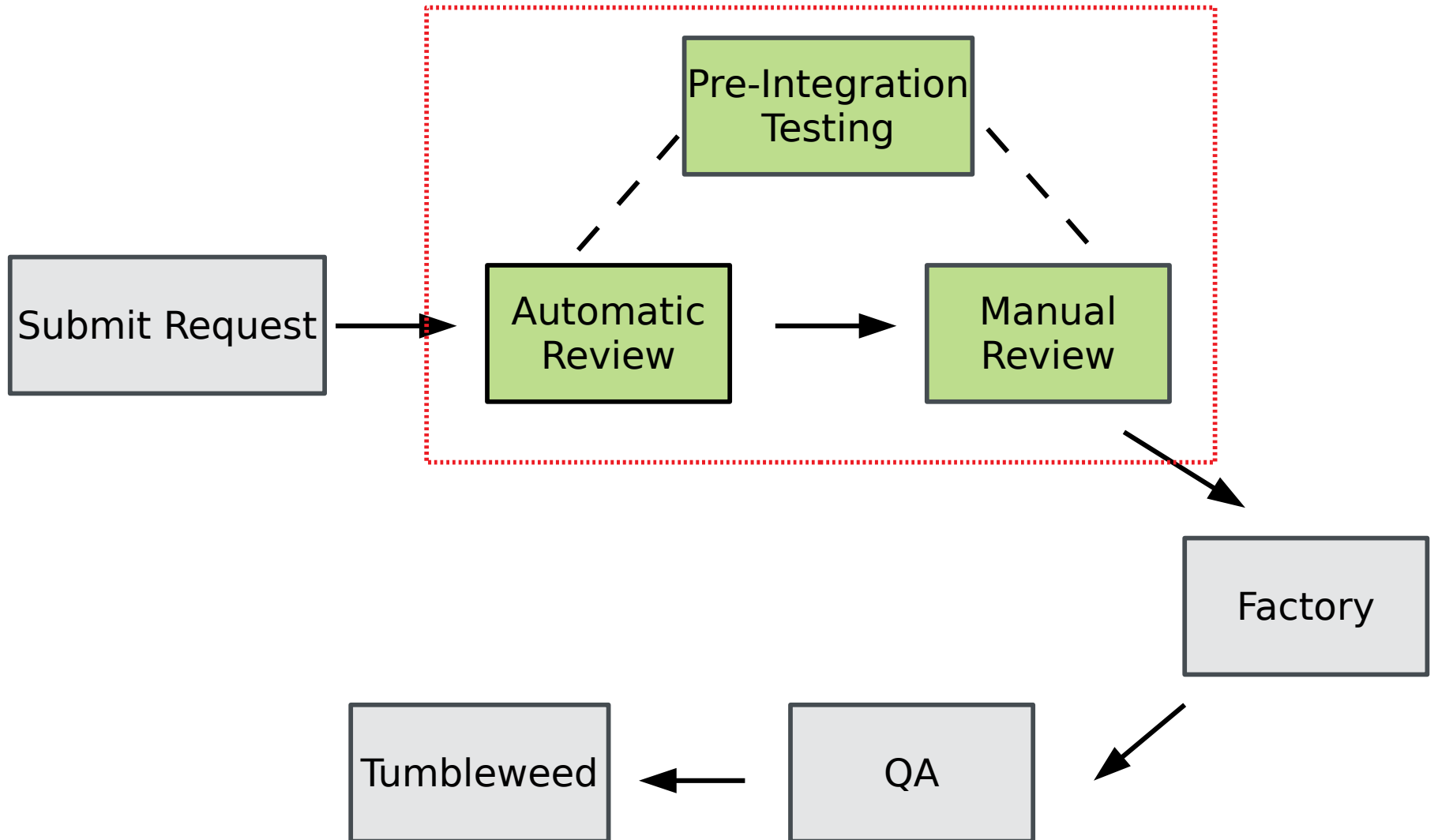
# Problem

- Sometimes the package fails to build
- Sometimes it caused the other package fails to build
- Sometimes the package is uninstallable
- Sometimes the package does not work
- Hard to address the problem and debugging

# The workflow



# The workflow(cont.)



# Review process

Submit Request

*Factory-Auto* — — —▶

*Legal-Auto* — — —▶

*Repo-Checker* — — —▶

*Manual Review* — — —▶

*Security/Legal Check* — — —▶

openQA Testing



Staging Project

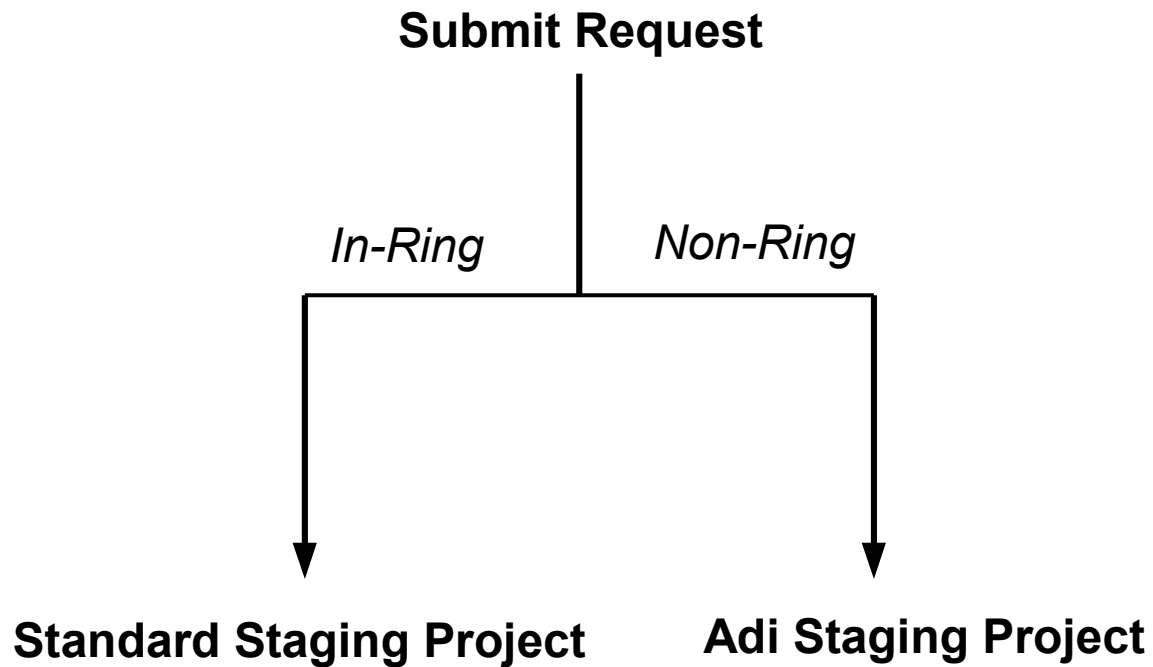


Factory

# Review process

- Factory-Auto: checks basic rules and adds additional reviewers
- Legal-Auto: checking if the license of the package is in the permitted license database
- Review Team: human check of the request
- Repo-Checker: a more deeper automatic check
- Factory-Staging: review by Staging Master (manual check and assisted by repochecker and openQA)

# In-Ring vs. Non-Ring





# Rings

	Description	Packages
Ring-0	The bootstrap cycle of factory	108
Ring-1	Packages to generate the minimal-X DVD	1119
Ring-2	A pretty much complete DVD	1069

# Standard Staging Project

- Inherited all packages from Rings
- Staging1 – Ring-0 + Ring-1
  - i586/ppc64le/x86\_64 build enabled
- Staging2(:DVD) – sub-project of Staging1 + Ring-2
  - ppc64le/x86\_64 build enabled
- Will rebased at some point.

# Adi Staging Project (Ad-Interim)

- For *non-ring* packages
- Ensure the package can built against Factory/x86\_64
- Repo-Checker has involved
- It can not handle delete request!

# Repo-Checker

- Build result verification, including sub-package
- The binary files is installable
- Checks the conflicts with other packages
- Checks the source was changed in the devel project but not in the submission
- Detects new build cycle
- Checks the validation of *delete request* as far as possible
- Commenting on the request if found the problem

# Generate staging DVD

- Mirrored the binary files from build service
- Execute rpm2solv against all binaries and generate the solv file
- There is the testcase file represents package requirements to build a image
- Execute testsolv against testcase then get the packages list(or detects the error)
- Parse the packages list and add it to the kiwi file
- Generated DVD according to that kiwi file

# openQA testing

- Normal installation
- Installation on RAID partition(software RAID)
- Installation with cryptlvm enabled
- Installation on UEFI environment
- Boot into rescue system
- Console tools test
- Minimal-X/GNOME/KDE environment work
- Update system to current staging from Leap 42.1 or old staging
- Only test the stuff were in the staging DVD

# The staging command line

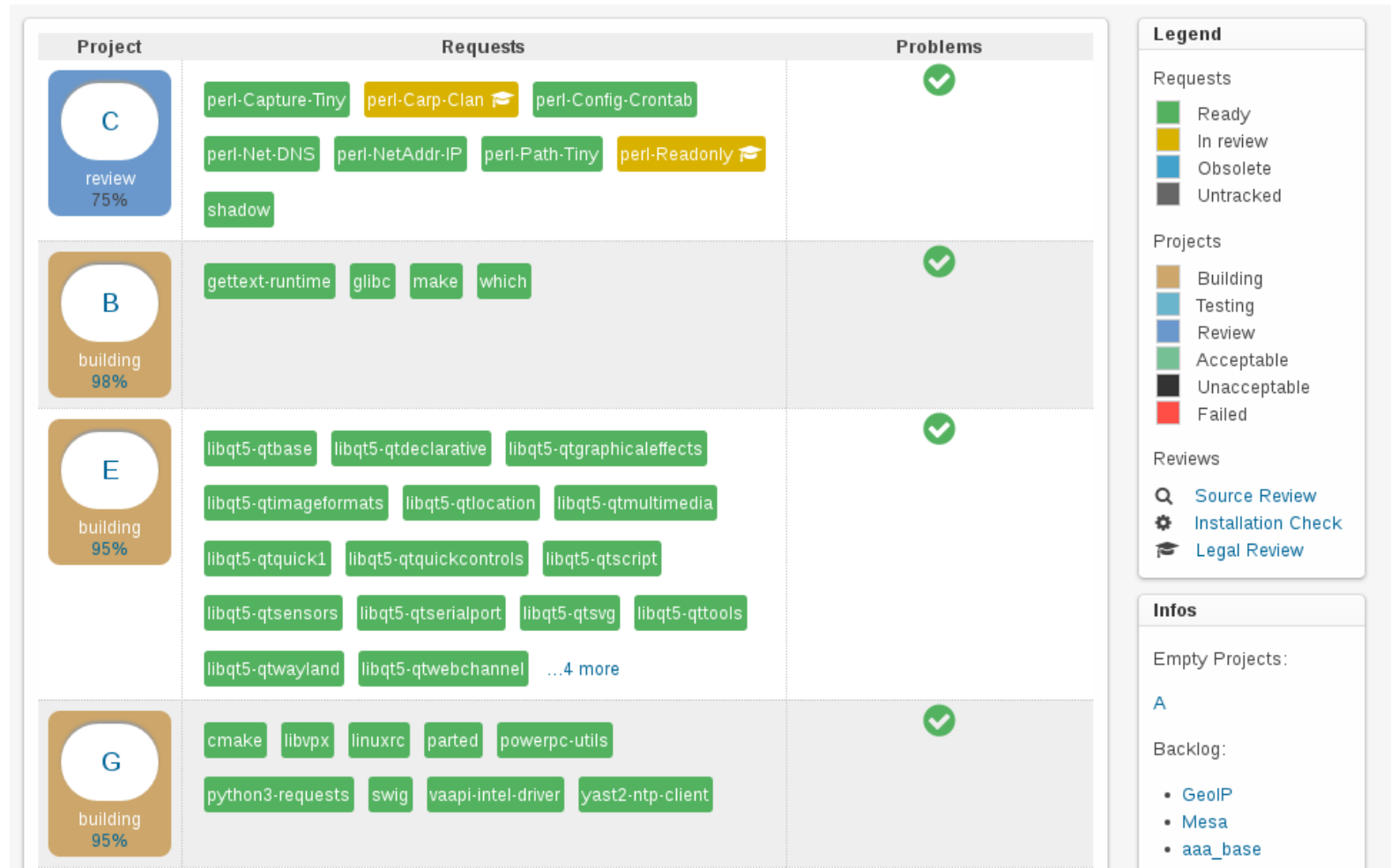
- osc staging CMD
  - list : lists the pending submit requests
  - select : selecting the request to a staging project
  - unselect : remove the request from a staging project and move it to backlog again
  - check : check the status of staging project
  - accept : accept all requests what assigned to a staging project
  - freeze : rebase the packages in the staging project
  - adi : handling the request in adi staging project

# Acceptable?

- No build failures
- All reviews were accepted
- Passed openQA testing
- The **current** Tumbleweed snapshot is built and moved to openQA\*



# Staging Dashboard



\* [https://build.opensuse.org/project/staging\\_projects/openSUSE:Factory](https://build.opensuse.org/project/staging_projects/openSUSE:Factory)



FAQs

# Why blocked?

## Packages

perl-Capture-Tiny, perl-Carp-Clan, perl-Config-Crontab, perl-Net-DNS, perl-NetAddr-IP, perl-Path-Tiny, perl-Readonly, shadow

## Status

- ✔ Untracked requests  
None.
- ✔ Obsolete requests  
None.
- ⚠ Missing reviews  
perl-Carp-Clan by legal-team and perl-Readonly by legal-team.
- ✔ Building repositories  
None.
- ✔ Broken packages  
None.
- ✔ openQA Jobs

- minimalx@64bit
- RAID1@64bit
- cryptlvm@64bit
- rescue\_system@64bit
- minimalx@64bit
- RAID1@64bit
- cryptlvm@64bit
- rescue\_system@64bit
- update\_Leap\_42.1\_kde@64bit
- kde@64bit
- gnome@64bit
- miniuefi@64bit
- update\_staging@64bit

## DVD subproject

- ✔ Building repositories  
None.
  - ✔ Broken packages  
None.
  - ✔ openQA Jobs
- update\_Leap\_42.1\_kde@64bit
  - kde@64bit
  - gnome@64bit
  - miniuefi@64bit
  - update\_staging@64bit

\* [https://build.opensuse.org/project/staging\\_projects/openSUSE:Factory/\\$PRJ\\_LETTER](https://build.opensuse.org/project/staging_projects/openSUSE:Factory/$PRJ_LETTER)

# Repo-Checker for non-Intel arch

- Not completely supported!
- Unused build architecture must be excluded
- Make sure package is built on specific architecture
- Human review is required

# Repo-Checker log

Example:

```
> Check group #[401381](lrzip)
- Execution plan for ('openSUSE:Factory:Staging:adi:11', 'standard') failed
-----
found conflict of lrzip-0.630-6.2.x86_64 with rzsz-0.12.20-1002.2.x86_64:
- /usr/share/man/man1/lrz.1.gz
- /usr/bin/lrz
-----
- Execution plan for ('Archiving', 'openSUSE_Factory') failed
-----
found conflict of lrzip-0.630-5.1.x86_64 with rzsz-0.12.20-1002.2.x86_64:
- /usr/share/man/man1/lrz.1.gz
- /usr/bin/lrz
-----
found conflict of lrzip-0.630-6.2.x86_64 with rzsz-0.12.20-1002.2.x86_64:
- /usr/share/man/man1/lrz.1.gz
- /usr/bin/lrz
```

[https://build.opensuse.org/package/view\\_file/openSUSE:Factory:Staging/dashboard/check\\_repo?expand=1](https://build.opensuse.org/package/view_file/openSUSE:Factory:Staging/dashboard/check_repo?expand=1)

# Behavior of accepting

- The submissions in standard staging project will merge to Factory directly
- The submissions in Adi staging project have to wait until any standard staging project is ready and merging together
- Yes! We have a way force to merge submissions and no needs to wait any standard staging project is acceptable

# TODO

- A better way to ensure Ring-0 is safe after a merge
- Better the *delete request* handling
- Better the renaming submission handling, esp. for non-ring package
- Dashboard for Adi staging or at least a better visual view way
- More tickets in [progress.opensuse.org](https://progress.opensuse.org)

# Contact us

- Ask on #opensuse-factory IRC channel
- Leave the comment on the request
- Ping me on IRC or mail me :)
- <https://github.com/openSUSE/osc-plugin-factory>





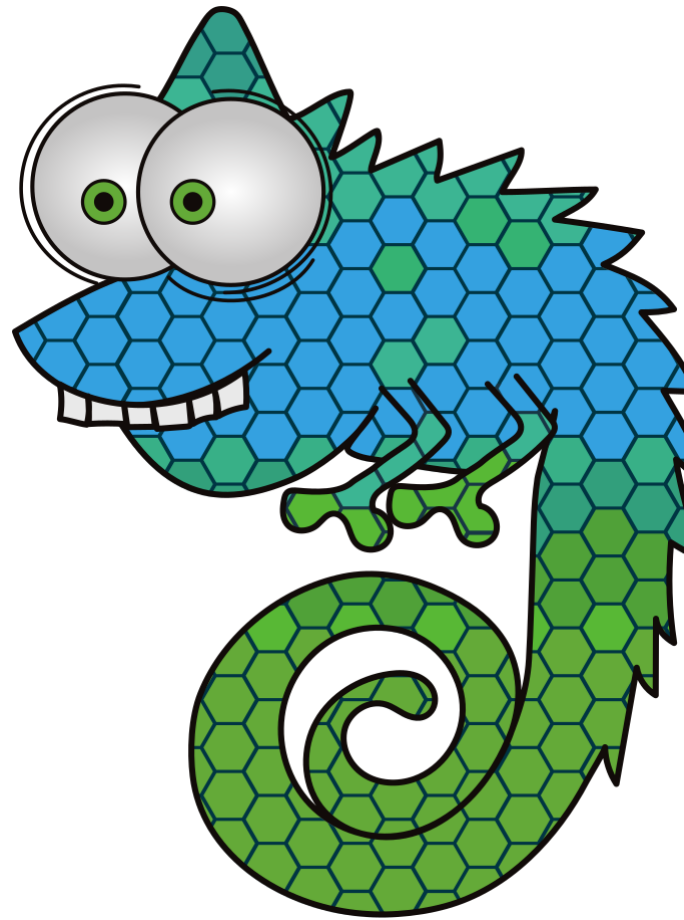
Questions?

Join the conversation,  
contribute & have a lot of fun!

[www.opensuse.org](http://www.opensuse.org)

**Thank you.**





**Have a Lot of Fun, and Join Us At:**

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## Credits

### Template

Richard Brown  
[rbrown@opensuse.org](mailto:rbrown@opensuse.org)

### Design & Inspiration

openSUSE Design Team  
<http://opensuse.github.io/branding-guidelines/>