Mercurial usage at XCG Consulting

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This talk - Outline

Mercurial usage at XCG Consulting

Orbeet

orbeet (https://orbeet.io/) is a brand name used by:

- ▶ XCG Consulting
    - ▶ 14 Employees, 7 in R&D
    - ▶ Software Company, specialized in customizing open source software, mainly the ERP Odoo
- ▶ Cloudcrane
    - ▶ 2 Employees, R&D only
    - ▶ Hosting oriented company
    - ▶ Created in 2016

Many shared work, tools and marketing efforts.

Me

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- ▶ Joined XCG Consulting in december of 2013.
- ▶ Director of Development

First Use of Mercurial

- ▶ First use of mercurial in 2012.
- ▶ Code was stored in bitbucket.
- ▶ Most projects used mercurial (rather than git).
- ▶ First projects were in Python, including libraries still in PyPi like weekdays.

hg-confman

- hg-confman
  - allows including other projects into another project
  - similar to git submodules but simpler and for mercurial
  - git repository can be referenced on top of mercurial but super project must be mercurial
- Our use of the extension
  - First super project using confman in Dec 2013.
  - Main use is to define an Odoo project for a customer and selecting modules for them.
  - The modules can either be customer specific, or some shared one.
  - Mix of our modules and open source modules, with sometimes modules from another integrator.

Deployment

- ▶ 2013 Applications where deployed manually, hg was run in production servers.
- ▶ 2014 Start of the use of ansible to initialize new servers
- ▶ 2015 Use of docker instead of manual installs
- ▶ 2017 Start of using ansible more intensively.
- ▶ 2018 Move to use docker swarm (portainer)
- ▶ 2021 Start to use Kubernetes.
- ▶ 2022 Stopped the use of docker swarm

Initial Source Code Host and CI

- ▶ bitbucket.org
  - ▶ First forge used.
  - ▶ Used topics rather quickly when it was added
  - ▶ Updated internal developper documentation on how to use it and provide guidelines for topic names.
- ▶ github.com
  - ▶ Some fork in it to be able to contribute on projects
  - ▶ Some mercurial repositories converted for marketing but the source was bitbucket.
- ▶ Drone CI <https://drone.io>
  - ▶ June 2016: first use of drone CI
  - ▶ CI was done only in super projects.

Move to heptapod - orus.io

- ▶ Moved to a self-hosted heptapod instance in March 2020: https://orus.io/
- ▶ Dropped Drone CI despite the ability to use it with gitlab too.
- ▶ No issue with workflow based on topics.
- ▶ Boon of centralized CI files. Its efficiency allowed adding tests on each Odoo module.

orus.io

- ▶ More and more of gitlab's feature are used: reviews, coverage displayed and linting warnings in the publication request.
- ▶ Changed our use of SSH due to ease of using hg-confman with deploy token.
- ▶ Around 1200 projects, 600 Odoo modules.
- ▶ Changed our git conventions:
  - ▶ branch name convention to match the mercurial branch/topic names as displayed in heptapod.
    branch/<branch name>
    topic/<base branch name>/<topic name>
  - ▶ Favor rebasing over merging to match publishing workflow

hg-confman (2)

- ▶ 2020: Need to fix issues with confman. Fork done in orus.io then included fixes.
- ▶ New need to use a super project into another. Was possible but not the way we wanted to handle it.
- ▶ End of 2022: Wanted to lessen the burden of cloning so many projects at each CI run.
- ▶ Contacted the author in the hope of contributing our previous changes and include the new ones.
- ▶ Work still in progress.

Other Mercurial extensions and options

- ▶ Other Extensions
    - ▶ rebase: used often to rebase ones work. Aim to have a clean linear history without too many merges
    - ▶ shelve: handy to have a clean local history without the need to create too many secret changesets
    - ▶ absorb, histedit: used with evolve and topics
    - ▶ strip: not used regularly but used since a while
    - ▶ credentials: avoid having token in ~/.hgrc
- ▶ Options
    - ▶ Curses for the interface. Combined with `hg commit --interactive`, allows picking and reviewing own changes.
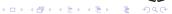
Vendir

https://github.com/vmware-tanzu/carvel-vendir

- ▶ Used to produce ressources from helm charts and ytt (kubernetes)
- ▶ Was only working with git repositories.
- ▶ XCG added support for mercurial repository in v0.22.0 (released 2021-08-17)
- ▶ XCG added support for hg-evolve in v0.24.0 (released 2021-12-14)
- ▶ The tool and the mercurial support is still in use by Cloudcrane on our deployments to this day.

Template Engine

- ▶ Need:
  - ▶ Many dotfiles in our projects, especially our numerous Odoo modules.
  - ▶ Need a template engine to simplify creating modules. Would be a plus if allowed updating after the template is updated.
- ▶ Tools
  - ▶ cookiecutter supports mercurial repository as the base template.
  - ▶ copier has template update ability but limited to git.
    Opened a ticket for support of mercurial but get closed. Author opened to PR about abstracting the dcvs layer then add the mercurial support in another one.

Summary

- Plan on go on using mercurial for almost all of our projects.
- Still need to use git. For example, argo cd need git repository. Project we contribute to usually uses it.

- Outlook
  - Finish the work on confman to integrate our fixes and improvements.
  - Decide on whether to use copier as our template engine and eventually add the support for mercurial.