MIGRATING FOREMAN FROM EL7 TO EL8 USING LEAPP/ELEVATE
$ whoami

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❤️ FOSS ❤️
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AGENDA

1. Why upgrading?
2. Different upgrade paths
3. LEAPP details
WHY UPGRADING?

- Newer is better (😔)
- Foreman is dropping EL7 support in 3.3
- EL7 is slowly becoming a maintenance burden
DIFFERENT UPGRADE PATHS

• on Debian: `sed 's/buster/bullseye/'
  `apt update && apt upgrade`
• EL-based distributions don’t support this
• classical answer “just redeploy”
  (backup/restore)
• you can make upgrades work, manually
• or use supported tooling like LEAPP/ELevate
BACKUP/RESTORE?!

- not an *upgrade* per se
- you take a backup of your EL7 Foreman
- and restore it on EL8
- clean, supported, slow
MANUAL UPGRADE

• add EL8 repos
• tinker with yum/dnf until all EL7 packages are replaced with their EL8 pendants
  ▪ extra fun with SCL → Module “translation”
• dirty, unsupported, quick
LEAPP/ELEVATE

• LEAPP is the official Red Hat tool to do RHEL7 to RHEL8 upgrades
• ELevate is a project by AlmaLinux to extend support to AlmaLinux, CentOS, and other EL-derivatives
• contains logic how to map/update packages, services and configurations
LEAPP/ELEVATE

- LEAPP can be extended with custom Actors
- users can write own Actors to extend support beyond the basics
- guess what we did…
- clean, supported, quick (🎉)
LEAPP DETAILS
WORK IN PROGRESS

- Actors for the Satellite EL7 to EL8 upgrade are WIP: PR#733
- The code should equally work for Foreman/Katello 3.1+/4.3+
UPGRADE STEPS

- Replace all EL7 packages with EL8 versions
  - Replace SCLs with Modules
  - Translate package names
  - Remove unnecessary packages
- Update configuration files
MODULARITY SUPPORT

- Modules are a new concept in EL8, replacing SCLs
- Upgrading SCLs is out of scope for LEAPP
- Thus also no need for Modularity
- Support for enabling modules came recently in PR#672
RPM AND SYMLINKS

- RPM can’t replace a symlink with a directory (BZ#2018131)
- When you try to upgrade PostgreSQL 12 from SCL to module, exactly this happens
- DNF aborts the transaction
- Workaround: have a hook that removes that symlink before the DNF transaction starts
OUR INSTALLER IS NICE AND SLOW

- instead of teaching LEAPP to translate configurations we run `foreman-installer`
- this is rather slow, but saves us from code duplication
- happens in “First Boot” phase
LEAPP UPGRADE

# yum install leapp
# leapp preupgrade
# leapp upgrade
# reboot
LINKS

- Foreman 3.3 drops EL7
- LEAPP project
- ELevate
- ELevate quickstart guide
- Foreman/Katello/Satellite Actor PR for LEAPP
THANKS!

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