

What's new in Katello for 2026 and beyond?

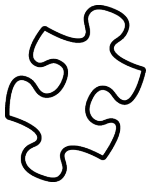
Ian Ballou
GitHub: ianballou
Matrix: iballou

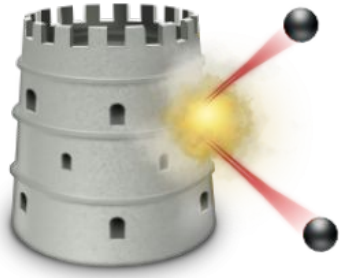


The Stack



Foreman





Katello



Candlepin

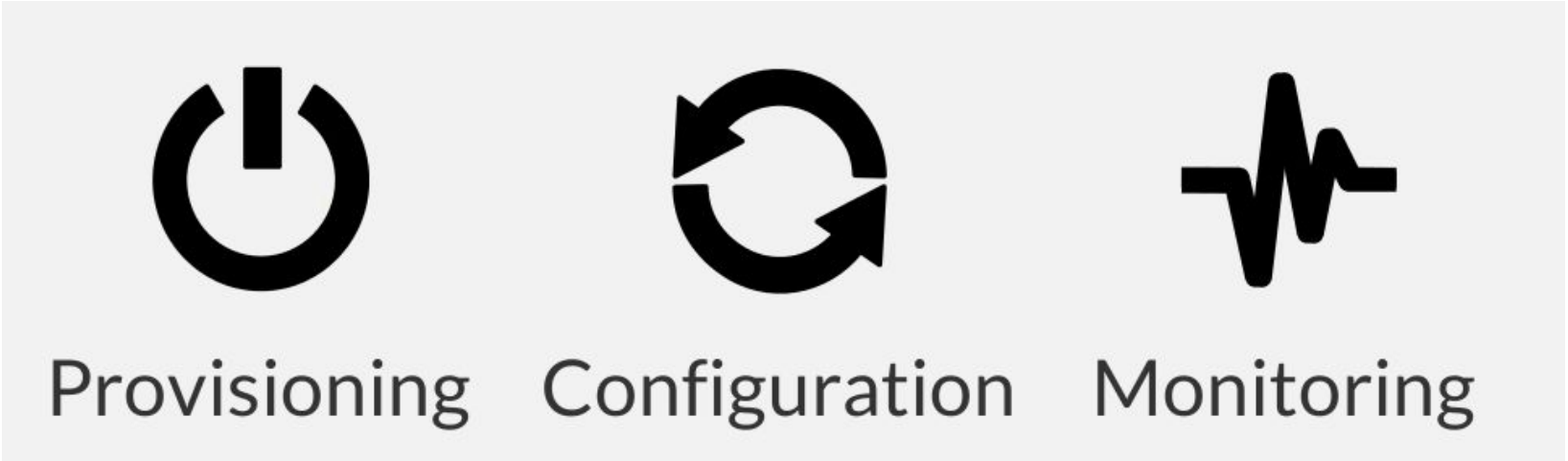


Pulp





Foreman







Pulp in Katello



OSTree 2.6



Container 2.29



Deb 3.11



Core 3.118



RPM 3.39



Python 3.36



Ansible 0.30





New Work Since 2025

- Post-Quantum Cryptography
  - Debug certs!
- Containerization of Katello
- Transient RPM package tracking
- Adjusting to the deprecation of container push repos
- Persistent errata application tracking





Post-Quantum Cryptography

- Tested: RHSM Cert Guard created with PQC certificate
  - Client consumption with PQC entitlement certs
- New UI for Katello PQC debug certificates
  - (Gives admin access to all content)
- Issues: header limits for maximum certificate sizes
  - ML-DSA-87 certificates are massive!





Containerization

- `foreman-installer` -> `foremanctl`
- Foreman-maintained Pulp images
  - https://quay.io/repository/foreman/pulp
- New Foreman Smart Proxy plugin for Pulp
  - https://github.com/theforeman/pulp_smart_proxy





Containerization Continued

- `foremanctl` backup and restore
  - Manages services & performs health checks
  - Collects compressed Pulp data directory & database
  - Support for splitting Pulp tarred content
  - Result: the ability to redeploy entire Katello installations





Transient RPM Package Tracking

Search | Status | Upgrade | 1 - 10 of 10 | 1

Package name	Persistence	Status	Installed version	Upgradable to
389-ds-base	Persistent	Upgradable	32:9.11.4-19.P2.el7_8.2.x86_64	42:9.11.4-19.P2.el7_8.2.x86_64
389-ds-base-libs	Transient	Up-to-date	32:9.11.4-19.P2.el7_8.2.x86_64	-
abrt	Transient	Up-to-date	32:9.11.4-19.P2.el8_8.2.x86_64	-
abrt-addon-vmcore	Persistent	Upgradable	0.301-4.el9.noarch	0.301-4.el10.noarch
bash	Persistent	Upgradable	5.1.8-5.el9.x86_64	5.1.8-9.el9.x86_64
bzip2	Transient	Up-to-date	1.0.8-8.el9.x86_64	-
c-ares	Transient	Up-to-date	1.17.1-5.el9.x86_64	-
dbus	Persistent	Upgradable	1.12.20-6.el9.x86_64	dbus-1.12.20-9.el9.x86_64
device-mapper	Transient	Up-to-date	1.02.185-3.el9.x86_64	-
device-mapper-event	Persistent	Upgradable	1.02.185-3.el9.x86_64	1.02.185-9.el9.x86_64





Container Push -> Container Repo

- Pulp container push repositories are deprecated
- Katello 5.1 will expect ordinary container repositories
- Benefit now:
  - Content view publishes can now redistribute container repos with pushed content
- Benefit later:
  - Containers can be pushed to existing container repos
- Katello 5.2: migrating existing container push repos





Persistent Errata Application Tracking

- Foreman ships a Katello report template that collects errata applied via Katello
- This report relied on task data that could be cleaned up
- Now: each errata application is tracked persistently in the database





The Future (as Ian sees it)

- Pulp 4 (of course)
- Direct use of OpenAPI Spec
- Pull-through caching
- Container vulnerability reporting in Katello
- CVE remediation performance improvements
- OSTree removal





Directly Using the OpenAPI Spec

- Today, Katello uses Pulp's generated Ruby API bindings
- Bindings are generated against latest Pulpcore: bad
  - Thus Pulp wishes to stop generating these bindings
- Solution: Katello uses the OpenAPI spec
  - Lightweight Pulp-Glue-style interface for talking to old Pulp on old smart proxies
    - Customized for Katello's "n-minus" needs





Pull-Through Caching

- Katello has not integrated with pull-through caching
- Important story: ability to serve all of PyPI
- Questions
  - Do users need to see what is cached?
  - Should pull-through caches look like repositories in Katello?





Vulnerability Reporting

- We live in a world of CVEs
- What CVE-related content exists today? Just errata.
- Users need up-to-date info about CVEs in their data
- Hosts can be scanned, but sooner is better!
  - Scan your content before it's delivered
- How?
  - Pulp vulnerability reports are a start
  - SBOM analysis via containers -> if containers are so popular, scan them instead of individual packages?





Speeding up CVE Remediation

- Katello enables users to add errata to their snapshots
  - Snapshots == content view versions == Pulp repos
- There are so many CVEs today!
- Katello performs complex orchestration even to add 1
- How can we speed this up?
- Todo:
  - Collect bottleneck data from user Dynflow exports
  - Document the cause & propose a fix





OSTree Plugin Is Archived in Pulp

- Users have reported using OSTree with Katello
- However, no one responded to my call for OSTree users
- OSTree RPM will live on for a couple more releases







Thanks!

https://github.com/Katello/katello