Hyperscale SIG introduction

Davide Cavalca
CentOS Dojo FOSDEM 2021
Agenda

- Goals and motivation
- What’s in scope
- What’s not in scope
- SIG status and roadmap
CentOS @ FB

- Infra built on an Open Source foundation
- >75% of the fleet on CentOS Stream 8
- EPEL + backports from Fedora
- Upstream kernel
- Chef for config management
- Rolling OS updates
- Relevant talks
  - Upgrading CentOS @ FB: [https://tinyurl.com/52hqdp6t](https://tinyurl.com/52hqdp6t)
  - What’s new with CentOS @ FB: [https://tinyurl.com/1bzn0rbi](https://tinyurl.com/1bzn0rbi)
  - CentOS Stream @ FB (upcoming, DevConf.cz 2021): [https://tinyurl.com/9s6ak3o7](https://tinyurl.com/9s6ak3o7)
Hyperscale SIG

- CentOS Stream focus
- Large-scale infrastructure
- Foster cross-company collaboration on packages and tooling
- Bring in-house development out in the open
- Open to anybody interested in working in this space
- [https://wiki.centos.org/SpecialInterestGroup/Hyperscale](https://wiki.centos.org/SpecialInterestGroup/Hyperscale)
What’s in scope
Faster-moving package backports

- Updated backports of distro packages
- Feature enablement, closely tracking upstream development
- Drop in replacements for distro packages
- Stable and targeting production use
- Will be delivered as a dedicated repository
systemd

- Facebook maintains a systemd backport for CentOS
- Tracking latest upstream stable release
- Based on the Fedora packaging
- Actively deployed in production
- GitHub: [facebookincubator/rpm-backports](https://github.com/facebookincubator/rpm-backports)
- 247 and onwards will be developed within the SIG
- systemd @ FB in 2019 talk: [https://tinyurl.com/yu639xj4](https://tinyurl.com/yu639xj4)
Policy and configuration alternatives

- Modifications of distro packages to enable alternative options
- Meant to be backward compatible and minimize changes
- Example: iptables
  - Only supports nftables in CentOS Linux 8
  - Rebuild to enable the legacy iptables backend as an alternative
- Also: enablement for cgroup2, btrfs, etc
Large-scale testing

- Provide a way to test distro-wide changes in production settings
- Example: DNF/RPM Copy-on-Write
  - [https://fedoraproject.org/wiki/Changes/RPMCoW](https://fedoraproject.org/wiki/Changes/RPMCoW)
  - See the next talk for specifics
  - Requires patched packaging stack
  - Currently deployed in production at FB
- Testing content will release to a dedicated “experimental” repo
Kernel

- Wishlist: an LTS-tracking alt kernel for CentOS Stream
- Middle ground between the official RH kernel and the Fedora one
- Could also be useful for feature enablement (e.g. btrfs, cgroup2, etc)
- Integration work is needed
  - Kernel builds enablement for SIGs
  - Secure Boot
- Still in early planning
What’s not in scope

- **New packages**
  - Contribute them to Fedora, and then to EPEL

- **Fedora packages missing from EPEL**
  - File tickets on bugzilla
  - Work with the Fedora EPEL Packages SIG
  - [https://fedoraproject.org/wiki/EPEL/Packagers](https://fedoraproject.org/wiki/EPEL/Packagers)

- **Unshipped packages (e.g. missing -devel)**
  - File tickets on bugzilla

- **Bugfixes**
  - File tickets on bugzilla and/or upstream
  - Send patches
SIG Status

- Approved by the board on Jan 13
- In the process of setting up resources
- Planned deliverables
  - SIG branches on git.centos.org for all modified packages
  - Main package repository (systemd, iptables, etc)
  - Experimental package repository (RPM CoW, etc.)
- Wishlist
  - Cloud images with Hyperscale repo
  - Kernel
Resources

- https://wiki.centos.org/SpecialInterestGroup/Hyperscale
- #centos-hyperscale on Freenode
- Bi-weekly formal meetings starting Feb 17 18:00 UTC
- https://pagure.io/centos-sig-hyperscale/sig issue tracker
- centos-devel mailing list
Questions?