

Hyperscale SIG update

Davide Cavalca
CentOS Dojo May 2021

Agenda

- SIG recap
- Deliverables and recent work
- Developer experience
- Coming up

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://blog.centos.org/2021/04/centos-hyperscale-sig-quarterly-report/>

SIG health

- Established in Jan 2021 with 6 founding members
- +5 members since then
- #centos-hyperscale
- Bi-weekly IRC meetings
- Monthly hackathons / hangouts
- Issue tracker: <https://pagure.io/centos-sig-hyperscale/sig>
- Conference talks
 - CentOS Dojo FOSDEM 2021: <https://www.youtube.com/watch?v=Kg7FqVGaZxs>
 - DevConf.cz 2021: <https://www.youtube.com/watch?v=K8x4CletnCc>
 - FOSDEM 2021: <https://fosdem.org/2021/schedule/event/desktoplinuxmgmtatfacebook/>
 - LISA21: <https://www.usenix.org/conference/lisa21/presentation/cavalca>

Hyperscale SIG scope

- Faster moving package backports
- Policy and configuration alternatives
- Large-scale testing enablement
- Kernel

Package backports

- Delivered to the Hyperscale main repository
 - `dnf install centos-release-hyperscale`
- Drop in replacements for stock CentOS packages
- File bugs on <https://pagure.io/centos-sig-hyperscale/package-bugs>

systemd

- SIG branch tracking the latest upstream (currently 248)
- Defaults to unified hierarchy (cgroup2)
- systemd-oomd (needs PSI)
- Experimental SELinux enablement
- <https://github.com/systemd/systemd/blob/main/NEWS>

systemd

- Public repo to track development and stage patches
 - <https://pagure.io/centos-sig-hyperscale/systemd>
- Public repo for releng tools and scripts
 - <https://pagure.io/centos-sig-hyperscale/systemd-releng>
- Contbuild on CentOS CI
 - Based on the current Hyperscale packaging
 - Daily rebuilds of the upstream git master
 - VM testing: <https://pagure.io/centos-infra/issue/308>

Information for user [hyperscalebot](#)

Name hyperscalebot

ID 255

Tasks **88**

Packages No packages

Builds

1 through 10 of 46 >>>

Page: 1 ▾

NVR	Finished ▾	State
systemd-248-1.20210513.cbdc294.hs+fb.el8	2021-05-13 17:12:26	✓
systemd-248-1.20210513.cbdc294.hs.el8	2021-05-13 17:06:08	✓
systemd-248-1.20210512.c799d93.hs+fb.el8	2021-05-12 17:12:37	✓
systemd-248-1.20210512.c799d93.hs.el8	2021-05-12 17:06:37	✓
systemd-248-1.20210512.5c2e595.hs.el8	2021-05-12 10:36:57	✓
systemd-248-1.20210511.5c2e595.hs+fb.el8	2021-05-11 17:12:27	✓
systemd-248-1.20210511.5c2e595.hs.el8	2021-05-11 17:06:10	✓
systemd-248-1.20210510.a346a34.hs+fb.el8	2021-05-10 17:20:36	✓
systemd-248-1.20210510.a346a34.hs.el8	2021-05-10 17:06:39	✓
systemd-248-1.20210509.63225fe.hs+fb.el8	2021-05-09 17:12:49	✓

LLVM 12

- Non-modular LLVM 12 build
- llvm, clang, lld, lldb (+ mesa)
- Currently in CBS, release is pending more testing
- https://bugzilla.redhat.com/show_bug.cgi?id=1952248
- Modular LLVM 12 is slated for RHEL 8.5
- <https://reviews.llvm.org/D101972>

Other packages

- dwarves 1.21
- grep 3.6
- less 581
- libvirt 7.10 (non-modular)
- mtr 0.94
- meson 0.57.1
- ninja-build 1.10.2
- pykickstart 3.32
- rasdaemon 0.6.6
- tpm2-tools 4.3.0
- tpm2-tss 2.4.4

Kernel

- Test 5.10.31 kernel based on the Fedora 33 packaging
- <https://cbs.centos.org/koji/taskinfo?taskID=2476549>
- Btrfs support
- Development tree: <https://pagure.io/centos-sig-hyperscale/linux>
- Outstanding issues
 - KABI
 - Secure boot: <https://pagure.io/centos-infra/issue/307>
 - <https://pagure.io/centos-sig-hyperscale/sig/issue/7>
- kpatch
 - Updated to 0.9.3
 - Includes kpatch-build

Large-scale testing

- Provide a way to test distro-wide changes in production settings
- DNF/RPM Copy-on-Write
 - <https://fedoraproject.org/wiki/Changes/RPMCoW>
 - Requires patched packaging stack
 - Currently deployed in production at FB
- Released to a dedicated “experimental” repo
 - `dnf install centos-release-hyperscale-experimental`

Developer experience

- mock-centos-sig-configs
 - <https://pagure.io/centos-sig-hyperscale/mock-centos-sig-configs>
 - Make it easier to do local mock builds against SIG repos
 - Send PRs to add configs for your SIG
 - Packaged in Fedora and EPEL
- centos-packager
 - <https://git.centos.org/centos/centos-packager>
 - Tools to get a certificate and interact with CBS
 - Packaged in Fedora and EPEL
- centpkg
 - <https://git.centos.org/centos/centpkg>
 - rpkg-style tool, currently only for c9s
 - c8s would need SRPMLayout integration: <https://git.centos.org/centos/centpkg/issue/45>
 - Packaged in Fedora and EPEL

Developer experience

- Missing -devel packages
 - Now downloadable from <https://koji.mbox.centos.org>
 - <https://pagure.io/centos-infra/issue/316>
- PR workflow for git.centos.org
 - Would probably require updating Pagure or moving to GitLab
 - Wishlist: on-PR scratch builds
 - <https://pagure.io/centos-infra/issue/228>
- centos-git-common
 - <https://git.centos.org/centos-git-common>
 - Still needed for lookaside-upload and get_sources.sh
 - Merge into centos-packager?
 - <https://git.centos.org/centos/centos-packager/issue/10>

Coming up

- Btrfs transactional updates
 - <https://pagure.io/centos-sig-hyperscale/sig/issue/37>
- Kernel package in “experimental”
- ISO images
- Cloud images
- More CentOS CI integration
- EPEL
 - Make it available on CBS: <https://pagure.io/centos-infra/issue/306>
 - Hyperscale release packages would depend on epel-release

CentOS Stream 9

- It's here!
 - Sources: <https://gitlab.com/redhat/centos-stream/rpms>
 - Koji: <https://kojihub.stream.centos.org>
 - Composes: <https://composes.stream.centos.org/test/>
- Planning to start c9s SIG builds as soon as possible
- Build tags on CBS: <https://pagure.io/centos-infra/issue/324>

Resources

- <https://wiki.centos.org/SpecialInterestGroup/Hyperscale>
- #centos-hyperscale on Freenode
- Bi-weekly meetings and monthly VC hangout
 - <https://www.centos.org/community/calendar>
- <https://pagure.io/centos-sig-hyperscale/sig> issue tracker
- centos-devel mailing list

Questions?