CERN Linux services
and open source communities overview

On behalf of CERN linux support team
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Linux @ CERN

- CERN CentOS 7 (x86_64)
  - Version 7.6 released December 2018 (7.7 planned for Q3 2019)
- Scientific Linux CERN 6 (x86_64 i686)
  - Version 6.10 released July 2018 (last minor release)
- Scientific Linux CERN 5 (x86_64 i686)
  - EOL since April 2019
- RHEL 5 / RHEL 6 / RHEL 7 / RHEV
  - Licences =~ 800
  - Extended Update Support licences
Scientific Linux 6 @ CERN

- 6.10 released on July 2018
- last release
  - No new hardware support

Life-cycle Dates

All future dates mentioned for "End of Production 1" and "End of Production 2" are close approximations, non-definitive, and subject to change.

<table>
<thead>
<tr>
<th>RHEL Version</th>
<th>General Availability</th>
<th>End of Production 1</th>
<th>End of Production 2</th>
<th>End of Production 3 (End of Production Phase)</th>
<th>End of Extended Lifecycle Support</th>
<th>End of Extended Life Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>November 10, 2010</td>
<td>May 10, 2016</td>
<td>May 10, 2017</td>
<td>November 30, 2020</td>
<td>N/A</td>
<td>Ongoing</td>
</tr>
<tr>
<td>7</td>
<td>June 10, 2014</td>
<td>~04 of 2019</td>
<td>~04 of 2020</td>
<td>June 30, 2024</td>
<td>N/A</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>
CERN CentOS 7 (CC7)

- [link](http://linux.web.cern.ch/linux/centos7/) (Supported until end of 2023)
- No support for alternative architectures yet. (limited HW available Techlab)
- Snapshots for 13 months

Special Interest Group
[https://wiki.centos.org/SpecialInterestGroup](https://wiki.centos.org/SpecialInterestGroup)

* CERN contributions
LINUXSOFT
- Main distribution server
- Also the mirror service
- ~50000 daily clients updating
- TN trusted

2018 Migration
- Netapp -> fuse cephfs
- RH cluster -> DNS lb
- Cronjob -> Nomad
In numbers
● PXE infrastructure to install machine (automated installation with kickstart, uefi support, etc...)
● Review of the service Q3
koji.cern.ch

- **KOJI**
  - Builds linux support team RPMS for the main distribution
  - Build cloud / docker images
  - Used by service manager to build their projects
  - A total of 382 users (+ 30% in a year due to CI)

- **Migration**
  - Netapp -> fuse cephfs
  - RH cluster -> DNS lb
  - Migrated in August 2018
Koji and Gitlab for users

- Building RPMS from Gitlab in Koji

![Diagram showing the integration between Gitlab, CI, Koji, and YUM repositories.]
CentOS Community

- CERN is a contributor to few SIGs: cloud(openstack), sclo, virt(kubernetes), storage(ceph mimic)
- Alternative architectures (aarch64, ppc64le, i686) support is there.
  - Alt arches are released at the same time as x86_64.
  - armv7hl available too, but less resources. Thanks @pgreco!
- CI infrastructure (jenkins) for a lot of upstream projects: RDO, openshift, gluster, etc...
- Community build system (https://cbs.centos.org) based on Koji, maintained by CentOS and CERN
Other communities

- Fedora epel: https://fedoraproject.org/wiki/EPEL
(CERN?) CentOS 8

https://wiki.centos.org/About/Building_8

- Builds for x86_64, i686, aarch64, ppc64le:
  https://koji.mbox.centos.org/koji/index
- Builds for armv7hl:
  https://koji.armhfp-mbox.centos.org
- Reviewing CERN strategy for CentOS 8 in next month
System On Chip

• What do you need?
• Work in the open? Contact communities? Centos SIG? Other? aarch64?
  armv7hl?
• Publicly available build systems to leverage more vendor hardware?
• Numbers?
• Interest in netboot for installation?
• Timeline? CentOS 7 or CentOS 8?
• Toolchain redistribution possible?
• Package everything as RPM? If using existing tools it will be only commits in a git repo.
Questions