



RHEL 8 Beta Update

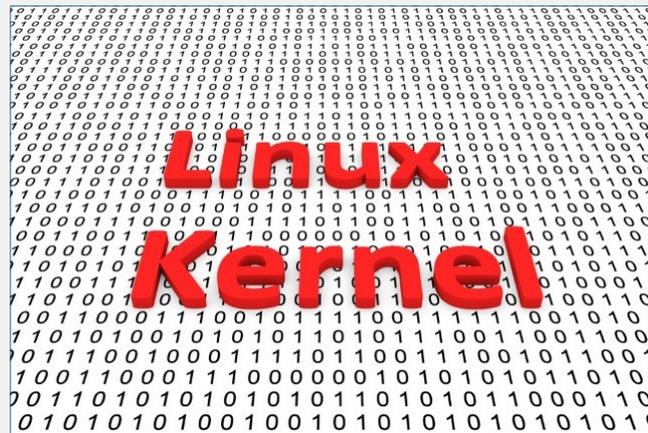
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Principal Solutions Architect
Q1 2019

RHEL 8 Beta

- Public beta open since 11/14/18
- High Touch beta open
- Code name : Ootpa
- Unified ISO

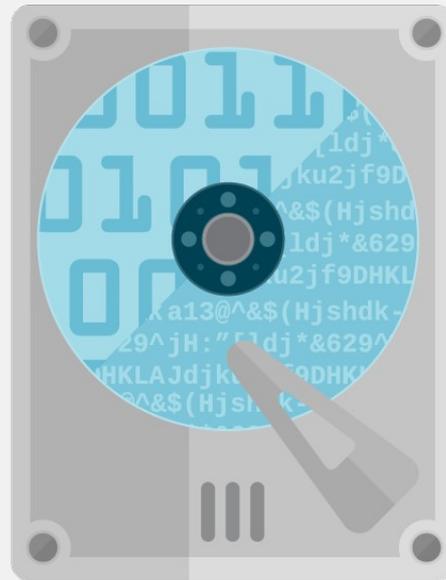


RHEL 8 :: Kernel 4.18



- glibc 2.28
- CGroups version v2
- Repackaging
 - Kernel-core, kernel-modules, kernel-modules-extra
- Large memory increases
 - Virtual address space: up to 128 PiB
 - Physical address space up to 4 PiB (support max still being determined)

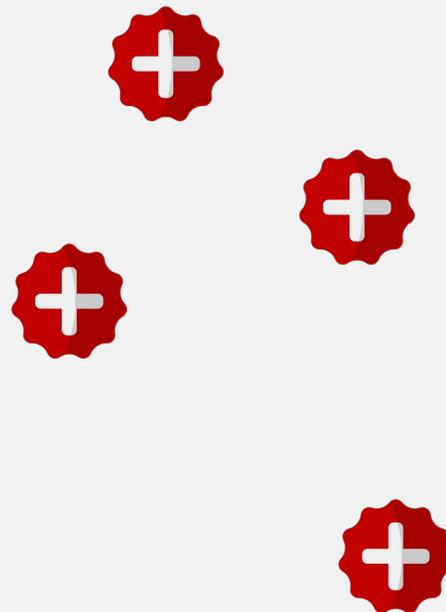
RHEL 8 :: Installer



- Supported Architectures
 - AMD and Intel 64-bit architectures
 - The 64-bit ARM architecture
 - IBM Power Systems, Little Endian
 - IBM Z
- Anaconda defaults to LUKS2 format
- LUKS2 format default for dm-crypt, cryptsetup tooling
- Anaconda can install directly to NVDIMM devices
- nvdimmm Kickstart command and options

RHEL 8 :: Package Management

- System Purpose
 - Replaces variants – Server, Workstation
 - Works with subscription-manager and auto-attach
- # tuned-adm recommend
 - Looks at syspurpose and dmidecode
- yum4 (shhh, it's DNF)

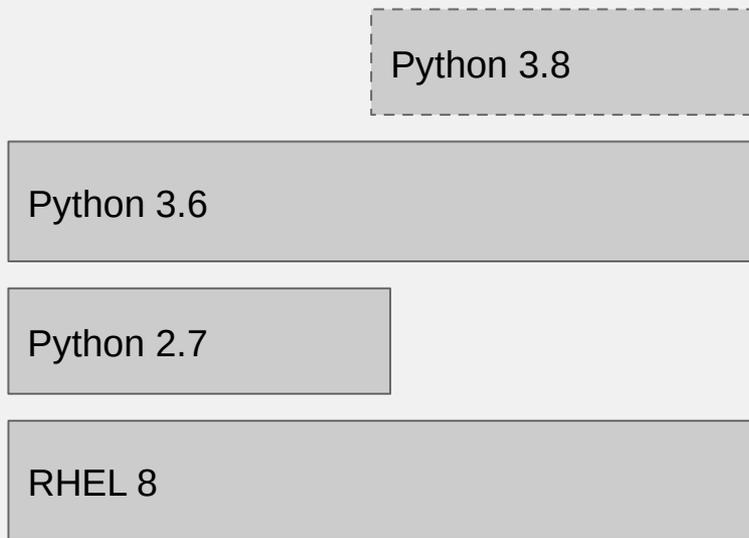


RHEL 8 :: yum v4

```
[admin@beta8 ~]$ sudo yum install stratis-cli
Updating Subscription Management repositories.
rhel-8.0.0-beta-1.4-appstream                2.5 kB/s | 2.8 kB    00:01
rhel-8.0.0-beta-1.4-baseos                  35 kB/s | 2.7 kB    00:00
Dependencies resolved.
=====
Package                                Arch      Version      Repository      Size
=====
Installing:
stratis-cli                            noarch    1.0.0-2.el8  rhel-8.0.0-beta-1.4-appstream 50 k
Installing dependencies:
python3-dbus-client-gen                 noarch    0.3-1.el8    rhel-8.0.0-beta-1.4-appstream 25 k
python3-dbus-python-client-gen         noarch    0.6-2.el8    rhel-8.0.0-beta-1.4-appstream 24 k
python3-dbus-signature-pyparsing       noarch    0.03-2.el8   rhel-8.0.0-beta-1.4-appstream 19 k
python3-into-dbus-python                noarch    0.06-2.el8   rhel-8.0.0-beta-1.4-appstream 27 k
python3-justbases                       noarch    0.9-6.el8    rhel-8.0.0-beta-1.4-appstream 45 k
python3-justbytes                       noarch    0.11-2.el8   rhel-8.0.0-beta-1.4-appstream 40 k
stratisd                                 x86_64    1.0.0-2.el8  rhel-8.0.0-beta-1.4-appstream 1.2 M
python3-pyparsing                       noarch    2.1.10-7.el8 rhel-8.0.0-beta-1.4-baseos    142 k
=====
Transaction Summary
=====
Install 9 Packages
```

- Enhanced dependency mapping allows for smaller installs
- Better clean up for package removal
- New stable API
- Application Streams metadata support

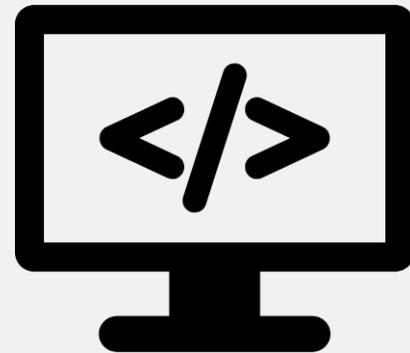
RHEL 8 :: Application Streams



- Multiple major versions available for select packages
- Faster update cycle
- Replace SCLs
- Consolidate delivery to a single repository

RHEL 8 :: Dynamic Languages

- Ruby 2.5
- PHP 7.2
- Perl 5.26
- Python
 - No version is installed by default
 - Python 3.6 is default Python3 implementation
 - Python 2.7 is default Python2 implementation



RHEL 8 :: Databases

- MariaDB 10.3
- MySQL 8.0
- PostgreSQL 10
- PostgreSQL 9.6
- Redis 4.0

- No Mongo ...



RHEL 8 :: Web Servers

- Nginx 1.14
- Apache 2.4.35



RHEL 8 :: Session Recording

- tlog
- Cockpit-session-recording
- SSSD

- Playback
 - tlog-play
 - Via cockpit

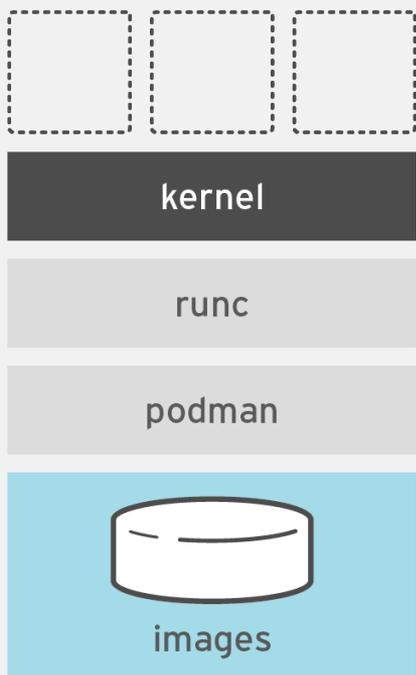


RHEL 8 :: SOS



- New version: sos-3.6
- New plugins: alternatives, ansible, buildah, clear_containers, date, elastic, fibrechannel, host, kata_containers, lustre, memcached, mssql, networkmanager, nvme, omnipath_client, omnipath_manager, opendaylight, openstack_octavia, ovirt_provider_ovn, ovn_central, ovn_host, rear, release, runc, skydive, unpackaged, watchdog, wireless

RHEL 8 :: podman & buildah with CRIO



- Rootless container support
- Multi-stage build support
- Daemon-less container engine
- CNI compliant tooling

RHEL 8 :: Cockpit

- What is new?
- Installed by default on non-minimal installations
- Updates the system shell login prompt to provide login link
- Uses host IDM resources by default
- Compatible with Mobile browsers
- Front page displays missing updates/subscriptions
- Understands and can use Policy-Based-Decription rules (NBDE)
- Can manager virtual machines via libvirt

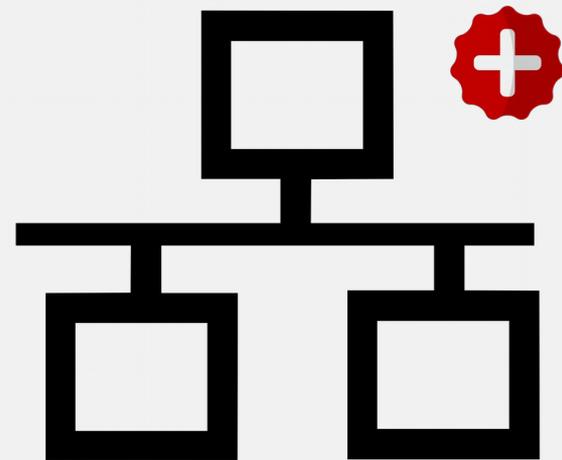
RHEL 8 :: HA and Clusters

- Pacemaker upgraded to version 2.0
- Corosync upgraded to version 3



RHEL 8 :: Network

- Intel Driver e1000 replaced with e1000e
- Next generation TCP stack
- Change from default “reno cubic”
- `net.ipv4.tcp_congestion_control=bbr` or `nv`
 - New Vegas or NV
 - Congestion-Control algorithm from Facebook
 - Bottleneck Bandwidth and RTT or BBR
 - Congestion-Control algorithm from Google
 - Responds to actual congestion vs packet loss
 - YouTube saw 4%-14% higher network throughput



RHEL 8 :: Boot Manager

- NVDIMM Support
- New boot manager : BOOM
 - supports BootLoaderSpec
 - supports secure-boot
 - supports booting LVM snapshot images



RHEL 8 :: XFS

- Shared copy-on-write data extent functionality
 - Fast
 - Space-efficient
 - Transparent
- COW enabled by default during `mkfs.xfs`
- Enable `cp` command to use COW
 - `# cp -reflink file1 file2`



RHEL 8 :: Stratis

- Manage snapshots and thin provisioning
- Grow file system sizes as needed
- File system maintenance

- Basic steps
 - `# yum install stratisd stratis-cli`
 - `# systemctl enable --now stratisd`
 - create a pool out of 1 or more local storage components
 - use “stratis” userspace command



RHEL 8 :: NFS 4.2

- `/etc/sysconfig/nfs` moves to `/etc/nfs.conf`
- New: `nfsconf` tool
- `nfsnobody` user replaced with `nobody:nobody`



RHEL 8 :: VDO

- Virtual Disk Optimizer
 - Thin provisioning
 - Data de-duplication
 - Data compression



RHEL 8 :: Image Composer (Tech Preview)

RED HAT ENTERPRISE LINUX SERVER

rhel demo Image Builder

[Back to Blueprints](#) > [Database Server](#) > [Edit Blueprint](#)

Database Server Total Disk Space: 1,234 KB

Available Components

Name

Name: mariadb X Clear All Filters

1 - 12 of 12 < 1 of 1 >

Select components in this list to add to the blueprint.

- mariadb**
A community developed branch of MySQL
- mariadb-bench**
MariaDB benchmark scripts and data

Blueprint Components

Name

Selected Components z

- mariadb**
- rsync**

- Create ISO and guest images
- Improve consistency across multiple deployment footprints
- Understand impacts of package addition without need for a live system
- Straightforward UI

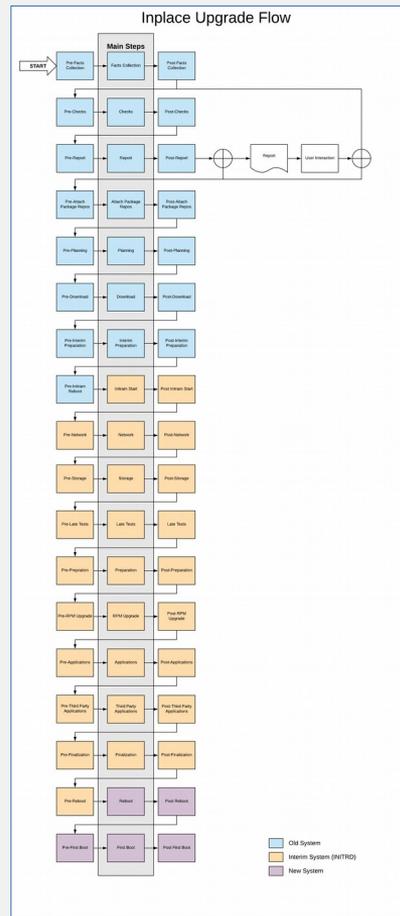
RHEL 8 :: Deprecation/Replacement



- KDE deprecated! :(
- authselect replaces authconfig
- chronyd replaces ntpd
- Wayland Display Server default, but X11 still available
- firewalld and nftables replace iptables/ebtables/arptables (still on system, but no new features)
- NFS v2 deprecated

RHEL 7 to 8 Upgrade?

- leapp - in RHEL 7 extras repo





THANK YOU



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