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# ATOMIC STATE OF THE UNION

Lightning Talk: The latest and greatest in Red Hat's  
container initiative

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# WAT?

What is Atomic (for the uninitiated)

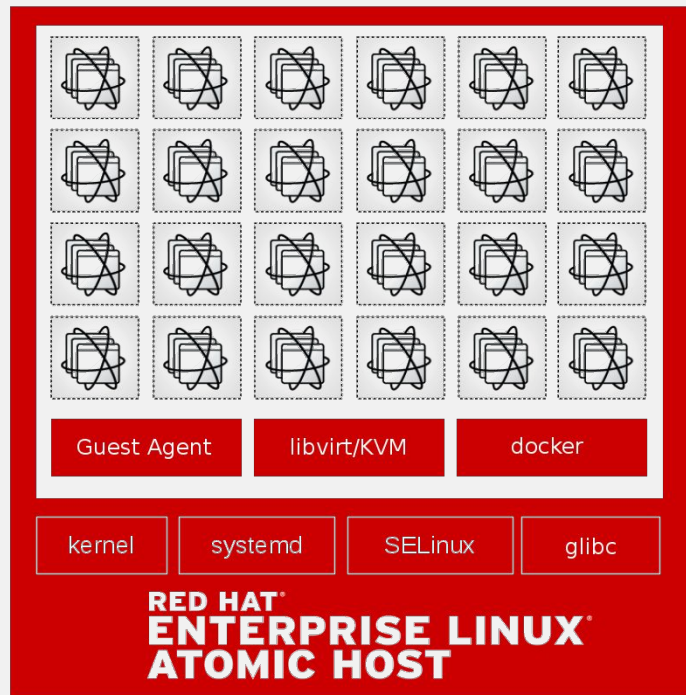


# Atomic Host

A faster moving, purpose built host

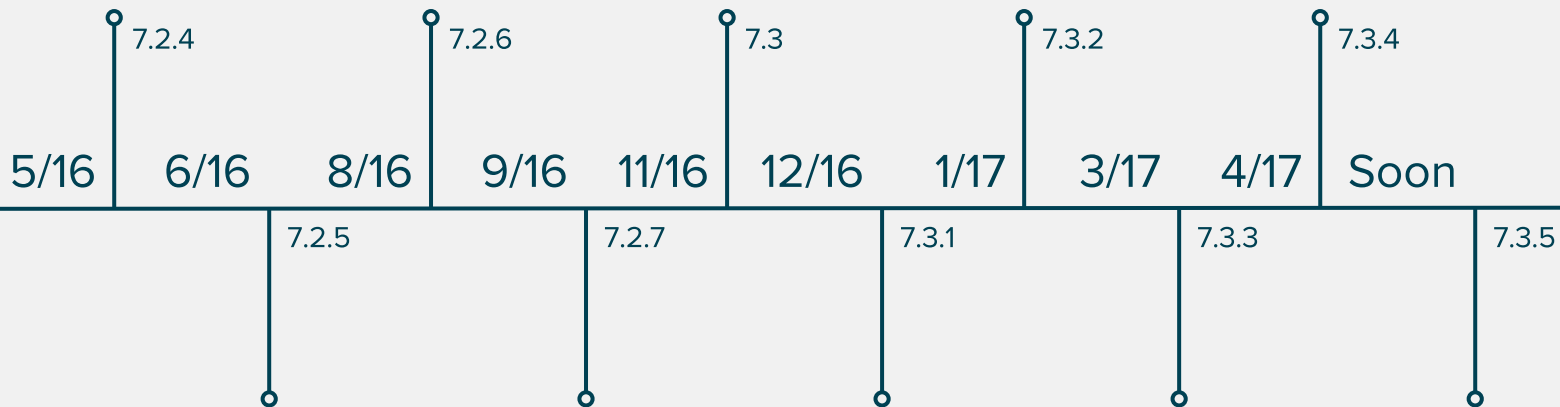
Making Atomic Host modular and further isolating software stacks from OS Updates

- Built for containers, hypervisors, embedded systems, storage & network appliances, etc
- rpm-ostree only
  - Highly secure read-only OS (/usr)
  - Reliable upgrade & rollback
  - Flexibility via host extension model



# Releases

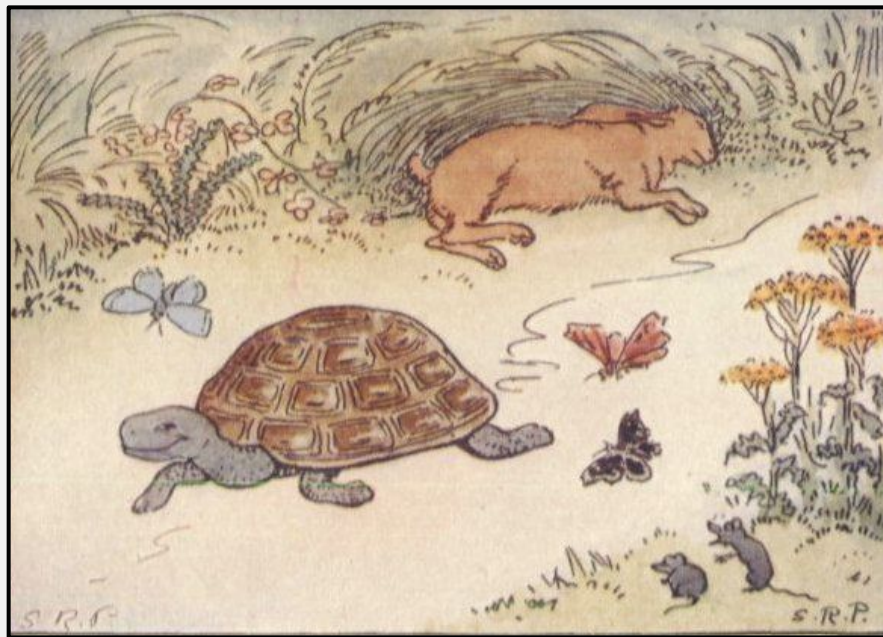
We've been averaging one release about every 5-6 weeks



\* Excludes asynchronous security updates

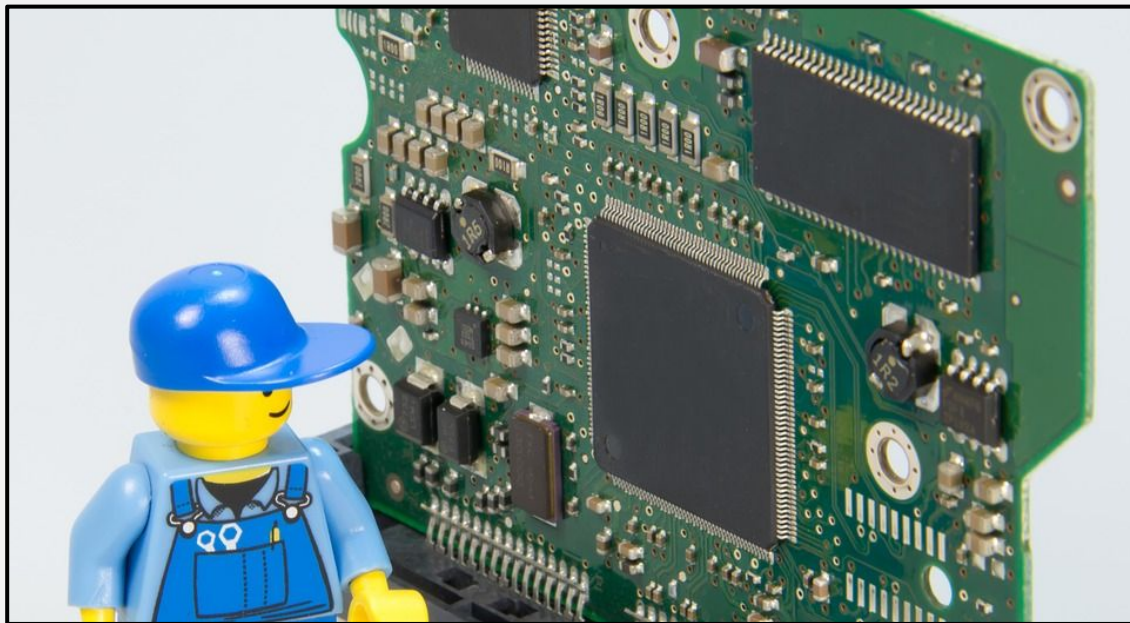
# Multi-Docker

Some thought we were going too fast, others thought to slow!



# OSTree Unlock

Others wanted easier ways to troubleshoot Atomic Hosts



# Devmode

Developers asked for an easier way to use Atomic on their workstation

```
Fedora 23 (Twenty Three) 23 (ostree)
Fedora 23 (Twenty Three) Developer Mode
```

The screenshot shows a 'SERVER' storage management interface. At the top, there are tabs for 'Hosts', 'jabba', and 'Storage'. Below the tabs are two graphs: 'Reading' at 431.4 KB/s and 'Writing' at 20.3 MB/s. A 'Filesystems' table is displayed below the graphs. To the right, there are sections for 'RAID Devices', 'Volume Groups', and 'Drives'.

Name	Mount Point	Size
/dev/fedora-server/root	/var/lib/docker/devicemapper/	4.8 / 13.3 GB
raid5	/export	0.6 / 7.9 TB
/dev/sdf2	/boot	108.8 / 499.4 MB

**RAID Devices**

md0	7.3 TB
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**Volume Groups**

fedora-server	14.2 GB
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**Drives**

WDC WD2003FYY5-02W0B0 (WD-WMAY02840973)  
1.8 TB Hard Disk  
R: 32.0 KB/s W: 4.0 MB/s

# Features

In fact, we've had more than 85 significant features introduced in the last year

- Multiple Docker Versions
- OSTree Unlock
- Package Layering
- Runc
- Skopeo
- Devmode
- System Containers
- MicroDNF
- Containerized Kubernetes

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# Fedora Atomic Host

At the start of the year we started targeting a release every two weeks (compared to Fedora's 2 times per year cadence)

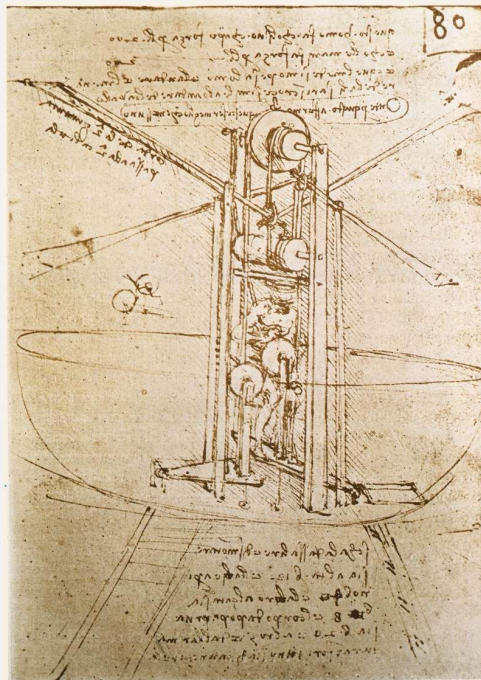
See things first in Fedora!

- 18 releases in the last year
- That's almost one release every three weeks!



# Upstream Efforts

- SELinux support with OverlayFS
- POSIX compliance for OverlayFS
- user namespaces
- Shiftfs
- Container live migration
- OpenShift Origin on CentOS and Fedora Atomic Host
- Ongoing containerization



# Credits

- Tortoise and hare - [https://commons.wikimedia.org/wiki/File:The\\_Tortoise\\_and\\_the\\_Hare\\_-\\_Project\\_Gutenberg\\_etext\\_19993.jpg](https://commons.wikimedia.org/wiki/File:The_Tortoise_and_the_Hare_-_Project_Gutenberg_etext_19993.jpg)
- Lego Man - [https://pixabay.com/p-499799/?no\\_redirect](https://pixabay.com/p-499799/?no_redirect)
- Confused - <https://www.flickr.com/photos/83633410@N07/7658298768>

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