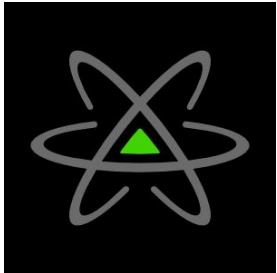


Why use Atomic Host instead of traditional OS



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Agenda

- Introduction to Atomic Host
- Advantage over traditional OS
- Fedora Atomic Workstation
- Summary
- How to Contribute

Atomic Host

A lightweight Operating System optimized for running containers

- Git like behaviour
- Underlying technology - rpm-ostree
- Server Focused
- Available for Fedora, CentOS and Red Hat distribution
- Also available for aarch64 and ppc64le architectures in Fedora

Advantage over traditional OS

Immutable host

- /usr - By default read only directory
 - Contains symlinks for /bin, /lib, /lib64
- Writable directories
 - /var - Shared across upgrades
 - Contains symlinks for /home, /mnt, /srv, /root
 - /etc - Updated configs with upgrade along with user made changes

Package layering

- Flexibility to install rpm packages not available on Host
- Layered packages carried over upgrade
- e.g. `rpm-ostree install wget` to install wget
- Reboot system to get changes applied

```
[fedora@ip-10-0-0-75 ~]$ rpm-ostree status
State: idle; auto updates disabled
Deployments:
● ostree://fedora-atomic:fedora/28/x86_64/atomic-host
   Version: 28.20180425.0 (2018-04-25 19:14:57)
   BaseCommit: 94a9d06eef34aa6774c056356d3d2e024e57a0013b6f8048dbae392a84a137ca
   GPGSignature: Valid signature by 128CF232A9371991C8A65695E08E7E629DB62FB1
   LayeredPackages: wget

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```

Atomic update

- System update happens in One transaction
 - On success - Updated Host after reboot
 - On failure - No change
- To update your system, run `rpm-ostree upgrade`
- Auto update feature (WIP)

Atomic Rollback - avoids package management disaster

- Run `rpm-ostree rollback`

```
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State: idle; auto updates disabled
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    LayeredPackages: wget
```

Easier change tracking

```
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State: idle; auto updates disabled
Deployments:
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    Version: 28.20180425.0 (2018-04-25 19:14:57)
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    GPGSignature: Valid signature by 128CF232A9371991C8A65695E08E7E629DB62FB1
    ReplacedBasePackages: screen 4.6.2-3.fc28 -> 4.6.2-2.fc28
    LayeredPackages: wget
    LocalPackages: htop-2.1.0-1.fc27.x86_64

ostree://fedora-atomic:fedora/28/x86_64/atomic-host
    Version: 28.20180425.0 (2018-04-25 19:14:57)
    BaseCommit: 94a9d06eef34aa6774c056356d3d2e024e57a0013b6f8048dbae392a84a137ca
    GPGSignature: Valid signature by 128CF232A9371991C8A65695E08E7E629DB62FB1
```


Easy to reproduce bugs

- Ask user for OSTree commit she is on
- Switch to that commit
- Reproduce the bug
- Fix it!

Optimized to run containers

- Minimal set of packages in OSTree repo
- Docker and Podman as part of host to build and run containers
- ``podman run -it registry.fedoraproject.org/fedora bash`` to launch a container

Fedora Atomic Workstation

Atomic Host features + Flatpak for desktop applications

- Developer focused
- Keep host clean and do development inside containers
 - E.g. Keep all git repos on host in `$HOME/repos/` and share between container and host
- Isolate development and desktop stuff
- Renamed recently to SILVERBLUE

Summary

In short, by using Atomic Host you get:

- Clean and Stable Base OS
- Risk free system upgrade with rollback facility
- Easy install of additional packages
- Minimal host to run containers

How to Contribute?

- Try Atomic Host - <https://getfedora.org/en/atomic/download/>
- Report issues or help solving issues from <https://pagure.io/atomic-wg/issues>
- Join atomic-devel ML - <https://lists.projectatomic.io/mailman/listinfo/atomic-devel>
- Hang around on #atomic on freenode
- Projects under Atomic umbrella - <https://github.com/projectatomic>
- Attend atomic-wg meeting
 - APAC friendly bi-weekly meeting at 10:30 AM IST, Tuesday on #fedora-meeting-1

References

- Project Atomic blogs and docs - <http://www.projectatomic.io/>
- rpm-ostree - <https://rpm-ostree.readthedocs.io/>
- Podman usage -
<https://github.com/projectatomic/libpod/blob/master/docs/podman.1.md>
- Atomic Workstation - <https://teamsilverblue.org/>

Thanks!