



Solaris Patching

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Solaris Installation

Agenda

- Patching Issues in Solaris 10
- Patch Solutions for Solaris 10
- Demo
- Patching in Solaris N

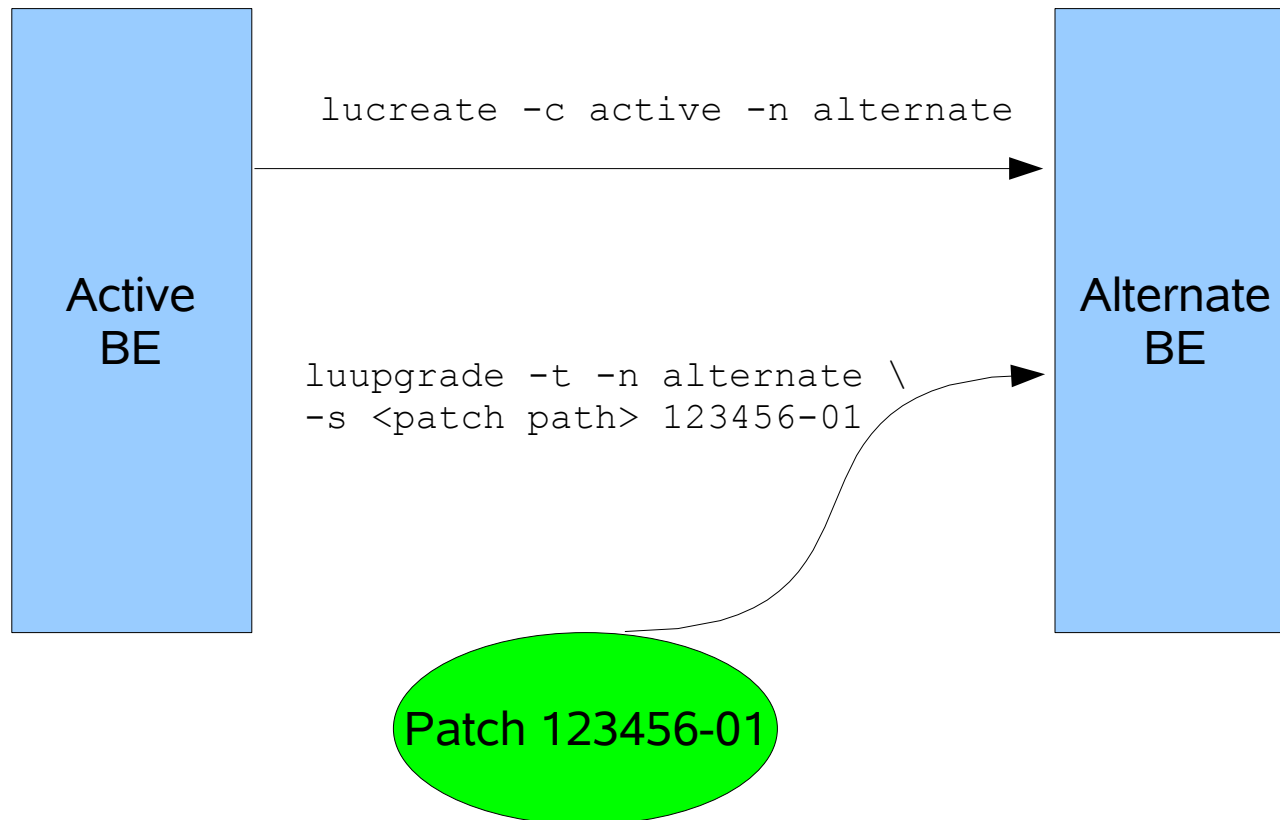
Patching Issues in Solaris 10

- Zones
- Patch release delays
- Bad patches
- Patches vs. Update releases
- “Dim Sum” patching

Patch Solutions for Solaris 10

- Singleton patches
 - > 118833-36
- Live Upgrade patching
 - > Zones support new in S10U4 (Zulu project)
- Deferred Activation patching
 - > New in S10U4
 - > Included in 119254-42 (SPARC), 119255-42 (x86)

Live Upgrade Patching Refresher



Live Upgrade Patching

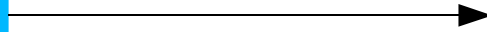
- Requires second, bootable slice for alternate root
- Patch alternate root while existing root runs
 - > Reboot to patched root after all completed
- Safe rollback to unpatched root if problems occur
- S10U4 adds support for zones to Live Upgrade
 - > For significant numbers of zones, LU is your best bet to maintaining acceptable maintenance windows
 - > Zone roots cannot be on a ZFS data set
- Deferred Activation Patching is the next best thing

Deferred Activation Overview

- Packages requiring deferred activation tagged with `SUNW_PATCH_SAFE_MODE=true` in `pkginfo`
- `patchadd` identifies binaries in patch and saves them
- `patchadd` applies patch
 - > Including to each non-global zone
- Reboot after patch application to activate patch(es)
 - > `system/patch-finish:delete` service does final clean-up
- `patchrm` does the same thing
- Single-user recommended, zones must be halted

Deferred Activation Internals

/usr/bin/foo



Copy of /usr/bin/foo

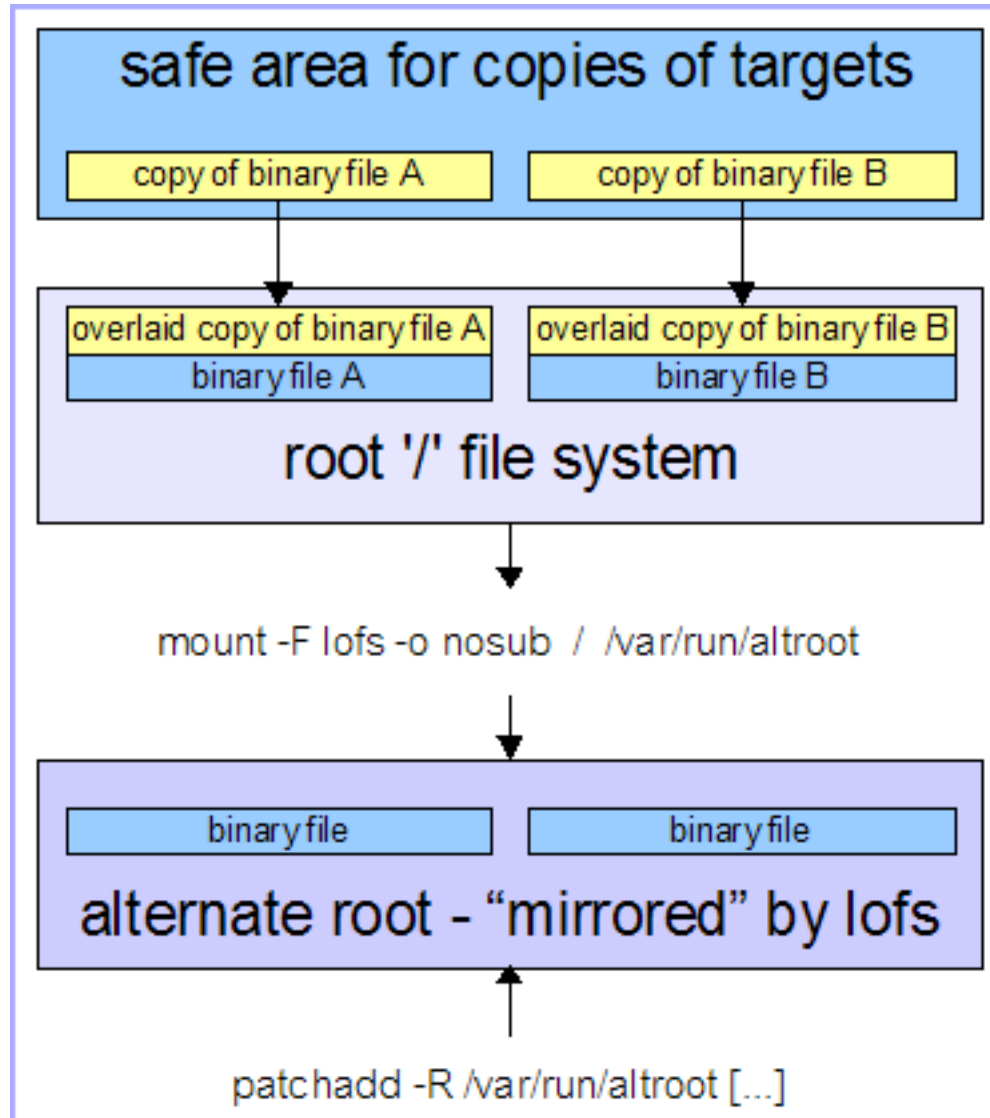
```
cp /usr/bin/foo <safearea>/usr/bin/foo
```

/usr/bin/foo

Copy of /usr/bin/foo

```
mount -F lofs <safearea>/usr/bin/foo /usr/bin/foo
```

Deferred Activation Internals (2)



Deferred Activation Demo

Patching in Solaris N

- Repository-based software distribution
- Combine patching and packaging
 - > Ensure Solaris developers using same mechanisms during development that customers use for deployment
 - > Limit/eliminate “Dim Sum” patching
- Use ZFS root on all systems
 - > Use snapshots + clones to fix patch backout issues, enable quick Zones and Xen virtualization instantiations.
- Zones “update on attach”

Actions for You

- Start using Live Upgrade
 - > Especially if you're using zones, and especially if you want to move to ZFS root
- Join the OpenSolaris Installation and Packaging community
 - > <http://www.opensolaris.org/os/community/install/>



Thanks!

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