Background updates
lightning talk

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Background updates – as an end-user

- Get a notification to apply OTA
- Accept to apply now
- Device reboots
- … (~1-2 minutes later)
- Voila!
Background updates – disk layout

- Double every partition that could get updated through an OTA
- Each pair should have a common suffix (eg. _a, _b: system_a, boot_b…)
- A lot of effort was spent on reducing partition sizes (SquashFS, Play Auto Installs, pre-installs on _b partition…)
Background updates – system + kernel

• New boot control HAL to let updater communicate with bootloader
• One kernel patch to allow selecting booting ramdisk or skipping it
• Kernel is mounting rootfs using the root= command line argument
• Android-specific dm-verity patches to verify rootfs (others mounted the old way)
Background updates – user-space

- Using update_engine (AKA ChromeOS updater)
- Hooks to perform post install tasks before notification - used for recompiling apps and other misc tasks
- On first boot - verify the whole image, if corrupted go back to the old image: dramatically lower incidence of bricks
More info at