Pivotal

PCF Operations Workshop – Patching and Upgrades

<Presenter>

<Title>

Platform Upgrades and Patches

- BOSH executes **Canary-style deployments** to minimize downtime
  - Also known as rolling upgrades
- A select number of “canary” VMs from the new release are deployed
- BOSH verifies new VMs have been deployed successfully
- Remaining VMs are deployed only if the upgrade of canary VMs succeeded
  - Otherwise the upgrade is halted

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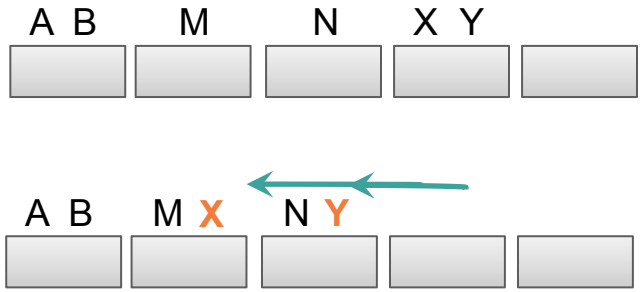
Upgrade and patch with rolling “canary” deploys

A,B,M,N,X,Y - Application instances

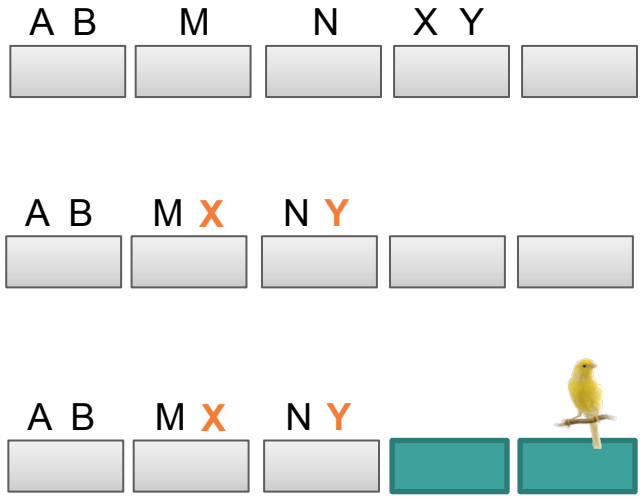
- VM prior to update

Upgrade and patch with rolling “canary” deploys



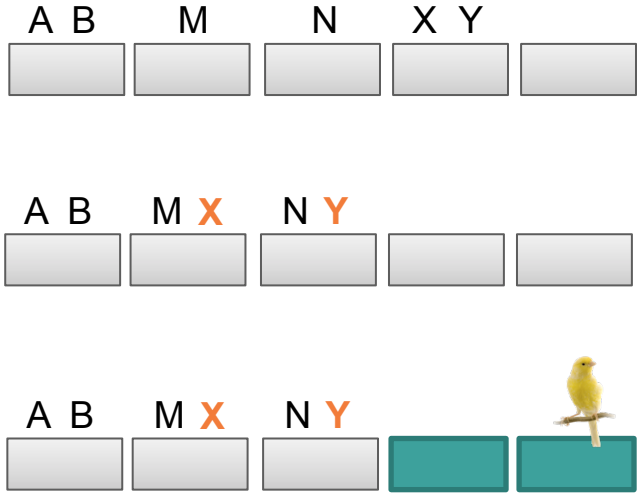
Apps redeployed to clear VMs

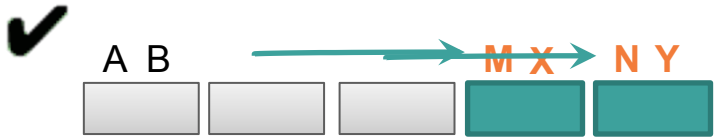
Upgrade and patch with rolling “canary” deploys



Update introduced. If the tests pass, keep going

Upgrade and patch with rolling “canary” deploys



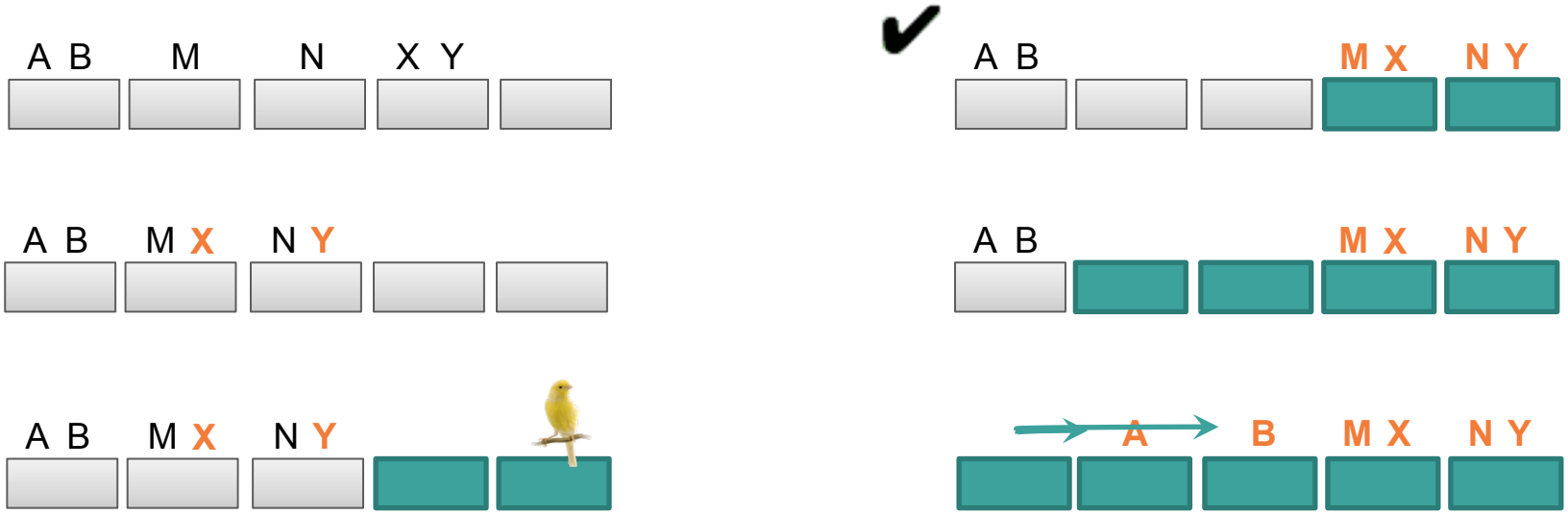


Apps redeployed to updated VMs

Upgrade and patch with rolling “canary” deploys

Remaining VMs updated same way

Upgrade and patch with rolling “canary” deploys

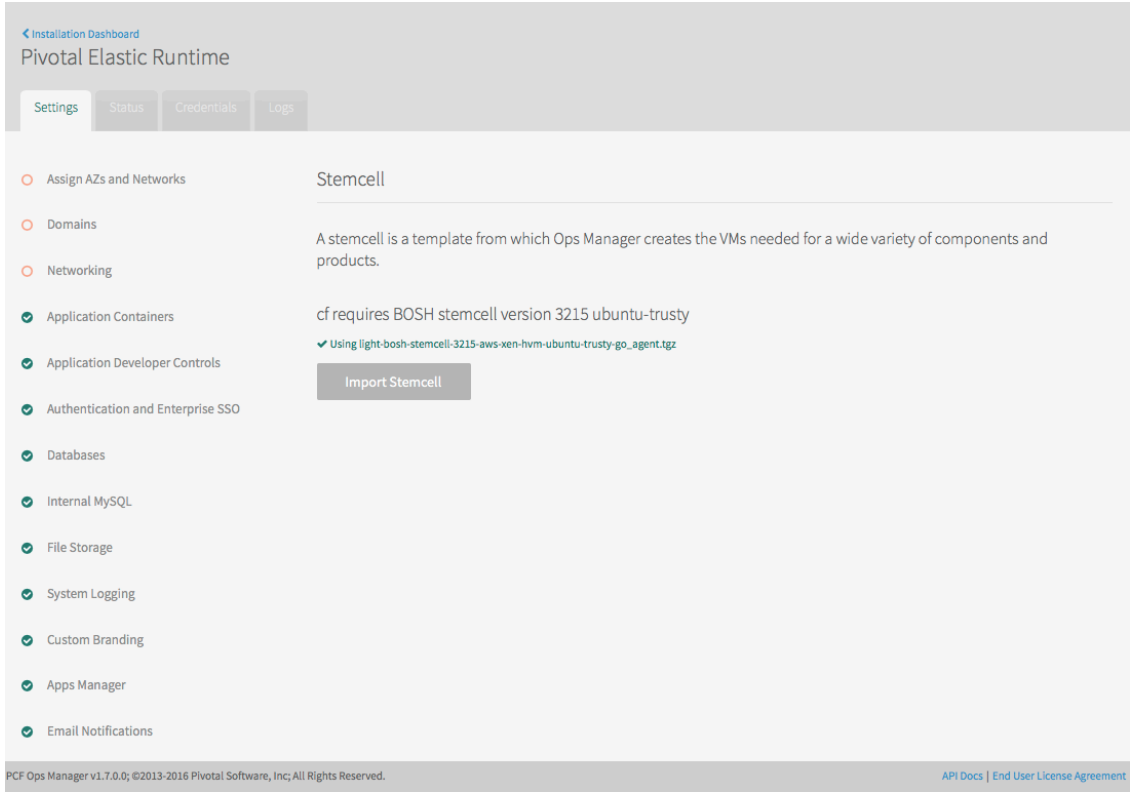


Automated, No downtime
Atomic rolling update

Upgrade and patch with rolling “canary” deploys

Elastic Runtime Patching

- The Elastic Runtime (ERT) needs a new stemcell to be applied for a proper upgrade
- The stemcell can easily be selected and applied from the ERT's Setting tab.



Canary-Style Deployment: Implications

- Elastic Runtime can be upgraded to new versions with no application downtime
  - “Apply changes” does not mean “wait for it to finish”
  - You will have limited ability to deploy applications during Elastic Runtime upgrades
- Installing or modifying other tiles does not affect the Elastic Runtime
- For the ops team- upgrade the system during working hours!

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