

The background of the slide features a dark, semi-transparent image of the Golden Gate Bridge in San Francisco. The bridge's towers and cables are visible against a hazy sky, with the city skyline in the distance.

Pivotal

PCF Operations Workshop – Patching and Upgrades

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

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.

The screenshot shows the Pivotal Elastic Runtime Installation Dashboard. The 'Settings' tab is active. On the left, there's a sidebar with various configuration options: Assign AZs and Networks, Domains, Networking, Application Containers (selected), Application Developer Controls, Authentication and Enterprise SSO, Databases, Internal MySQL, File Storage, System Logging, Custom Branding, Apps Manager, and Email Notifications. The 'Application Containers' option is expanded. To the right, under the 'Stemcell' heading, it says: 'A stemcell is a template from which Ops Manager creates the VMs needed for a wide variety of components and products.' Below this, it notes 'cf requires BOSH stemcell version 3215 ubuntu-trusty' and provides a link to 'Using light-bosh-stemcell-3215-aws-xen-hvm-ubuntu-trusty-go_agent.tgz'. A large 'Import Stemcell' button is prominently displayed.

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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!