DevOps Working Group

Thursday October 31, 2019
## Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Owner</th>
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<tbody>
<tr>
<td>10 Min</td>
<td>DevOps WG Update (Fuji)</td>
<td>James</td>
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<tr>
<td>10 Min</td>
<td>Release Update / Code Freeze / Release Plan</td>
<td>Lisa</td>
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<td>10 Min</td>
<td>Snap issues – continued discussion (Geneva scope)</td>
<td>James</td>
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## Attendees

<table>
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<tr>
<th>Participant</th>
<th>Name</th>
<th>Company</th>
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<tr>
<td>JG</td>
<td>James Gregg (Intel) (Me)</td>
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<tr>
<td>LR</td>
<td>Lisa Rashidi-Rajbar</td>
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<td>CH</td>
<td>Colin Hutchinson</td>
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<td>ER</td>
<td>Emilio Reyes (Intel)</td>
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<tr>
<td>BE</td>
<td>Eric Ball - Linux Foundation</td>
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<td>EO</td>
<td>Ernesto Ojeda - Intel</td>
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<tr>
<td>LG</td>
<td>Lenny Goodell (Intel)</td>
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<td>MI</td>
<td>Mike (Intel)</td>
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<td>VS</td>
<td>Vishwas Sp</td>
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<td>Wl</td>
<td>Walt (Intel)</td>
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<tr>
<td>ER</td>
<td>Emilio Reyes (Intel)</td>
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DevOps WG Update

• **Code Freeze / Prep for Fuji Release**
  - updated JJB templates
  - created Fuji branch where needed
    - need to set branch protections on Fuji branch - DONE
  - created new view to show status on Fuji stage builds
  - created tracker to assess manual scope of work that requires additional automation

• **Geneva F2F Training Prep - Jenkins Transformation to Pipelines**

• **CommunityBridge - Advanced Snyk Reporting** - No Update
  Referral to Community Bridge Product Owner – Jacob Palmer
  Vulnerability Detection for all of the EdgeX repos
  Need to remove the edgex-go listing from Community Bridge because it’s not configured the way we would want it.
Backlog Review
Fuji Release

- Freeze: Oct 23rd (Wednesday)
- Release: Nov 13th (Wednesday)
Meeting Minutes

Fuji release on track
• Next steps fix all the bugs and close all issues
• Clair scan and report back to SIR team

Snap build issues
• Snap builds are taking a lot of time to build
• Broken builds – unknown root cause
• Rebuilding Ubuntu image on the fly for every build

• Help Needed from Canonical (community) to address building with new Pipelines for Snaps
  • Architecture Discussion for F2F next week
  • Suggestion to build snaps separately with their own dedicated Pipelines
    • Optimize the builds to existing binary from Nexus on build to master
Geneva Planning

Scope Discussions
Geneva – DevOps

**In**
- Full Pipeline transformation for EdgeX services
  - Convert Jenkins JJB Freestyle jobs to Jenkins Pipelines
- Introduce GitHub Org Plugin
- Simplified Jenkinsfile
- Global Libraries to support Jenkins Pipeline transformation
- Add Unit testing to global-libraries (uncommitted) **
- Snyk integration for edgex services
  - As part of Jenkins Pipeline conversion
- Slack integration with Jenkins pipelines
- Nexus Cleanup / Lifecycle Policy

**Out**
- Alternate deployment/orchestration
  - Beyond Docker/Snaps
  - Kubernetes
  - Kata Containers
  - ...
- Integration Test Pipelines
- Code signing / Artifact signing **
Geneva Transformation: Architecture
How long does it take? Is this all Geneva scope?

Geneva Transformation

- **Phase 1**
  - Research Spikes
  - Plugin Setup and Configuration
    - Jenkinsfile
    - Jenkinsfile.sandbox

- **Phase 2**
  - Jenkinsfile templates
  - Implementation details get solidified
  - Refactor existing pipelines to use new templates

- **Phase 3**
  - Existing Job Migration

Full Transformation by Geneva Release - April 2020
Fuji Planning

Scope Discussions
Fuji – DevOps

In
- Static code analysis tool identified and integrated into the EdgeX Jenkins Pipeline for Docker image scanning (Clair Server)
- Explore SAST for true static code analysis to include additional tooling such as Fortify / Coverity
- Code and artifact signing with semantic versioning
- Fix Documentation – edgex-go
  - Create a new repo for edgex-docs
- Build Performance Optimizations
  - Pipelines for EdgeX Foundry base build images
  - Basebuild images managed locally within Nexus
  - Leverage PyPi Proxy for local pip dependencies
  - ARM builds – optimization leveraging different high CPU build nodes / OS (ARM Team)

Out
- Alternate deployment/orchestration
  - Beyond Docker/Snaps
  - Kubernetes
  - Kata Containers
  - …
- SonarQube – SonarCloud is already in play in the LF
  - Decision: wait to see what codecov.io offers
- Suggestion to rename all of the Jenkins “arm” jobs so as to differentiate 32bit / 64bit architectures
- Full Pipeline transformation for EdgeX services
## EdgeX DevOps Commitments (Fuji)

<table>
<thead>
<tr>
<th>Scope of Work</th>
<th>Status</th>
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<tbody>
<tr>
<td>Add static artifact analysis into the EdgeX Jenkins Pipeline (analysis of Docker /runtime artifacts, not the source code)</td>
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<tr>
<td>Add code and artifact signing with semantic versioning</td>
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<tr>
<td>Conduct build performance optimizations by:</td>
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<tr>
<td>• Adding Pipelines for EdgeX Foundry base build images</td>
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<tr>
<td>• Allow base build images to be managed locally within Nexus</td>
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<tr>
<td>• Leverage PyPi Proxy for local pip dependencies</td>
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<tr>
<td>Explore static code analysis like Checkmarx, Coverity, GuardRails, Synk, SonarQube</td>
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- Clair Server landing no longer at risk for Fuji
  - LF committed to implement on AWS and fund with expected completion next week
- gitsemver along with lftools used for artifact signing and semantic versioning
- Jenkins build performance optimizations for base build images completed
- All base build images will now be stored in Nexus (Snapshot):10003
- PyPi enabled as part of Edinburgh scope
- Initial review of GuardRails showed that the product was identifying issues which were not applicable for microservices architecture
## Past / Future Agenda Topics

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<tbody>
<tr>
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