DevOps Working Group

Thursday February 20, 2020
# Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Owner</th>
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<tbody>
<tr>
<td>10 Min</td>
<td>Geneva / DevOps Updates</td>
<td>Ernesto</td>
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<tr>
<td>5 Min</td>
<td>Pipeline recheck functionality</td>
<td>Ernesto</td>
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<tr>
<td>5 Min</td>
<td>ARM Build Speed Improvements Research</td>
<td>Ernesto</td>
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<td>10 Min</td>
<td>Backlog Review</td>
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Attendees

- Ernesto Ojeda (Intel) (me, participant)
- Jim White
- Colin Hutchinson
- Vishwas Sp
- Walt (Intel)
- Lisa Rashidi-Ranjbar
DevOps WG Update

• Geneva

• Jenkins Transformation to Pipelines
  • Work complete on the transformation to Jenkins Pipelines
    • Exceptions: snap jobs and Blackbox testing
  • edgex-docs transformation [https://edgexfoundry.github.io/edgex-docs/](https://edgexfoundry.github.io/edgex-docs/) - WIP (Initial pipeline created)
  • Lisa is continuing the explore work to look into full automation of the release
  • Automation for the GitHub Issue labels – WIP
  • git-semver new features – PR’s Open ready for review

• CommunityBridge - Advanced Snyk Reporting
  • EdgeX Foundry added to the CommunityBridge Vulnerability Reporting
    • Ticket still open with Heather Willson & David Deal / CommunityBridge team
    • EdgeXProject should have access to the advanced reporting "in a couple of days"
DevOps WG Update

Pipeline recheck functionality

• Enabled by pipeline-github-plugin
  • [https://github.com/jenkinsci/pipeline-github-plugin](https://github.com/jenkinsci/pipeline-github-plugin)
  • Add new trigger to pipeline script

```plaintext
pipeline {
  triggers {
    issueCommentTrigger('^recheck$')
  }
}
```

• Currently attempting to test on the sandbox. However, we ran into issues. LF Ticket open investigate why the plugin is not working. IT-19040

ARM Build Speed Improvements

• James opened a ticket with the LF to see if anything could be done to speed up the ARM builds. We are hoping adding more CPU could make some difference.
Backlog Review
Meeting Minutes
Fuji Release

- Freeze: Oct 23rd (Wednesday)
- Release: Nov 15th (Friday)
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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<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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<td>Conduct build performance optimizations by:</td>
<td></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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<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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