DevOps Working Group

Thursday November 14, 2019
# Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Min</td>
<td>Fuji Release Date Update</td>
<td>Lisa</td>
</tr>
<tr>
<td>30 Min</td>
<td>Geneva transformation</td>
<td>Ernesto</td>
</tr>
<tr>
<td>10 Min</td>
<td>Opens</td>
<td></td>
</tr>
</tbody>
</table>
Attendees
Fuji Release

- Freeze: Oct 23rd (Wednesday)
- Release: Nov 15th (Friday)

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct</td>
<td>Nov</td>
<td>Nov</td>
<td>Nov</td>
</tr>
<tr>
<td>Wed</td>
<td>Thu</td>
<td>Wed</td>
<td>Thu</td>
</tr>
<tr>
<td>23</td>
<td>30</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>24</td>
<td>31</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>26</td>
<td>2</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>27</td>
<td>3</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>28</td>
<td>4</td>
<td>11</td>
<td>18</td>
</tr>
<tr>
<td>29</td>
<td>5</td>
<td>12</td>
<td>19</td>
</tr>
</tbody>
</table>

**Assigned to:**

- Developers
  - Update Documentation, Compose Files and Bug Fixes
  - Cut Fuji Branches
- WG Chairs
  - GitHub Issues: Close / Mark for Geneva
- DevOps
  - Create Fuji Jobs For Existing Repos
- DevOps
  - Clair Scan of EdgeX Images
- Release Tsar
  - Open Tickets with LF for release on 11/15/19
  - Finalize Release Notes
DevOps WG Update

• Geneva F2F
  • DevOps will focus on Jenkins Transformation to Pipelines
  • Review of the material covered in the F2F
  • [https://github.com/ernestojeda/geneva-transformation](https://github.com/ernestojeda/geneva-transformation)

• Community Bridge - Advanced Snyk Reporting
  • Need New Contact from LF

Branch Protections set on all repos where needed
Pull Request Templates

Next Meeting 11/14/19 @9:00 PST
Backlog Review
Meeting Minutes

Jenkins Pipeline Training / Overview
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

Phase 1
Work in Progress
Q3 2019
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)

## Scope of Work

<table>
<thead>
<tr>
<th>Activity</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add static artifact analysis into the EdgeX Jenkins Pipeline</td>
<td>Green</td>
</tr>
<tr>
<td>(analysis of Docker /runtime artifacts, not the source code)</td>
<td></td>
</tr>
<tr>
<td>Add code and artifact signing with semantic versioning</td>
<td>Green</td>
</tr>
<tr>
<td>Conduct build performance optimizations by:</td>
<td>Green</td>
</tr>
<tr>
<td>• Adding Pipelines for EdgeX Foundry base build images</td>
<td></td>
</tr>
<tr>
<td>• Allow base build images to be managed locally within Nexus</td>
<td></td>
</tr>
<tr>
<td>• Leverage PyPi Proxy for local pip dependencies</td>
<td></td>
</tr>
<tr>
<td>Explore static code analysis like Checkmarx, Coverity, GuardRails, Synk,</td>
<td>Green</td>
</tr>
<tr>
<td>SonarQube</td>
<td></td>
</tr>
</tbody>
</table>

- **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

<table>
<thead>
<tr>
<th>WW36</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>WW37</td>
<td></td>
</tr>
</tbody>
</table>