



EDGE X FOUNDRY™

DevOps Working Group

Thursday October 17, 2019





















Agenda

Time	Topic	Owner
10 Min	DevOps WG Update (Fuji)	James
10 Min	Release Update / Code Freeze 10/23/19	Lisa
10 Min	Snyk Reporting / CommunityBridge Explore	James
10 Min	Opens	

Attendees

Participants (10)

Find a participant

JG	James Gregg (Intel) (Me)	  
TC	Trevor Conn	 
C	Colin Hutchinson (Kong)	 
ER	Emilio Reyes	
E	Ernesto	 
JW	Jim White	 
LG	Lenny Goodell (Intel)	 
LR	Lisa Rashidi-Ranjbar	 
VS	Vishwas Sp	 
WC	Walt (Intel)	 



DevOps WG Update

Fuji Scope

Static Code Analysis Tools

- Snyc Integration with Jenkins **DONE**
 - Configuration of the GitHub repo (edgex-go) and Docker public image for docker-edgex-mongo **DONE**
 - Configure notifications to repo owner and Security WG (SIR team members) - **DONE**

New Jenkins jobs for Fuji

The following repos have new build automation slotted for Fuji but are currently still in holding device-bluetooth-c, device-gps, regression-test – **BLOCKED**

device-bacnet-c – **WIP**

device-camera-go - **WIP**

New Issues

SonarCloud Duplicated code - Identified as a bug by Sonar community support-rules-engine - converting to Pipeline job – **DONE**

git-semver bug fixes - **DONE**

Kong ARM64 image - fixed image - **DONE**

Backlog Review

EdgeX Foundry Project

Repositories 93 Packages People 64 Teams 94 Projects 11

DevOps WG Updated 19 hours ago

Filter cards

23 New Issues

- Migrate docker-edgex-volume to pipeline jobs
- Migrate device-virtual-go to pipeline jobs
- Migrate device-grove-c to pipeline jobs
- Migrate device-random to pipeline jobs
- Migrate device-mqtt-go to pipeline jobs
- Migrate device-modbus-go to pipeline jobs
- Migrate edgex-go to pipeline jobs
- Migrate device-sdlc-go to pipeline jobs

5 Release Backlog

- Delete repo - jenkins_pipeline_presentation (FUJI)
- New build automation for docker-edgex-consul
- New build automation for device-bluetooth-c
- New build automation needed for device-gps service
- New build automation for device-opcu-c

2 In Progress

- New build automation for device-camera-go
- Github Org/Branch source plugin configuration

4 QA/Code Review

- JJB template for regression test
- New global pipelines for GoLang and Docker builds
- Add JJB for device-bacnet-c
- New build automation for device-bacnet-c

47 Done

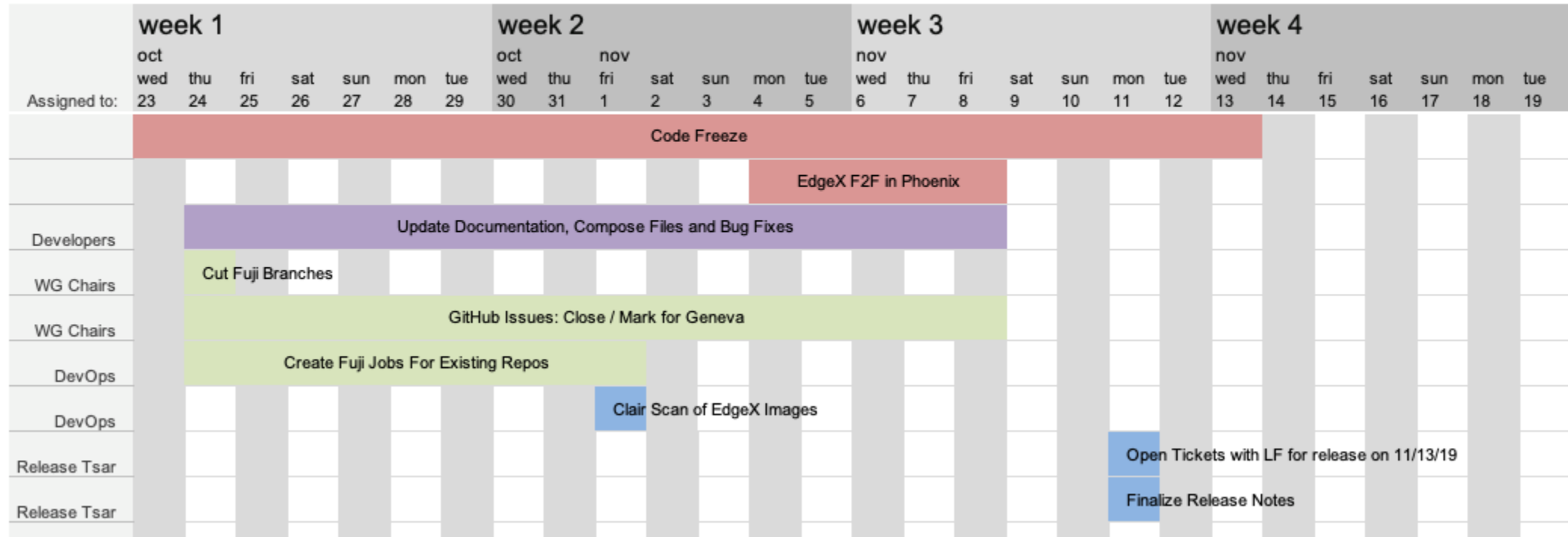
- Security WG reports issues with Sonar re: Duplicated Code. Help Needed to configure the profile to exclude based on patterns.
- Nightly docker image docker-edgex-vault of version 1.1.0 not found
- Fix #496 Bug where docker-edgex-vault is excluded from edgex-go push
- Rules Engine not building to image in Nexus and Docker hub
- Help Needed with go-mod-secrets build issue reported by Anthony Bonafide
- Open issue with Snyk re: mongo arm64 image import error

Fuji Release Dates

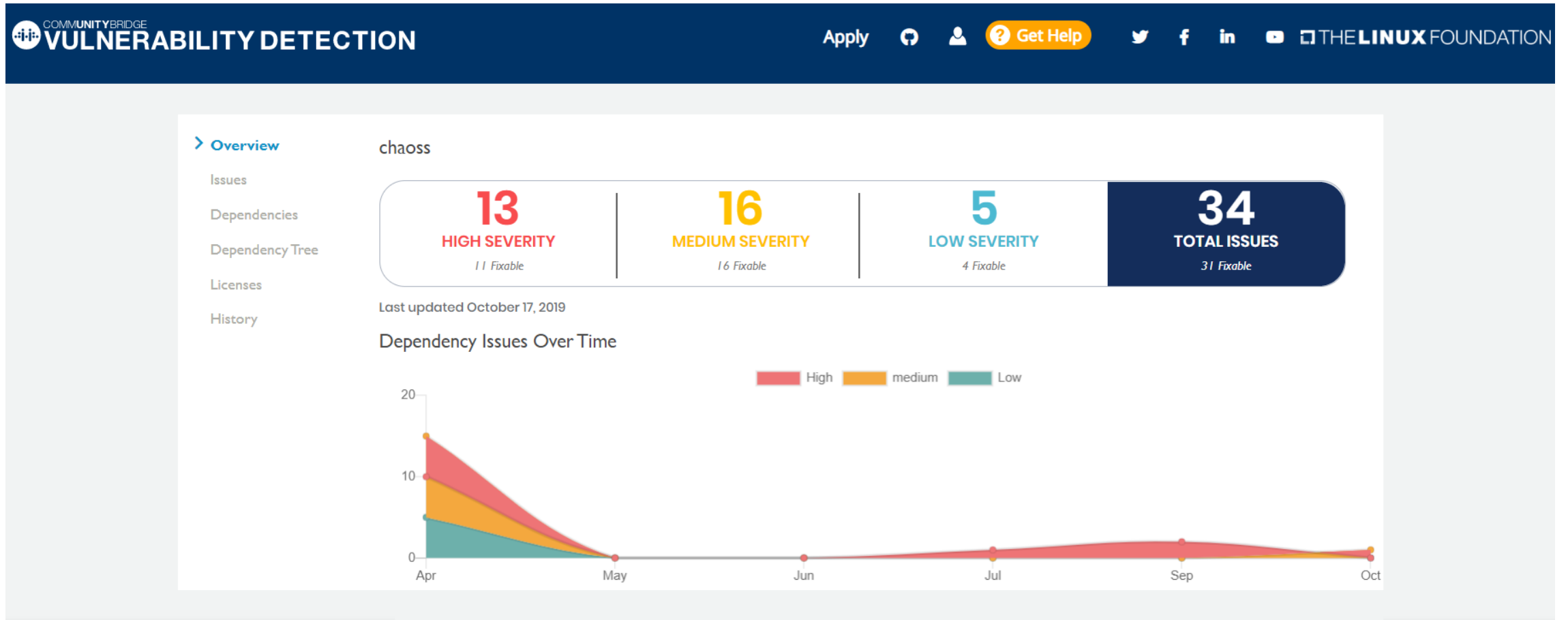
- Freeze: Oct 23rd (Wednesday)
- Release: Nov 13th (Wednesday)

Fuji Release

Start Date: 10/23/19



Example: Advanced Snyk Reports



Meeting Minutes

- 11/5 training day – Geneva Planning F2F
 - DevOps asked to provide high level overview to EdgeX developers re: Jenkins Pipelines
 - Advanced Training is available online
Please reference: CloudBees University: Jenkins Pipeline – Fundamentals (8 hours)
<https://standard.cbu.cloudbees.com/cloudbees-university-jenkins-pipeline-fundamentals>
- Release Planning communications to LF
 - Open JSD ticket and share the plan calling attention to resourcing / help needed from LF Release Engineer
 - Post schedule to Slack - #DevOps channel

Problem / Proposed Solutions

Pull Request Issues

- PRs are submitted with too many lines of code changed making it difficult to review in a timely manner

- Break up the story to submit PRs with smaller chunk of code changes

Problem / Proposed Solutions

Pull Request Issues

- Pull Requests do not contain the right level of information and should be reviewed by more than one reviewer with approvals by a minimum of two (2) people
- Pull requests should include a reference to the Issue #
- Use GitHub Pull Request templates
 - Template would include the basics (tests, multiple reviewers, comments, documentation)
 - Reference: [Creating a pull request template for your repository](#)
- Set branch protections on the repo to include 2 approvers
 - Holding repos should have branch protections set up so when / if the repo moves out of holding, the branch protections are in place once moved to main org

Problem / Proposed Solutions

- Missing Unit Tests
- Unit tests should be included in the code
 - We will use codecov.io to measure code coverage
 - Pull Request reviewers should consider unit testing when completing a review before approving the PR



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Geneva Planning

Scope Discussions

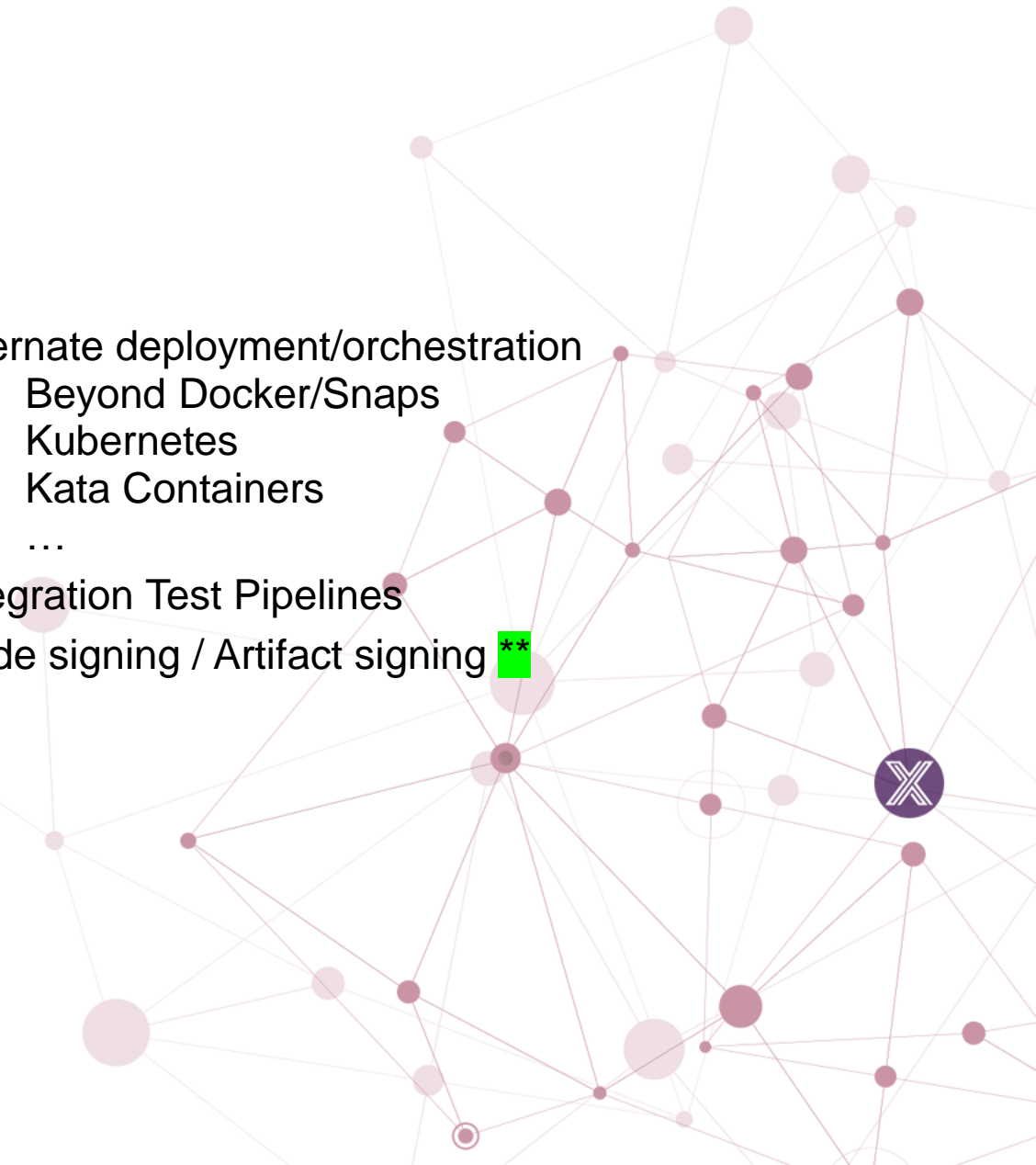
Geneva – DevOps

In

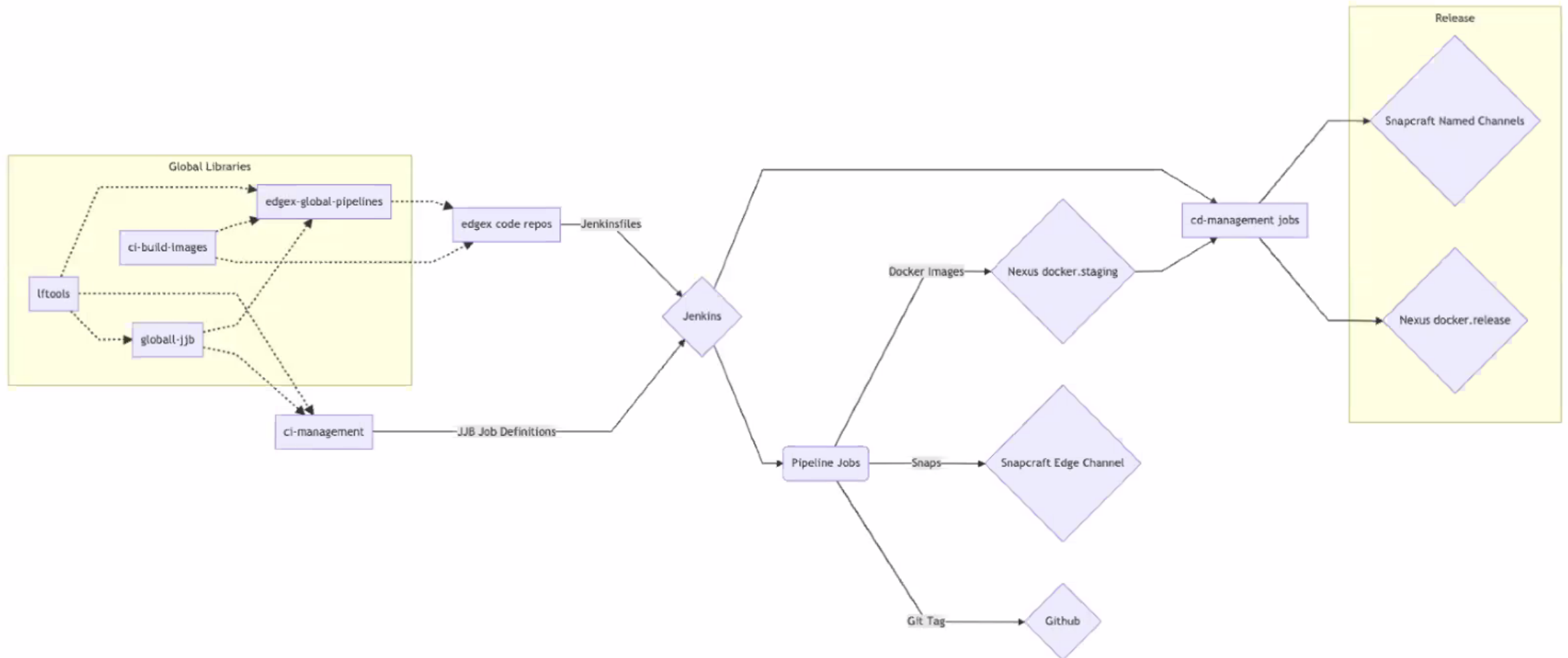
- Full Pipeline transformation for EdgeX services
 - Convert Jenkins JJB Freestyle jobs to Jenkins Pipelines
- Introduce GitHub Org Plugin
- Simplified Jenkinsfile
- Global Libraries to support Jenkins Pipeline transformation
- Add Unit testing to global-libraries (uncommitted) **
- Snyk integration 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
Work in Progress
Q3 2019

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



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Fuji Planning

Scope Discussions

Fuji – DevOps

In

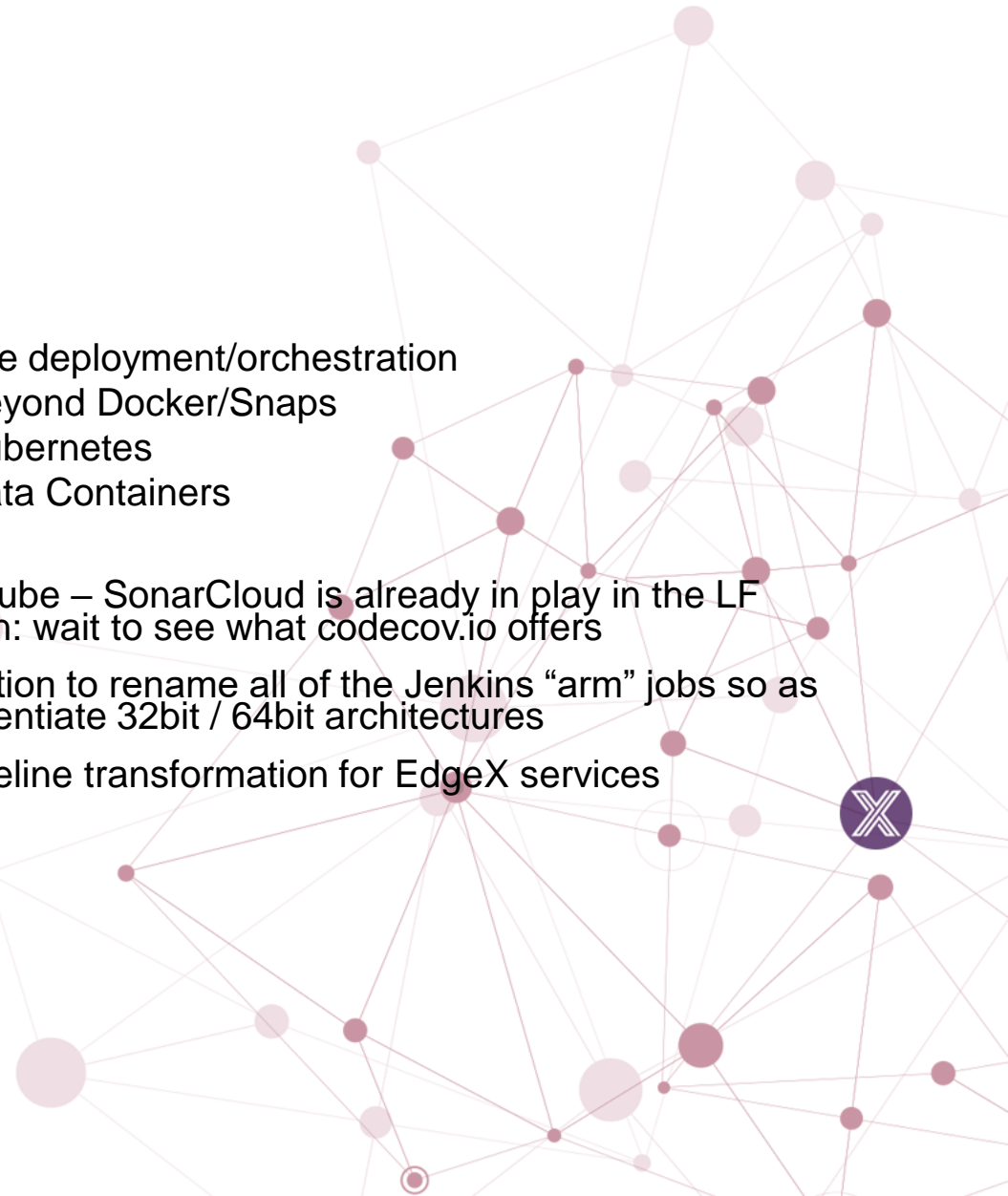
- Static code analysis tool identified and integrated into the EdgeX Jenkins Pipeline for Docker image scanning (Clair Server)

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	
Add static artifact analysis into the EdgeX Jenkins Pipeline (analysis of Docker /runtime artifacts, not the source code)	
Add code and artifact signing with semantic versioning	
Conduct build performance optimizations by: <ul style="list-style-type: none"> • Adding Pipelines for EdgeX Foundry base build images • Allow base build images to be managed locally within Nexus • Leverage PyPi Proxy for local pip dependencies 	
Explore static code analysis like Checkmarx, Coverity, GuardRails, Synk, SonarQube	

- 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



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Past / Future Agenda Topics

WW36	
WW37	