EDGE X FOUNDRY™

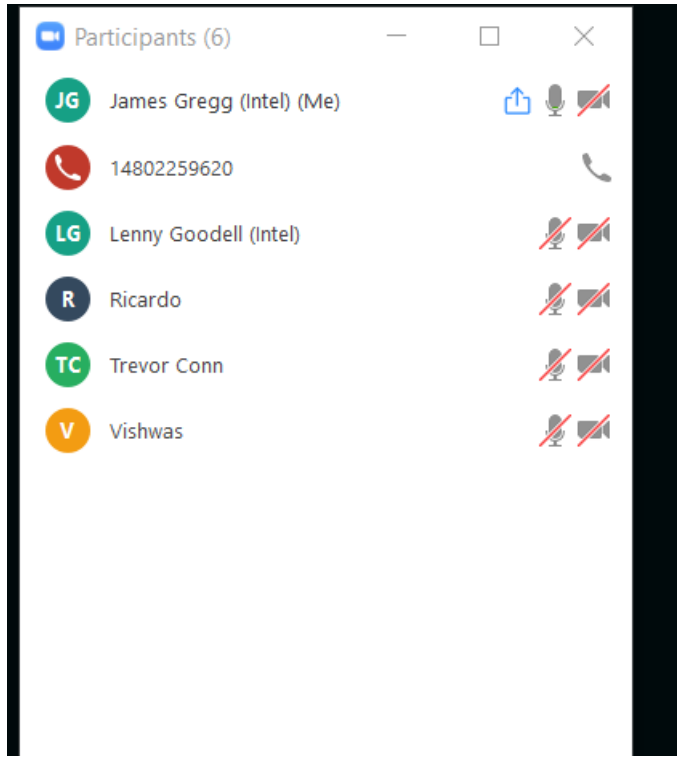
DevOps Working Group

Thursday August 22, 2019

Agenda

Time	Topic	Owner
10 Min	DevOps WG Update (Fuji)	James Gregg
10 Min	API EndPoint Discussion	Lisa Rashidi-Ranjbar
10 Min	Other Business: Multiple Topics	All
10 Min	Opens	All

Attendees


Participants (6)
JG
James Gregg (Intel) (Me)
14802259620
LG
Lenny Goodell (Intel)
R
Ricardo
TC
Trevor Conn
V
Vishwas

DevOps WG Update

Fuji Scope

- **Container Scanning**
  - Clair server has now been landed by Linux Foundation on AWS and is now working. - DONE
  - Thank you Daniel Nunez / Linux Foundation infrastructure team!!!
  - All of our Docker base build images now have the integration with Clair server.
  - Clair Identified issues with LFTOOLS base build image and have a current story to fix the image.
  - Additional work needed to integrate into existing / new Jenkins Pipelines
    - Note: Freestyle jobs will wait until Geneva

- **Static Code Analysis Tools**
  - Pricing - https://snyk.io/plans/
  - Snyk also can be used for Docker image scanning and offers additional functionality that Clair doesn't offer in terms of suggested fixes.
  - We'll run both tools to determine what works best for EdgeX Foundry. Ernesto built the Snyk image we'll use within our Pipelines.

- **NEW** Jenkins Pipeline for Application-Service-Configurable - DONE
- AWS access coordinated for IOT Core coordinated for Alex Courouble /VMWare related to request from Application WG supporting AWS data export - DONE
- Jenkins Pipeline for go-mod-secrets (Issue #468) – WIP
- Release Artifact report – WIP
- GitHub Org / Repo updates – Add Ownership to the description of each repo - WIP
- Device services (device-service-bacnet and device-Bluetooth-c) – BLOCKED until moved out of EdgeX Foundry Holding repo

New Device Services Update as of 8/21

Device Services - current/coming

Open Source connectors (Current):

- Modbus (TCP/RTU)
- Virtual Device
- Random
- Grove C - ARM only
- SNMP
- MQTT

Open Source connectors (Future):

- BACnet (IP & MSTP) (Sept)
- OPC UA (Sept)
- GPS (Sept)
- Bluetooth (Sept)
- ONVIF Cameras (Oct)

Commercial connectors (Current):

- MQTT
- Modbus (TCP/RTU)
- BACnet (IP & MSTP)
- OPC UA
- GPS
- MEMS

Commercial connectors (Future):

- CAN SocketCAN, CANopen (Sept)
- EtherNet/IP (Sept)
- EtherCat (Sept)
- PROFINET (Sept)
- Siemens s5/s7 (Sept)

Based on TSC call, multiple services are now expected in Sept

Backlog Grooming

- US5088 / Issue #32 - EdgeX DevOps: Need Build automation JJB for docker-edgex-mongo security bootstrap tool
- ~~Plan is to implement Snyk for one of the new device services inside of a Jenkins Pipeline as a POC (Issue #469)~~
- Cleanup Holding - edgexfoundry-holding/go-mod-core-security
  - Obsolete – Needs to be Archived

Version API endpoint and git-semver

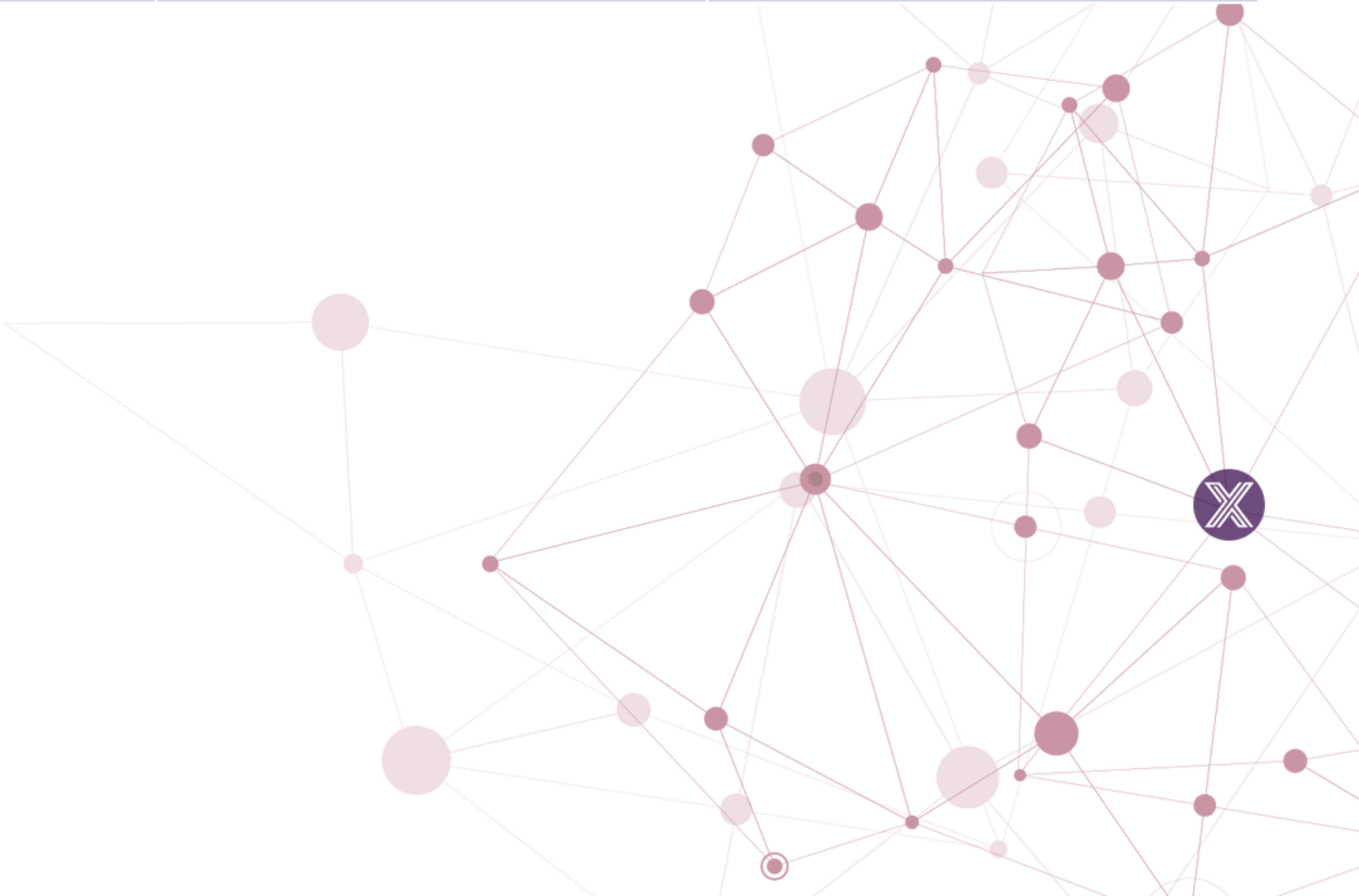
- Demo in app-service-configurable pipeline
- Makefile changes:

```
5   -  APPVERSION=$(shell cat ./VERSION)
5   +  # VERSION file is not needed for local development, In the CI/CD pipeline, a temporary VERSION file is written
6   +  # if you need a specific version, just override below
7   +  APPVERSION=$(shell cat ./VERSION || echo 0.0.0)
```

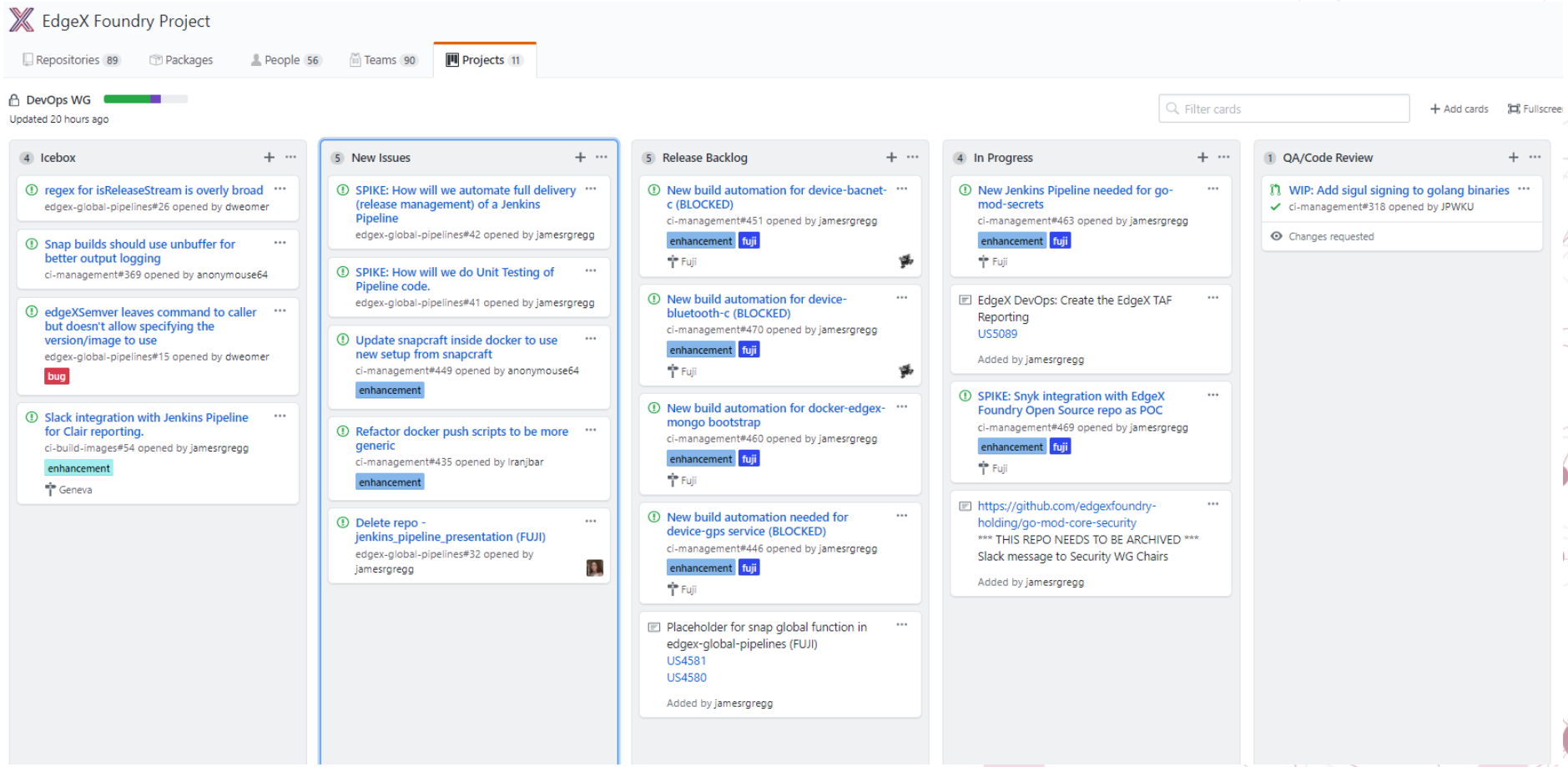
- When building for local development if you need to insert a specific version you can override the echo statement. This variable in the makefile is used to insert the version into the GOFLAGS at build time.
- In app-service-configurable repository the VERSION file is removed.
- During the build in CI Jenkins will make a temporary VERSION file that is fed the next version by git-semver
- This way the developers do not have to have git-semver for local development but the CI can use it to manage the versions.
- We will be able to remove the VERSION files from the repos once we have pipeline jobs set up but not create new dependencies for developers.

Work Review

Helpdesk Ticket #	Description	Details	Status



Backlog Review



EDGE X FOUNDRY™

Meeting Minutes

EDGE X FOUNDRY™

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: • 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

EDGE X FOUNDRY™

Geneva Planning

Scope Discussions

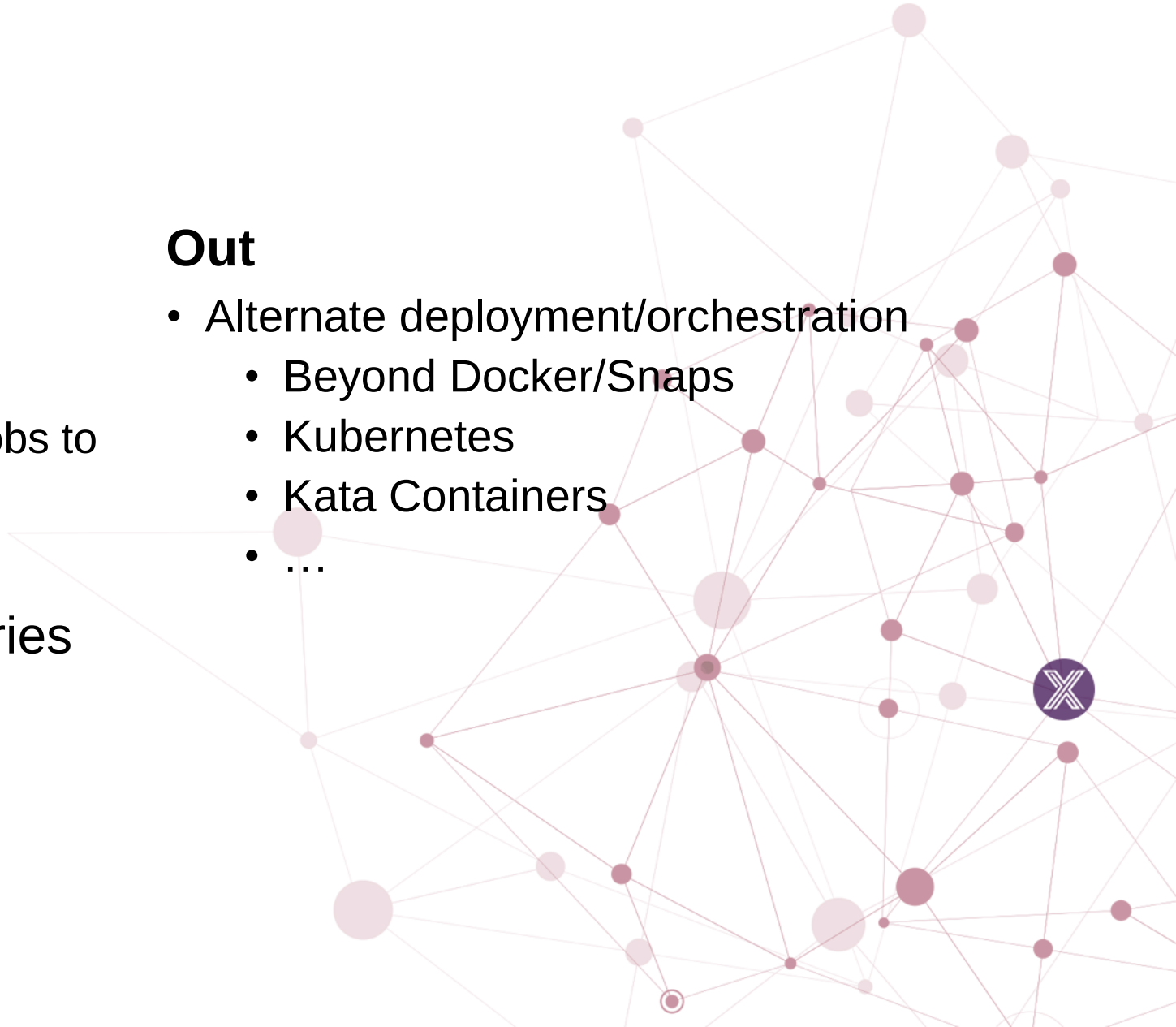
Geneva – DevOps

In

- Full Pipeline transformation for EdgeX services
  - Convert Jenkins JJB Freestyle jobs to Jenkins Pipelines
- Introduce GitHub Org Plugin
- Add Unit testing to global-libraries

Out

- Alternate deployment/orchestration
  - Beyond Docker/Snaps
  - Kubernetes
  - Kata Containers
  - …



EdgeX DevOps Commitments (Geneva)

Scope of Work	

EDGE X FOUNDRY™

Edinburgh Release

Release Planning

Edinburgh Dates

- Freeze Date – May 28
- Release Date – June 20
- Press Release – July 11
- Dot Release – July 22

edgexfoundry.org | @edgexfoundry

Past / Future Agenda Topics

WW27	No Meeting – US Holiday
WW28	
WW29	
WW30	
WW31	Shared Infrastructure LF Edge Umbrella Projects
WW32	Fuji Update / Performance Optimization lftools
WW33	
WW34	
WW35	
	Athens Project – proxy server for go package dependencies
	Community Involvement