InstantX (Instant eXchange)

Presented to the TAC: 04/17/2024

Subgroup reviewed on:

Subgroup readout to the TAC:

Project Proposal - Project Introduction:

<table>
<tr><th>Required Information</th><th>Responses (Please list N/A if not applicable)</th></tr>
<tr><td>Name of Project</td><td>InstantX - Instant eXchange</td></tr>
<tr><td>Project Description (what it does, why it is valuable, origin and history)</td><td>InstantX is a cloud and edge cloud platform to exchange and distribute data in real-time between users in a certain geography. One use case is V2X (Vehicle to anything communication), where data between road users (like cars) and between road infrastructure (e.g. traffic lights) and road users is anonymously exchanged with each other</td></tr>
<tr><td>Statement on alignment with Foundation Mission Statement</td><td>We agree with the foundation's mission statement.</td></tr>
<tr><td>High level assessment of project synergy with existing projects under LF Edge, including how the project compliments/overlaps with existing projects, and potential ways to harmonize over time. Responses may be included both here and/or in accompanying documentation.</td><td>InstantX will investigate synergies with other LF Edge projects, like Akraino for leveraging infrastructure and application blueprints. Beside, projects like Fedge, ...</td></tr>
<tr><td>Link to current Code of Conduct</td><td>We will adopt LF Edge's Code of Conduct.</td></tr>
<tr><td>2 TAC Sponsors, if identified (Sponsors help mentor projects) - See full definition on Project Stages: Definitions and Expectations</td><td>Tina Tsou
Joe Pearson (lbc.)</td></tr>
<tr><td>Project license</td><td>Apache license 2.0</td></tr>
<tr><td>Source control (GitHub by default)</td><td>https://github.com/lf-edge/instantx</td></tr>
<tr><td>Issue tracker (GitHub by default)</td><td>https://github.com/lf-edge/instantx/issues</td></tr>
<tr><td>External dependencies (including licenses)</td><td>
<table>
<tr><th rowspan="2">Components</th><th colspan="4">Open Source Use Case</th><th colspan="2"></th></tr>
<tr><th>UC1</th><th>UC2</th><th>UC3</th><th>UC4</th><th>License</th><th>Report</th></tr>
<tr><td>HiveMQ CE broker</td><td>X</td><td></td><td></td><td></td><td>Apache license 2.0</td><td>https://github.com/hivemq/hivemq-community-edition#Apache-2.0-1-ov-file</td></tr>
<tr><td>HiveMQ Prometheus Extension</td><td>X</td><td></td><td></td><td></td><td>Apache license 2.0</td><td>https://github.com/hivemq/hivemq-prometheus-extension#Apache-2.0-1-ov-file</td></tr>
<tr><td>HiveMQ Vodafone Metric Extension</td><td>X</td><td></td><td></td><td></td><td>Apache license 2.0

LGPL 3.0</td><td>com.github.ben-manes.caffeine:caffeine:3.1.1 - Apache 2.0

com.github.fge:json-schema-validator:2.2.6 - Apache 2.0, Lesser General Public License, version 3

com.hivemq:hivemq-extension-sdk:4.6.3 - Apache 2.0

com.hivemq:hivemq-maven-plugin:4.0.3 - Apache 2.0

com.hivemq:hivemq-mqtt-client:1.2.1 - Apache 2.0

io.dropwizard.metrics:metrics-core:4.0.7 - Apache 2.0</td></tr>
<tr><td>Prometheus</td><td>X</td><td></td><td></td><td></td><td>Apache license 2.0</td><td>https://github.com/prometheus/prometheus#Apache-2.0-1-ov-file

https://github.com/prometheus/prometheus/blob/main/LICENSE</td></tr>
<tr><td>Grafana</td><td>X</td><td></td><td></td><td></td><td>AGPL 3.0</td><td>https://github.com/grafana/grafana/blob/main/LICENSE</td></tr>
</table>
</td></tr>
<tr><td>Release methodology and mechanics</td><td>GitHub Releases</td></tr>
<tr><td>Names of initial committers, if different from those submitting proposal</td><td>Guido Gehlen

NATALIA GOROKHOVA

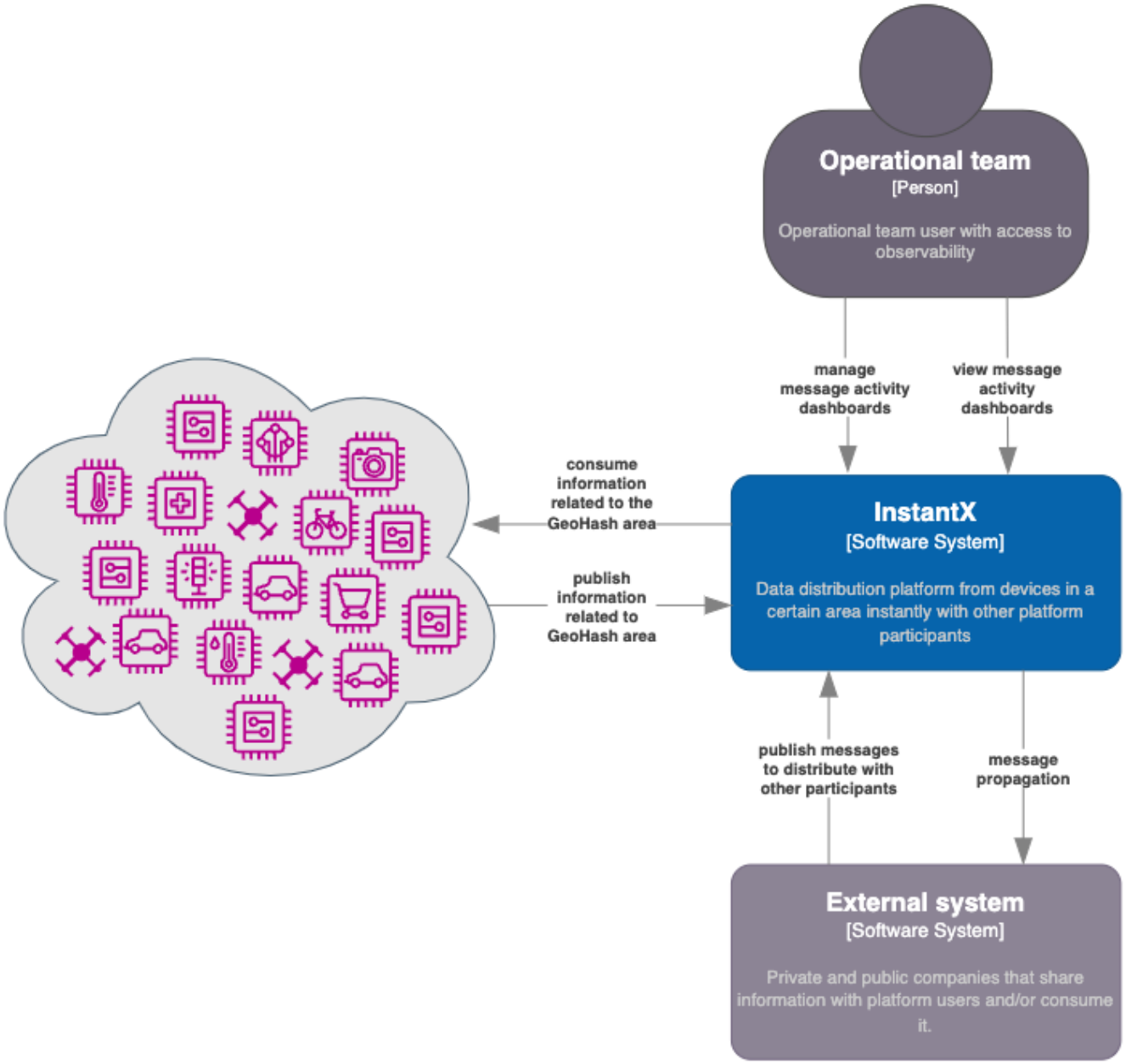
Nuno Goncalo Castro

Omar Abaza

Marius Budu

George Stoian</td></tr>
<tr><td>Current number of code contributors to proposed project</td><td>6</td></tr>
<tr><td>Current number of organizations contributing to proposed project</td><td>4-6 tbc.</td></tr>
</table>

Briefly describe the project's leadership team and decision-making process	
List of project's official communication channels (slack, irc, mailing lists)	Slack and mailing list (tbd. after name has been finalized)
Link to project's website	https://step.vodafone.com
Links to social media accounts	N/A
Existing financial sponsorship	Vodafone Business
Infrastructure needs or requests (to include GitHub/Gerrit, CI/CD, Jenkins, Nexus, JIRA, other ...)	SCM (Gitlab), CI/CD (Jenkins), Artifact Repo (Nexus), Code Scanning (Sonarqube), Jira
Currently Supported Architecture	Cloud, Kubernetes, OpenShift
Planned Architecture Support	Cloud, Kubernetes, OpenShift
Project logo in svg format (see https://github.com/lf-edge/lfedge-landscape#logos for guidelines)	tbd. after name is fixed
Trademark status	Trademark will need to be pursed by the Linux Foundation upon project proposal acceptance
Does the project have a Core Infrastructure Initiative security best practices badge? (See: https://bestpractices.coreinfrastructure.org)	No
Any additional information the TAC and Board should take into consideration when reviewing your proposal?	



Project Proposal - Mapping Criteria and Data:

Stage 1: At Large Projects (formerly 'Sandbox')

Criteria	Data
2 TAC Sponsors, if identified (Sponsors help mentor projects) - See full definition on Project Stages: Definitions and Expectations	
A presentation at an upcoming meeting of the TAC, in accordance with the project proposal requirements	
The typical IP Policy for Projects under the LF Edge Foundation is Apache 2.0 for Code Contributions, Developer Certificate of Origin (DCO) for new inbound contributions, and Creative Commons Attribution 4.0 International License for Documentation. Projects under outside licenses may still submit for consideration, subject to review/approval of the TAC and Board.	
Upon acceptance, At Large projects must list their status prominently on website/readme	

*** For existing Projects requesting Stage 2 or Stage 3 consideration, please update the above with the Stage 2 or Stage 3 Mapping criteria, available at Project Stages Mapping: Criteria and Data

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Project Proposal - Taxonomy Data:

Functions (Provide, Consume, Facilitate, or N/A; Add context as needed)

Functions	(Provide, Consume, Facilitate, or N/A; Add context as needed)
APIs	Provide (Provide API for publishing and Redis API for configuration)
Cloud Connectivity	Consume
Container Runtime & Orchestration	Consume
Data Governance	N/A
Data Models	N/A
Device Connectivity	Provide, Consume, Facilitate
Filters/Pre-processing	Provide, Facilitate
Logging	Provide
Management UI	N/A
Messaging & Events	Provide, Consume, Facilitate
Notifications & Alerts	Provide (metrics only)
Security	N/A
Storage	N/A

Deployment & Industry Verticals (Support, Possible, N/A; Add context as needed)

Deployment Type	(Support, Possible, N/A; Add context as needed)
Customer Devices (Edge Nodes)	N/A
Customer Premises (DC and Edge Gateways)	N/A
Telco Network Edge (MEC and Far-MEC)	N/A
Telco CO & Regional	N/A
Cloud Edge & CDNs	N/A
Public Cloud	Support

Private Cloud	Support

Deployment & Industry Verticals (or X; Add context as needed)

Directly applicable Industry/Verticals use cases	(or X; Add context as needed)
Automotive / Connected Car	
Chemicals	X
Facilities / Building automation	X
Consumer	
Manufacturing	
Metal & Mining	X
Oil & Gas	X
Pharma	X
Health Care	X
Power & Utilities	X
Pulp & Paper	X
Telco Operators	X
Telco/Communications Service Provider (Network Equipment Provider)	X
Transportation (asset tracking)	
Supply Chain	
Preventative Maintenance	X
Water Utilities	
Security / Surveillance	
Retail / Commerce (physical point of sale with customers)	
Other - Please add if not listed above (please notify TAC-subgroup@lists.lfedge.org when you add one)	Drone management, BVLOS

Deployments (static v dynamic, connectivity, physical placement) - (or X; Add context as needed)

Use Cases	(or X; Add context as needed)
Gateways (to Cloud, to other placements)	
NFV Infrastructure	N/A
Stationary during their entire usable life / Fixed placement edge constellations / Assume you always have connectivity and you don't need to store & forward.	N/A
Stationary during active periods, but nomadic between activations (e.g., fixed access) / Not always assumed to have connectivity. Don't expect to store & forward.	N/A
Mobile within a constrained and well-defined space (e.g., in a factory) / Expect to have intermittent connectivity and store & forward.	N/A
Fully mobile (To include: Wearables and Connected Vehicles) / Bursts of connectivity and always store & forward.	N/A

Compute Stack Layers (architecture classification) - (Provide, Require, or N/A; Add context as needed)

Compute Stack Layers	(Provide, Require, or N/A; Add context as needed)
APIs	Provide
Applications	N/A
Firmware	N/A
Hardware	N/A
Orchestration	Required (for containers)
OS	Required
VM/Containers	Required

Cloud Stack Layers (architecture classification) - (Provide, Require, or N/A; Add context as needed)

Cloud Stack Layers	(Provide, Require, or N/A; Add context as needed)
Applications	Provide
Configuration (drive)	Provide
Content (management system)	N/A
IaaS	Require
PaaS	Require
Physical Infrastructure	N/A
SaaS	N/A