

# Fledge

## Status

- **Current Project Stage:** Stage 2 - Growth
  - **Website:** <https://www.lfedge.org/projects/fledge/>
  - **Wiki:** [Fledge Home](#)
  - **TAC Sponsors:** [Bill Hunt](#) (Dianomic) and [Daniel Lázaro Cuadrado](#) (OSISoft)
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- Originally applied under the name FogLAMP. Final Open Source Project Name: Fledge.
  - Presented during the Wednesday, May 15 TAC call: Meeting Recording (<https://zoom.us/recording/share/W1uvEbNhqYh34ZWMNheFJB5xJrVAPqtVZwPH9zalw2uwlumekTziMw>)
  - TAC supermajority approval reached on June 21, 2019.
  - Governing Board Strategic Planning Committee approval reached on June 27, 2019.

## Project Proposal - Project Introduction:

| Required Information                                                       | Responses (Please list N/A if not applicable)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| Name of Project                                                            | FogLAMP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Project Description (what it does, why it is valuable, origin and history) | <p>What does FogLAMP do?</p> <p>FogLAMP is an Industrial Internet of Things (IIoT) open source project and an essential Fog Computing component. FogLAMP uses a pluggable modular architecture to easily connect any/all sensors, machines and IIoT devices, manage their data and forward it to historians (like OSIsoft's PI), enterprise systems and the cloud.</p> <p>Why it is valuable?</p> <p>FogLAMP's modern architecture eliminates the expensive proprietary DCS, PLC, SCADA, sensor silos that make integrating and analyzing data from multiple systems so difficult for industrial manufacturers and plants. By using a consistent set of RESTful APIs to develop, manage and secure all your IIoT applications, FogLAMP is the vendor unifying solution. Developers and operators no longer face complexity and fragmentation issues when building their IIoT applications as they gather and process more sensor data to automate and transform business.</p> <p>Origin/History?</p> <p>The company Dianomic was conceived by Pat Kennedy (OSISoft) and Dave Mount (Kleiner Perkins) then founded by Bill Hunt and Tom Arthur in 2017. Dianomic believes that existing software solutions do not meet the needs of today's IIoT developer for building fast, easy, scalable, secure systems from sensors to clouds for industrial applications and data.</p> |
| Statement on alignment with Foundation Mission Statement                   | <p>Create a unified community for Open Source Edge that:</p> <ul style="list-style-type: none"><li>• fosters cross-industry collaboration across IOT, Telecom, Enterprise and Cloud ecosystems</li><li>• enables organizations to accelerate adoption and the pace of innovation for edge computing</li><li>• seeks to facilitate harmonization across LF Edge projects</li></ul> <p>FogLAMP is conceived, architected and licensed to "create a unified open source community for edge computing". Specifically, FogLAMP is focused on the industrial edge found in manufacturing and plant operations with a go-to-market focus starting with "Process Manufacturing" including industries like oil and gas, energy, pharma, transmission -distribution, water and waste. The architecture has the developer in mind using microservice modularity and plugins for quick adoption. Developers familiar with Python or C should be able to rapidly learn, utilize and contribute to FogLAMP.</p>                                                                                                                                                                                                                                                                                                                                                                            |

| 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. | FogLAMP is working closing with Zededa and project Eve. We also see many opportunities with Akraio since our verticals are starting to roll out 5G and private LTE networks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--|---------|----------|---------|-----------------|-------------------------------------------------------------------------------------------------|---------------|-----------|---------|-----|-------------------|-----------------------|-----|------------|----------------------------------------------------|------------|---------|--|-----|-----------|------------|------------|----------|-------------------------------------------------|------|-------------|--|-----|-------------|--|-----|---------|--|------------|---------------|--|------------|---------|--|------|-------|--|-----|------|--|-----|
|                                                                                                                                                                                                                                                                             | EdgeX and FogLAMP seem to have overlap from a feature perspective but we are not sure how much exists from a market perspective. In industrial plants, control systems (SCADA, PLCs, DCSs, CNC, etc) are very secure and expensive systems. Their life expectancy is measured in decades. For this reason, FogLAMP avoids control features similar to brown field historians. EdgeX has extensive control features so it is likely focused on markets where data mgt and integrated control are required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| Link to <i>current</i> Code of Conduct                                                                                                                                                                                                                                      | <a href="http://dianomic.com/contributor-code-of-conduct/">http://dianomic.com/contributor-code-of-conduct/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| Sponsor from TAC, if identified (a sponsor helps mentor projects)                                                                                                                                                                                                           | Bill Hunt, Dianomic<br><br>Daniel Lazaro, OSIsoft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| Project license                                                                                                                                                                                                                                                             | Apache 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| Source control (GitHub by default)                                                                                                                                                                                                                                          | <a href="https://github.com/foglamp/FogLAMP">https://github.com/foglamp/FogLAMP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| Issue tracker (GitHub by default)                                                                                                                                                                                                                                           | <a href="https://github.com/foglamp/FogLAMP">https://github.com/foglamp/FogLAMP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| External dependencies (including licenses)                                                                                                                                                                                                                                  | <table><tr><th>Package</th><th>Provider</th><th>Licence</th></tr><tr><td>boost libraries</td><td><a href="https://www.boost.org/users/license.html">https://www.boost.org/users/license.html</a></td><td>Boost Licence</td></tr><tr><td>rapidjson</td><td>Tencent</td><td>MIT</td></tr><tr><td>Simple-Web-Server</td><td>Ole Christian Eidheim</td><td>MIT</td></tr><tr><td>libssl-dev</td><td><a href="https://www.openssl.org/">openssl.org</a></td><td>Apache 2.0</td></tr><tr><td>libuuid</td><td></td><td>BSD</td></tr><tr><td>libpq-dev</td><td>PostgreSQL</td><td>PostgreSQL</td></tr><tr><td>libz-dev</td><td><a href="http://zlib.net/">http://zlib.net/</a></td><td>None</td></tr><tr><td>python-dbus</td><td></td><td>MIT</td></tr><tr><td>python3-dev</td><td></td><td>PSF</td></tr><tr><td>aiohttp</td><td></td><td>Apache 2.0</td></tr><tr><td>aiphhttp_cors</td><td></td><td>Apache 2.0</td></tr><tr><td>chardet</td><td></td><td>LGPL</td></tr><tr><td>pyjwt</td><td></td><td>MIT</td></tr><tr><td>pyjq</td><td></td><td>MIT</td></tr></table> |               |  | Package | Provider | Licence | boost libraries | <a href="https://www.boost.org/users/license.html">https://www.boost.org/users/license.html</a> | Boost Licence | rapidjson | Tencent | MIT | Simple-Web-Server | Ole Christian Eidheim | MIT | libssl-dev | <a href="https://www.openssl.org/">openssl.org</a> | Apache 2.0 | libuuid |  | BSD | libpq-dev | PostgreSQL | PostgreSQL | libz-dev | <a href="http://zlib.net/">http://zlib.net/</a> | None | python-dbus |  | MIT | python3-dev |  | PSF | aiohttp |  | Apache 2.0 | aiphhttp_cors |  | Apache 2.0 | chardet |  | LGPL | pyjwt |  | MIT | pyjq |  | MIT |
| Package                                                                                                                                                                                                                                                                     | Provider                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Licence       |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| boost libraries                                                                                                                                                                                                                                                             | <a href="https://www.boost.org/users/license.html">https://www.boost.org/users/license.html</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Boost Licence |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| rapidjson                                                                                                                                                                                                                                                                   | Tencent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | MIT           |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| Simple-Web-Server                                                                                                                                                                                                                                                           | Ole Christian Eidheim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | MIT           |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| libssl-dev                                                                                                                                                                                                                                                                  | <a href="https://www.openssl.org/">openssl.org</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Apache 2.0    |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| libuuid                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | BSD           |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| libpq-dev                                                                                                                                                                                                                                                                   | PostgreSQL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | PostgreSQL    |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| libz-dev                                                                                                                                                                                                                                                                    | <a href="http://zlib.net/">http://zlib.net/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | None          |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| python-dbus                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | MIT           |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| python3-dev                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | PSF           |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| aiohttp                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Apache 2.0    |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| aiphhttp_cors                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Apache 2.0    |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| chardet                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | LGPL          |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| pyjwt                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | MIT           |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| pyjq                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | MIT           |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| Release methodology and mechanics                                                                                                                                                                                                                                           | Agile<br><br>6 week Sprints                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| Names of initial committers, if different from those submitting proposal                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| Current number of code contributors to proposed project                                                                                                                                                                                                                     | 26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |
| Current number of organizations contributing to proposed project                                                                                                                                                                                                            | Dianomic<br><br>OSIsoft<br><br>JEA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               |  |         |          |         |                 |                                                                                                 |               |           |         |     |                   |                       |     |            |                                                    |            |         |  |     |           |            |            |          |                                                 |      |             |  |     |             |  |     |         |  |            |               |  |            |         |  |      |       |  |     |      |  |     |

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| Briefly describe the project's leadership team and decision-making process                                                                                                                                                                                      | <p>Bill Hunt, Co-founder/CTO Dianomic</p> <p>Mark Riddoch, Chief Architect Dianomic</p> <p>Richard Beeson, CTO OSIsoft</p> <p>Original architecture and feature set for FogLAMP 1.0 was a joint project between OSIsoft and Dianomic.</p> <p>FogLAMP's current roadmap prioritization follows typical product life-cycle best practices taking inputs from users, community, customers, prospects, partners and contributors. Some features have been the result of professional service engagements with Dianomic that will generally get a high priority.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Preferred maturity level (see stages <a href="#">here</a> )                                                                                                                                                                                                     | <p>FogLAMP is applying for stage 2 maturity. It may be stage 3 since it has production deployments and referenceable customers. See solution papers and videos.</p> <p><a href="https://dianomic.com/solutions/aircraft-manufacturing/">https://dianomic.com/solutions/aircraft-manufacturing/</a></p> <p><a href="https://dianomic.com/solutions/electric-transmission-distribution/">https://dianomic.com/solutions/electric-transmission-distribution/</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| For Projects applying at the Growth (Phase 2) or Impact Stage (Phase 3), please outline how your project successfully meets /exceeds the requirements as defined under each category. Responses may be included both here and/or in accompanying documentation. | <p>Stage 2 Requirements</p> <ul style="list-style-type: none"> <li>• Development of a growth plan, to be done in conjunction with their project mentor(s) at the TAC. <ul style="list-style-type: none"> <li>◦ Yes</li> </ul> </li> <li>• Document that it is being used in POCs. <ul style="list-style-type: none"> <li>◦ <a href="https://dianomic.com/solutions/aircraft-manufacturing/">https://dianomic.com/solutions/aircraft-manufacturing/</a></li> <li>◦ <a href="https://dianomic.com/solutions/electric-transmission-distribution/">https://dianomic.com/solutions/electric-transmission-distribution/</a></li> </ul> </li> <li>• Demonstrate a substantial ongoing flow of commits and merged contributions. <ul style="list-style-type: none"> <li>◦ Total commits: 11,579.</li> <li>◦ Commits since January 2019: 3,241.</li> <li>◦ Commits in last 30 days: 941.</li> </ul> </li> <li>• Demonstrate that the current level of community participation is sufficient to meet the goals outlined in the growth plan. <ul style="list-style-type: none"> <li>◦ Dianomic has 11 contributors working full time the remaining 15 are outside of Dianomic.</li> </ul> </li> <li>• Demonstrate evidence of, or a plan for, interoperability, compatibility or extension to other LF Edge Projects. <ul style="list-style-type: none"> <li>◦ Project Eve Demo</li> </ul> </li> <li>• Since these metrics can vary significantly depending on the type, scope and size of a project, the TAC has final judgement over the level of activity that is adequate to meet these criteria. <ul style="list-style-type: none"> <li>◦ ok</li> </ul> </li> <li>• Receive a two-thirds supermajority vote of the TAC and a majority vote of the Governing Board to move to Growth Stage. <ul style="list-style-type: none"> <li>◦ ok</li> </ul> </li> </ul> |
| List of project's official communication channels (slack, irc, mailing lists)                                                                                                                                                                                   | <a href="https://groups.google.com/forum/#!forum/foglamp">groups.google.com/forum/#!forum/foglamp</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Link to project's website                                                                                                                                                                                                                                       | <a href="https://github.com/foglamp">https://github.com/foglamp</a><br><a href="https://dianomic.com/">https://dianomic.com/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Links to social media accounts                                                                                                                                                                                                                                  | <a href="https://www.facebook.com/Dianomic-243749069484821/">https://www.facebook.com/Dianomic-243749069484821/</a><br><a href="https://www.linkedin.com/company/dianomic/about/">https://www.linkedin.com/company/dianomic/about/</a><br><a href="https://twitter.com/DianomicSystems">https://twitter.com/DianomicSystems</a><br><a href="https://www.crunchbase.com/organization/dianomic">https://www.crunchbase.com/organization/dianomic</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Existing financial sponsorship                                                                                                                                                                                                                                  | Dianomic Inc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Infrastructure needs or requests                                                                                                                                                                                                                                | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Currently Supported Architecture                                                                                                                                                                                                                                | ARM, x86                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Planned Architecture Support                                                                                                                                                                                                                                    | GPU/TPU processing ML ( <a href="#">example</a> ), Camera feed example: <a href="#">Infrared</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Project logo in svg format (see <a href="https://github.com/lf-edge/lfedge-landscape#logos">https://github.com/lf-edge/lfedge-landscape#logos</a> for guidelines)                                                                                               | Coming soon...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Trademark status                                                                                                                                                                                                                                                | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|                                                                                                                                                                                                          |    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Does the project have a Core Infrastructure Initiative security best practices badge?<br>(See: <a href="https://bestpractices.coreinfrastructure.org">https://bestpractices.coreinfrastructure.org</a> ) | No |
| Any additional information the TAC and Board should take into consideration when reviewing your proposal?                                                                                                | No |

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

| Criteria                                                                                               | Data                                          |
|--------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 2 TAC sponsors to champion the project & provide mentorship as needed                                  | Bill Hunt, Dianomic<br>Daniel Lazaro, OSIsoft |
| A presentation at an upcoming meeting of the TAC, in accordance with the project proposal requirements | Presented on May 15, 2019                     |
| Adherence to the Foundation IP Policy                                                                  | Ok                                            |
| Upon acceptance, At Large projects must list their status prominently on website/readme                | Ok                                            |

### 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, Consume, Facilitate - Microcontroller Example - South Microservice ( <a href="#">esp8266</a> )           |
| Cloud Connectivity                | Provide, Consume and Facilitate - <a href="#">North repos</a> , <a href="#">GCP</a> , <a href="#">OSI-OMF</a>     |
| Container Runtime & Orchestration | Consume - ( <a href="#">debian</a> , <a href="#">rpm</a> , <a href="#">docker</a> , <a href="#">Project Eve</a> ) |
| Data Governance                   | Provide and Facilitate - Auditing logs and asset tracking.                                                        |
| Data Models                       | Provide, Consume and Facilitate                                                                                   |
| Device Connectivity               | Provide, Consume and Facilitate                                                                                   |
| Filters/Pre-processing            | Provide and Facilitate                                                                                            |
| Logging                           | Consume                                                                                                           |
| Management UI                     | Provide, Consume and Facilitate                                                                                   |
| Messaging & Events                | Provide, Consume and Facilitate                                                                                   |
| Notifications & Alerts            | Provide, Consume and Facilitate                                                                                   |
| Security                          | Provide, Consume and Facilitate                                                                                   |
| Storage                           | Provide, Consume and Facilitate - Buffering                                                                       |

### 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)            | Support                                         |
| Customer Premises (DC and Edge Gateways) | Support                                         |

|                                      |          |
|--------------------------------------|----------|
| Telco Network Edge (MEC and Far-MEC) | Possible |
| Telco CO & Regional                  | Possible |
| Cloud Edge & CDNs                    | Possible |
| Public Cloud                         | N/A      |
| Private Cloud                        | N/A      |

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

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

## 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                                                                                                                                                 | X                              |
| Stationary during their entire usable life / Fixed placement edge constellations / Assume you always have connectivity and you don't need to store & forward.      | X                              |
| Stationary during active periods, but nomadic between activations (e.g., fixed access) / Not always assumed to have connectivity. Don't expect to store & forward. | X                              |

|                                                                                                                                         |  |
|-----------------------------------------------------------------------------------------------------------------------------------------|--|
| Mobile within a constrained and well-defined space (e.g., in a factory) / Expect to have intermittent connectivity and store & forward. |  |
| Fully mobile (To include: Wearables and Connected Vehicles) / Bursts of connectivity and always store & forward.                        |  |

Compute Stack Layers and Cloud 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         | Provide                                           |
| Firmware             | Require                                           |
| Hardware             | Require                                           |
| Orchestration        | N/A                                               |
| OS                   | Require                                           |
| VM/Containers        | Require                                           |

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

Attachments (LF Edge PPT template is below):

