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## TAC Voting Members

**New members in bold**

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<tr>
<th>Full Name</th>
<th>Account Name</th>
<th>Appointed By</th>
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<td>Boris DOLLEY</td>
<td>RTE (Reseau de Transport dElectricite)</td>
<td>Vote of TSC Committee - OperatorFabric</td>
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<td>RTE (Reseau de Transport dElectricite)</td>
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<td>Arjan Stam</td>
<td>Alliander</td>
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<td>RWTH Aachen University</td>
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<td>CoMPAS</td>
<td>Frederic Fouseret, RTE</td>
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<td>FledgePOWER</td>
<td>Akli Rahmoun, RTE</td>
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<td>Hyphae</td>
<td>Kotaro Jinushi, Sony ESL</td>
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<td>Lonneke Driessen &amp; Stan Janssen, OpenADR</td>
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<td>Eloi Bail, Savoir-faire Linux</td>
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<td><strong>Martin F. Hansen, Energinet</strong></td>
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<td>FlexMeasures</td>
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Agenda

Opening (25 Minutes)

- Summary of last TAC meeting & Updates from the Board Meeting
- Working Group updates
- Security WG discussion
- Landscape updates
- TAC Sponsors for projects

TAC Business (50 Minutes)

- SEAPATH annual review
- OpenLEADR annual review

Outreach updates (10 Minutes)

Closing and next meeting (5 Minutes)
Summary of last TAC meeting


Updates from the Board
TAC Sponsors for projects

As part of the benefit for LF Energy projects, the TAC has a sponsor for each project.

“Appointment of an existing TAC member by the TAC that will act as a sponsor of the project and provide recommendations regarding governance best practices.”

ASK: Volunteer to be a TAC sponsor for a project
Working Groups update

Based on feedback, we reduced down the active working groups to the list below.

**ACTIONS:**

- Ensure lead(s) identified and have groups operational
- Establish charter for each group
- Schedule annual reviews for each group in December/January

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Lead</th>
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<tbody>
<tr>
<td>Full Architecture WG (FAWG)</td>
<td>Architecture standing committee to develop the overall architecture for LF Energy</td>
<td>Benoît Jeanson, RTE</td>
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<td>Data Architecture WG (DAWG)</td>
<td>Working group on Data Architecture</td>
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</tr>
<tr>
<td>Security WG</td>
<td>Working Group on Security</td>
<td>Markus Mirz, RWTH Aachen University</td>
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Full Architecture WG (FAWG)

- THE REGULAR FAWG IS THE FOURTH MONDAY OF THE MONTH
- DATA ARCHITECTURE (DAWG) ARE ONLY SCHEDULED PER TOPIC (NO REGULAR OFFICE HOURS).
- Special FAWG January 20, 2022
  - Archimate modeling for reference architectures
  - Next step - An Archimate show and tell where you can learn to use the tool!
    - January 20, 2022
    - 7a PT, 10a ET, 4p CET
Security WG

• Not much resonance so far on the mailing list
  • Are we not reaching the right audience?
  • Is the topic not prioritized in member organisations?
  • Bad time to reach out due to end-of-year stress?

• Advertise the effort in FAWG?
• Identify one project that is already taking great care of security?
Landscape now with more project info!

We are using the LF Energy Landscape to showcase more project information:

- Mailing List/Slack Channel
- LFX Insights
- SBOM
- Wiki
- TSC Meeting Notes
- Calendar
- Contribution Guidelines

ACTION: Project leads please review your entry and ensure it is accurate; issue PR for any changes needed.
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Virtualization for Real-time Power Grid Substation Automation
Annual review
November 21, 2021
Scope of the project

Develop a “reference design” and “industrial grade” open source real-time platform that can run virtualized automation and protection applications (for the power grid industry in the first place and potentially beyond). This platform is intended to host multi-provider applications.

Our needs

- High performance required
  - Real-time
  - Low latency

- Adaptable
  - Cybersecurity
  - Customizable
  - Hardware agnostic
  - Updatable

- Following the state of the art
  - Integrate innovative Open-source components
Do not want to reinvent the wheel

Utilizing existing technology

A Yocto layer to
• Configure the packages used (Linux Kernel)
• Configure each Open-source software (enabling/disabling features)
• Install only relevant services / applications

Deploy & configure applications with Ansible
• Custom Network configuration
• Custom virtual machine configuration

Only used in cluster mode
Optional for high performance networking
Scalable and High availability solution

To have a standalone or cluster solution

- **Cluster (3 Nodes)**
  - VM
  - VM
  - VM
  - VM
  - VM

- **Local Resources**
  - **EMU**
  - **KVM**
  - **EMU**
  - **KVM**
  - **EMU**

- **Distributed Resources**
  - Cluster management
    - Corosync
    - STONITH
  - Storage
  - Network
    - DPDK
    - OVS

- **Seapath Node 1**
- **Seapath Node 2**
- **Seapath Node 3**
How we meet industrial requirements

2/3

- Continuous integration
- Daily build / test (about 1h)
- Monitor functional / Cybersecurity tests (1500+ tests)
Incubation stage requirements 1/3

- Have an open and documented technical governance, including:
  - A LICENSE file in every code repository, with the license chosen an OSI-approved license.
  - A README file welcoming new community members to the project and explaining why the project is useful and how to get started.
  - A CONTRIBUTING file explaining to other developers and your community of users how to contribute to the project. The file should explain what types of contributions are needed and how the process works.
  - A CODEOWNERS or COMMITTERS file to define individuals or teams that are responsible for code in a repository; document current project owners and current and emeritus committers.
  - A CODE_OF_CONDUCT file that sets the ground rules for participants’ behavior associated and helps to facilitate a friendly, welcoming environment.
  - A RELEASE file that provides documentation on the release methodology, cadence, criteria, etc.
  - A GOVERNANCE file that documents the project’s technical governance.
  - A SUPPORT file to let users and developers know about ways to get help with your project.
- Complete and approve the Technical Charter.
- Have achieved and maintained a Core Infrastructure Initiative Best Practices Badge at the ‘Passing’ level.
- Have had a successful license scan with any critical issues remedied.
Incubation stage requirements 2/3

- An overview of the **project's architecture and features** defined.[✓]
- A **project roadmap** defined, which should address the following questions.[✓]
  - What use cases are possible now?
    1. Deploy a standalone secure version of SEAPATH
    2. Deploy a cluster (High Availability infrastructure) secure version of SEAPATH
    3. Deploy and manage virtual machine with Ansible on the SEAPATH Platform
    4. Deploy a CI to build, test the images and deploy them on x86_64 intel Hardware
  - What does the next year look like in terms of additional features and use cases covered?
    1. Build a SandBox that is easy to use (without any security features)
    2. Enhance the project issue tracking system
    3. Enhance the documentation to make it easier to go onboard
    4. Work on real time performance configuration for critical real time application
Community and contributor growth assessment

- The current number of contributors and committers, and the number of different organizations contributing to the project
  i. Contributor: GE (code contribution), Advantech (advice on hardware), Schneider (participation to TSC meeting)
  ii. Committers: SFL/RTE/Alliander

- Demonstrate a sustained flow of commits / merged contributions [✓]

- A credible plan for developing a thriving user community, in particular expanding the number of committers and contributors?
  i. First focus is to make the onboarding process easier by flattening the learning curve

- Outline of the plan for the project to complete the requirements for Adopted Stage
  i. Having a functional sandbox
  ii. Having a process/tutorial that make it possible to deploy a 3 machines SEAPATH cluster/virtualcluster and put VM on top of it in less than 2 hours (including configuration)

- Receive the affirmative majority vote of the TAC. [ ]
SEAPATH annual review
OpenLEADR annual review
Overview

1. Purpose
2. Timeline
3. Adoption and community participation
4. Technical status and developments
5. Organizational developments
6. Outlook
1. Project Purpose: a developer’s toolkit

- OpenLEADR wants to build an easy to use entry into developing OpenADR applications (clients and servers)
- We build a Python module that other developers can easily integrate with their existing software systems to start communicating OpenADR to other entities
- We try to make it as easy as possible to build clients and servers that are compliant with the OpenADR specification, but we don’t build an out-of-the-box solution that tries to cater to everyone’s applications.
2. Project Timeline

- **2019**: Internal development of “pyopenadr”
- **2020**: Use of pyopenadr during GGIP project
- **2021**: Contribution to LFEnergy and rebranding as OpenLEADR
- **2022**: Interest from commercial parties that are using OpenLEADR
- **2021**: First public release of OpenLEADR, first webinars
3. Adoption and community participation

• 2000 installations per month from the Python Package Index
• 64 GitHub stars, 23 GitHub forks
• >100 questions, issues, contributions and integration reports via GitHub issues
• Many questions regarding OpenADR protocol itself, questions around TLS itself, and integrations with other protocols
4. Technical Status and Developments

• First half of 2021 saw 24 point-releases containing community suggestions, fixes, and feature additions

• Next planned developments are larger additions:
  • Support for XMPP transport mechanism
  • Support for HTTP “push” mode

• Time constraints on Stan (single maintainer) have slowed down development during second half of 2021
5. Organizational Developments

• TSC now consists of Stan Janssen, Paul Klapwijk, Lonneke Driessen (ElaadNL), Rolf Bienert (OpenADR Alliance), John Mertic (LFEnergy)

• Rish Ghatikar (EPRI) has left EPRI

• Main discussion of 2021 was around the fit of OpenLEADR within LFEnergy. 1:1 protocol implementation was a concern for LFEnergy, even though OpenADR Alliance was on board. The project charter was finally signed in the summer.

• TSC has not been attended by LFEnergy for a few months now
6. Outlook

• Development of other transport modes in OpenLEADR

• Cooperation with OpenADR Alliance to create “how-to” guides, that make it easier for people to get started using OpenADR in general, and OpenLEADR specifically

• Gauge interest from would-be maintainers to help with development and maintenance
## Project Review Cycle

<table>
<thead>
<tr>
<th>Project</th>
<th>Current Level</th>
<th>Initially Accepted</th>
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Outreach Updates

• LF Energy Webinar Series
• TFiR videos
• Recent press articles
• Upcoming events
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Next TAC Meeting

The next meeting of the LF Energy TAC is scheduled for 14 December 2021 at 8:00 am US Pacific Time/11:00 am US Eastern Time/5:00 pm Central European Time.

Agenda will include:

- Recap of last TAC meeting/Governing Board updates
- Hyphae annual review

DISCUSSION: January 4th TAC meeting - cancel due to holidays?
Thank you!