

Cloud Communication WG

This working group focusses on the communication between the charging station (EVerest) and the management system(s) (CPMS)

Meeting Notes:

08 May 2024

Discussed:

- OCPP 2.0.1 edition 3 is out: same message, improved documentation. All known errata have been merged into the spec itself.
 - <https://openchargealliance.org/my-oca/ocpp/>
- ChargeX: MREC (Minimum required error codes)
<https://inl.gov/chargex/mrec/>
Discussed that this is now implemented in 1.6.
Refactoring of error handling in EVerest at the moment, that will effect this.
<https://github.com/EVerest/everest-framework/pull/186>

OCPP 2.0.1 still needs to be done.
NotifyEvent is implemented, but no functionality yet that triggers this.
- Discussed the problem found with root certificates in folders.
More background info. Certificate is printed, but only the old one.
Might not even have worked before.
- Discussed how to handle 15118 V2G certificate per SECC in case of multiple EVSE. OCPP certificate handling does not seem to support this where 15118-1 gives both options.

02 May 2024

Discussed:

- Composite Schedule calculation: <https://lfenergy.zulipchat.com/#narrow/stream/417676-EVerest.3A-Cloud-communication/topic/Problem.20with.20ChargePointMaxProfile.20Usage>
 - AFS/JOET starts to implement composite schedule calculation for OCPP2.0.1
 - Line voltage of 230V is currently hard-coded in the smart charging handler; will be made configurable
 - Decision: libocpp shall reject ChargingProfiles in Amps in case it manages at least one DC EVSE.
- TxProfile must not necessarily be stored in non-volatile memory, see: <https://github.com/EVerest/libocpp/issues/543>

17 April 2024

Discussed:

- Database Migrations now merged. Documentation added to explain how it works. When migrating to this version the first version needs manual work. After this it will be automatic.
- Size of PRs. Larger or small, pros and cons
- Discussed meeting format: stick to weekly. Try to discuss ongoing on next planned use cases.

10 April 2024

Discussed:

- OCPP 2.0.1 status document merged. When adding new OCPP 2.0.1 features, please update the document.
- Pull request for database migrations is open. Developer documentation will be added.
- Discussed how to handle custom data fields.

3 April 2024

Discussed:

- Function requirement status doc:
 - OCPP 2.0.1 status: Piet checked all not yet completed
 - OCTT 2.0.1 test cases status: Robert will convert sheet to markdown and put in EVerest documentation or core.
- Configurable TxStart/TxStop points:
 - Proposal to put functionality for this in EVerest core, not libOCPP for now. Quicker to implement, this functionality can later be moved to libOCPP.
 - Nobody requires this functionality in libOCPP already.

27 March 2024

Discussed:

- Drop websocketpp and move to libwebsockets
 - moving websocketpp to new websocket interface appears to require a lot of effort
 - discussion about dropping support for websocketpp decision postponed
- Review pull request process
 - Draft PRs can be used for internal reviews
 - Once PR is converted for review the maintainers will start the review process
- How to get list of functional requirements up to date
 - <https://github.com/EVerest/libocpp/pull/540>
 - Maintainers will update the list
 - JOET will update the list for smart charging
- List of past OCTT test cases
 - We will not add this to libocpp since it cannot be guaranteed that tests pass only with using libocpp. Correct integration of libocpp is required
 - Such a list could be added to everest-core

20 March 2024

Discussed:

- Optional requirements:
 - Long term EVerest should support as much functionality as possible.
 - For now it is ok to skip optional requirements.
 - If an optional requirement just allows (slightly) incorrect behaviour
 - K01.FR.44 specific: we will not implement, this allows bad behavior from a CSMS, not ideal.
- Document implemented use case/functional requirements status:
 - Add the list of use cases in one file in Github, make it a table
 - Requirement number, status, remark
 - Table per functional block
 - Add status of Google Sheet in this file
 - Add checkmark to the pull request template

Action Items:

- Robert: Make table of OCPP 2.0.1 function requirements in Github
- Robert: Move status from Google sheet into the github list
- Robert: Update pull request template: Add "list of functional requirements updated."

13 March 2024

Discussed

- WebSocket compression. Is required for an CSMS, optional for a Charging Station. But a really nice to have.
- How to setup security profile 2 and 3. Proposal to make an MRE to demonstrate this.
- PKI and governance and policies for validation of certificates
- Device Model
 - Currently supports all standardized variables (specified in the OCPP2.0.1 spec)
 - Defined mechanism to access EVSE and Connector components upcoming (Piet will create issue)
 - Functional requirements are sometimes ambiguous because it's not clear to which component a referenced variable belongs to

6 March 2024

Discussed:

- Pull requests: 440 & 452
- Possible multi-threading problem during reconnects and (re)sending message during reconnects: triggering another reconnect 3 seconds later.

- IdToken case insensitive, required by OCPP, where to handle this in Everest? libOCPP? Some use cases might need case sensitive tokens.

Action Items:

- Put Signed MeterValues on Agenda General Call next week.
- Write documentation on how to change OCPP 2.0.1 CSMS URL.

21 February 2024

CSR flexibility

- Open Zulip topic with the goal to create issue from discussion
- <https://lfenergy.zulipchat.com/#narrow/stream/417676-EVerest.3A-Cloud-communication/topic/Certificate.20Signing.20Requests.20.28CSR.29.20additional.20configuration>

Update on websocket refactor

- <https://github.com/EVerest/libocpp/pull/410>
- Agreed on interface design
- ongoing work on libwebsockets implementation
- Documentation and sequence diagrams available within the PR

OCPP1.6 handling while in Pending

- <https://github.com/EVerest/libocpp/issues/478>
- issue will stay open, need to open up discussion within OCA causeway forum

Other:

- <https://github.com/EVerest/libocpp/pull/452> ready for review by maintainers
- <https://github.com/EVerest/libocpp/issues/480> - issue will be used for further discussions about the implementation of resuming transactions

14 February 2024

General updates

- PR and issue templates merged (<https://github.com/EVerest/libocpp/pull/436>)
- Ongoing work and improved stability of libwebsockets implementation

Smart Charging implementation: <https://github.com/EVerest/libocpp/issues/468>

- Slight incompatibilities between 1.6 and 2.0.1 for Smart Charging make it hard to find a common implementation for both
- Decision made to have separate implementations of OCPP1.6 and OCPP2.0.1 Smart Charging

OCPP Test naming convention: <https://github.com/EVerest/libocpp/issues/467>

Status: Websocket refactor update @Soumya Subramanya @Maaïke Zijderveld @Marc Emmers

- Maaïke will continue to work on the refactor and use this PR: <https://github.com/EVerest/libocpp/pull/410>

Auth Cache Cleanup PR: <https://github.com/EVerest/libocpp/pull/243>

- Will be used as an example for the database migrations discussed here: <https://github.com/EVerest/libocpp/issues/450>

7 February 2024

When to send signed meter values

- End of the transaction is most logical.
- Looks like code currently does not store values in the DB.
- An libOCPP API change is needed to merge the signed meter values pull request.
- The is an existing old pull request that also provides such a change.

DB Migration tools: See issue: <https://github.com/EVerest/libocpp/issues/450>

- List of tools to investigate:
 - <https://sqitch.org/>
 - <https://contribute.liquibase.com/extensions-integrations/directory/database-tutorials/sqlite/>
 - <https://gitlab-com.gitlab.io/support/toolbox/upgrade-path/?current=14.4.3&distro=docker&edition=ce>
 - <https://atlasgo.io/getting-started>
- Action Item: Robert will ask LFE for tools used in other projects.

Status OCPP 2.0.1 development:

- Shared sheet is not updated. Current coverage is getting to 100%, but that is not reflected in the sheet as agreed.
- OCTT takes about 2 days to run all tests manually, API for CI/CD integration not yet available

- Action Item: Robert will ask OCA about potential license issues with OCTT running in LFE build pipelines.

31 January 2024:

Faking MeterValue

- Make faking MeterValue and TransactionEvent timestamps a configurable feature
- Keep talking to OCA and OCTT team to find out more detailed requirements

Websocket refactoring:

- Alfen to work on charge_point and websocket interface
- Pionix to support on websocketpp and libwebsocket implementations of the interfaces
- Discussion how we split up PRs (between interfaces and implementations) still ongoing @Soumya to provide feedback

Smart Charging:

- Bug found within clear charging profiles: <https://github.com/EVERest/libocpp/issues/432>
- Agreed on common base classes for OCPP1.6 and OCPP2.0.1 Smart Charging handling
- Goal is to reuse as much of OCPP1.6 implementation for common smart charging implementation