

V2XにおけるOCPPと CHAdeMOの連携

Combining OCPP & CHAdeMO for V2X



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Agenda

アジェンダ

- Original / New scope 元のスコープ / 新しいスコープ
- Translation table 翻訳表
- Sequence diagrams シーケンス図
- ConnectedEV for CHAdeMO CHAdeMO向けConnectedEV
- Questions 質疑応答

Original scope

元のスコープ

- **OCPP 1.6 & OCPP 2.0.1**
OCPP 1.6 および OCPP 2.0.1
- **CHAdeMO 1.1 & CHAdeMO 2.0.1**
CHAdeMO 1.1 および CHAdeMO 2.0.1

Work items 作業項目 :

- **Align terminology - translation table** 用語の整合 - 翻訳表
- **Align events - sequence diagrams** イベントの整合 - シーケンス図
- **Align charge session data - device model recommendations** 充電セッションデータの整合 - デバイスモデル推奨事項



New scope

新しいスコープ

- OCPP 1.6 & OCPP 2.x OCPP 1.6 および OCPP 2.x
- CHAdeMO 1.1 & CHAdeMO 2.0.1 CHAdeMO 1.1 および CHAdeMO 2.0.1

Work items 作業項目 :

- Analyze 'Guidelines of Charge/Discharge System for Electric Vehicle V2H DC version'
「電気自動車用充放電システムガイドライン V2H DC版」を分析
- Add sequence diagram for V2G
V2G用シーケンス図を追加
- Extend device model mapping for V2G
V2G用デバイスモデルマッピングを拡張



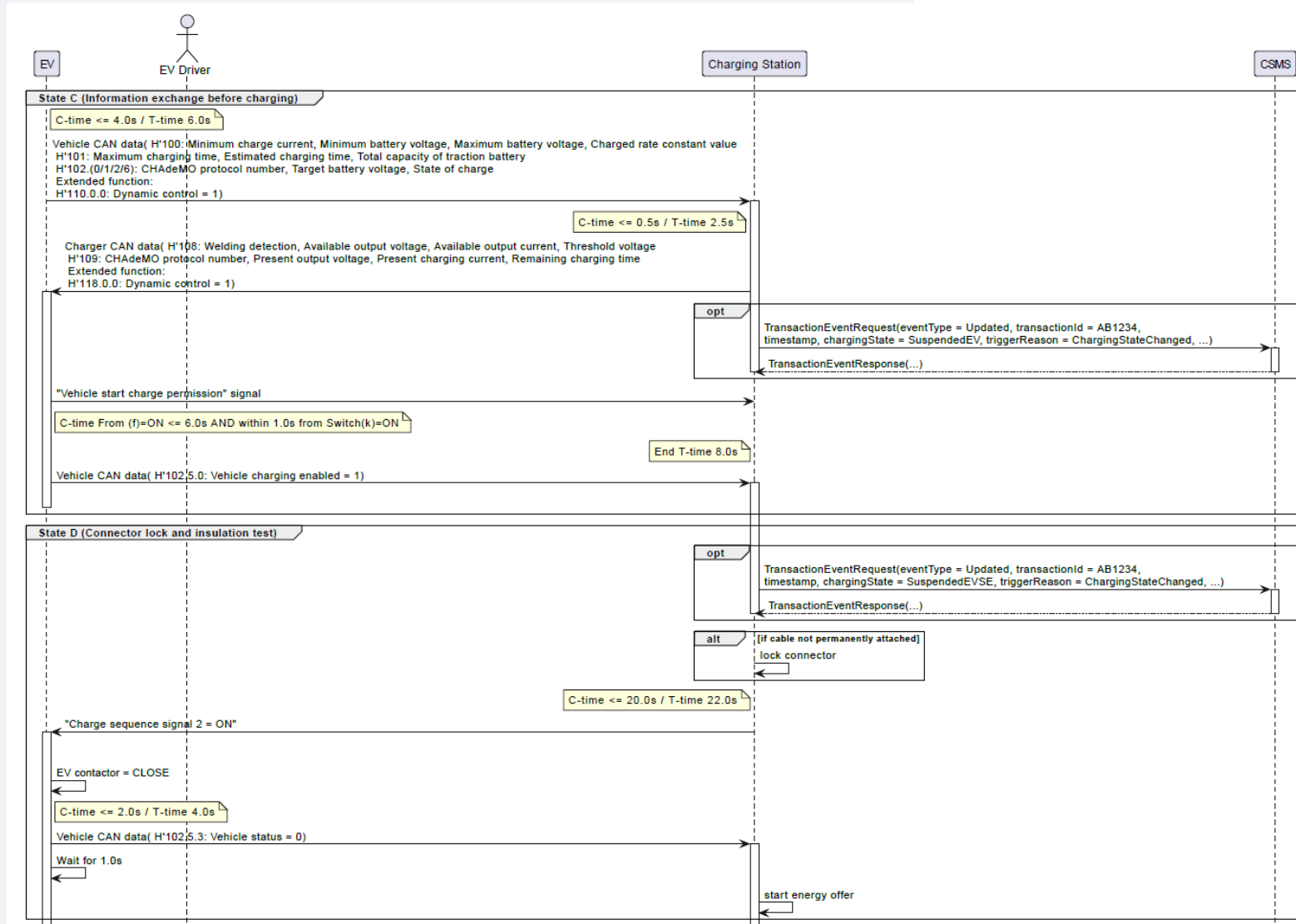
Translation Table – Definitions example

翻訳表 – 定義の例

| OCPP 1.6 EDITION 2 SECTION 2. TERMINOLOGY AND CONVENTIONS | | OCPP 2.X PART 2 - SPECIFICATION SECTION 2. CONVENTIONS, TERMINOLOGY AND ABBREVIATIONS | | CHADEMO 1.1 SECTION 3. TERMS AND DEFINITION | | CHADEMO 2.X SECTION 3. TERMS AND DEFINITION | |
|--|---|--|--|--|--|--|--|
| Definition | Description | Definition | Description | Definition | Description | Definition | Description |
| Charge Point | The Charge Point is the physical system where an electric vehicle can be charged. A Charge Point has one or more connectors. | Charging Station | The Charging Station is the physical system where EVs can be charged. A Charging Station has one or more EVSEs. | Quick charger/Charger | | Quick charger/Charger | |
| Central System | Charge Point Management System: the central system that manages Charge Points and has the information for authorizing users for using its Charge Points. | CSMS | Charging Station Management System. The system that manages Charging Stations and has the information for authorizing Users for using its Charging Stations. | N/a | | N/a | |
| EV | Electrical Vehicle, this can be BEV (battery EV) or PHEV (plug-in hybrid EV) | EV | Electric Vehicle, distributed energy resource with a remote battery and socket. | Electric vehicle/Vehicle | A vehicle using an electric motor as a powertrain. | Electric vehicle/Vehicle | A vehicle using an electric motor as a powertrain. |
| Connector | The term "Connector", refers to an independently operated and managed electrical outlet on a Charge Point. This usually corresponds to a single physical connector, but in some cases a single outlet may have multiple physical socket types and/or tethered cable/connector arrangements to facilitate different vehicle types. | Connector | The term Connector, refers to an independently operated and managed electrical outlet on a Charging Station. In other words, this corresponds to a single physical Connector. In some cases an EVSE may have multiple physical socket types and/or tethered cable/Connector arrangements(i.e. Connectors) to facilitate different vehicle types. | Charging connector | A connecting apparatus equipped to charging cable that complies with IEC62196-3 Standard Sheets Configuration AA | Charging connector | A connecting apparatus equipped to charging cable that complies with IEC62196-3 Standard Sheets Configuration AA |

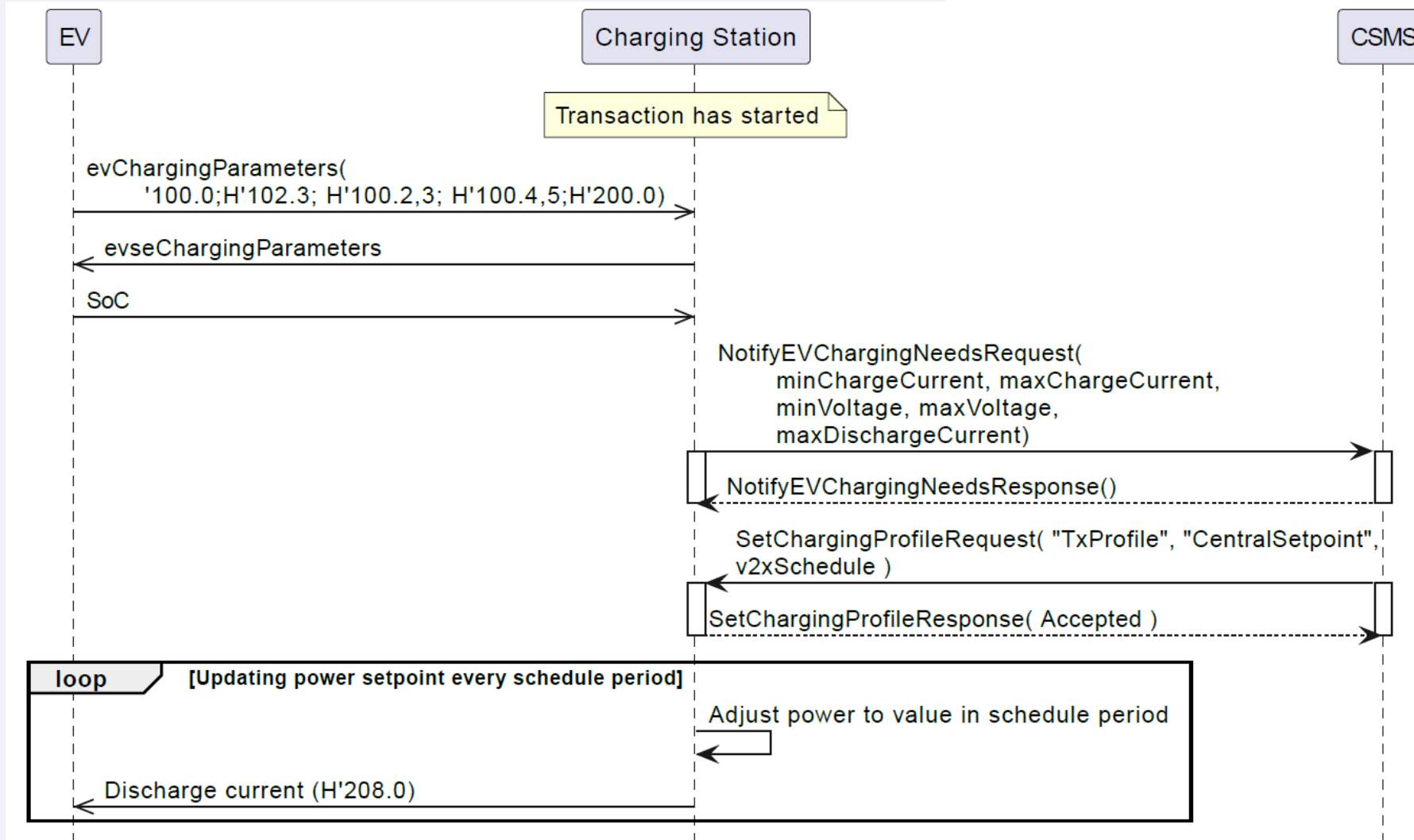
Sequence diagrams – Example: 4.1.6. Dynamic control

シーケンス図 – 例: 4.1.6. 動的制御



Sequence diagram (NEW) – Bidirectional charging (V2G)

シーケンス図（新規） – 双方向充電（V2G）



ConnectedEV for CHAdeMO

CHAdeMO向けConnectedEV

Data from the CHAdeMO controller about the charging session is reported via the ConnectedEV component. It is not really a component of the charging station itself, but represents the electrical vehicle that is connected to a connector of the charging station.

充電セッションに関するCHAdeMOコントローラーからのデータは、ConnectedEVコンポーネントを通じて報告されます。これは充電ステーション自体の実際のコンポーネントではなく、充電ステーションのコネクタに接続されている電気自動車を表します。

- Diagnostic purposes 診断目的
 - To verify that the charging station is correctly following limits that are given in a charging schedule 充電ステーションが充電スケジュールで指定された制限に正しく従っていることを確認するため
- Provide information about the progress of charging to 充電の進捗に関する情報を提供することで
 - A user via a smartphone app スマートフォンアプリを介してユーザーに知らせる
 - To optimize a smart charging algorithm スマート充電アルゴリズムを最適化する
- Indicates error situations エラー状況を示す
 - That may cause charging to be suspended or stopped 充電の一時停止または停止の原因となる可能性がある



Extended ConnectedEV mapping (NEW)

拡張ConnectedEVマッピング（新規）

| VARIABLE | UNIT | CHADEMO VALUE |
|----------------------------|------|---|
| DischargeDCCurrent(MaxSet) | A | Maximum discharge current (H'200.0) |
| DischargeDCCurrent(Target) | A | Discharging current request (H'208.0) |
| DischargeDCVoltage(MinSet) | V | Minimum battery discharging voltage (H'200.4,5) |

- In addition, an erratum has been created to extend the ConnectedEV mapping for the OCPP 2.1 part 2 specification document.
さらに、OCPP 2.1 Part 2仕様書におけるConnectedEVマッピングを拡張するための正誤表が作成されています。





OCA
Open Charge Alliance

Questions?
質疑応答

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