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ECharging OCPI Data Collector Neogy

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Preliminary information

Neogy has introduced a new back-end system for the management of its charging stations. Their supplier is ChargeUp.

The new back-end system is able to share real-time information through the standard protocol OCPI. For the interface with the Open Data Hub, only the locations module is relevant. For simplicity reasons, it has been decided to not fully implement the credentials module for the token handling and to just share offline the token needed (“token C”) for the API calls to the locations API.

Example of locations response:

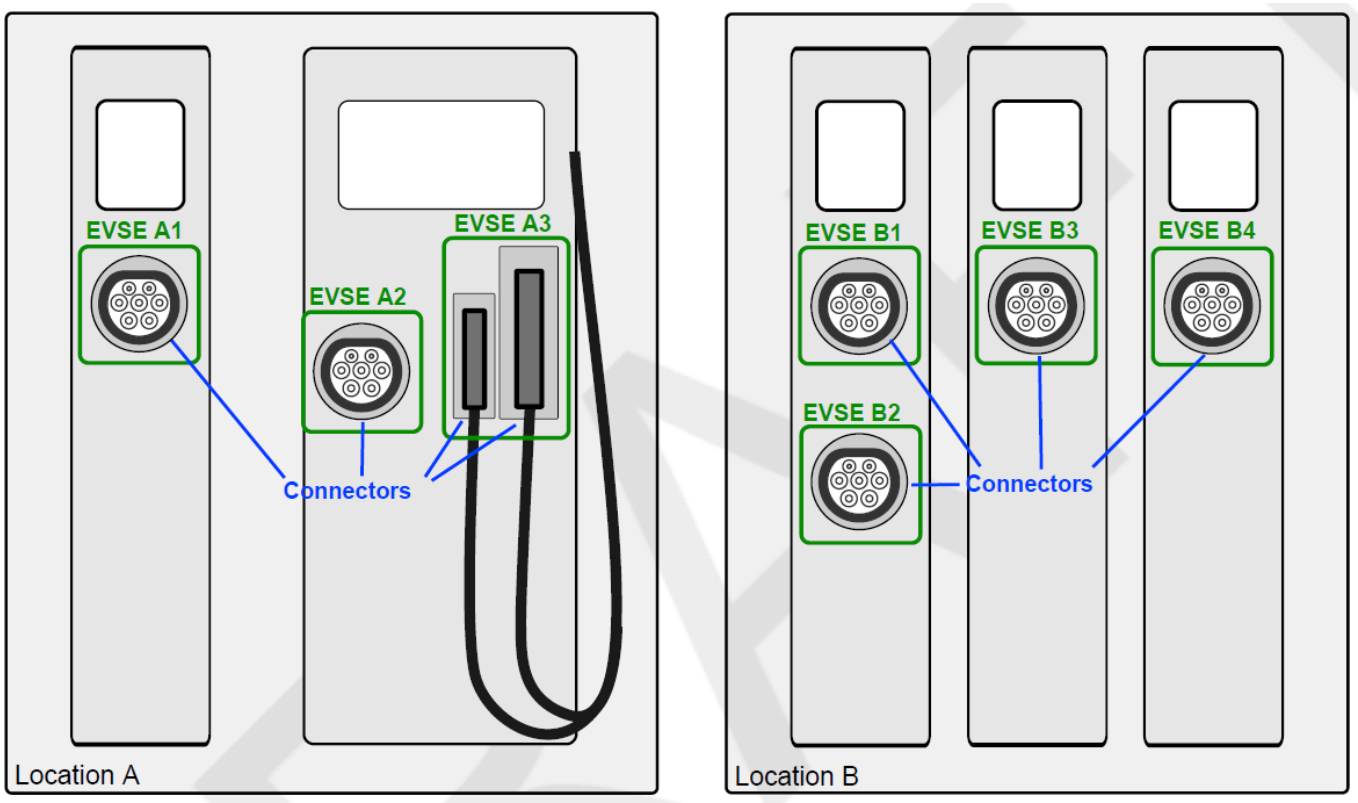

```
{
    "data": [
        {
            "country_code": "CZ",
            "party_id": "123",
            "id": "abcd60780f9f4b9a60002fe67cd4",
            "publish": true,
            "name": "Circontrol  02",
            "address": "Hráského 123/99",
            "city": "Praha 4 - Chodov",
            "postal_code": "14900",
```

```
"country": "CZE",
"coordinates": {
    "latitude": "50.2085230",
    "longitude": "15.8282000"
},
"evses": [
    {
        "uid": "43111552d9da4d4bb7eea3b2",
        "evse_id": "CZ*123*E123105886*2",
        "status": "OUTOFORDER",
        "capabilities": [
            "REMOTE_START_STOP_CAPABLE",
            "RFID_READER"
        ],
        "connectors": [
            {
                "id": "1",
                "standard": "IEC_62196_T2",
                "format": "SOCKET",
                "power_type": "AC_1_PHASE",
                "last_updated": "2024-09-10T07:07:17.016Z",
                "max_voltage": 230,
                "max_amperage": 30,
                "max_electric_power": 22000,
                "tariff_ids": [
                    "66a2aa0876532100513e77da"
                ]
            }
        ],
        "last_updated": "2024-09-10T07:07:17.016Z"
    },
    {
        "uid": "fa79dae522654d0488fcf812",
        "evse_id": "CZ*123*E123105886*6",
        "status": "OUTOFORDER",
        "capabilities": [
            "REMOTE_START_STOP_CAPABLE",
            "RFID_READER"
        ],
        "connectors": [
            {
                "id": "1",
                "standard": "CHADEMO",
                "format": "SOCKET",
                "power_type": "DC",
                "last_updated": "2024-09-10T07:07:17.020Z",
                "max_voltage": 230,
                "max_amperage": 80,
```

```
                            "max_electric_power": 55000,
                            "tariff_ids": [
                                "66a2aa0876532100513e77da"
                            ]
                        }
                    ],
                    "last_updated": "2024-09-10T07:07:17.020Z"
                }
            ],
            "time_zone": "Europe/Prague",
            "opening_times": {
                "twentyfourseven": true
            },
            "last_updated": "2024-09-10T07:07:17.020Z",
            "directions": []
        },
    "status_code": 1000,
    "status_message": "Success",
    "timestamp": "2024-09-10T13:06:20.530Z",
    "pageInfo": {
        "pageIndex": 0,
        "pageSize": 1000,
        "total": 3
    },
    "httpStatusCode": 200,
    "uuAppErrorMap": {}
}
```


Metadata mapping

It is important to remember the model of an e-charging station, so that the information provided are properly mapped in the model implemented within the Open Data Hub. The following picture provides an overview about the naming conventions, also used in the OCPI standard.



A "Location" (modeled as EChargingStation in the Open Data Hub) can be characterized by different EVSE (Electric vehicle supply equipment, modeled as EChargingPlug in the Open Data Hub). Each EVSE can be characterized by different Connectors (currently represented as "outlets" in the metadata associated to an EChargingPlug). In the following sections we analyze how such information is provided through the OCPI Locations Module and how to map it with the Open Data Hub data model.

ECHARGINGPLUG

The reference information is in the structure "**evses**". Following mapping with the Open Data Hub database table **station** is proposed (or **metadata**, when referenced as such).

OCPI END-POINT	OPEN DATA HUB TABLES
coordinates	pointprojection
evses/uid	stationcode
evses/evse_id	name
evses/capabilities	METADATA
evses/connectors	METADATA

Following aspects have to be taken in consideration as well:

- the value for the field **origin** has to set as **Neogy**
- the **coordinates** to be considered are the one of the reference EChargingStation (see next paragraph)
- the value for the field **stationtype** has to hardcoded as **EChargingPlug**
- each station EChargingPlug has to be referenced to a certain EChargingStation through the key parent_id

ECHARGINGSTATION

The reference information is in the main data structure. Following mapping with the Open Data Hub database table **station** is proposed (or **metadata**, when referenced as such).

OCPI END-POINT	OPEN DATA HUB TABLES
country_code	METADATA
party_id	METADATA
id	stationcode
publish	METADATA
name	name
address	METADATA
city	METADATA
postal_code	METADATA
coordinates	pointprojection
time_zone	METADATA
opening_times	METADATA
directions	METADATA

Following aspects have to be taken in consideration as well:

- the value for the field **origin** has to set as **Neogy**
- the value for the field **stationtype** has to hardcoded as **EChargingStation**

Data mapping

ECHARGINGPLUG

The reference data related to a station EChargingPlug is related to its status (in the API, evses/status), which is an enumerated values with possible strings defined by the OCPI standard. At present we have already a similar type called **echarging-plug-status**, but it is an integer providing a boolean information (available / not available). In order to also maintain existing implementations related to previous API interface, the proposal is to foresee a new type called **echarging-plug-status-ocpi**, associated to a string. The reference data should be then therefore saved in the table measurementstring and measurementstringhistory.

ECHARGINGSTATION

The API does not provide any specific raw data related to a station EChargingStation to be treated as measurement. However, this was exactly the same as in the previous implementation. The measurement associated in this case to a EChargingStation is a simple elaboration that counts how many associated EChargingPlug are currently available. The reference type in use is **number-available**, which should be applied with the same logic also for this implementation.