2025

MINT Data FTP Connection

VERSION 2.0

EN

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Date	Version	Description of Changes	Status	Author
25-09-2024	1.0	Initial version		Bert Vandormael
10-01-2025	2.0	New template	Release	Marco Cicarelli

1 About

This document will describe which data an external party can receive from de MINT platform.

For any other integrations, please get in touch with your local Phoenix Contact subsidiary for the right documentation.

2 The MINT FTP integration

The MINT FTP integration is an extension of the MINT platform, allowing external parties to process data from sites in the field.

Technical

The MINT DataHub is set up as a stateless data processing service. This means that the FTP integration works in the same manner and data can only be pushed to external parties.

3 Getting started

To connect an application to MINT through FTP, set up on the side of the external party will be required, before any integration can be set up in the MINT DataHub.

As mentioned in section 2, the MINT DataHub is stateless, so it is expected from the external party to provide FTP credentials. This can be a single location for all data, or separate locations for each data type.

3.1 FTP location

The external party is completely free in deciding how the FTP integration is set up, though considering the following requirements:

- SSL (SFTP) is required.
- Authentication is preferred through a username and password.
- Data will only be sent in a JSON format (see section 4).
- Filenames will have the format EQUIPMENTID_TIMESTAMP.json (e.g. AC01_202409251200.json).
- The DataHub will not resend a data package if the request fails.

3.2 Integration

The next step is for the external party to provide the FTP connection details to their Phoenix Contact intermediary. They will start the process to enable the integration on the MINT DataHub to start sending data.

The following should be mentioned in the communication:

- The FTP URL(s).
- The username and password.
- Overview of the sites for which data is requested and per site the data types to be sent.

Next, the external party will either ...

- ... receive negative feedback, where changes will need to be made to complete the integration.
- ... or positive feedback and the timing on when the integration will be live.

4 Messages

The following is an overview of all the messages an external party can receive through the FTP integration.

4.1 Energy report

4.1.1 AC Charger

Message body

```
{
    "messageType": "EnergyReportAC_V4",
    "equipmentId": "string",
    "locationId": "string",
    "timestamp": "0000-00-00T00:00:00Z",
    "communicationState": 0 | 1 | 2,                    // 0 = Valid
                                                        // 1 = Invalid
                                                        // 2 = Error
    "sessionEnergyImported": 0,                         // in Wh (optional)
    "sessionMaxPowerImported": 0,                       // in W (optional)
    "dayEnergyImported": 0,                             // in Wh (optional)
    "dayMaxPowerImported": 0,                           // in W (optional)
    "energyImported": 0,                                // in Wh (optional)
    "activePower": 0,                                   // in W
    "soc": 0.0,                                         // in %
    "activePowerSetpoint": 0,// in W
    "pins": {
        "p1": {
            "current": 0.0,                             // in A
            "activePower": 0,                           // in W (optional)
            "energyImported": 0,                        // in Wh (optional)
            "voltage": 0.0                              // in V (optional)
        },
        "p2": {
            "current": 0.0,                             // in A
            "activePower": 0,                           // in W (optional)
            "energyImported": 0,                        // in Wh (optional)
            "voltage": 0.0                              // in V (optional)
        },
        "p3": {
            "current": 0.0,                             // in A
            "activePower": 0,                           // in W (optional)
            "energyImported": 0,                        // in Wh (optional)
            "voltage": 0.0                              // in V (optional)
        }
    }
}
```

Table 1: AC charger

4.1.2 Collector

Message body

```
{
        "messageType": "EnergyReportCollector_V4",
        "equipmentId": "string",
        "locationId": "string",
        "timestamp": "0000-00-00T00:00:00Z",
        "communicationState": 0 | 1 | 2,                    // 0 = Valid
                                                            // 1 = Invalid
                                                            // 2 = Error
        "energyImported": 0,                                // in Wh (optional)
        "energyExported": 0,                                // in Wh (optional)
        "dayEnergyImported": 0,                             // in Wh (optional)
        "dayEnergyExported": 0,                             // in Wh (optional)
        "activePower": 0,                                   // in W (optional)
        "reactivePower": 0,                                 // in Var (optional)
        "powerFactor": -1.0 to 1.0,                         // (optional)
        "dayMaxPowerImported": 0,                           // in W (optional)
        "dayMaxPowerExported": 0,                           // in W (optional)
        "frequency": 0.0,                                   // in Hz (optional)
        "activePowerSetpoint":0,                            // in W
        "reactivePowerSetpoint": 0,                         // in W
        "pins": {
                "p1": {
                        "current": 0.0,                     // in A
                        "activePower": 0,                   // in W
                        "energyImported": 0,                // in Wh (optional)
                        "energyExported": 0,                // in Wh (optional)
                        "voltage": 0.0,                     // in V (optional)
                        "reactivePower": 0,                 // in Var (optional)
                        "powerFactor": -1.0 to 1.0,         // (optional)
                },
                "p2": {
                        "current": 0.0,                     // in A
                        "activePower": 0,                   // in W
                        "energyImported": 0,                // in Wh (optional)
                        "energyExported": 0,                // in Wh (optional)
                        "voltage": 0.0,                     // in V (optional)
                        "reactivePower": 0,                 // in Var (optional)
                        "powerFactor": -1.0 to 1.0,         // (optional)
                },
                "p3": {
                        "current": 0.0,                     // in A
                        "activePower": 0,                   // in W
                        "energyImported": 0,                // in Wh (optional)
                        "energyExported": 0,                // in Wh (optional)
                        "voltage": 0.0,                     // in V (optional)
                        "reactivePower": 0,                 // in Var (optional)
                        "powerFactor": -1.0 to 1.0,         // (optional)
                },
                "p12": {
```

```
                "voltage": 0.0                    // in V (optional)
            },
            "p23": {
                "voltage": 0.0                    // in V (optional)
            },
            "p31": {
                "voltage": 0.0                    // in V (optional)
            }
        }
    }
```

Table 2: Collector

4.1.3 PV system

Message body

```
{
        "messageType": "EnergyReportPVSystem_V4",
        "locationId": "string",
        "equipmentId": "string",
        "timestamp": "0000-00-00T00:00:00Z",
        "communicationState": 0 | 1 | 2,                    // 0 = Valid
                                                            // 1 = Invalid
                                                            // 2 = Error
        "energyExported": 0,                                // in Wh (optional)
        "dayEnergyExported": 0,                             // in Wh (optional)
        "activePower": 0,                                   // in W
        "reactivePower": 0,                                 // in Var (optional)
        "powerFactor": -1.0 to 1.0,                         // (optional)
        "dayMaxPowerExported": 0,                           // in W (optional)
        "activePowerSetpoint": 0,                           // in W
        "reactivePowerSetpoint": 0,                         // in W
        "pins": {
                "p1": {
                        "current": 0.0,                     // in A
                        "activePower": 0,                   // in W (optional)
                        "energyExported": 0,                // in Wh (optional)
                        "voltage": 0.0,                     // in V (optional)
                        "reactivePower": 0,                 // in Var (optional)
                        "powerFactor": -1.0 to 1.0,         // (optional)
                },
                "p2": {
                        "current": 0.0,                     // in A
                        "activePower": 0,                   // in W (optional)
                        "energyExported": 0,                // in Wh (optional)
                        "voltage": 0.0,                     // in V (optional)
                        "reactivePower": 0,                 // in Var (optional)
                        "powerFactor": -1.0 to 1.0,         // (optional)
                },
                "p3": {
                        "current": 0.0,                     // in A
                        "activePower": 0,                   // in W (optional)
                        "energyExported": 0,                // in Wh (optional)
                        "voltage": 0.0,                     // in V (optional)
                        "reactivePower": 0,                 // in Var (optional)
                        "powerFactor": -1.0 to 1.0,         // (optional)
                }
        }
}
```

Table 3: PV system

4.1.4 RTU

Message body

```
{
        "messageType": "EnergyReportRTU_V4",
        "locationId": "string",
        "equipmentId": "string",
        "timestamp": "0000-00-00T00:00:00Z",
        "communicationState": 0 | 1 | 2,                    // 0 = Valid
                                                            // 1 = Invalid
                                                            // 2 = Error
        "activePower": 0,                                   // in W
        "reactivePower": 0,                                 // in Var (optional)
        "activePowerSetpoint": 0,                           // in W
        "reactivePowerSetpoint": 0                          // in W
}
```

Table 4: RTU