Wattsmart Integration Requirements

This document is an overview of the requirements for integrating batteries with the Wattsmart 2030.5 DGBMS.

The reference document for the protocol is IEEE 2030.5-2018.

General

- Clients shall use content type "application/sep+xml", EXI is not permitted
- Clients shall support and use polling and respect the pollRate attribute of all resources
- Clients shall provide their own IEEE 2030.5 client certificates and use them when communicating with the server
- Onboarding/registration of new DERs will take place out-of-band
- Clients shall obtain and execute their own DERControls and send telemetry as detailed below
- Provide 30-second interval data

Telemetry Reporting

MirrorUsagePoint/MirrorMeterReadings

- Required data points: Real Power (W), Frequency (Hz)
- Client shall a create a MirrorUsagePoint for each data point, with accumulationBehaviourType: instantaneous, dataqualifier: default (instantaneous)
- Client shall send MirrorMeterReadings at the post rate specified in MirrorUsagePoint:postRate

DERStatus

- Client shall regularly send DERStatus at a rate of once per minute
- Mandatory fields: timestamp, stateOfChargeStatus

DERCapability

- Client shall send DERCapability on start-up or on change
- rtgMaxW, rtgMaxChargeRateW and rtgMaxDischargeRateW must be that of the battery inverter
- Mandatory fields: rtgMaxChargeRateW, rtgMaxChargeRateWMultiplier, rtgMaxDischargeRateW, rtgMaxDischargeRateWMultiplier, rtgMaxW, rtgMaxWMultiplier, rtgMaxWh, rtgMaxWhMultiplier

DERSettings

- Client shall send DERSettings on start-up or on change
- setMaxW, setMaxChargeRateW and setMaxDischargeRateW must be that of the battery inverter
- Mandatory fields: setMaxChargeRateW, setMaxChargeRateWMultiplier, setMaxDischargeRateW, setMaxDischargeRateWMultiplier, setMaxW, setMaxWMultiplier, setMaxWh, setMaxWhMultiplier

Required Battery Controls

Setpoints

- opModFixedW (deliver x% of max power, charge and discharge). Note: the max power referenced must be that of the battery's inverter
- opModTargetW (deliver X Watts, charge and discharge).