Requirements Mapping to ISO 15118

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2017-09-27

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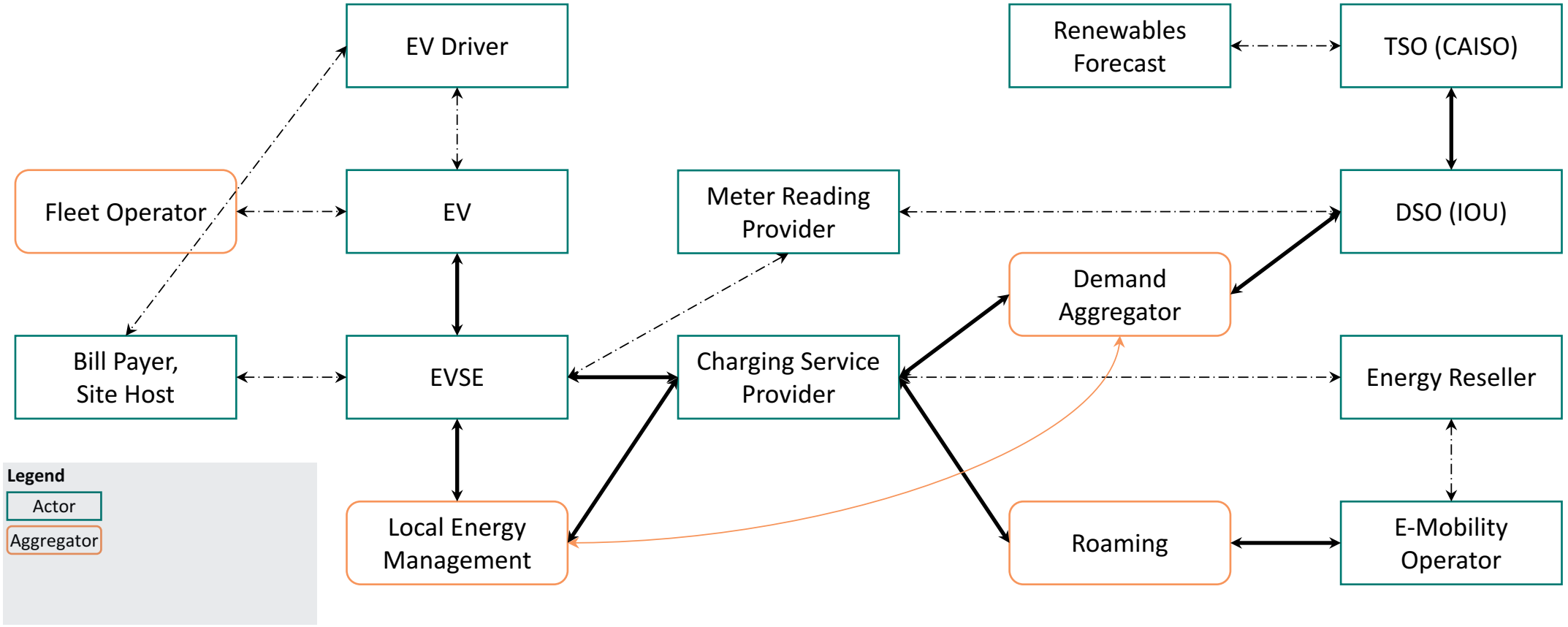
ISO 15118 relevant communication links



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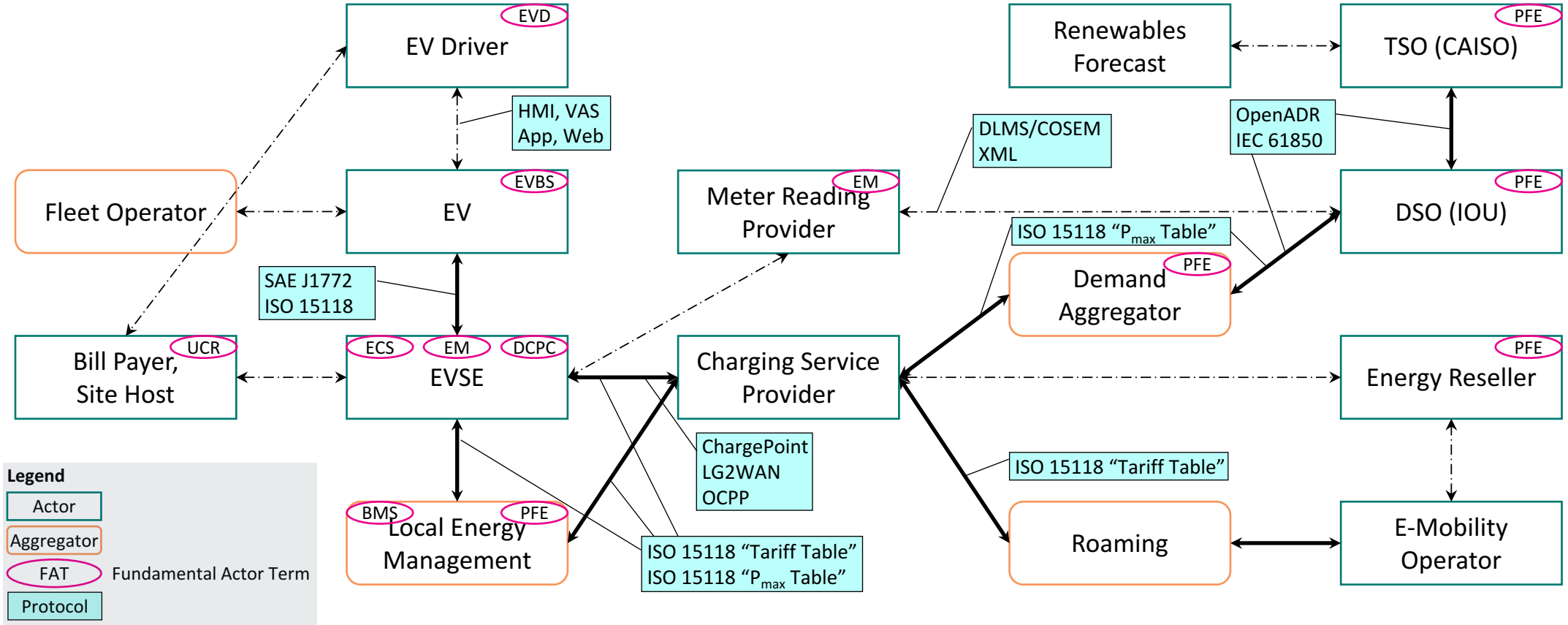
ISO 15118 relevant communication links — with “Fundamental Actor Terms” & protocols



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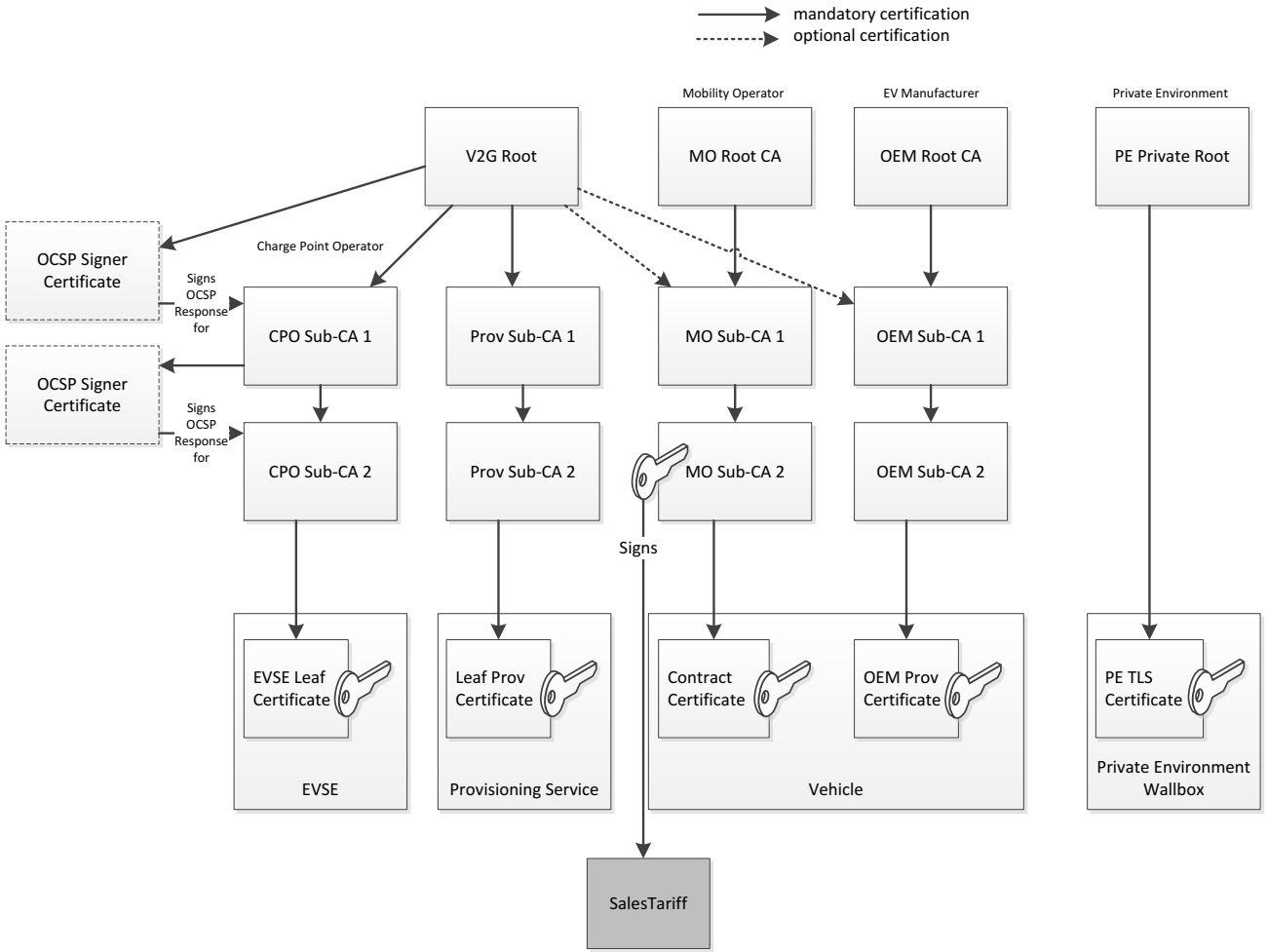
Overview on ISO 15118 certificate structure

- For cyber security (information security) ISO 15118 defines a certificate structure.
- A best practice approach will be published on 2017-09-15 by VDE as application guide VDE-AR-E 2801-100-1.



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Mapping of ISO 15118 message element names to SAE J2847/2 terms

- In Annex B of ISO 15118-2 mapping of ISO 15118 message element names to SAE J2847/2 terms are defined.
  - SAE J2847/2 status codes
  - SAE J2847/2 Energy Transfer Types
  - SAE J2847/2 signals

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Enhancement planned for ISO 15118 Edition 2

- Add communication for wireless charging (e.g. inductive charging)
- Add communication for Reverse Power Transfer
  - Using DC transfer from EV's battery to off-board DC-to-Grid inverter ("control box")
  - Using EV's on-board inverter to provide grid-quality AC may be shifted to ISO 15118 Edition 3
- Add support for high-power and high-energy (e.g. trucks, busses)

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Existing protocols mappings

This collection is just started, unfinished and incomplete.

- IEC TR 61850-90-8: EDF, DONG Energy (?)
- OCPP 1.5 and OCCP 1.6 (by OCA): innogy SE, IoTecha
- OpenADR 2.0b: Oxygen Initiative
- LG2WAN (by innogy SE): innogy SE
- SmartHome (by innogy SE): innogy SE
- SmartOperator (by innogy SE): innogy SE

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Standardization of E-Mobility Backend Protocols — Related to VGI

This collection is just started, unfinished and incomplete.

- IEC 61850 based on IEC TR 61850-90-8
- IEC 63110 Protocol for Management of Electric Vehicles charging and discharging infrastructures
- IEEE P2690™ Standard for Charging Network Management Protocol (CNMP) for Electric Vehicle Charging Systems
- IEEE 2030.5 IEEE Adoption of Smart Energy Profile 2.0 Application Protocol Standard
- SAE J2836 Surface Vehicle Information Report
- SAE J2847 Surface Vehicle Recommended Practice
- SAE J3072 Surface Vehicle Standard

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Standardization of E-Mobility Backend Protocols — Related to roaming

This collection is just started, unfinished and incomplete.

- Open Clearing House Protocol (OCHP)
- Open Smart Charging Protocol (OSCP)
- Open InterCharge Protocol (OICP)

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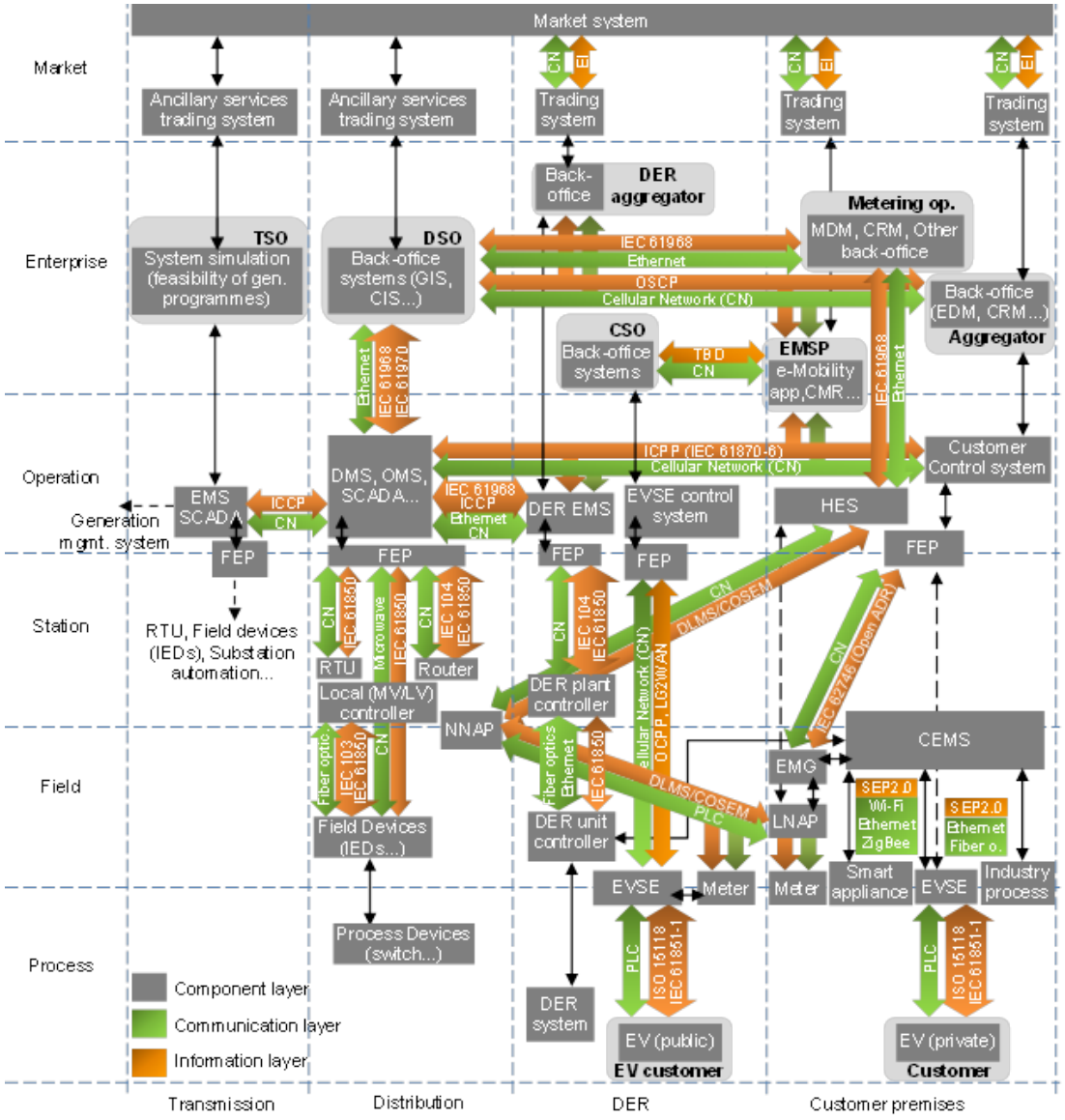
Backup

PlanGridEV: Smart Grid ICT Architecture Proposal

- (Zoomable) Comprehensive ICT architecture proposal from European Commission co-funded project "PlanGridEV" (http://plangridev.eu/datas/150824_SRG_PGEV_D33_ABSTRACT_editor.pdf)



Source: http://plangridev.eu/

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Revisions

Ver	Date	Changes	Author
1.0	17-09-15	Initial version	SV
1.1	17-09-15	Add mapping with SAE	SV
1.2	17-09-27	Add “Existing protocols mappings”, “Standardization of E-Mobility Backend Protocols”	SV

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