What is vCharM?
vCharM is a charging and load management backend. It is designed to operate many charging points at high availability. Prime example use cases are charging depots for electric buses and commercial vehicles as well as high-capacity car parks. Once a charging station has been connected to the vCharM backend, each charging point can be conveniently configured, monitored and controlled.

Overview of Advantages
> Charging station manufacturer-independent solution using standardized communication protocol OCPP 1.6J and OCPP 2.0
> Optimized for fleet operators, e.g. bus depots, special vehicle fleets, company vehicle pools, car parks and other electric vehicle fleets
> Optimized load management for vehicles with and without smart charging according to ISO 15118 and DIN 70121
> Connection to fleet management system for automated exchange of vehicle data
> Vehicle authorization via RFID, Plug&Charge, Autocharge and other methods
> Control of vehicle preconditioning via Value-Added-Service according to VDV 261

The browser-based frontend provides easy access to all information and controls required for the operation of electric vehicle fleets.
Features
> **Load Management**
  Manage load consumption dynamically with configurable charging strategies
> **Charging Station Control**
  Monitor, configure and control charging stations via OCPP 1.6J and OCPP 2.0
> **Vehicle Preconditioning**
  Monitor and control individual vehicle preconditioning via the implementation of Value-Added-Services
> **Vehicle Authorization**
  Manage and verify vehicle authorization requests via RFID, Plug&Charge and Autocharge

> **Reports**
  Generate and analyze reports with statistics of finished charging sessions
> **Fleet Management**
  Automate data exchange for telematics data with your vehicle tracking system
> **Clearing**
  Log transactional data of charging sessions in a law-conform manner
> **User Frontend**
  Use vCharM from a browser-based frontend with a modern and intuitive user experience

More information: [www.vector.com/vcharm](http://www.vector.com/vcharm)

The vCharM architecture provides a REST interface for the integration into other management systems. The exchanged data can be used to optimize the charging sessions and the operational business.

**Smart Charging with ISO 15118**
The protocols ISO 15118 and OCPP 2.0 provide a comprehensive interface to control the power consumption of charging procedures for electric vehicles. vCharM uses these mechanisms to adhere to physical limits of the infrastructure as well as to guarantee the ideal scheduling of charging sessions.

A load management algorithm depends highly on the charging environment and the customer needs. vCharM offers different algorithms, each optimized for a specific use-case. This enables the usage of vCharM in different application areas, e.g. for bus depots, special vehicle fleets, company vehicles pools, car parks and other EV fleets.

Example of an ISO 15118 message with a PMaxSchedule. The maximum power profile is calculated by vCharM for every charging session and transmitted to the charging station via OCPP. The charging station uses ISO 15118 to limit the power consumption according to the received profile.

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