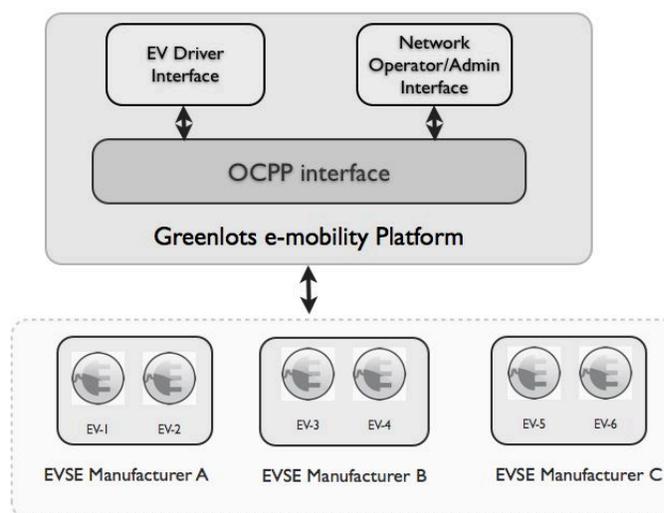# Open Charge Point Protocol Based E-mobility Management Solution

The growing number of electric vehicle supply equipment ("EVSE") providers and networks pose an interoperability challenge. Leading EVSE networks in the United States are currently built on proprietary protocols. This causes inconvenience to electric vehicle ("EV") drivers as they need to register with and authorize against multiple networks. It also poses a challenge to network operators, administrators and support personnel who want to manage a set of EVSEs from different providers. With the number of EVs growing and increase of public EV charging, there is need for standardized EVSE solutions to optimize EV drivers' user experience and provide a scalable e-mobility management solution for public accessibility. Furthermore, the current EVSE networks being installed in California are closed systems and changing software / EV service providers ("EVSPs") later will not be possible.

Open Charge Point Protocol (OCPP) is an open protocol between charging stations and a managing central system. OCPP, an initiative from E-Laad foundation in the Netherlands, provides an open standard for EVSEs and central systems to easily communicate with each other.

An open e-mobility solution will implement OCPP protocol and:

- enable EV drivers public access to EVSEs from multiple providers through a single solution without having to enroll in multiple EVSE networks;

- enable network operators, administrators and support personnel to manage/troubleshoot EVSEs from multiple providers through a single management solution; and,

- enable site hosts to easily replace EVSE hardware or scale their existing install base without changing the backend software systems.

In addition the solution can also provide:

- Pricing and payment solutions that will support popular payment methods such as credit cards, debit cards and Paypal, and allow administrators to configure and manage dynamic pricing

- User Management functions such as ability to create, update, delete and group users, and assign access levels to users and groups

- Reporting tools