

EVaaS: Electric Vehicle-as-a-Service for Energy Trading in SDN-enabled Smart Transportation System

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Highlights

- A unique conceptual solution using EVs has been provided in this paper. The proposed solution deals with the problem of miscellaneous power or deficit at CSs by utilizing the EVs-as-a-service (EVaaS) paradigm. On one hand, EVaaS provides opportunities to the owner of EVs to earn profit and on the other hand, it helps to balance the demand and supply at CSs. This concept works in two steps; 1) EV-as-a-buyer: EVs act as energy buyers and CSs act as energy sellers, and 2) EV-as-a-seller: EVs act as energy sellers and CSs act as energy buyers.
- For the smooth movement of EVs in the smart city, a mobility model is also designed.
- In addition, this approach also utilizes the software defined networking (SDN) paradigm for enabling faster communication between the entities involved. For this purpose, a flow management scheme is designed for efficient data transfer between EVs and CSs.

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