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### Highlights:

- Enables multivendor interoperability, fee calculation and multiparty settlement support via an integration platform
  - Helps manage grid load caused by vehicle charging with analytics and “smart-charging” capabilities
  - Provides a cloud-based solution designed to be more flexible, scalable and security-rich
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## Intelligent Electric Vehicle Enablement offering

*Enable enhanced electric vehicle charge-management and payment services*

In order to manage electric vehicle charging effectively, a variety of business processes—such as payer authorization, fee calculation, asset management, payment clearing and subscriber services—is required. To enable these services, energy providers and charge-post operators need the ability to receive data from a range of integration points and to communicate across a variety of types of infrastructure. Energy providers also must be able to manage the increasing and variable load of electric vehicles in order to avoid overloading distribution equipment and to help ensure that charging is optimized in accordance with multiple grid conditions.

The intelligent electric vehicle enablement offering from IBM is built on a standards-based platform and can provide a complete set of services to help manage electric vehicle charging more efficiently. Our solution is designed to process data from disparate sources to enable enhanced interoperability across the various systems involved in electric vehicle charging while also helping to provide a security-rich environment for data and transactions. It can help charge-post operators execute complex fee calculations, support multiparty settlement processes and optimize operations using advanced analytical capabilities. Our solution can also provide the necessary intelligence and control capabilities to help energy providers forecast and manage charge loads more efficiently.



### Enabling multiparty integration, interoperability and business processes

The intelligent electric vehicle enablement offering from IBM can provide a cloud-based, open platform to help integrate electric vehicles and the supporting infrastructure required for vehicle charging, payments, and other services. It is designed to leverage data from diverse sources to provide utility providers and charge operators with the services they need to support electric vehicles. Our solution can help calculate complex fees, facilitate settlement with multiple parties and support prepaid and period billing, as well as point-of-sale payment.

### Helping manage load more effectively with analytics

Our intelligent electric vehicle enablement offering can help electricity providers manage the impact of electric vehicle charging on overall grid load. This is facilitated through indirect methods—such as managing and maintaining variable electricity prices to encourage or discourage charging at particular times—and via more direct means—such as calculating schedules that can optimize vehicle charging times against other network demand, and propagating “demand-response” signals directly to individual vehicles or charging points. By using analytical tools and services, utility providers can gain insight into the impact that electric vehicle charging has on power demand, and can apply those insights to make more informed decisions—both to balance overall grid load and to make adjustments to help optimize operation of the grid.

### Helping reduce cost and enabling greater flexibility

The intelligent electric vehicle enablement platform can help reduce the need for utility providers and charge operators to make up-front capital investments in operational systems, equipment and facilities. It is designed to provide a more robust, reliable, and cost-effective solution with rich functionality that can be updated and expanded as needed to help meet the future requirements of the emerging market for electric vehicle services. It uses open standards to help accommodate hardware from multiple vendors, which can allow utility providers and charge operators to communicate with all types of devices. It has built-in security features to help manage authentication and authorization and prevent unauthorized access. Using cloud computing technology, it can scale up more cost effectively to respond to growth in electric vehicle demand.



## **Why IBM?**

IBM is a trusted partner for helping integrate complex systems. Our extensive expertise in smart grid implementation, systems integration, data management and analytics, and cloud computing technology enables us to help utility providers and charge-post operators cost-effectively provide charging and other services, and integrate electric vehicles with the grid. Our open-standards-based platform can provide the flexibility needed to integrate the best-available hardware and software, and helps “future-proof” systems to be able to incorporate new capabilities and technologies as they are developed. Our platform is designed to handle payment and settlement with a security-rich environment and to scale, as needed, to meet changes in demand. We can use leading-edge analytics to help mine valuable insights from data across the electric vehicle ecosystem.



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