EV Charging Solutions: Scale Faster with Smart Cellular Connectivity Management

Charge-Point Operators (CPOs) that deliver a better customer experience stand to gain a competitive edge in a market poised for spectacular growth. The 500,000 public Electric Vehicle (EV) charging points installed in 2021 brought the worldwide total to nearly 1.8 million.[1] To keep up with demand, Europe alone will need 9 million public chargers by 2035, a 400 percent increase over the 340,000 public chargers available in 2022.[2]

Growth and profitability hinge on smart cellular connectivity management

Imagine a great charging experience. It starts with working chargers. Dependable authentication, usage metering, and payment. A mobile app that accurately identifies charger locations, real-time availability, and even dynamic pricing. Add in SMS alerts on charging status (for example, **charging, 80% charged, 10 minutes remaining, charging complete**) while the customer enjoys a coffee next door and you have an exceptional charging experience.

Public EV charging solutions of the future will transform the 30-minute ho-hum charging experience into something drivers actually enjoy.[3] Equipped with cellular Wi-Fi routers, the charging station can provide a Wi-Fi hotspot that allows customers to work or watch the news from their car. Interactive displays to learn about local attractions—a possible source of advertising revenue for the station operator. Or perhaps a service that updates the vehicle's software while it charges.

Underpinning all these customer experiences—today's and tomorrow's—is a reliable, secure cellular network.

> "EV charging infrastructure is a trillion dollar market opportunity over the next 20 years, but the pace of installations needs to accelerate rapidly."
>
> – BloombergNEF, 2022

[1] Electric Vehicle Outlook 2022, BloombergNEF, 2022
[2] Power Sector A ating e-Mobility, EY and Eurelectric, 2022
[3] See What the Future of Electric Charging Stations Could Look Like, Business Insider, February 2, 2022

Challenges managing cellular connectivity

Smart cellular connectivity must address several challenges:

Ensuring service reliability: Out-of-service chargers or payment systems take a bite out of revenue. They also irritate customers who planned their trips around charging.

Rate-plan management and overage charges: Assigning the right rate plans to hundreds, thousands, or tens of thousands of chargers—and then managing them—is an arduous task. Getting it wrong can lead to unexpected data overage charges that wreak havoc on projected profit margins.

Deploying large volumes of new chargers: Individually provisioning large groups of chargers is time-consuming and error-prone, slowing down deployment.

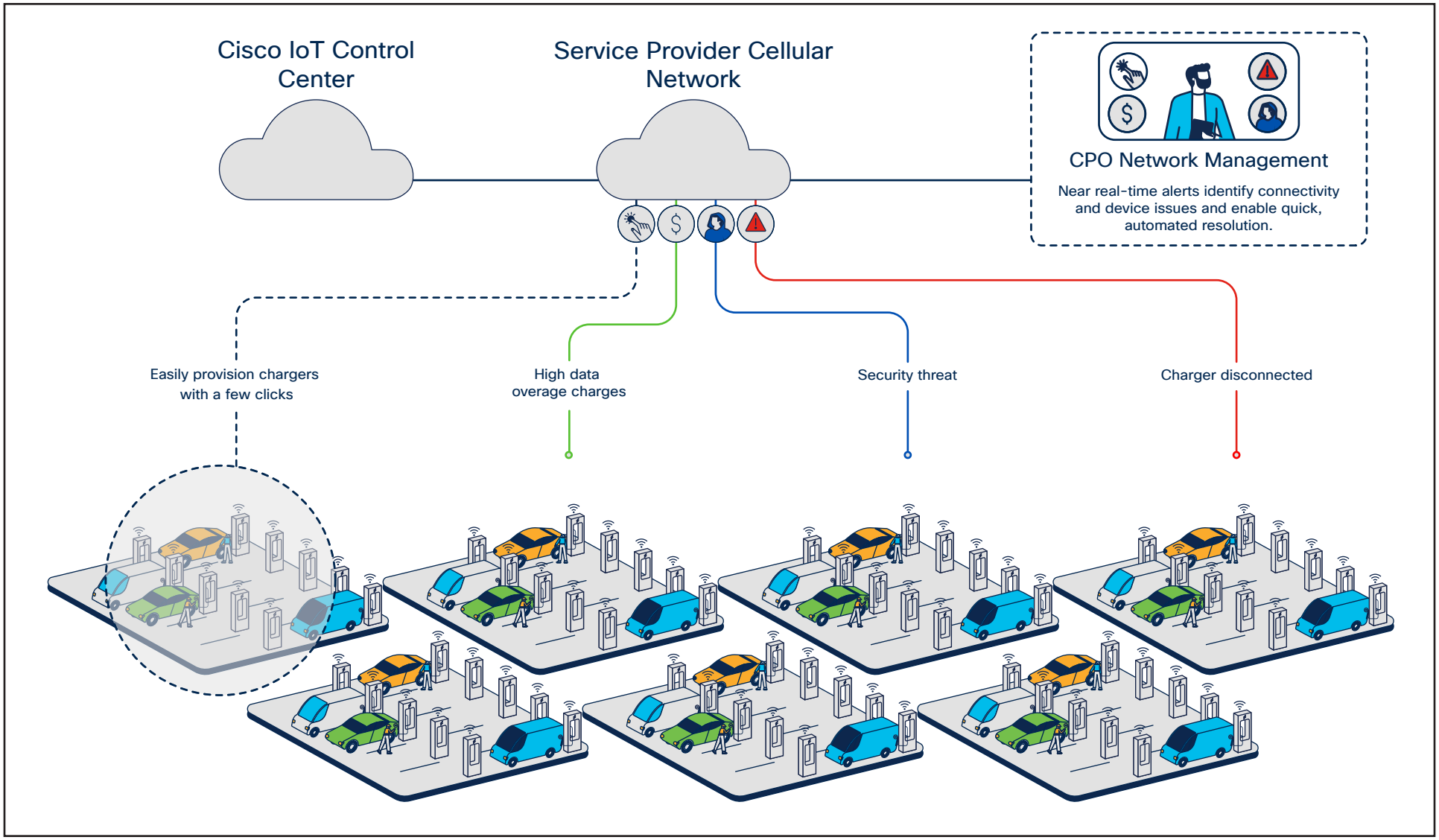
Security: Unlike IT equipment, EV chargers are out in the open and susceptible to tampering, making it easier for bad actors to steal SIMs. Without a way to immediately detect and deactivate stolen SIMs, CPOs are on the hook for data charges until the theft is discovered, possibly weeks later.

Multiple management platforms across regions: For CPOs using multiple mobile network operators, integrating their man-agement platforms is costly and can take months to complete for each operator.

Insight into usage trends: Manually exporting cellular usage data to other enterprise applications is a tedious, time-consuming process and can post-pone insights.

Respond quickly to hidden connectivity challenges

Managing 1000's of chargers requires real-time visibility and control



Benefit from the experience of the global market leader.

Cisco IoT Control Center is the trusted CMP used by:

270+ million
connected devices

100+ million
connected cars

2+ million
new devices per month

50+
service providers in 120 countries

30+
thousand enterprises

20M+
Smart Meters

Delight customers and scale profitably with Cisco IoT Control Center

Scale faster, operate smarter, and protect better with Cisco® IoT Control Center, the industry-leading cellular Internet of Things (IoT) Connectivity Management Platform (CMP) for EV charging solutions (see sidebar). Unlike cellular IoT platforms that simply connect your EV chargers to the cellular network, Cisco IoT Control Center also helps you scale quickly and increase profitability by delivering outstanding customer experiences, reducing costs, and automating more of your business. As a foundational component of Cisco's Mobility Services Platform, IoT Control Center stands as the industry's leading connectivity management platform, serving over a quarter billion subscribers today.

Whether you're just starting out as a CPO or are already operating at scale, Cisco IoT Control Center accelerates your journey to the next step:

- **Scale faster.** Managing cellular IoT at large scale can be overwhelming. Cisco IoT Control Center makes it as simple to onboard and manage 10,000 chargers as 10.
- **Operate smarter.** Deliver better customer experiences and increase profitability with near-real-time visibility, control, and rate-plan optimization based on Artificial Intelligence and Machine Learning (AI/ML)–based analytics.
- **Protect better.** Protect data and systems with multilayer, enterprise-grade CMP platform security. Automatically identify and respond to possible comprised devices exhibiting unusual connectivity behavior.

> "Using Cisco IoT Control Center, we dropped our monthly per-car network cost in Europe by 88%."
>
> – Head of Connectivity, International Electric Vehicle Company

Learn more at Cisco IoT Control Center
Learn more about Cisco Mobility Services Platform

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