



WIND RIVER AND PARKEON PARTNER TO MAKE THE "SMART CITY" A REALITY

A Global Leader in On-Street Parking Payment Solutions Selects Wind River IoT Design Center and Wind River Helix Device Cloud to Integrate Intelligent Street Kiosks

PARKEON

Industry

Urban mobility and payment solutions

Solutions Used

- Wind River IoT Design Center
- Wind River Helix Device Cloud

Benefits

- Accelerates time-to-market by 6–12 months
- Reduces development costs compared to in-house development
- Ensures a stable, proven solution at launch
- Lays the foundation for a "Smart City" development ecosystem, delivering multiple services from third-party providers via Parkeon's smart kiosks in cities worldwide

PARKEON
Solutions for Smart Cities

Over the last 40 years, Parkeon has become a global leader in urban mobility technology, building on its core expertise in parking payment solutions—multi-space parking meters, mobile phone payment, ticket vending machines, fare collection devices, and fare validation. Today, the French company has an installed base of some 200,000 meters in 3,500 cities and 55 countries.

But that's only the beginning.

"Our vision is to empower our devices to be the new channel for a wide range of city services, not just ticketing machines for parking spaces," explains Marc Boulanger, Parkeon's StreetSmart program director within the company's Smart City business unit. "The idea is to create a developer ecosystem, a kind of 'app store' for meters. We want to create multiservice kiosks that are fully integrated in the Smart City ecosystem, and have partners build and deliver additional services through our devices. We want to provide a platform that enables cities to add new services to our meters—like bicycle rentals, for example. Anything that makes life easier and more convenient for end users."

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THE CHALLENGE

Connecting Thousands of Smart Terminals with Back-Office Systems

As a starting point toward realizing this vision, Parkeon is developing its next-generation StreetSmart terminal. A major challenge, however, is connecting and integrating the new terminals with the company's back-office business systems. "Our devices have been connected through our own network for a long time," M. Boulanger notes. "But we have seen the trend toward the Internet of Things. When we started to think about the architecture we needed in order to create the open platform we envision, we knew we needed a much stronger and more robust connectivity solution than we could build ourselves."

Parkeon consulted with a few solution providers. Wind River® had already done some development work with the company and was involved with embedded applications in earlier versions of the company's meters. It became clear in discussions that Wind River Helix™ Device Cloud, the IoT device management platform, was the optimal solution for managing deployed meters, while the Wind River IoT Design Center was thoroughly equipped to co-design and help integrate the connectivity part of the solution.

"We have a good relationship with Wind River from our past engagement," M. Boulanger says. "We were confident that the Wind River IoT Design Center could help deliver the end-to-end solution that we needed. It was a matter of risk reduction—Wind River has a proven record of successful solutions for connecting devices to back offices. Its being part of the Intel® group also added to our confidence in Wind River. In the end, we decided to go with Wind River and build a real partnership because we have a common vision for what we want to create."

Device Cloud also had a technical advantage over the competition, M. Boulanger points out. "We saw difficulty in integrating the other vendors' solutions with our back-office architecture. That's another reason we chose the Wind River solution. It was much easier to integrate."

THE APPROACH

Expert IoT System Integration Services

The Wind River IoT Design Center works with organizations worldwide to scope solution requirements and co-create designs that enable them to accelerate time-to-market, reduce total cost of ownership (TCO), and optimize performance over the life of the system. The Wind River team has gained unique insights from working on IoT solutions with a variety of clients globally, which increases the likelihood of solution success from both a business and a technical perspective. The group is also fully conversant in security requirements and measures that can be brought to bear across every aspect of an end-to-end IoT system.

The security issue was of particular concern to Parkeon. "If we're putting software developed by third parties into our devices, and we're handling sensitive banking transactions or personal data, it's critical to have a good grasp on security," M. Boulanger observes. "It was one of the more critical items of our discussion with Wind River, and it was another advantage of choosing a proven vendor with proven solutions for security, rather than doing it ourselves in-house."

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Powerful IoT Edge Management

Device Cloud enables organizations to connect field devices securely and efficiently with their IT systems and analytics environments. It's a two-way platform, enabling operators to manage, provision, configure, and update thousands of devices remotely, while at the same time collecting data for analysis and monitoring device health.

With Device Cloud, Wind River is providing Parkeon with a complete edge management solution with full integration into back office business applications. The project includes the implementation of Device Cloud

for Parkeon's terminals, integration with business applications, and delivery of a custom administration dashboard. All terminal maintenance and monitoring will also be routed through Device Cloud.

"There were many technical reasons why we selected Device Cloud," explains Thibaut Raballand, Parkeon system architect. "The fact that Device Cloud was hosted in Amazon Web Services (AWS) and across many availability zones demonstrated the seriousness and high availability of the solution. We also liked that Device Cloud comes with security out of the box. Knowing that Intel was involved in the development of Device Cloud, we were confident that the applications will deploy accurately on thousands of terminals across the city. Lastly, Wind River adapted and integrated the Device Cloud agent in our terminal while respecting our security and power requirements. We knew we could trust the agent not to be a source of pain for uncontrolled activity."

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THE RESULT

Faster Time-to-Market, Lower Development Costs

Parkeon selected the IoT Design Center and Device Cloud with the confidence that Wind River could deliver a solution in less time, at a lower cost, and with less project risk than developing in-house.

"Before selecting Wind River, we estimated the work involved to develop a solution with our own developer pool," M. Boulanger recalls. "We figure we have saved six months to a year in time-to-market. And in the end, we have a better solution than we could have built ourselves."

Working with Wind River has proven more cost-effective in the development phase as well, M. Boulanger says. "We definitely believe we're saving on development costs. We're spending less money to integrate the Wind River solution than trying to achieve the same results on our own. And we've reduced our risks because Device Cloud is a proven, stable solution."

As for the longer-term Smart City strategy, M. Boulanger sees a role for Wind River to help make it a reality. "We won't stop at connecting the devices to our architecture," he says. "We've already had discussions with Wind River about our ecosystem concept, and we expect that Wind River will help us develop that capability over the next couple of years. We definitely want to create a partnership with Wind River and show our clients, the cities, that we are building the platform that will enable them to bring new services to their end users."

