



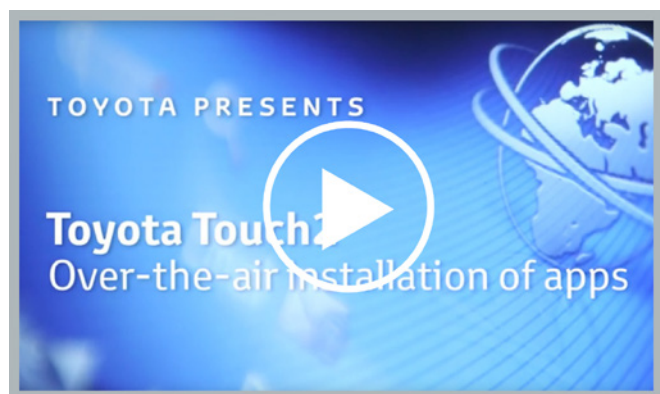
Customer Case Study

Toyota Motor Europe Delivers 'Connected Car' Experience with ForgeRock Access Management

Satellite navigation systems, smart phones, applications, and online services are rapidly improving the everyday driving experience by transforming cars into sophisticated information hubs. The days of paper maps, guide books, and unexpected road work have been replaced by specialized telematics systems that deliver infotainment, navigation, and personalized information in real-time.

Toyota Motor Europe is at the forefront of this driver information revolution – developing state-of-the-art telematics services that connect the vehicle's built-in Toyota Touch 2 with Go navigation system to the power of the Internet. With Toyota Touch 2 with Go, customers can safely access a host of services while en route to help them find the nearest, cheapest, and most convenient place to fill up; search and map a recommended restaurant; use Google Panoramio and

Google Street View to discover a new city and its points of interest; find a parking spot; check the weather; and get real-time traffic information with warnings about blocked roads or heavy traffic – while the system automatically reroutes.



“When people are accessing information from their cars, they expect the process to be simple and straightforward. As a result, it was extremely important to us that the in-car user authentication experience had the same look and feel as the online portal experience and require the same credentials.”

Kostas Gkirkizas, Senior Project Manager
Car IT Information Systems, Toyota Motor Europe

› **Challenge:** Deliver simple and secure identity and access management to Toyota customers and their cars for seamless access to personalized telematics services, such as connected navigation, online points of interest, and traffic information.

› **Solution:** Implement a flexible, open-source identity relationship management solution that authenticates the user as well as their Toyota vehicle.

› **Benefits:**

- » Integrated two-factor authentication enables automatic authentication of the car, delivering seamless customer access to valuable information and applications without requiring the user to take additional steps.
- » Open source platform and REST APIs provide access to the most extensive implementation of identity relationship management standards in the industry, making it easy to integrate authentications services into the company's applications and brand, while supporting future next-generation services.
- » Performance, scalability, and high availability supports Toyota's large-scale implementation, delivering services to customers and their vehicles across Europe.

Challenge

Central to the telematics solution is the “My Toyota” Customer Portal—a personalized portal that customers use to activate and manage their preferred applications and services. Because the solution is personalized for each customer and includes private user data, Toyota requires a reliable and agile access management system. In addition, the access management solution needs to be intelligent about which car and which driver is accessing the Toyota platform, in order to deliver customized services to each driver while en route through their in-car Toyota Touch 2 with Go device.



Toyota also wanted a customizable login experience, in order to integrate with Toyota's other applications and brands, delivering a seamless Toyota experience across the entire telematics platform. With tens of thousands of customers accessing the solution online and through their in-car connected devices—Toyota Touch 2 with Go—the authentication technology needed to be highly scalable and adaptive. Lastly, Toyota required an access management solution that supports next-generation standards and services, such as OpenID Connect and OAuth 2.0, which can be used to establish social login.

ForgeRock Access Management: Delivering Flexible, Reliable, and Secure Access

ForgeRock's Access Management component product, built from the OpenAM open source project, is an all-in-one solution that includes authentication, SSO, authorization, federation, entitlements, adaptive authentication, strong authentication, and web services security in a single, unified product, met the rigorous requirements of the Toyota team. Unlike most other access management products, ForgeRock Access Management was designed from inception to provide services for the web, cloud, mobile devices, and even "things" like cars. With a common programming interface (REST) and extensive standards support, it is easy for the Toyota development team to install and scale out the ForgeRock Access Management solution. The Toyota development team also appreciates how rapidly ForgeRock develops important new functionality and features—always ensuring the team is using the latest in identity relationship management technology.

"ForgeRock Access Management enables us to deliver a real-world 'Internet of Things' experience'—allowing us to use the car itself as an identity to provide authentication to the services platform."

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ForgeRock Access Management provides secure, personal access to the Toyota Touch 2 with Go device. Built into the vehicle's dashboard, the device provides information, entertainment, enhanced navigation, and connected services.



Two-Factor Authentication: The Internet of Things in Action

Key to Toyota's integrated service offering is ForgeRock Access Management's flexible and secure two-factor authentication feature, which enables the company to deliver a seamless and secure authentication experience through the customer portal and in the car. The result is a simple, user-friendly, secure access solution.

Customers first register and authenticate at the "My Toyota" Customer Portal to activate and manage services they want to access in their cars. Once in their cars, customers authenticate by logging into their Toyota Touch 2 with Go device using the same username and password they set up for the customer portal. For added security, ForgeRock Access Management enables a second authentication factor via the device. Once the user has logged in, the vehicle's Touch 2 with Go device automatically authenticates to the services platform using a dynamic token key. The secondary authentication happens automatically so the user doesn't need to remember an additional code or enter a token password.

"When people are accessing information from their cars, they expect the process to be simple and straightforward. As a result, it was extremely important to us that the in-car user authentication experience had the same look and feel as the online portal experience and require the same credentials," said Kostas Gkirkizas, Senior Project Manager, Car IT — Information Systems, Toyota Motor Europe. "ForgeRock Access Management enables us to deliver a real-world 'Internet of Things' experience' – allowing us to use the car itself as an identity to provide authentication to the services platform."

› Benefits:

- » Increased efficiency and improved business alignment through secure access to business-critical applications and information.
- » Standards-based, open source, and customizable access management solution enables Toyota to deliver consistent brand and look and feel.

Toyotal B2B Deployment Snapshot

KeToyota Motor Europe has also deployed ForgeRock Access Management across the company's B2B portal. The portal supports critical business operations, connecting national distributors, dealers, suppliers, and manufacturing partners across 42 countries to critical applications, information, and employees of Toyota Motor Europe.

ForgeRock Access Management delivers secure access so mission-critical processes like parts ordering and management, central warranty applications, and vehicle order management can be completed efficiently online.

About ForgeRock

ForgeRock, the leader in digital identity, delivers modern and comprehensive Identity and Access Management solutions for consumers, employees and things to simply and safely access the connected world. Using ForgeRock, more than a thousand global customer organizations orchestrate, manage, and secure the complete lifecycle of identities from dynamic access controls, governance, APIs, and storing authoritative data – consumable in any cloud or hybrid environment. The company is privately held, and headquartered in San Francisco, California, with offices around the world. For more information and free downloads, visit

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