

OTA Updates

Secure, over-the-air updates to connected vehicles and IoT devices at global scale.



The “Internet of Vehicles”¹ is a true technological leap in the automotive industry. As software is reshaping how manufacturers design and build their products, the requirement to keep that software up to date through downloads, is proving to be a formidable challenge. Software updates add new features, address bugs, and solve technical issues, but more importantly, they maintain the security of the device (or in this case, the vehicle). The challenge becomes, *how do you send multiple updates over the air to millions of vehicles across the globe, in an efficient, effective, and secure manner?*

As the number of connected systems within a car increases, the operations and infrastructure needed to provide ongoing updates is growing exponentially. Recalls or flaws in the software design can have a significant financial impact for the manufacturer. The faster an update can be deployed, the more likely costs are reduced, the brand image remains strong, recalls may be avoided, and most importantly, customers are satisfied.

Akamai is working with leading automotive manufacturers and over-the-air technology providers to improve connected vehicle applications and updates, helping them run in a timely, reliable, and secure manner.

Current challenges for supporting Internet of Vehicles

Distributing software updates, over the air, to multiple systems within the vehicle, introduces many challenges for carmakers:

- Design innovation will be slowed if the software updates cannot be distributed and implemented in a seamless and predictable manner.
- Completion of a campaign for each vehicle is challenging when dealing with hundreds of thousands of dealerships and millions of cars.
- Customers may be dissatisfied with the vehicle, as warranty issues are not always addressed promptly.
- Outside threats try to intercept downloads that are unsecured, which may create challenges and risks for the manufacturers.
- Building a network to support global expansion, fast speed, and robust security is beyond core capabilities and is costly, inefficient, and very difficult.
- Staying within the contracted level of traffic of the cellular networks in congested areas demands a significant and scalable network.
- Warranty costs increase significantly for vehicles, which must be updated at the dealership vs. OTA.

Akamai's Over-the-Air Updates Solution

OTA Updates makes it simple and secure for IoT device manufacturers, auto OEMs, application developers, and service providers to manage and deliver their software update campaigns easily. Akamai's high-performing, reliable, scalable, and secure global cloud network provides proximity to cellular gateways and is one hop away from 90% of Internet users, making software updates simple and fast, across all network types.

BUSINESS BENEFITS

Customers can expect to realize some or all of the following benefits:

- Provide reliability, performance, security, and insight to the IoT teams responsible for executing software updates.
- Reduce warranty/recall costs by reducing/eliminating service center visits or help desk calls for vehicles or IoT devices.
- Reduce effort and accelerate time to complete complex campaigns for even large file transfers.
- Reduce software version support, costs, and complexity by executing new updates quickly.
- Scale on demand through Akamai's globally distributed platform to meet the growing number of devices, software updates, and geographies.
- Mitigate security risks with mutual and other kinds of authentication where customers can choose and customize their own managed TLS environments that include TLS versions and cipher suites.
- Simplify the workflow of update campaigns with proven integration of systems with APIs.
- Detailed real-time reporting on download completion rates, network performance, and more on a per-device or per-vehicle level.
- Ability to provide network carriers with a finite set of global IP addresses to appropriately bill cellular usage and coordinate with white/blacklists.
- Fully compatible with Akamai's security products for added protection across many levels.

¹ <http://www.businessinsider.com/internet-of-things-connected-smart-cars-2016-10?IR=T>

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Use Cases

Deliver large files over the air, with throughput to complement cellular network traffic levels

- Inherent Mobility (vehicles might not always be in range of good coverage)
- Power Management (updates can only occur when car is on Run or On)

Robust, responsive patching system for updates to address vulnerabilities

- Mutual authentication to secure communication between the servers and the vehicle
- Authorization/authentication integrated with command/control

Replace an in-house service/software recall process

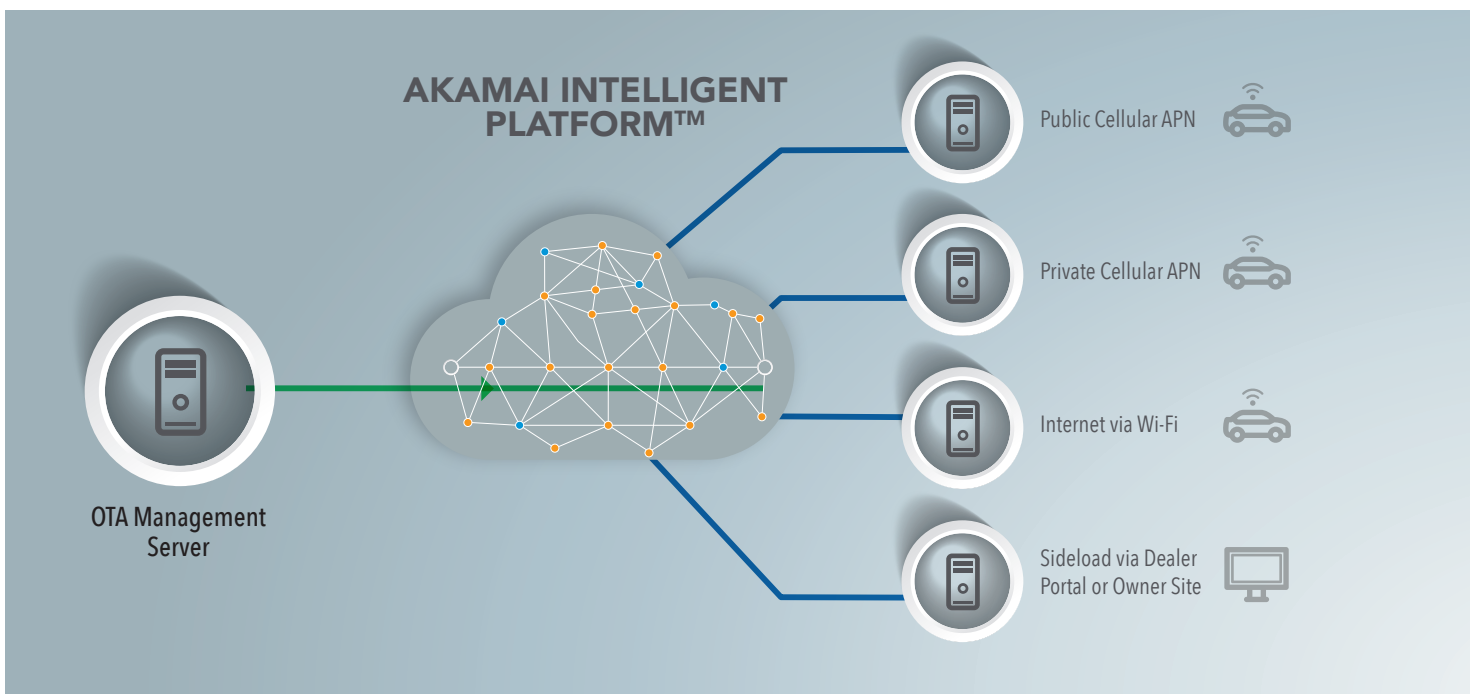
- OTA vehicle upgrade will not only save consumers the frustration of a download or dealer visit, it will dramatically cut costs across the industry
- Protect revenue, customer loyalty, and brand equity with proven, reliable, trusted means of global content delivery

Simply, Reliability and Scalability challenges are offloaded

- Enable OTA updates to thousands of vehicles across the product line and geographical locations, with greatly improved completion rates
- Ability to introduce new features to the vehicles in instant time

KEY FEATURES

- Global, scalable, and secure network to meet peak demands on any device, anywhere
- 90% of Internet users are only one hop away from the Akamai platform
- Per-vehicle pricing model for simplicity with service ramp flexibility
- Multiple layers of security including a flexible SSL/TLS program and mutual authentication
- Cellular traffic billing routing, support, and analytics
- Self-service portal to review campaign progress and confirm downloads
- Reporting: Intuitive reports that show aggregate campaign data, per-vehicle per-model, or per-geography details



The Akamai Ecosystem

Akamai makes the Internet fast, reliable, and secure. Our comprehensive solutions are built on the globally distributed Akamai Intelligent Platform™, managed through the unified, customizable Luna Control Center for visibility and control, and supported by Professional Services experts who get you up and running easily, and inspire innovation as your strategies evolve.



As the world's largest and most trusted cloud delivery platform, Akamai makes it easier for its customers to provide the best and most secure digital experiences on any device, anytime, anywhere. Akamai's massively distributed platform is unparalleled in scale with over 200,000 servers across 130 countries, giving customers superior performance and threat protection. Akamai's portfolio of web and mobile performance, cloud security, enterprise access, and video delivery solutions are supported by exceptional customer service and 24/7 monitoring. To learn why the top financial institutions, e-commerce leaders, media & entertainment providers, and government organizations trust Akamai please visit www.akamai.com, blogs.akamai.com, or [@Akamai](https://twitter.com/Akamai) on Twitter. You can find our global contact information at www.akamai.com/locations, or call 877-425-2624. Published 12/17.