



CHALLENGES FOR TODAY'S AUTOMOTIVE MANUFACTURER

Today, increasing consumer requirements for security and safety, customizations, and maintenance challenges the automotive industry.

Automotive OEMs are in high need of a cost effective solution that improves customer care, reduces development and maintenance costs and facilitates cooperation with suppliers. Taking advantage of the OSGi Service Platform, automotive OEMs save up to 20 percent of their future design, development and life-cycle-management costs of their automotive products.

The need for strategic market differentiation pushes automakers to design state-of-the-art, extensible devices into a variety of models, including costly remote diagnostics and maintenance features as well as teleservices such as directional information and web access. This involves a massive increase in system complexity, with software dominating over both hardware and mechanics.

But with technology and service offerings changing rapidly, how can automakers "bridge the gap" with a car that they must support for at least 10 years? The lifecycle mismatch between hardware and software causes automakers to be very wary of new technology. Implementation risks and time-to-market pressures are high.

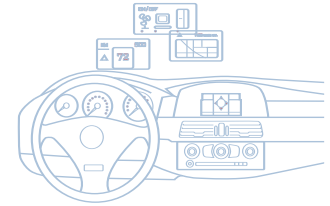
The automotive industry is looking for fast integration of new functionality and dynamic services, with less proprietary hardware and 'black box' components - all while looking to reduce development and maintenance costs. If there were only a way to resolve the hardware/software lifecycle mismatch, a way to separate these issues from the art of car manufacturing. If it were possible to dynamically and securely upgrade the complex software inside the car, remotely, with little or no involvement from the car owner; if it were only possible to 'future-proof' a vehicle.

THE OSGI™ SERVICE PLATFORM

The OSGi Service Platform specification boldly solves these life-cycle mismatch issues. As changes are necessary, manufacturers can remotely and dynamically upgrade automotive software, quickly, economically, and securely. Innovative applications, not architecture, becomes king, allowing for cost savings and high rates of customer satisfaction.

The OSGi Service Platform was specifically designed to be:

- **Secure**, so you can trust it with your valuable data and programs
- **Reliable**, so there are no unnecessary support calls
- **Remotely manageable**, so that the platform can be adapted to the wishes of its owner without great cost
- **Usable on a large variety of hardware and operating systems.** Since Java technology provides a virtual machine environment, it means that the OSGi Service Platform can run on almost any operating system or processor in existence.



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Flexible integration based on open standards that are modular, configurable, and scalable.

Automotive manufacturer need - and customers demand - cost effective solutions for in-vehicle electronics. The OSGi Service Platform provides flexible integration based on open standards that are modular, configurable, and scalable, with enhanced functionality on command. In addition, it provides standardized, service-oriented, Application Programming Interfaces (APIs) and basic libraries, reusable software, and the possibility of introducing software for remote diagnosis and maintenance on an as-needed basis. There's less project risk through incremental improvements instead of bottom-up re-design for each project. And expensive recalls because of software defects can be a thing of the past.



The OSGi Service Platform Release 4.0 has been enhanced, with new Core Compendium and the coming Vehicle Specifications, with new features and services support:

- Smooth integration of new product baselines with modularity provided in the new core framework
- Easier and cost efficient development of applications offered by the Declarative Services specification
- Enhanced Security to allow the installation of trusted applications (bundles) on your platform and a fine grained management of allowed actions
- Standardized power management service to allow any application to react on power changes
- Abstraction of vehicle device commands and states
- An easy and simple mechanism to provide and perform local or remote diagnostics

The OSGi Service Platform is increasingly adopted as THE standard solution for secure remote and life-cycle management of multiple services from a broad variety of vendors. Many OSGi member companies have deployed the OSGi Service Platform in the automotive electronics space. Among these deployments are the BMW 5 series and also the highly renowned Global System for Telematics project.

- Begun in March 2004, GST Project is a three year European project that specifies a set of services and library components to assist Service Application developers in creating exiting new mobile applications.
- The GST Application Runtime Environment allows a Client System to administer and monitor status and capture vehicle data (such as speed and location). Communication with a remote Service and a GST Control Centre using the GST mobile protocol is as well supported as the display information for the end-user based on the HMI Prototyping Suite. In addition to the specification, GST is offering a reference implementation using an OSGi Service Platform as the execution environment.

ABOUT THE OSGi ALLIANCE

Founded in March 1999, the OSGi™ Alliance and its members specify, create, advance and promote wide industry adoption of an open service delivery and management platform. The OSGi Alliance serves as the focal point for a collaborative ecosystem of service providers, developers, manufacturers and consumers.

PRODUCTS & SOLUTIONS

The OSGi Alliance's horizontal software integration platform is ideal for both vertical and cross-industry business models within home, vehicle, mobile and industry environments. Many OSGi member companies have deployed the OSGi Service Platform in the automotive electronics space. For a listing of the most current products and solutions, to become a member of the OSGi Alliance, or for other information, please visit our website at www.osgi.org.

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