



March 2013, Dr. Markus Kaendl, BMW Group

eUICC

REMOTE SIM MANAGEMENT AND NEXT CHALLENGES

**BMW
GROUP**



BMW CONNECTEDDRIVE BRIEF OVERVIEW

Full spectrum of safety, convenience and infotainment services:

- BMW ASSIST
 - Concierge Service
 - Advanced Emergency Call
 - Remote Services
 - Real Time Traffic Information
 - MyInfo / Send-to-car
 - Connected Navigation
- BMW Online
- Internet
- BMW TeleServices

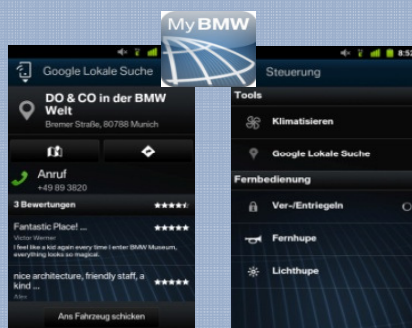
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BMW CONNECTEDDRIVE BRIEF OVERVIEW - APPS

My BMW Remote app

Locating / monitoring / control of vehicle
and vehicle functions



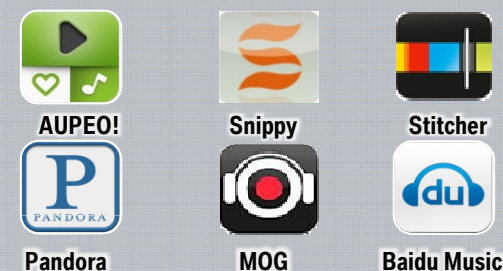
BMW Connected app

Web radio, Google Local Search, News,
Facebook, Twitter,...

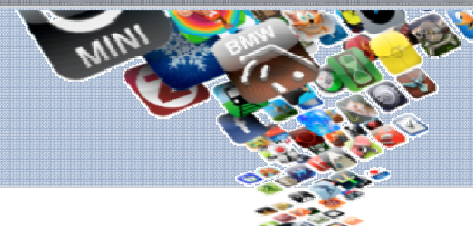


Third-party apps, e.g.

Smartphone apps



BMW Online apps



REMOTE SIM MANAGEMENT AND NEXT CHALLENGES

THE AIMS OF THE BMW GROUP

- The BMW Group is the leading provider of premium products and services for individual mobility.
- This is rooted, not least, in the full connectivity of all its mobility products worldwide.
- Automotive products must be able to communicate independently of the customers, their devices, the situation or location.
- Key factors are: network coverage, availability, operating conditions, user-friendliness, convenience and competitive offers.
- This is why, BMW ConnectedDrive is based on an embedded telematics system including a “Prefit-SIM” (soldered M2M SIM with a BMW owned MNO contract).
- However, the current SIM solutions on the market bind the vehicle to a provider for its entire life cycle (at least 10 years), but global telecommunications are in a permanent change.
- We want to ensure that the BMW Group offers the best possible services and top-quality products worldwide at competitive conditions throughout the life cycle of our vehicles.

REMOTE SIM MANAGEMENT AND NEXT CHALLENGES

EUICC BECOMES A KEY ENABLER

- In order to meet these requirements, the maximum flexibility is required when it comes to choosing the relevant communications providers.
- The “Prefit-SIM” has proved for many years to be the best choice for in-vehicle connectivity, not least by the “invention” of the soldered (VQFN-8) M2M SIM.
- Remote SIM Management combines the advantages of a soldered SIM with the advantages of a flexible and future-proof means of connecting our vehicles to their surroundings.
- In order to be competitive, telematics and infotainment services must be able to adapt to evolving customer requirements and market conditions during the product’s lifetime.
- This is becoming important above all in the context of steadily rising demand for data volumes and the integration of more and more new services within a life cycle of a vehicle.
- Therefore, remote SIM management becomes a key enabler when it comes to offering premium mobile high-bandwidth services in vehicles in the worldwide theatre.

REMOTE SIM MANAGEMENT AND NEXT CHALLENGES

eUICC – CURRENT SITUATION

- BMW started challenging MNOs and SIM industry with “new ideas” many years ago.
- As for the soldered SIM, BMW backs a standardized solution for remote SIM management.
- First proprietary remote SIM management solutions have already been deployed in the consumer business so far, the automotive industry waits in the wings.
- In order to avoid an uncontrolled growth of proprietary, incompatible solutions deployed, a standardized solution – agreed among the key players – is urgently needed.
- Remote SIM management must be simple, fast and robust.
- Key success factors are the interoperability of all interfaces and partners and a flexibility to allow future evolutions of remote SIM management.
- From a worldwide perspective, we do not have a full overview of the spectrum of possible future use cases of remote SIM management.
- Today remote SIM management is MNO-driven, with some non-technical restrictions. It is important to keep the eUICC standard flexible and open to future evolutions.

REMOTE SIM MANAGEMENT AND NEXT CHALLENGES

THE BIG DATA PROBLEM

- LTE is the next big step in mobile communications, with high-bandwidth data, low latency, and a significant increase in (high-bandwidth) coverage.
- BMW introduced LTE in Q4/2012 (LTE Car Hotspot).
- LTE is also a big challenge, with up to 40 different frequency bands worldwide, resulting in a “SIM x frequency-configuration complexity” of our telematics control units.



- The steadily rising demand for high data volumes of new services is the next big challenge: Competitive offers are limited to “home networks”, innovative new services stay in the drawers of our developers.
- For the connected car operating in the European or worldwide theatre, roaming becomes an innovation killer.
- The connected car of the future requires a fundamental change in MNO business.
- Innovative new business models are required, far away from byte-counting, roaming and flat rates.

REMOTE SIM MANAGEMENT AND NEXT CHALLENGES SUMMARY

More than 20 years GSM ...

- Mobile networks have change from voice-centric to high-bandwidth-data-centric networks.
- SIM has proved as a secure element for mobile network access.
- SIM has evolved form a plugin form factor card to a “near automotive” M2M SIM chip.
- For M2M applications no one puts remote SIM management into question anymore. An agreed standard is required – urgently.
- Next big challenge is the fat data problem, in an European as well as in a worldwide theatre.
- A fundamental change is required with innovative new business models, far away from byte-counting, roaming and flat-rates.