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OSGi Vehicle Expert Group – Eindhoven

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traffic mobility logistics.

Business Fields PTV AG

PTV AG

Traffic

Mobility

Logistics

Technical Context

PTV Scalable Map Architecture

- geographical representation of street networks and maps
- PTV is member of the Physical Storage Initiative (PS-I)
  - automotive, navigation system developers, map data providers
  - Goal: define physical standard format (PSF) for navigation system maps

PTV RoadRunner

- C++ component system for (mobile) geographical information systems
- platform independent

PTV Mobile Client Framework

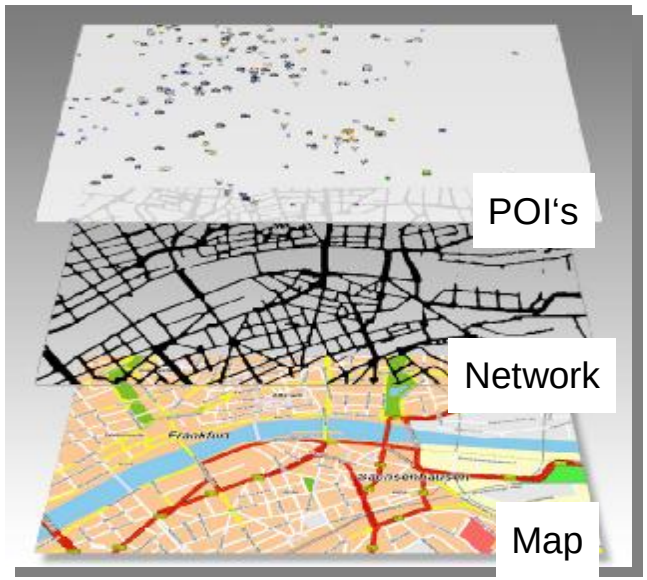
- OSGi based framework for Mobile Applications

PTV Scalable Map Architecture (SMA)

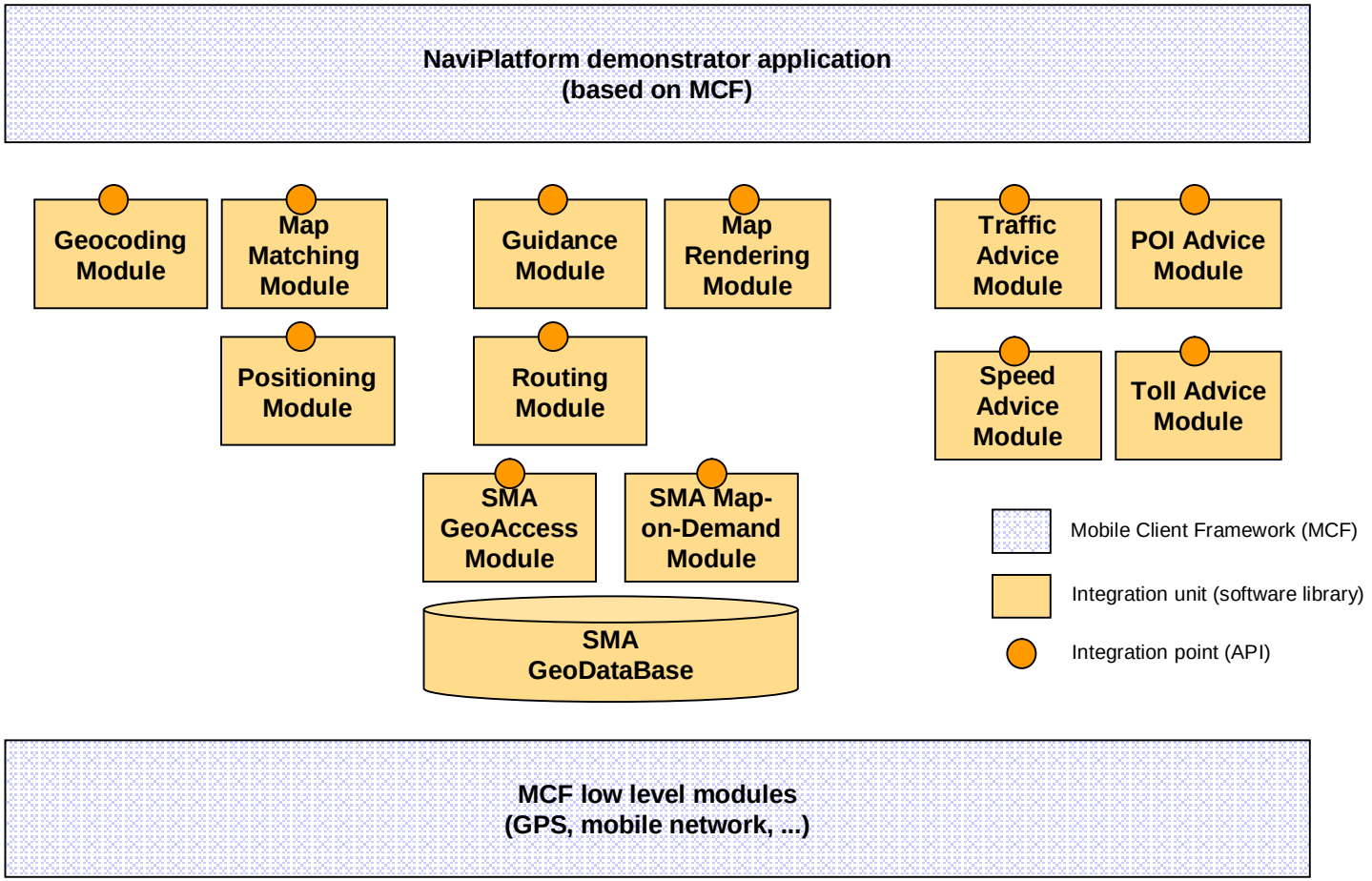
Two Base principles

Geographical partitioning
Tiling

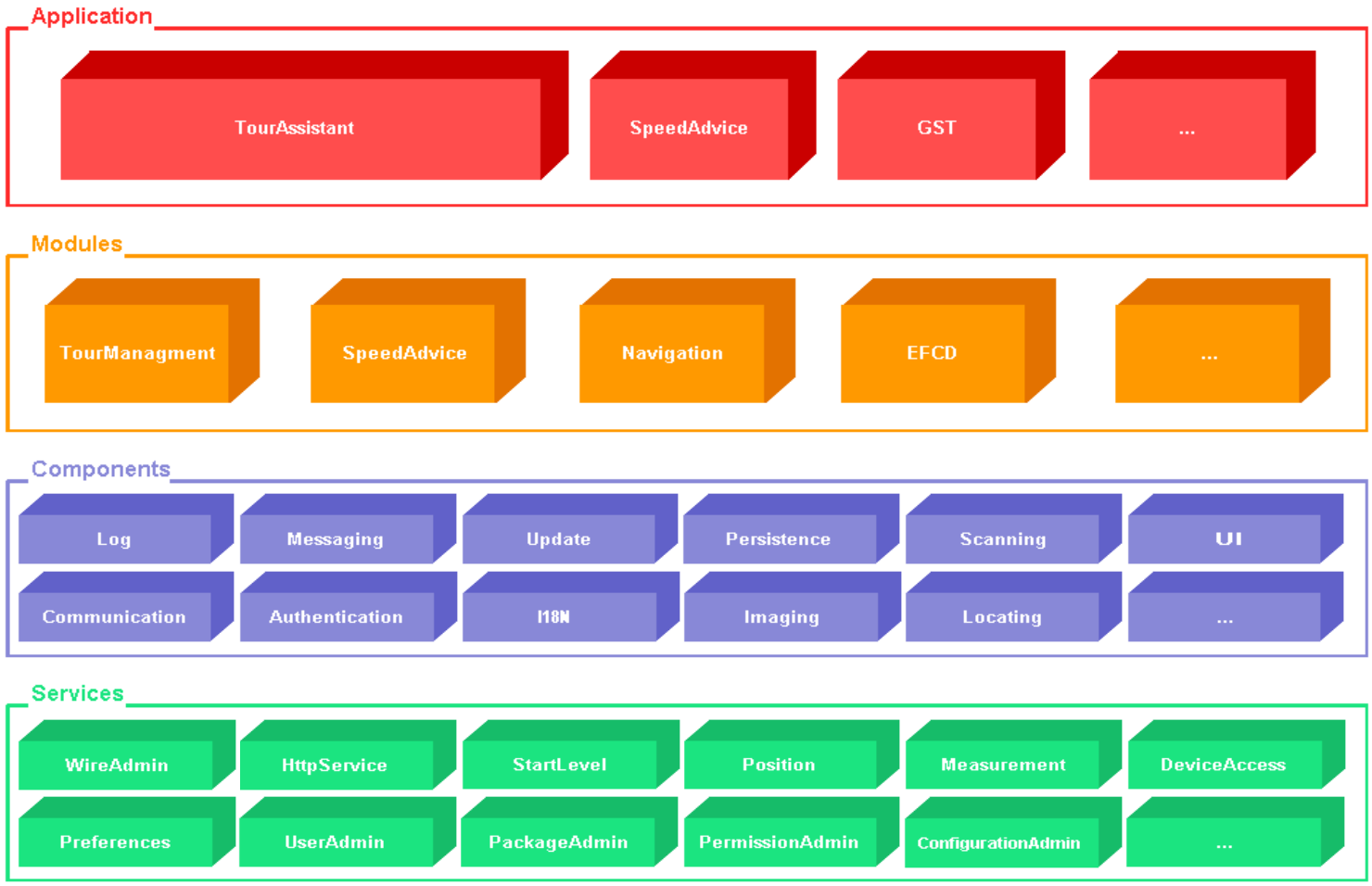
Logical partitioning –
Leveling and Layering



MCF (OSGi based) and NaviPlatform Components (C++)



Mobile Client Framework – MCF Construction Kit



OSGi in PTVs Commercial Products

- Tour Assistant
  - mobile client for transport management
  - application for mobile job processing
  - synchronization of tours between the headquarter and the mobile devices
  - new orders can be dynamically sent to the mobile suppliers

- Map Matcher
  - development of a map matcher for toll collecting use cases

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OSGi in EU-funded Research Projects I

- SpeedAdvice
  - Provisioning of quality assured road data.
  - Our work: architecture and RI (using OSGi / MCF)
  - Consortium: 10 companies
- GST / EFCD
  - The EFCD framework allows generating traffic related messages (by using an in-vehicle sensor interface) and sending them cost-efficiently to e.g. a service centre.
  - Our work: architecture and RI
  - Role: sub-project leader for EFCD
  - Consortium: > 50 companies

OSGi in EU-funded Research Projects II

- ASK-IT
  - The ASK-IT user will have access to relevant information primarily for travelling. One of our user groups are disabled people.
  - Our work: Locating and User Guidance (using OSGi / MCF)
  - Role: sub-project leader for „Tools for all“
  - Consortium: > 40 companies
- FeedMAP
  - Feasibility study of map data feedback (detection of invalid map data) by using a standardized mechanism for delivering incremental map updates.
  - Our work: architecture and RI (using OSGi / EFCD)
  - Consortium: 12 companies

- CVIS
  - Increase of quality and reliability of information available to the drivers about their immediate environment, the other vehicles and road users, improving driving conditions.
  - Consortium: 60 companies

PTVs Service Developments for OSGi

- Locating Engine
  - **JSR179 integration for OSGi**
  - **support of different location sources (GPS / DGPS, EGNOS, MOTEs, ...)**
- MapMatching Engine
  - **for toll collect related applications and navigation systems**
- Webservice Support
  - **kSOAP based webservice framework**
  - **AXIS based webservice framework (Jabba for UML / MDA)**
- Communication Manager
  - **for switching between different communication channels**
- Persistence – Service
  - **database integration (using JDO with transactions)**
- UI – Service
  - **for the integration of new SWT-based applications**

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PTV – first class transportation.

PTV Planung Transport Verkehr AG, 76131 Karlsruhe

traffic mobility logistics.

PTVs Know-How in OSGi

- Hardware Platforms
  - **PDAs, OBUs / Car PCs, Desktop PCs**
- Operating Systems
  - **Windows / CE, (Embedded) Linux, QNX**
- Java Runtime Environments
  - **Sun VM, IBM J9 (for embedded usage)**
- OSGi Runtime Environments
  - **Knopflerfish (MCF bases on KF)**
  - **ProSyst mBedded Server (OSGi R3)**
  - **IBM SMF (OSGi R3)**
  - **(Oscar and Equinox)**
- Current used OSGi Release: R3 (going to R4)
  - **We are also tracking the work made in the JSR232 and JSR291**

