# Position Paper for Web and Automotive

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- **Cars will be finally connected to wireless network and become a Cloud Computing Client**

- **HTML5 will be "glue" which connects cars with Cloud-based services via Smartphone and pave the way for new service and business**

- **Automotive Vendors seek collaboration with ICT (Information and Communication Technology) companies in this area and understand the of standardization of APIs between Web and Automotive**

- **I have implemented many solutions of these kinds (examples are attached) not only for internal combustion engine vehicles but also for EV at NISSAN Motor Co. and launched in Japan, US, Europe and China. Based on the past experiences, with an addition of new technologies such as HTML5 and collaborations with other Japanese OEMs, I would like to propose a direction for the standardization.**

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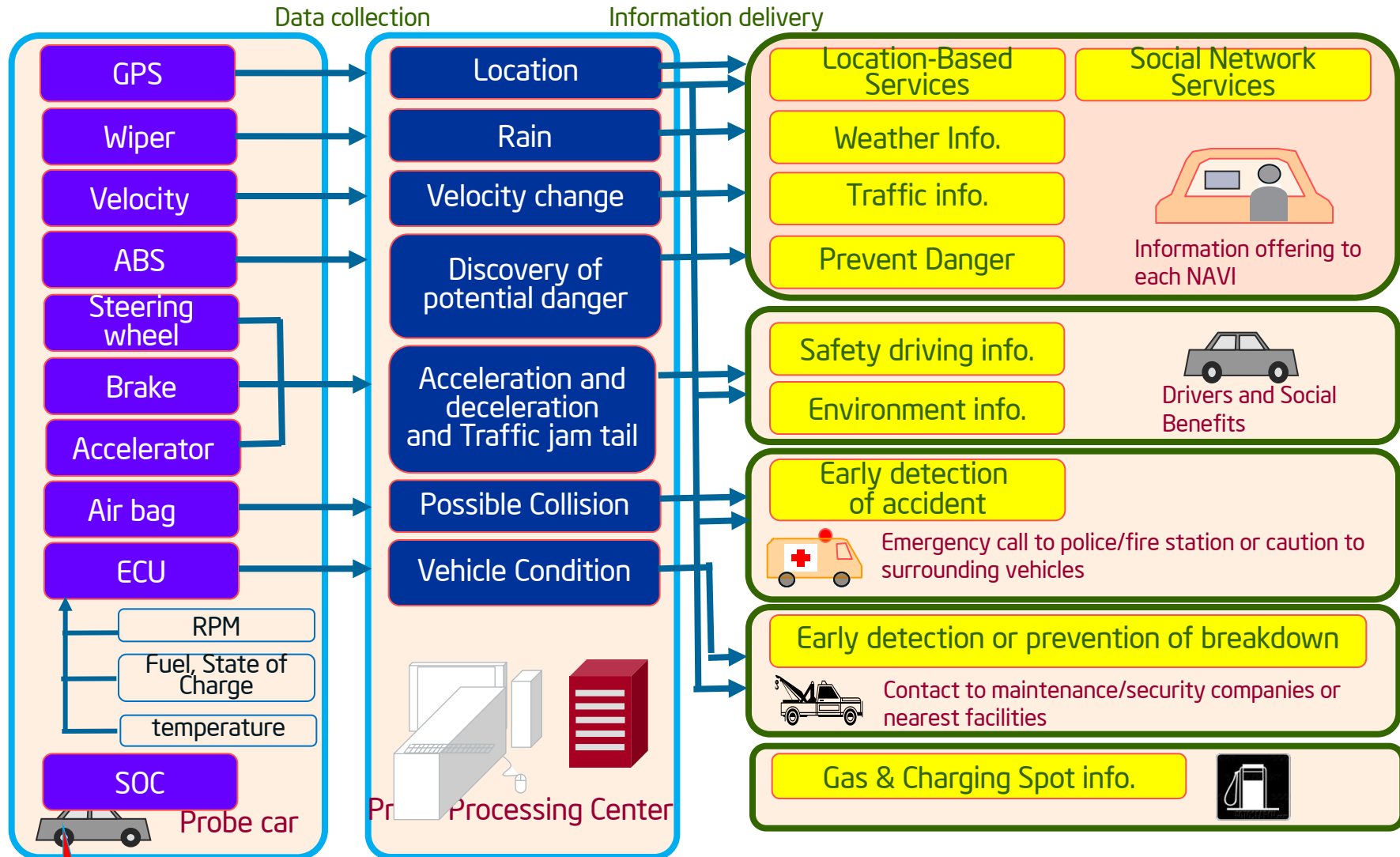# Example of Big Data Applications (already implemented in Japan)

▪ Crowd Sourced MAP
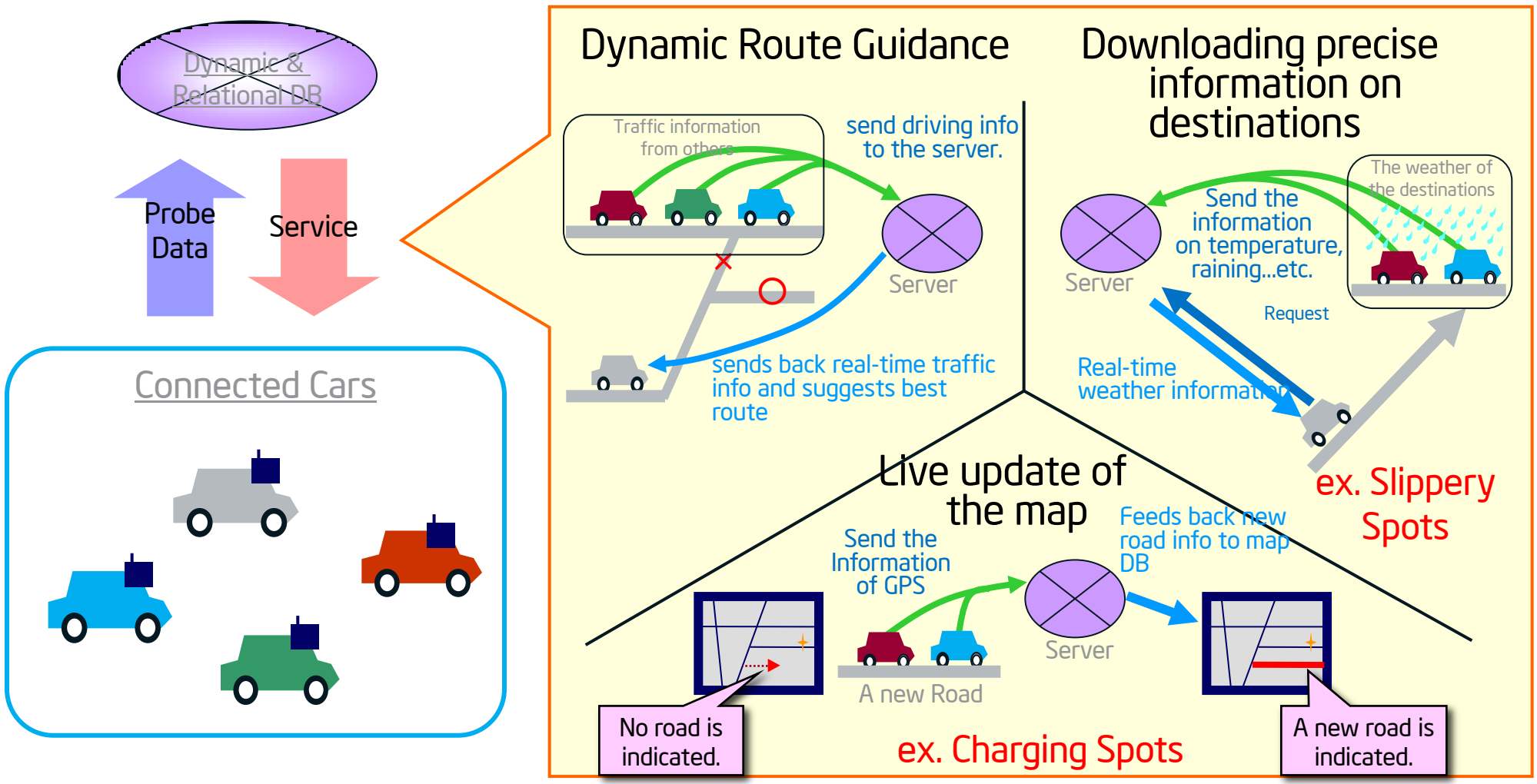
Possibilities to apply Big Data Analysis

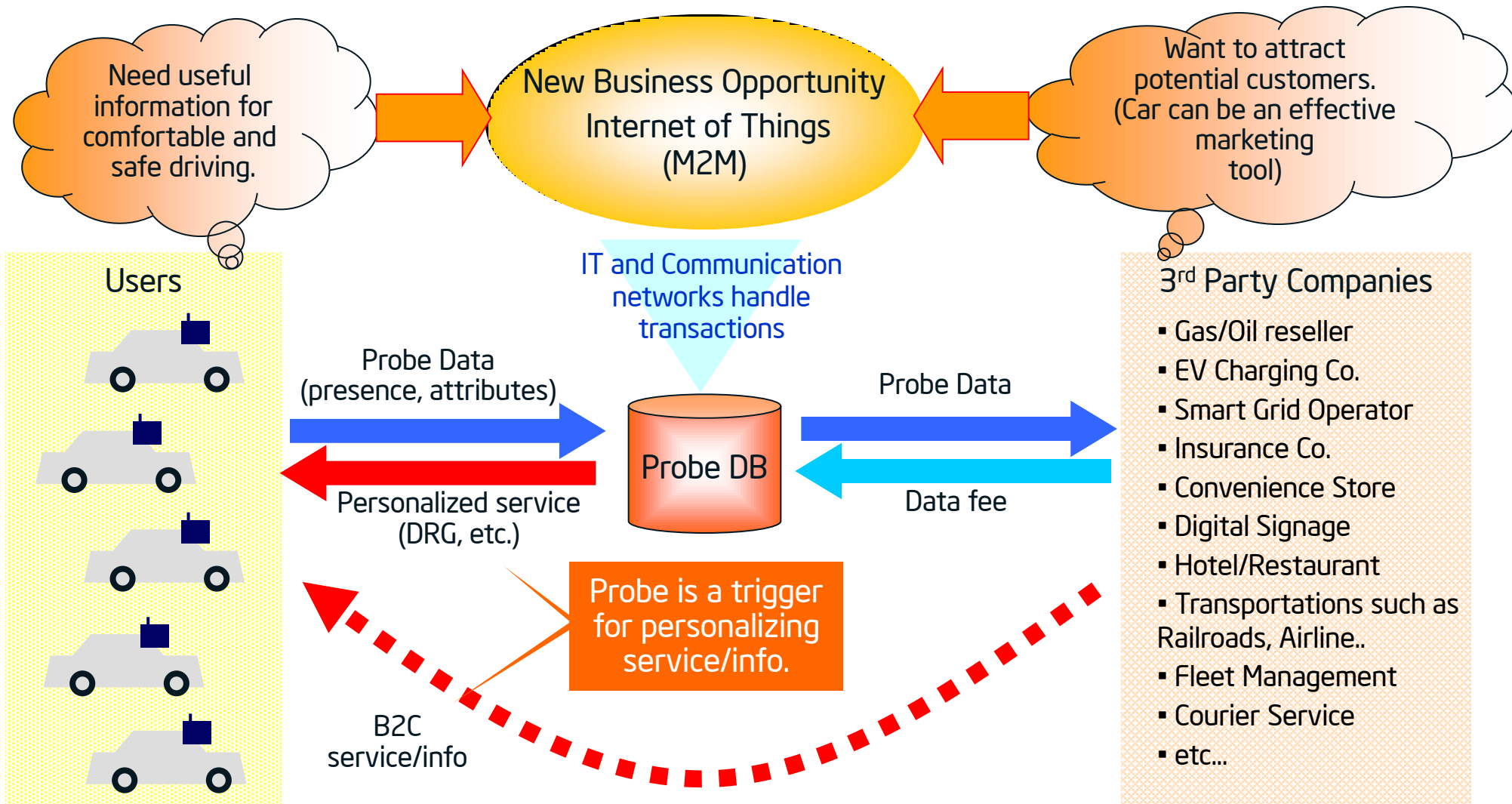Probe data example   Statistical processing   Effective use of information

Data collection   Information delivery

Probe data	Statistical processing	Effective use of information
GPS	Location	**Location-Based Services** / **Social Network Services**
Wiper	Rain	Weather Info.
Velocity	Velocity change	Traffic info.
ABS	Discovery of potential danger	Prevent Danger
Steering wheel		Information offering to each NAVI
Brake	Acceleration and deceleration and Traffic jam tail	Safety driving info.
Accelerator		Environment info.
Air bag	Possible Collision	Drivers and Social Benefits
ECU	Vehicle Condition	**Early detection of accident**
RPM		Emergency call to police/fire station or caution to surrounding vehicles
Fuel, State of Charge		**Early detection or prevention of breakdown**
temperature		Contact to maintenance/security companies or nearest facilities
SOC		**Gas & Charging Spot info.**

Probe car

Probe Processing Center

Providing attractive service first is key for acquiring critical mass and large probe data.

Source : National Museum of Emerging Science and Innovation

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New Mobile Service Opportunities w/Big Data

Role of HTML5 for IVI Client

■ **HTML5**

HTML5

CSS3　SVG　Canvas　WebGL

Cross Document Messaging　Speech Input

Off-line Event　Geo Location　A/V TAG

Device Access API　Storage　Web Socket

MW/OS

Drivers

CPU/ Device

F/W

Power-train CAN

Body CAN

Multimedia CAN

Cloud

Tethering

Terminal Mode?

Smartphone w/ HTML5

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