Location Based Services (LBS)
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2. Definition & Examples

Location based services are those that utilize users’ current locations:

- Asset Tracking
- Way-finding
- Traffic Management
- Emergency Response
- Mixed-reality Games
- Targeted Shopping
- Location-aware Billing

Question: are there examples that are of particular interest to WG members?

Question: do any particular examples or types of examples deserve more consideration and/or depth than others?
3. Motivation

Motivation for examining this area:

- An example of how regulation can influence edge-core dynamics.
- Functionally equivalent services can be implemented in a variety of ways with respect to edge-core principles.
- LBS is an area of high interest by mobile operators.

Question: what motivations (if any) do particular WG members have in relation to LBS?
4. Core-Edge Dimensions

**Core**

- Heavily dependent on core network resources such as mobile phone antennas and other operator equipment.

**Edge**

- Heavily dependent on user (knowing location a priori) or user’s handheld (edge) device, e.g. a GPS receiver or RFID scanner.

**Collection**

What core and edge components are used to collect location information?

**Operation**

What core and edge components are needed to operate the application?

Once location is determined, application runs locally with the user, independent of core network resources, e.g. placing user on a map using maps in stored memory.

**Question:** how do these dimensions work with the edge-core taxonomy?
5. Core-Edge Dimensions Cont.

<table>
<thead>
<tr>
<th>Operation Core</th>
<th>Collection Core</th>
<th>Collection Edge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracking employees through their mobile phones.</td>
<td>Asset tracking in a national retail chain using RFID scanning and centralized inventory databases.</td>
<td>Having a GPS handheld track a path traveled.</td>
</tr>
<tr>
<td>Getting listings of nearby shops on your mobile phone from pre-stored lists.</td>
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</table>

Question: how does the edge-core taxonomy enrich a table like this?
General properties of LBS that contribute to whether a given service will be primarily delivered in a core or edge-based fashion:

- Precision
- Processing Power
- Energy Consumption
- Cost
- Speed
- Regulation

Question: is this a general concept that can be applied to the other case studies?
Specific properties of LBS applications that can be used in an attempt to sway the Core-Edge dynamics for a particular market:

- Centralized Information (Core)
- Aggregation of Information (Core)
- Distributed Networking (Edge)

Question: are these general concepts that can be applied to the other case studies or eventual modelling?