

Mobile Location Services 8.-9. May 2002, Amsterdam

Report by Pasi Pekkinen 18.6.2002

IBC's yearly LBS conference gathered 195 participants and 15 exhibitors. This report shortly describes the content of each presentation (Part I) and gives a very brief description of those exhibitors, which haven't been covered in previous reports.

PART I: The Conference

Keynote Session: Location Where is it at?

Beyond Location

Bilah A. Saleh LIF, Motorola

Mr. Saleh gave first a brief presentation on LIF. As one of the highlights he mentioned the Mobile Location Protocol 2.0 and mentioned that version 3.0 would be released next week in Helsinki.

On the LBS market he said that the business was technology driven in the past and nowadays it is government driven (in NA). The services available are mostly proximity services or tailored vertical solutions. The reality is that for each new application a new vertical solution is made.

He claimed that the location information should be an integral part of the mobile application solution and that middleware is the service delivery platform between the wireless network and the applications.

Location Service Now and for Future

Satoshi Yoshida, NTT DoCoMo

Mr. Yoshida gave a presentation on the current LB service provision of NTT DoCoMo and made some points about their future plans. He pointed out, that i-mode obtained 31,25 million subscribers during its first three years.

The current services are:

- Ima-DoCo, which is a tracking service and requires a specific PHS terminal called P-doco? mini (by Sharp). The person carrying the terminal is located via fax or the Internet. The service was launched in May-98.
- mopera, which provides proximity and information services on topics such as restaurants, weather and bus stop information. The service can be used with a PHS browser phone. The service was launched in Feb-01.
- i-area, which provides proximity content, and can be used by an i-mode handset (PDC-P network). The service was launched in Jul-01 and receives 500 000 accesses per day.

NTT DoCoMo also supports the DLP – DoCoMo Location Platform, which provides a common interface for third party application developers.

Regarding the future, DoCoMo aims to start 3G LBS in 2003, but they will need more efficient terminals to be developed. They will first target at solutions for the business users and then expand to the consumer market.

What it takes to get a Mass Market Service Going

Peter Bianconi, Telia (Sweden)

Mr. Bianconi said that Telia has ten commercialised LBS services in Sweden. He thinks that LBS will mean success, but it will take some time. Currently there are three operators in Sweden but next year there will be two more. This will mean even tougher competition and LBS will play an important role – at least because all others will have them.

He made some points on requirements for services. First of all Cell ID location information must be up to date as well as the content provided. He pointed out that customer behaviours change at different times and places.

He thinks that an operator should support all available access methods, but not necessarily for each application. He feels that educating the market is very important.

According to Mr. Bianconi Telia will start selling location information to third parties after this summer.

Best Practice for Applications that Work

David Hose, SignalSoft

Mr. Hose made a quick look to his past forecasts for the year 2001 and to the current state of the market. He pointed out that there are many types of LBS applications available: navigation, entertainment, safety and emergency, tracking, community and tariff related services. There are also many LBS vendors on the market. Nevertheless, the operators only provide one or two applications for the users.

He stated that for an operator it is expensive to launch a service and to keep the service going. In addition, there are concerns related to privacy and access problems. Similarly for application vendors, it is expensive to build new applications. He therefore feels that middleware is an important factor in reducing costs for an operator in putting up new services.

Make money now: Revenue Generating Applications

LBS & Messaging – Packaging for Success

Mike Payne, Vodafone (UK)

Vodafone has operations in 29 countries. It is the market leader in 14 of them, and second in ten. Since last year they haven't made any changes to the service architecture. The APIs are created within LIF. They have chosen Siemens' Location Enabling Server (LES) and Geo-Toolbox from MapInfo. They have started the service rollout and over 50 million users will have access to LBS by next autumn. In the coming months, Vodafone plans to launch several new services.

He feels that LBS and (SMS) messaging is the perfect match for today's service provisioning.

Mobile Location Services at Optimus

João Santos, Optimus (Portugal)

Optimus' main share holders are Sonae and Orange. Optimus started operations in September 98. They currently have 2 million customers and are the third biggest operator in Portugal. The other two are TMN and Vodafone. As the mobile phone penetration is quite high in Portugal (83,4%), it will be difficult to grow in the next years.

According to Santos, market isn't pulling LBS. Voice and SMS bring the major part of income for the operators. He feels that the killer applications haven't yet been found.

Optimus has learned that just being able to locate friends or to be alerted when they are near is not interesting enough. Location based dating seems to have great potential, as well as location based chatting. SMS is the suitable access method, not WAP. He also thinks that street names or administrative areas aren't suitable but areas should be named according to youngsters preferences, and to allow personalisation.

Partnering for Success: A Live Treasure Hunt on TV!

Nicola Soderlund, Nordisk Film & TV (Sweden)

Nicola Soderlund presented an interesting TV program concept. It is based on the Treasure Hunt game and players competing against each other in a live show, allowing the TV viewers to interact with the game via SMSs.

Panel Session: The MLS Value Chain & Business Models

Christopher Kingdom (SignalSoft), Christophe Maire (Gate5), Tero Heinonen (Locus Portal), and Karen Walsh (ARC Group).

Mr. Kingdom stated that the operators have been quite slow in deploying LBS. They complain that the ARPU is low and that 3G is so expensive. As a solution, he pointed out that the operators should allow 3rd parties to provide the services.

Mr. Heinonen felt that the winning business models and applications will stand out during 2002.

When asked about what would be the most likely winning business model MS Walsh believed that there will be a lot of different business models depending on the market. She felt that operators will remain in important position in the future as well, but that they should open up. Mr. Heinonen stated that the end users will choose the business model. Mr. Kingdom claimed that the business model is difficult because of the complexity of the value chain. He believes that what is required is integrators to overcome the problem of too many players.

Regulatory Developments

Wireless E911: Regulatory Framework, Current Status and Beyond

Kris Monteith, FCC (USA)

MS. Monteith gave a presentation on the E911 regulation. She stated that there are different accuracy requirements for different techniques, because different techniques can cope with different accuracies.

Over the past few years operators have been asserting the need for relief from E911 rules. FCC decided that operators requesting for relief must provide a plan for complying with the requirements.

The CDMA network operators (Sprint and Verizon) and iDEN operator (Nextell) have chosen A-GPS. The GSM operators (AT&T Wireless, Cingular, VoiceStream) have chosen E-OTD. By the end of 2001 Sprint had sold A-GPS enabled handsets, as only in the State of Rhode Island they could support A-GPS. Verizon began selling A-GPS phones on 27.12.2001.

By September E-OTD GSM phones are scheduled to be introduced. By October iDEN handsets with A-GPS should be available and by the end of 2002 most new CDMA handsets should have A-GPS.

There were some concerns regarding to the above schedules. Also the testing of E-OTD is not yet completed.

Regulatory Developments in the EU

Jorge Pereira, CEC DG INFSO (Belgium)

Mr. Pereira made some remarks on the different approaches taken by the CEC and the FCC. Then again, Europe has had the advantage of learning from the FCC's experiences.

The history in EU dates back to a communications review to the European parliament, where was stated that the technology to locate mobile terminals is there and it should be implemented by 2003.

EU launched a project called CGALIES to look into these issues. CGALIES has just launched their final report. The Commission has not taken any official position to it. Mr.

Pereira's personal feeling was that the report proposes too tough data accuracy requirements for urban areas. The report also recommends on a market oriented approach.

On privacy issues, Mr. Pereira said that in the UK there is a company, which provides as a service the users location according to their wishes to bluff anyone who might track the user.

Positioning Solutions

Capitalizing on high accuracy location today with network-based U-TDOA location technology

Joseph Sheehan, TruePosition

According to Mr. Sheehan LBS hasn't taken off because Cell ID is not accurate enough and because there is some uncertainty in the revenue opportunities. He then talked about their U-TDOA technology, which is essentially reverse methodology to E-OTD. According to Mr. Sheehan they have achieved 67% of GSM tests to meet 50 m accuracy.

Case Study: Evaluating Benefits and Limitations of a New A-GPS Architecture

Javier de Salas, Global Locate

Mr. Salas gave a presentation on the Global Locate's A-GPS architecture. The content was similar to the marcusevans conference (<http://proxnet.vtt.fi/navi/uutiset/wirelesspositioning2001.htm>) .

A standard GPS receiver can dwell for 1 millisecond in each frequency/code bin. This means that it will take approximately 1 second to search all possible codes in one frequency bin. Thus for a standard GPS receiver it takes approximately 40 seconds to search all possible codes at all possible frequencies.

Because of receiving the assistance data via wireless link, the A-GPS has approximately 10 times fewer frequency bins to search. This means that an A-GPS is either 10 times faster, or can dwell 10 times longer for increased sensitivity, so that approximately 10dB lower signal strengths can be detected.

The Global Locate's A-GPS architecture has parallel correlators, enabling simultaneous search of all code delays. Combined with aiding, this means 1 000-10 000 times faster searching than a standard GPS or 1 000-10 000 longer dwelling for increased sensitivity, so that 23dB to 30dB lower signal strengths can be detected.

Thus their solution has a fast signal acquisition (100ms-250ms), enables more than 150 000 outdoor position fixes with a phone battery load, provides enhanced sensitivity (of ~25dB).

SIM-Toolkit and SMS Based Location Services

Jan Fiser, RadioMobil (Czech Republic)

RadioMobil's original brand name was Paegas, but a re-branding to T-Mobil Czech is ongoing.

They chose to provide SIM toolkit based LBS because in 1999 there weren't enough standards and they had previous experience with SIM-toolkit services. They have two services: Paegas Locator and Paegas Navigator.

The Paegas Locator was originally targeted for corporate customers, then SMEs and finally single subscribers and pre-pay customers. Currently the service is still used by the corporate users. All queries must include a password, checked by the SIM card, to get the location of the terminal. The service was launched in Q4/2000.

Paegas Navigator is an information service designed for the mass market. The biggest problem they faced in the service provision was obtaining content. The service was launched in Q3/2001.

Panel Session on Technology Update: Positioning

Christoph Maggioni (Siemens), Lennart Edberg (Ericsson), Jan Fiser (RadioMobil), Heikki Hämmäinen (Nokia Networks)

Mr. Maggioni said that he still believes in Cell ID + TA. E-OTD is too expensive for the operator, according to him. A-GPS will be the future technology.

Mr. Hämmäinen also believed that Cell ID was today's technology. In the future both E-OTD and A-GPS will gradually be taken into use. A-GPS will start with the high-end phones. He also believed that a hybrid solution would be a natural evolution.

Mr. Fiser believed that A-GPS would be the future positioning technology.

Mr. Edberg believed that there would be E-OTD/OTDOA legacy systems in the future. He thinks that we will never be able to fully overcome the problems related to A-GPS. Therefore all three (Cell ID, E-OTD/OTDOA and A-GPS) will all exist, also for 3G.

The chairman, Mr. Bilah concluded that even if the A-GPS chipset's price would go down to \$5, it does not mean that cheap GPS phones would come available, as a great R&D effort will still be required to integrate it with the phone.

Opening Address for Day Two

Lennart Edberg, Ericsson

Mr. Edberg believes that operators must have positioning methods implemented in their networks. Based on press releases, they have estimated that today about 172 million GSM subscribers have the possibility to use LBS. They also have estimated that

Ericsson's MPS market share is 44%. Ericsson has made 25 agreements on MPS worldwide and 12¹ of them have launched commercial services.

He thinks that the LBS market can be defined to be mature, when all three levels of positioning methods are in use, standard APIs are available and at least 80% of operators have commercially launched location based services.

Location Enabled Applications

Key Success Factors For Location Enabled Applications

Stefan Kühn, Siemens Mobile Phones

Mr. Kühn does not believe that there would exist a single killer application. He does not believe, that very many applications would require location information. He rather believes that many applications could be location enhanced.

He named four key success factors: context, content, confidence and convenience.

He mentioned that Vodafone would implement Siemens Location Enabling Server (LES) in four European countries this August. He also mentioned that Gate5 has developed the FriendFinder application for Siemens.

Location Based SMS & Upcoming MMS

Joe Astroth, Autodesk Location Services

Mr. Astroth talked about a joint project with FIAT and TIM in Italy. He said that by adding real-time traffic information into existing navigation service the use rose from 2-3 times per week to 2-3 times per day. He believes that great partnerships are grown from revenue. He also feels that MMS is an important step for location based services and compared the evolution from SMS to MMS to be equivalent to DOS changing to Windows. He doesn't believe that the business is about finding the killer application but rather about enhancing services by adding location information into them.

The LBS Value Chain: How Can We Put It Together

Ofer Tziperman, LocatioNet

Mr. Tziperman talked about the LBS value chain challenges. For the operators it means multiple on-going integrations. For application developers it is costly to develop a single vertical application. He also believes that the application developers may not know GIS very well. Middleware is the solution according to him.

¹ AIS (TH), Amena (ES), Esti Mobil (EE), Far Eas Tone (TW), Orange France (FR), Orange (IL), Mobitel (SI), Suomen 2G (FI), Stet-Hellas (GR), Telia (SE), Turkcell (TR) and Telenor (NO).

Co-Branding – Third Parties

Real-time Location Based Services

Kenneth Hart, Webraska

Mr. Hart said that Webraska has provided applications and/or platforms to a dozen operators in Europe.

He believes that context creates high usage. Once the user gets some information he may wish to have list of following actions available. Also the markets may be different, e.g. in the UK the “pub finder” is the most popular service at 22.49 as they close at 23.00, while in France this might not be as interesting. The continuity of the service is also important, which means that the service should be available via different methods, not just wirelessly but also via Internet and perhaps call centres.

Case Study: Intelligent Location Based Advertising

John Bates, Apama

Mr. Bates gave a presentation on what he calls intelligent location based advertising, i.e. what is accepted and what is not. They have found that pushing alerts and allowing the user to pull for details is accepted whereas pushing spam and too much is not. Also narrow casting or personalization is important for the acceptability and opt-in is important.

About technical problems he mentioned the constantly changing environment as the profiles, location and context of the users keep changing leading into huge numbers of rule comparisons to be made. The traditional information infrastructures cannot cope with this monitoring task. Also the network capacity imposes problems. Their solution to the monitoring problem is to turn the database upside down, i.e. run the dynamic data through the “relatively static queries”. To address the network capacity problem they have developed an Intelligent Location Poller, which is based on intelligent trajectory extrapolation.

A Detailed Analysis of 4 Different Live LBS Services

Steve Page, Mobile Commerce

Mobile Commerce is currently operating in the UK and they are coming also to the German market. They will launch a service with Vodafone in the near future. What they have learned from their case studies, is that the closer the service outlets are to each other the less use is for the location based services as the next outlet will be around the corner anyway. Similarly if the outlets are far away from each other, the use of LBS is low. The highest use is when the distance between the outlets is “mediocre”.

They have also found out that 67% of the use are related to the location where they are heading, and 33% to the user’s current location. In an IVR based service they provided for the mm02 most used information groups were ATMs (16%), cinemas (14%), petrol stations (11%), fast food restaurants (9%), restaurants (8%), and taxis (6%).

He pointed out that location is about relevance, not about location.

Panel Session: Working Together to get the right LBS Applications in the Market at the right time

Anders Kjaersgaard Sorensen (Unwiredfactory), Shlomo Rodav (InirU), Mark Searle (Insig), N.N. (Webraska)

Mr. Searle pointed out that i-mode was a marketing proposition as much as it was a technological one, whereas WAP was merely a technological.

The representative from Webraska underlined the importance of collaboration: there needs to be collaboration with the operators, location technology providers, content providers, system integrators and standardisation organisations.

Community LBS Services – Results From a Third Party

Petter Nyborg, Pocket-IT

Mr. Nyborg said that Norway is the first country in the world with an LBS offering from third parties to mobile end users covering 100 % of the country's subscriber base, both postpaid and prepaid. He also said that the both of the operators in Norway, Telenor Mobile and NetCom sell the location information for 0,06 €.

Building Wireless Communities –What role does location play?

Mihai Ionescu, CellPoint

CellPoint has been concentrating in location server and middleware technology and in application integration. CellPoint owns altogether 19 patents.

Mr. Ionescu believes that whilst revenue sharing is relatively easy with SMS, it is nearly impossible with WAP.

Roaming & Interoperability

Roaming Location Case Study

Alberto López Sanz, Genesys (Spain)

Mr. Sanz first talked about the value chain implications. The terminal characteristics will condition the possible applications. To support roaming, they must be compatible and adaptable to different network technologies. The middleware need to provide a generic API for the applications. They also act as a gateway to the GMLCs and must fulfil the operators' requirements regarding users' privacy, access security, and provide interfaces to billing systems and customer care.

Vertical Markets

High Revenue Location Based Services

Tuomo Kauranne, Arbonaut

Mr. Kauranne believes that most current LBS do not aim at delivering financial value to the users. Yet the implementation of the applications imposes substantial investment requirements for the operators. So where is the true value of LBS?

He believes that value can be created from the effective coordination of activities, which are typically mobile, spatial and require fast reaction. LBS can also provide key competitive advantage for an existing business. The services may also provide savings for the user from increased efficiency. And by exploiting the ASP model based on revenue sharing, the capital expenditure may be low for the operator. If these conditions are met, even a small number of users may provide return on investment.

PART II: The Exhibition

There were 15 exhibitors with stands: Alcatel, CellPoint, CellVision, Cyantel, Genesys, Global Locate, Indagon, Landmat, LocatioNet, Pocket IT, Siemens, SignalSoft, Tele Atlas, Trackwell and TruePosition.

CellVision is a Norwegian company, which has previously aimed at providing a complete solution for LBS. Nowadays they emphasize their enhanced Cell ID technology.

Indagon is a Nokia Early Stage Technology Fund portfolio company. They develop, produce and sell high accuracy GPS-based end-to-end positioning solutions.

Landmat is an Icelandic company that develops mobile applications. Their LBS portfolio includes services such as TravelTrack, which is a city guide application, DirectoryTrak, which is a location based information service and DateTrak, which is a location based dating service. DateTrak has been deployed by two Icelandic operators and by Bharti in India.

Pocket IT will shortly release Local Date, Local Chat and Local Flirt services. Both of Norwegian operators will provide these services and they plan to run a big marketing campaign for the Local Chat service. SMS and WAP interfaces will be supported as well as reversed billing.