NFC WHITE PAPER
ALCATEL-LUCENT MOBILE WALLET SERVICE
mCommerce Product Group
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1 INTRODUCTION

The following document describes the Alcatel-Lucent Near Field Communication (NFC) solution, part of the Alcatel-Lucent Mobile Wallet Service (MWS) offering. It gives an insight and recommendation on the various opportunities NFC provides for mobile operators. The document starts with a status overview of the NFC industry. The different solution components that make up the Alcatel-Lucent end to end NFC solution are then described.

Alcatel-Lucent’s mCommerce product group provides mobile commerce solutions on the crossroads between finance, advertising, CRM and media. Alcatel-Lucent MWS provides mobile operators the tools to connect consumers to retailers and service providers (banks, payment schemes) remotely, near store and in-store. This delivers consumers a richer and better shopping experience, while enabling retailers to have a cost efficient and optimized mobile CRM and payment solution. Alcatel-Lucent MWS combines an e-wallet with an NFC wallet and mobile CRM in one blueprint offering for fast go to market and maximum flexibility.

MWS and its NFC solution are designed to support both payment and marketing services. Time to market is optimized via a pre-integrated eco-system of best in class partners and the availability of APIs for integration readiness. This is complemented with proven integration skills on NFC projects and hosting capabilities. Finally, it is a future safe solution with a modular and extendable architecture to provide full 360 mCommerce solutions.
2 STATUS OF THE NFC INDUSTRY:

Back in 2009, NFC already was a hot item, got some first acceptance in APAC (Japan, Korea, Malaysia) but had various issues to solve for general acceptance:

- NFC Handset availability
- Contactless acceptance network
- Security model
- Trust model & ecosystem
- Retailer and consumer demand

Q4 2011, all these areas have evolved rapidly and the continuous announcement of new commercial and trial deployments show that mass adoption in Europe and North-America comes in sight.

1. NFC handset availability

Compared to 2009, when only the Nokia 6212 with embedded secure element was available, 2011 is a lot more promising with availability of legacy phones like the Samsung Star & Sagem Cosyphone and a new generation of smart phones like the Google Nexus S, Samsung Galaxy SII, Samsung Wave 578, Nokia C7, Blackberry 9900 and 9930. Upcoming additional announcements are expected by Samsung, LG, HTC,
Motorola and Sony-Ericsson. Analysts expect 60% of the phones sold in 2016 will have NFC. Meanwhile, NFC bridging technologies like passive stickers, MicroSD, SIM overlays with flexible antenna and active stickers support on paving the way and getting the acceptance network and ecosystem in place.

2. Contactless acceptance network

Card schemes, as well as transport operators continue at a high speed to upgrade the acceptance network to contactless, with contactless acceptance growth rates exceeding 50% CAGR. Herewith an example of Visa contactless acceptance in Europe:

![Visa Europe contactless deployments](image)

3. Security model

Many debates are still ongoing on the security model of NFC. Whereas in 2009, an embedded secure element was the only available option, in 2011, the SIM can be used as Secure Element, thanks to the Single Wire Protocol technology. In 2010, the GSMA and EPC jointly published a white paper on the role of the Trusted Service Manager for SIM based NFC deployments. The GSMA fully promotes the use of the SIM as secure element, so that most commercial deployment and pilots worldwide now use the SIM as secure element. This for a variety of reasons, including the SIM portability, standardisation, existing SIM lifecycle management processes and available helpdesk and support channels. However, in 2011, a lot of discussion between service providers, mobile operators, handset and OS providers is still ongoing, as new handset and OS providers like Google foresee a future for embedded secure elements in place of or next to the SIM as secure element.

4. Trust model and ecosystem

In 2009, most Asian NFC deployments where MNO centric, whereby the MNO took the central role of Trusted Service manager, both managing and preparing the SIM as secure element, as well as taking care of the key management and applet/cardlet personalization for the service provider. In 2011, mainly driven by the French Cityzi project and the AFSCM (Association Française Sans Contact Mobile), the split issuance model for the Trusted Service Manager is preferred. In this model, the TSM role is split in two, one TSM for the MNO and one TSM for the Service Provider. Interaction between the TSMs is governed through the Global Platform specification.
5. Consumer and retailer demand

Probably the most evolved since 2009, thanks to the uptake of smartphones and the availability of more and more advanced applications in the app stores. Meanwhile, deep discounting websites like Groupon show the opportunity for location based real-time coupons, while the Starbucks Card application uses 2D barcode technology for closed loop micro-payment combined with loyalty and coupon services. Consumers see the benefit of using their mobile for price comparison and coupon services, while retailers understand the linked opportunity for CRM, direct marketing, inventory optimization and cost savings on paper coupons and cash handling.

Alcatel-Lucent youth lab research results (2010):
US Retailers plans on mobile marketing (2010):

<table>
<thead>
<tr>
<th>Application</th>
<th>extremely interested</th>
<th>very interested</th>
<th>somewhat interested</th>
<th>not interested</th>
<th>not at all interested</th>
</tr>
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<tbody>
<tr>
<td>Check your available coupons for nearby shops</td>
<td>35%</td>
<td>42%</td>
<td>18%</td>
<td>4%</td>
<td>1%</td>
</tr>
<tr>
<td>Exchange loyalty points into coupons in real time</td>
<td>32%</td>
<td>45%</td>
<td>17%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Check your loyalty balance for nearby shops</td>
<td>31%</td>
<td>37%</td>
<td>26%</td>
<td>6%</td>
<td>0%</td>
</tr>
<tr>
<td>Have an integrated shopping list with personalized recommendations and automatic coupon additions on the mobile phone</td>
<td>32%</td>
<td>39%</td>
<td>20%</td>
<td>7%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Retailers can send customers real-time ads, coupons, and offers that are based on consumer preferences and physical location. While paper coupon redemption rate sticks to ½% and online only achieves 1-2%, personalized mobile coupons redemption rate goes up to redemption rates of 15% to 50%. E.g.: US retailer Qdoba Mexican Grill mobile redemption rates are on average 16% and at university locations go up to 40%.

Use case:

**Consumer value**

“I earn loyalty points when entering the shop, and converted them in a 5% discount coupon. I clipped additional coupons before and while shopping. At checkout, via one touch I redeem the applicable coupons, earn additional loyalty points and pay, all from the convenience of my MNO wallet”

**Merchant value**

“I want sales activation and sales frequency increase with an effective rewards program. I want to maximize throughput in my shop and optimize stock with an agile marketing and yield management solution. Fast checkout is key. I want to support different payment schemes at lowest interchange cost and best security."

**Bank value:**
Enable more payment transactions, always, everywhere via the convenience of a mobile wallet

**MNO value:**
NFC SIM rental fees, marketing in the consumer wallet, monetizing consumer profile and opt-in with mobile marketing

**Brand value:**
Agile, in-shop influencing of target segments
3 NFC IN THE MOBILE OPERATOR STRATEGY

Near Field Communication brings many opportunities for mobile operators, both for B2C as well as for B2B. NFC is an intuitive and secure channel for transactions, as well as service discovery and can be used in a wide variety of domains: mobile phone as wallet, mobile phone as key, mobile phone for time registration, smart posters etc.

There are four non mutual exclusive options for MNOs (or MNO consortia) to benefit from NFC:

1. Secure third party application enablement on the SIM
   This is often referred to as the SIM rental model, whereby MNOs provide secure access to third party service providers like banks, transport operators, retailers and access providers. The mobile operator also takes care of the consumer education, the distribution of the handsets and SWP (Single Wire Protocol) SIMs and is providing the first level support. It is advised for mobile operators to provide and brand the NFC wallet client incorporating all third party services. In exchange, the MNO will get a monthly or yearly SIM rental fee (for payment & access applications) or a transaction fee (for transport & event ticketing, typically 5-15% of the ticket price). The MNO is advised to build up the most compelling “SIM app store”, to differentiate from competing MNOs and to reduce churn. Examples include Turkcell in Turkey with Yapi Kredi bank, Maxis in Malaysia with Tap 'N Go Transport operator and Maybank bank.

2. NFC payment with own micro-payment scheme
   In addition to enabling third party applications and services, mobile operators can provide their own micropayment services, alone or in cooperation with other mobile operators. NFC can then be used as an additional transaction initiation channel next to SMS, USSD, web and mobile applications. The mobile operator will be able to earn transaction revenues and work on its churn reduction. Mobile operators can cooperate with banks for this or profit from the recent e-money directives to provide their own financial services. Mobile operators can acquire their own merchants or instead couple a co-branded Visa or Mastercard prepaid card to the e-money stored value account. In this case, the e-wallet of the MNO will be accepted at all places where Visa or Mastercard is accepted. In the case of NFC, the MNO will need to populate a personalized Mastercard or Visa applet linked to the e-wallet on the NFC SIM.
Examples of e-wallets in developed markets include mPass in Germany, Buyster in France and PingPing in Belgium. O2 UK also applied for an e-money license and will link their e-wallet to a co-branded prepaid card.

3. NFC marketing services
Next to micro-payment services, mobile operators can provide and enable mobile marketing services on NFC phones. Mobile marketing includes loyalty, coupon services, gift cards, voucher services and offers. NFC offers here an even bigger advantage compared to payment, as the interactivity and connectivity of the phone and the availability of a screen real estate allow to provide personalized mobile marketing offerings to consumers. Meanwhile, retailers can be supported on their CRM and analytics/reporting. MNOs can easily combine NFC marketing services with location based services and mobile advertising to provide unique services to consumers and retailers. For that, an offer management system, as well as smart poster management system are minimal requirements. Examples of NFC related mobile marketing initiatives include the joint venture between NTT Docomo and McDonalds, whereby over 6 million Japanese people use their contactless enabled mobile phone to redeem mobile coupons.

4. B2B NFC packages to enterprises
Lastly, MNOs with enterprise or B2B focus can provide NFC support and packages towards enterprises. On one side, MNOs can act as ”TSM” for e.g. retailers, campus, automotive industry, hospitality etc. (e.g. Orange Business Services in France). On the other side, they can provide full NFC packages towards enterprises, like for time registration, mobile workforce applications for security guards etc.

4 ALCATEL-LUCENT END-TO-END SOLUTION FOR NFC DEPLOYMENTS

Instead of providing a stovepipe solution or an individual part of the required solution for NFC deployments, Alcatel-Lucent recognized the need for an integrated and modular end to end solution for NFC. This assures a cost effective and fast NFC launch strategy and takes into account both the technical functional and non-functional aspects, as well as the required ecosystem.

Example video: One touch checkout with SWP NFC phone: http://www.youtube.com/watch?v=OdMeYNncr_A

The Alcatel-Lucent end to end NFC solution consists of:
- NFC MNO Trusted Service Manager (TSM)
- NFC wallet application
- E-wallet Stored Value Account and NFC applet/cardlet
- E-money license
- Co-branded contactless prepaid card & applet
- NFC marketing offer management
- Smart poster management
- SP TSM for access applications
- Contactless terminals & Terminal Management System
- E2E integration (SIM, OTA, Mobile Device Management,..)
- NFC program management
- NFC application store & NFC application developer program (touchatag)
- NFC starter kit and website / mobile application for tag management (touchatag)
- NFC business consultancy
This provides support for all of the four strategic NFC options available for mobile operators:
1. Secure third party application enablement on the SIM: MNO TSM, NFC wallet application, E2E Integration with MNO backend, SIM, OTA, Mobile Device Manager.
2. NFC payment with own micro-payment scheme: e-wallet stored value account and NFC applet/cardlet, e-money license, co-branded contactless prepaid card & applet, E2E integration with payment gateway, OSS/BSS
3. NFC marketing services: NFC marketing offer management, smart poster management, Contactless terminals & terminal management system

Being a modular system, means that the Alcatel-Lucent NFC solution can be integrated as well with third party NFC related components when required. In next paragraphs, the different components making up the end to end solution are briefly introduced. The reader is invited to contact an Alcatel-Lucent representative for more information on any of the individual components.

### 4.1 Trusted Service Manager (MNO)

Alcatel-Lucent has a partnership in place with CASSIS International for its NFC Trusted Service Manager. CASSIS has a field proven and commercial grade TSM solution being used by over 45 companies (MNOs, banks, transport operators, card schemes) in 23 projects. 8 million consumers are managed via this TSM for the SK Telecom mobile contactless deployment. Furthermore the CASSIS TSM is used by the first commercial full NFC deployment in Malaysia with Maxis, Tap ‘N Go and Maybank. It is also deployed by BKM for the first inter-banking domestic TSM in Turkey, with 9 banks and 2 mobile operators.
CASSIS TSM platform has been deployed with a wide variety of secure elements (different SIMs, Micro SD, SIM Flex/Overlay solutions..) and NFC handsets. It supports payment applications (Visa Paywave, MasterCard PayPass, Alcatel-Lucent e-wallet), as well as transportation applications (Mifare & Calypso based), as well as non payment applications like access, ID, loyalty/coupon services (Alcatel-Lucent e-wallet) and membership cards. Interaction with the secure element is supported via the BIP OTA channel, as well as via mobile data (GPRS/3G) channel in case of non-BIP support or non SIM based secure elements:

CASSIS supports different TSM deployment models, including the split issuance model whereby the MNO TSM and the Service Provider TSM interact according to the Global Platform specified messaging.
Alcatel-Lucent provides the (MNO & SP) TSM also in a TSM as a service model, hosted from its Tier 4 data centers and has extended experience in integration of the MNO TSM with the MNO back-end (OSS, BSS, device management, ...):

For more information on the TSM offering, contact your Alcatel-Lucent sales representative.

4.2 NFC Wallet Application

The NFC wallet application represents the different available wallet applications to the consumer. It allows the consumer to launch the individual underlying applications (if available) and allows activating and deactivating the different payment, loyalty and transportation NFC applets. It is recommended for MNOs to provide and brand the overall wallet for user experience consistency.
The NFC wallet can take multiple forms, including a MIDlet based version, an application residing on the handset or in the SE/UICC for visualizing and managing the applets that belong to the Service Providers (SPs) on the SE/UICC. Alternatively, a widget based version could be used, using an application residing on the handset for visualizing and managing applets belonging to SPs on the SE/UICC. This can further be divided into a USAT based solution, an SCWS solution or Java ME based solution. The support for various OS goes hand in hand with the availability of mobile NFC phones, whereby current J2ME and Blackberry OS7 support is being extended with support for Android 2.3. Support for iOS and windows mobile is planned with availability of native NFC phones. For more information on the NFC wallet offering, contact your Alcatel-Lucent sales representative.

VIDEO: See http://www.youtube.com/watch?v=i1Sc7Xc8grk for a demo video of 3 payments applications, 2 EMV and 1 e-money, represented in a J2ME MIDlet on a Samsung Star NFC phone

4.3 E-wallet and NFC applet
Alcatel-Lucent provides a full e-wallet solution that can be used for remote and proximity payment and marketing solutions.

The e-wallet combines support for:
- Different remote access channels: SMS, USSD, web, mobile app
- Different proximity (PoS) access channels: NFC, QR code, contactless cards
- Different security mechanisms: SWP NFC, mobile one time password, PIN, MSISDN + password
- Different settlement options: bank account, credit/debit/prepaid card, MNO prepaid card, e-money stored value account, MNO postpaid account

The Stored Value Account part of the e-wallet stores electronic money, as well as gift cards, vouchers, loyalty points and coupons. Applications supported include e- and m-commerce, person to person money transfer, airtime top-up, bill payment and remote ticketing. The e-money deployment models are dependent on the local regulation and the available licenses of the MNO. In Europe, e.g. MNOs can operate themselves e-money SVA, when adhering to the E-Money Directive, while in other countries the money of all individual wallets together needs to be stored at a bank and the operator can only manage the virtual transactions between the individual e-wallets. The e-wallet’s payment providers network keeps track of the preferred payment mean of the customer linked to the e-wallet account: credit/debit/prepaid card, bank account, postpaid account or e-money account. This enables the e-wallet to authenticate and validate the transaction, while authorizing and debiting the transaction directly onto the linked payment method. The e-wallet can be used as well for proximity payment and marketing, using 2D barcodes, contactless technologies (like contactless cards, NFC stickers) and full NFC phones.

VIDEO: See http://www.youtube.com/watch?v=klxVjaJHNQg&feature=related for an overview of the Alcatel-Lucent supported e-wallet applications.

To use the e-wallet for NFC based transactions, there are two available options (that even could be combined). The first is to use the dedicated e-wallet NFC applet on the SE/UICC and to upgrade the acquiring network to accept the e-wallet as payment and marketing scheme or to roll out its own merchant acquiring network. The second option is linking the e-wallet to a Visa/Mastercard co-branded prepaid program, whereby a Visa or Mastercard co-branded prepaid NFC applet is installed on the SE/UICC, so that the existing acquiring network of Visa/Mastercard can be used to accept e-wallet payments.
The e-wallet solution includes a comprehensive management platform for program, participant, affiliate and location management, as well as reporting and analytics:

For more information on the use of an e-wallet in NFC, contact your Alcatel-Lucent sales representative.
4.4 E-money license
To speed up the deployment of e-wallet related services for payment, Alcatel-Lucent can provide an e-money license in the SEPA zone thanks to partnerships with the VoiceCommerce Group and Citi. Thanks to the e-money license, non-banks like mobile operators and enterprises can provide limited financial services to their consumers. VoiceCommerce group and Citi are compliant to the European Payment Services Directive (PSD), the Third E-Money Directive and Single European Payment Area (SEPA) regulations. They are financial institutions regulated under the UK FSA, and act as payment institutions under the payment services directive and have eMoney issuing licenses in the SEPA zone. For more information on the e-money license, contact your Alcatel-Lucent sales representative.

4.5 Co-branded contactless prepaid card & applet
To facilitate the adoption of the e-wallet for payment at legacy point of sales, a co-branded Mastercard or Visa card linked to the MWS wallet can be issued. It is recommended to issue a dual card, supporting both contact and contactless EMV applications, to ease consumer education on contactless. Alcatel-Lucent, via the partnership with Citi or VoiceCommerce group can issue co-branded prepaid EMV cards. Evolution to NFC can be offered by dematerializing the card into an EMV prepaid applet that can be installed on the SE / UICC of an NFC compliant mobile handset. This way, the MNO is not reliant on the pace set by the banks, speeding up the process. For more information on the co-branded prepaid cards, contact your Alcatel-Lucent sales representative.

4.6 NFC marketing & offer management
The Alcatel-Lucent e-wallet solution supports various marketing tools, including but not limited to loyalty points, coupons, gift cards and vouchers. These can be delivered via different channels to the e-wallet of the consumer (API call, Smart Poster,..). The redemption at the point of sale can be done via 2D barcode technology alternatively with contactless (contactless cards, stickers) or NFC technology.

Alcatel-Lucent provides an online offer creation and management system. Offers are stored online and delivered to any mobile wallet client as desired using the HTTP/OAuth APIs. Delivered offers can be stored either in a mobile application or onto the NFC SE/UICC. Storage of coupons on the NFC SE/UICC is a requirement for one touch NFC based checkout. Offer validity and exchange is managed by the application correlation service of ALU's Mobile Wallet Service. This rules-based engine is the end-point for NFC or 2D barcode offer validation and redemption. Using the coupon ID, PoS ID, and user ID, the offer can be validated, redeemed, and then removed from the wallet. Offer management for consumers is available online for organizing offers, selection of only relevant offers (based on timing, need, and preferences/profile).
4.7 NFC Smart poster management

The concept of smart posters is to have NFC tags embedded in the posters that link to a special URL that sends the customer to the merchant's page on the Smart Poster server. Merchants have the flexibility to define and manage their specific content and promotion criteria e.g. offer different promotions depending on the time of day, date, number of taps, can be linked to external systems etc. The smart poster solution allows the merchant to define how the content that is relayed back to the user e.g coupons to SIM, offers to the handset, trigger some other event. This is integrated with the Alcatel-Lucent offer management system and e-wallet platform. As such, coupons can be added to the wallet or loyalty points can be granted. The system is configurable to send content back via different channels and is able to generate reports on usage analytics for the merchant. Alcatel-Lucent also has experience with inverse scenarios, whereby consumers can use contactless cards to touch an interactive billboard holding an GPRS enabled contactless reader to add coupons to the consumers account or send messages to his/her mobile phone.

For more information on NFC marketing, contact your Alcatel-Lucent sales representative.

4.8 SP TSM for access applications

Alcatel-Lucent has experience with providing end to end solutions for NFC access to MNOs, using a service provider TSM provided by CASSIS International and using access gate solutions provided by Ingersoll Rand (Aptiq) and Pronet.
4.9 Contactless terminals & Terminal Management System

Mobile operators interested to roll out their own merchant acquiring network, are supported via Alcatel-Lucent’s portfolio of contactless terminals and Alcatel-Lucent’s Terminal Management System (TMS). The terminal portfolio includes various payment and marketing terminals (standalone GPRS; USB based; IP based; Serial based; with or without Pin pad, with or without screen), vending machines and contactless booster units for vending machines, as well as NFC phones that can act as PoS for closed loop micro-payment and marketing services. VIDEO: See: http://www.youtube.com/watch?v=28TwCpx4Dnq for a closed loop micropayment using e-money on an Android Google Nexus S PoS.

To manage and provision a distributed network of contactless terminals, Alcatel-Lucent created the Terminal Management System (TMS). TMS allows to auto-configure terminals with the right configuration for a specific deployment.
For more information on Alcatel-Lucent’s contactless terminal portfolio & TMS, contact your Alcatel-Lucent sales representative.

4.10 E2E integration (SIM, OTA, Mobile Device Management,..)

The complexity of NFC projects with multiple ecosystem and technical partners can increase rapidly. Alcatel-Lucent has an experienced NSI (Network & Services Integration) team and employs over 20k service professionals in over 130 countries. Combining local support and presence with global reach. The roles of the NSI team include unified program management by local resources, expertise with MNO project management, integration and customization and BoM (hardware + software) supply. On support & maintenance, Alcatel-Lucent can provide a unified interface for 1st level maintenance & support, BoM and TSM maintenance & support and 24/7 customer care services in the local language. NFC projects typically require the integration of the TSM with the MNO OSS/BSS and CRM systems, with the SIM & handset and OTA & mobile device management platforms. Additionally, the e-wallet solution requires integration with the rating and charging systems, SMSC, payment gateway etc.

Alcatel-Lucent has experience with following NFC deployment related aspects:

- Helping MNO refine/define the wallet/STK requirements and GUI interfaces based on current hardware capabilities
- Advising 3rd parties new to the TSM / UICC platform of the various requirements and features required for the successful deployment of their services
- Advising Midlet vendor on how to interact with the Mastercard/Visa applet in order to retrieve and display info requested by the banks
- Resolving NFC issues related to terminal interactions
- Resolving MC perso issues encountered by the SP-TSM vendor unfamiliar with the MNO’s UICC vendor
- Identifying and resolving any JavaCard / GP related issues
- Ensuring perso configuration complies with MC/Visa requirements
- Translating the MNO certificates on behalf of the MNO to the format as specified in the WAP/WIM and PKCS#15 specifications and delivering to the UICC vendor
- Resolve any issues with service providers
- Resolve technical issues with phone, UICC and service vendors
- EMV knowledge and expertise to identify and resolve any EMV related issues
- Ensuring UICC vendors EMV applet meets the MNO requirements

For more information on Alcatel-Lucent’s NFC integration services, contact your Alcatel-Lucent sales representative.

4.11 NFC application store & NFC application developer program

Alcatel-Lucent touchatag provides, since 2008, an NFC application developer program for the creation of (non-secure) NFC applications via http://www.touchatag.com/developer. The concept of the developer program is to make contactless application development as easy as creating a website or blog. Alcatel-Lucent touchatag provides all the tools (software and hardware) to enable this long tail of contactless/NFC applications. Meanwhile, thousands of application developers are subscribed to this service and have created numerous applications, including for library rental, car rental, mobile, time and absence registration and sport court reservation.
This NFC offering can be linked with Alcatel-Lucent Digital Media Store offering, which includes a comprehensive application store solution. For more information on Alcatel-Lucent touchatag, contact info@touchatag.com

4.12 NFC starter kit and website / mobile application for tag management

Alcatel-Lucent touchatag provides, since 2008, an NFC service to consumers, including the availability of low cost NFC starter kits and customizable contactless application templates. This enables any consumer to easily customize NFC (& 2D-barcode) applications via an online dashboard.

Consumers can register via http://www.touchatag.com and buy a complete starter kit with 1 USB NFC reader and 10 NFC compatible tags for under 30 Euro. Touchatag NFC tags adhere to the NFC NDEF format and can be read out by all NFC phones. The intelligence is not stored inside the tags (Mifare Ultralight) but in the network, allowing context dependent action initiation. Ten thousands of users have registered for this service and/or bought the NFC starter package meanwhile.
With the advent of NFC enabled smartphones like the Google Nexus S, Alcatel-Lucent touchatag has released a mobile version of the dashboard, allowing tag configuration on the fly via a mobile client. The application is available for free on the Android market for the latest Android Gingerbread release.

VIDEO: See http://www.youtube.com/watch?v=EhgYhKw3rk0 for an introduction on the touchatag mobile client for Android

4.13 NFC business consultancy

Mobile payment and marketing is a broad domain with various opportunities. In order to select the applications and go to market strategy which correspondents best with the overall MNO strategic goals, Alcatel-Lucent created a business consultancy package. This package will support the market opportunity assessment, the business modeling and the recommendations for market trial and launch. This is based on industry best practices and combines insights from experts coming from the card scheme, banking, telecom and handset industry.
5 CONCLUSION

Alcatel-Lucent provides a comprehensive NFC offering that allows mobile operators to enable third party secure NFC applications, while also supporting mobile operator’s own payment and marketing schemes on NFC. It provides the solution for a rapid deployment based on the core NFC payment, marketing and transport services, while also addressing the broader ecosystem development for other non-secure NFC applications.