Are you ready... for the next wave?

Contactless payment technology and the web services explosion and the need for convergence

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Contactless payment technology based on RF communication embedded in credit cards is growing at a faster rate than any other payment technology introduced in the last 100 years. More than 20 million contactless credit and debit cards have been issued within the last 2 years, according to the Smart Card Alliance. The possibility to wave the card in front of the reader provides convenience and great throughput and consequently generates a fast growing adoption. In parallel on-line banking and associated services are exploding. Banks are boosting on-line services including account monitoring, paying bills, on-line brokerage, investment guidance, personalized report and plan.

In order to take benefit of these two major revolutions, there is a need for a fruitful convergence between contactless smart cards based transaction and web services. But existing smart cards cannot off the necessary link due to their lack of connectivity to PC and web. It is now a fact that smart card readers' deployment has not been successful in the consumer world. In addition Smart cards with their existing form factor are limited in terms of memory capacity and computing power. On the other hand web services are suffering from the lack of hardware tokens to support high-end transactions for which strong authentication is required. This statement in a bank's ad: "a single password lets you access all your accounts – banking, brokerage, investment management, and trust – anytime, anywhere you have Internet access" could

perhaps not satisfy all customers in terms of privacy and security. To answer this expectancy, there is some room for new eMedia which could become a new transaction tool offering real consumer empowerment. One answer is definitely around NFC and mobile banking, another one available in a shorter time frame is "smart objects".

A vision of Smart objects

Smart objects are new portable and secure eMedia providing users connectivity to PC and the Web. They feature a huge memory capacity and processing power in addition to standard contactless smart cards capabilities. They represent and identify their owner in their environment allowing them to perform secure transactions with excellent ergonomics thanks to their USB key form factor available with an innovative design and format.

Taking benefit of the groove dug by the promising NFC technology and from the explosion of contactless payment, a new generation of smart objects is going to provide consumer empowerment in many applications including mass transit, ePurse, eBanking, eTicketing and also corporate and DRM. Thanks to a new form factor, connectivity features and an auto-run concept they offer convenient ubiquitous transaction means.

A new transaction centric eMedia

In the tradition of smart cards, this new generation of transaction tools is nevertheless breaking their inherent barriers in terms of connectivity and capacity. The lack of smart card reader infrastructure in the consumer environment is a fact. With their USB key form factor, these Smart objects integrate their own reader for the built-in smart card functions. At last, consumers can take benefit of the web service explosion. Furthermore, as already well adopted USB keys, Smart objects feature secure mass storage capacity with the associated life cycle management. Thus there is no need for a dedicated infrastructure to use your smart object, your USB port from your PC or workstation is sufficient to consult your smart token content, to reload your ePurse or to purchase mass transit tickets, to update your profile or to download a new application. Contactless transaction adoption is now a reality in mass transit and small payment and the beauty of the concept is that it requires no modification of the existing infrastructure.

Need for dematerialization

Smart objects answer the need for dematerialization from operators and the need for autonomy from users. Those requests are obvious in mass transit application, eTicketing and ePurse applications but smart objects can be attractive in other areas:

Strong authentication for eBanking: we foresee other attractive opportunities for smart objects in eBanking as the need for strong authentication is growing. Actually online banking and brokerage are insufficiently protected without a hardware token. For the end consumer the smart object products are an "all in one" solution for strong authentication eBanking, contactless payments and on-line payment. Anonymous on-line payment: smart objects create a real breakthrough thanks to its ability to offer anonymous payment and this without a credit card number. You just use the ePurse function of your smart object to perform small online payments on authorized websites. No doubt that merchant websites will adopt ePurse based online payment to provide anonymity and ease of use to their consumers.

The new smart transaction 'wave-and-go'

End Users benefits

Main benefits for the end user are convenience, autonomy, empowerment, mobility. Having the possibility to select and download transport ticket or events tickets, to reload ePurse directly from home is a unique service. When travelling from Marseille to Paris if you could store in your smart object a few metro and railway tickets, it would avoid long and boring queues to get them when arriving in Paris. Just imagine that you can eventually do it abroad and download your tickets for the next cultural event in London as well as the needed tickets for the public transportation means you will need.

There is great opportunity for issuers to leverage this level of expectation from users

In your bag, in your pocket, linked to your key rings or to your mobile, smart objects are with you all through the day and you can use them both in contactless mode or connected mode. Easy to install with the auto-run function and easy to use, they offer convenience and mobility to end users to make transactions but also to interface with the different offered web services. Operators' Wep pages can be customized upon the end users preferences combining personal areas and standard applications.

In the near future, we can also expect to use smart objects as a major vector of exchange between end users and services operators but also between end users themselves, creating an attractive idea of community between smart objects owners.

Issuers/operators benefits

The main benefits for issuers/operators are dematerialization, security, ubiquitous means of payment, new services opportunities, closer relationship with end users.

Referring to the above possibilities of making transactions in connected mode and contactless mode thanks to the adapted form factor and design, smart objects become an anonymous and ubiquitous means of payment. So there is a great opportunity for issuers to leverage this level of expectation from users to demonstrate their customer centric approach and to differentiate themselves from competition.

Smart object technology enables dematerialization without compromising end users security and privacy.

Creating trust and confidence between end users and operators is the way to develop business and to keep customers in a long term relationship. The opportunity to have a direct link with the customer each time he connects his smart object is unique and establishes a perfect way to understand customer expectations, to improve services and to increase revenue.

More than a device, smart object is a multi-application platform on which issuers can embed new applications and develop new services.

In the Eurosmart vision paper "The Smart & Secure World in 2020" , it is stated that " smart objects will become totally integrated into everyday life as our digital proxies, bringing added simplicity and convenience to users and tighter relationships with issuers. By giving the user ownership of complexity and security and by simply making our lives easier, will be undisputed in 2020".

Fully in agreement with this vision, we are just realizing that this revolution could happen sooner. We see smart object products as a first small but significant step into the future "smart dust" in creation, meaning a network of tiny smart communicating security objects.

How the Weneo can be used for simple transactions