



## Purse Wars - What does the front line look like?

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The electronic purse (epurse), taken here to mean a smartcard holding some form of electronic cash (ecash), has been widely touted as a crucial pivot for the virtual finance industry because it can provide the final link between physical and virtual commerce. In Europe, the epurse is advancing on all fronts: trials, pilots and live schemes abound. In the last 23 years, the deployment of eurses has followed many different routes founded on different objectives, business models and technologies to the point where a number of competing blocs are now discernible. While the epurse landscape is far from mature, I think that it is already possible to take a look at what has happened in epurse deployment to try and deduce some general results and then make some realistic assumptions that can replace guesstimates as input to the business planning process in different sectors.

### Out There

The first point to note is that epurse deployment across Europe is both heterogeneous and at very different points in the product lifecycle. While most EU countries have eurses in use, the deployment ranges varies wildly from tens of millions in Germany and the Netherlands to tens of thousands in the UK.

Throughout Europe (not just the EU) there are some 100 million eurses already in circulation which is really an indication of the advanced deployment of purely national schemes with respect to international schemes. To put the purse figures in context, note that Europay has some 123 million debit cards and 37 million credit cards in circulation. Its unsurprising that the schemes with the highest penetration rates are national, since almost all retail consumer purchases are local. The cost of implementing crossborder compatibility is judged, by the national schemes, to be prohibitive given the small number of transactions: Im sure that this is true right now, but perhaps the rise of the Net will change the equation in a few years time.

Of particular interest in the UK is the way in which closed environment schemes (campus schemes) have developed against schemes based on geographic deployment. Both Mondex and VisaCash, launched with pilots on a geographic basis Mondex in Swindon, VisaCash in Leeds where only a fraction of the population have eurses (and even fewer use them). Campus schemes, such as the schemes in operation at Exeter and York universities, launched with almost full coverage because the epurse was on a card that had a variety of other useful functions (student ID, voting, library access and so on). At Exeter, the epurse has already displaced some 20% of the cash on campus and is expected to displace 40% over the coming year. In two years time, some parts of the campus will be cash free.

By and large, the consumer reaction to the UK schemes seems to be much more positive in the campus environment, which would tend to suggest that issuing eurses as stand alone items will not be as successful as issuing them for multiple functions (which, note, is distinct from issuing multiapplication smartcards). There are bounds to this proposition, of course. To me, one of the attractions of an epurse is that it is just that. I can give it to my son to go and buy a burger and if he accidentally loses it (or eats it or sets fire to it or whatever), I've only lost a few pounds: I don't have to get a new passport or drivers licence. Nevertheless, the chips used on epurse cards are clever, so they can be made to do other things. Using them in loyalty schemes, ticketing systems and so on enhances their appeal to the epurse consumer. In Belgium, the almost 2 million eurses in circulation-which are mounted on magnetic stripe debit cards function as Belgacom calling cards and will soon be used for internet payment, for a variety of loyalty schemes, and for electronic benefits transfer to social security recipients. Using eurses to implement multiple applications does,

of course, bring with it a whole set of issues that are outside the scope of this article which brands are visible on the card, who runs customer service desks and so forth but if implementing multiple applications is necessary to make the economics work then these issues will have to be addressed as a priority.

But what of the European e-purse landscape as a whole? It's reasonable to observe that none of the deployed schemes seem to be making money in their own right. The business case for e-purses is weak (to say the least) and this is true so long as the e-purse is viewed as a cash replacement mechanism for consumers to use at retail point-of-sale (POS). There are two main reasons for the weaknesses of the business case from this perspective. Firstly, retail POS is the least useful place for consumers to tender an e-purse because it does nothing that they can't already do with notes and coins (and it's less convenient). Secondly, the reduction in cash handling overheads that could allow banks and retailers to incentivise consumer use of e-purses does not become dramatic until e-purse penetration rates are high. This cost reduction is highly nonlinear: banks can't, for example, reduce the number of ATMs, night safes and counters out there until a high proportion of customers are using their e-purses and telephones instead.

The use of e-purses is therefore more attractive to consumers in places where notes and coins are inconvenient: vending machines, parking meters, subway tickets and so on. If I were to single out one lesson that has been learned from the initial wave of e-purse deployment in Europe, I would say that the relative importance of unattended POS (versus retail POS) was underestimated. In Swindon, as I recall, it was some months after the Mondex launch before working Mondex-compatible ticket machines began to appear in car parks.

The critical competitive advantage of e-purses is in areas where notes and coins cannot compete: in the area of remote payments. The telephone as Western Union substitute, cash payments for video-on-demand (VoD) and the mobile phone as ATM all seem to be attractive to consumers and service providers alike. It's on the internet that e-purses could come into their own. As I've previously noted, there is a real opportunity for e-purses to take a large share of the micropayments market. The arrival of multi-application smartcard platforms such as MULTOS and JavaCard (which can carry e-purses alongside other applications) should also hasten the integration of smartcards into internet commerce, since the ability to store multiple applications on a single card, and to download new applications over the internet as required, should make the use of cards attractive to consumers and service providers.

The Netherlands is a particularly interesting case study for students of e-purse deployment. The Netherlands has the highest penetration of e-purses into the general population in Europe. Here there are two consortia going head-to-head: the bank-led ChipKnip (based on Proton technology) and the telco-led Chipper. ChipKnip has some 6 million cards issued, added to the standard magnetic stripe debit card, with 120,000 POS terminals deployed. It has seen some 1.8 million transactions over its first 9 months of operation (which works out to quite a low usage rate). Chipper has 5 million cards in circulation: the Dutch PostBank is part of the consortium and plans to issue cards to all its 7 million account holders. At this instant, the balance of opinion from persons I've spoken to on the ground is that Chipper looks in better shape. It already has some multi-application capabilities and its use in campus schemes has helped deployment. What's more, since the Dutch PTT is converting payphones and plans to give away home smartcard terminals (for consumers to connect to their telephones or PCs), Chipper acceptance points could become a common sight.

The telcos' intimate relationship with the e-cash delivery channel (the Net) is a real challenge to the banks. In Finland, the PTT has already begun a pilot service whereby consumers can pay at unattended POS locations using their GSM phone, with the transaction simply being added to their mobile phone bill at the end of the month. BT has been trialling the use of phonecards in parking meters. As in the Dutch environment, these are developments that throw the real e-purse war into sharp relief: it isn't about Bank A versus Bank B, or MasterCard versus Visa, or single application versus multi-application: it's about banks versus phone companies.