



## Smart Cards

The Smart Card is a quite amazing product. It is a secure computing platform that exceeds the capabilities of early PCs but is packaged in an area smaller than a postage stamp and so thin that it fits easily within a credit card. Its small size means that it often goes unnoticed by many end users, however its capabilities are well appreciated in major sectors including Banking, Mobile communication, Transport, Governments etc.

Consider that throughout the World there are hundreds of millions of GSM phones, all of which contain a Smart Card, called a SIM. When the phone is powered on, there is a secure dialog between the SIM and the network, which not only authenticates the account, but also ensures that subsequent transmitted data is securely encrypted. This is not noticed by the user as the smart card sophistication is being used to provide “easy-to-use” high security - as opposed to entering a long user name plus password. These cards are also used for a whole range of added value functionality including access to info services, pre-pay top-ups, transactions, games, contact management etc.

A properly designed Smart Card can give the Issuer confidence that the cards offer a secure, controllable and consistent capability that is easy to use or transparent to its customers. Furthermore the cards also provide a proven and managed channel to deliver new services and products to the end users.

However not all Smart Cards are properly designed. Whilst a poor quality implementation is a problem for any product, it is particularly significant for Smart Cards as they are known to be vital system components, safeguarding valuable services and transactions. There is a known range of sophisticated attacks that are performed with criminal intent on security hardware e.g. logical, side channel, physical attacks etc. It is therefore vitally important that new Smart Card applications are expertly designed, implemented and tested



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