
Smart Cards, Mobile Telephony and M2M at the Heart of E-Health Services

Smart security technologies (security and respect for private life) are crucial to improving the quality of care and patient comfort, but also in the fight against fraud and rising health costs. Several health smart cards have already emerged in the United States and in Europe, Germany and France are launching new cards.

For these reasons CARTES & IDentification 2011, the leading international event in the digital security and payment solutions market, will be held at the Parc des Expositions Paris-Nord Villepinte from 15 to 17 November, 2011. With 450 exhibitors and 140 presentations by international experts, the event will attract 20,000 visitors exploring the latest trends and innovations in the sector (mobile payment, contactless, biometrics, M2M).

The Current Situation

Occupational health cards and mobile phones now play a role alongside stethoscopes in hospitals and medical practice. If use of health cards still lags far behind that of credit cards and especially of mobile phone SIM/USIM cards, it is proving increasingly necessary in countries where the health system experiences major fraud and where the costs of conventional treatment of medical data are becoming difficult to manage. This is the case in all developed countries, and is already affecting some developing countries. According to the Smart Card Alliance, errors in patient identity have caused over 110,000 deaths in U.S. hospitals. Health services have reached a crucial turning point in their development, which some are comparing to the situation of the credit card 40 years ago! The smart card now appears to be the ideal solution for paperless processing of medical data while providing proven safeguards, which are imperative where the security and protection of personal data are concerned.

Smart Security Technologies

The Health Information Technology for Economic and Clinical Health (HITECH) Act, signed in the United States in February 2009, confirms this trend. It invites all stakeholders in the health ecosystem to work towards the creation of a network (Protected Health Infrastructure) for the collection and exchange of standardised medical data (Electronic Health Record) using "certified technology" capable of simultaneously ensuring the availability, sharing, security, accuracy and confidentiality of such data. Although not explicitly named, smart security technologies are at the forefront of this trend.

This legislative framework involves identity management techniques that have been widely tested in banking and various fields involving identity issues. These techniques must be able to handle the rights of all stakeholders (patients, doctors, nurses, specialists, pharmacists, etc.), keys and certificates, means of encryption and strong authentication (in some cases, biometric).

Health Card: Identified Interests

The AMA (American Medical Association) has already stressed the benefits offered by the use of a smart card that stores personal medical information (allergies, blood type, current treatment, etc.), especially in emergency situations – a reference to the situation created by Hurricane Katrina in the United States. For its part, the Secure ID Coalition, which also campaigns in the United States for the generalisation of personal health cards, says they "could be used over the next ten years to reduce fraud in health spending to the tune of around \$370 billion."

Towards Global Deployment

Several health smart cards have already emerged in the United States. Last March, LifeNexus launched a health card which also serves as a personal credit card. A similar concept, this time in the form of a bracelet containing a contactless chip (MasterCard PayPass) was issued by the U.S. Bank in July (source). The bracelet contains a unique number (VITA number), providing access in emergencies to the bearer's personal medical data.

In Europe, Germany is preparing to launch a new generation of health cards next October (eGK Generation 1plus) designed in conjunction with insurance companies for online use. In France, the new CPS3 card for health professionals entered circulation earlier this year. This card is now in line with the European IAS ECC standard (Signature, Identification, Authentication) and is contactless, which should greatly improve its usability.

The E-Health Market Boosted by Mobility

These developments further confirm the cardinal role played by cards in identifying patients and health professionals but equally in allowing them to access online services, whose development is also being accelerated by the mobile Internet. According to In-Stat, the "cloud computing" market in the health field should exceed a billion dollars in 2013, clearly driven by the explosion of mobility (40% of the market in medical communications).

According to ABI Research, the market for connected portable medical equipment (various types of sensors equipped with wireless or contactless modules) is expected to grow very steadily over the next 5 years (100 million units per year). E-health and m-health will therefore grow together with new families of connected devices (autonomous M2M or communicating with classic smartphones via NFC or Bluetooth).

For more information on developments in the field of e-health, visit [CARTES & IDentification 2011!](#)

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