



# Increase your voice and data ARPU with a larger SIM

BANKING & RETAIL

ENTREPRISE

INTERNET CONTENT PROVIDER

PUBLIC SECTOR & TRANSPORT

TELECOMMUNICATIONS > WHITE PAPER

**The SIM: An immediate solution supported by 100% of handsets**

The rapid and apparently irresistible growth in SIM memory size has been continuous since the beginning of GSM. Based on a recent survey (Nov. 2006), the GSM Association's Smart Card Group predicted that 128K SIM cards would overtake 64K before the end of 2006, and that the increase in **SIM memory size would continue accelerating in coming years.** As of the start of 2007, our own figures confirm this prediction. New business opportunities and better service offerings have led mobile operators to deploy SIMs with memories from just 8K to megabytes. Increases in SIM memory size only

reflect the key role of the SIM card in helping MNOs address their day-to-day operational challenges.

These challenges are two fold:

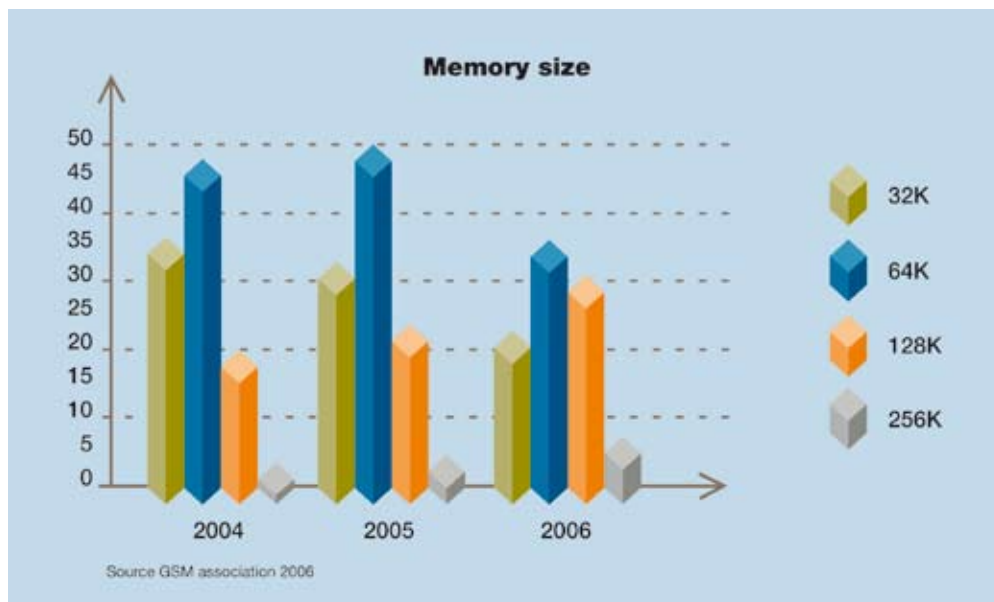
- End-users want more convenient, cheaper communication services
- Mobile operators need to maintain voice revenues, generate more data revenue, offer new services, and differentiate themselves.

For many mobile operators, the SIM is in this particular context the optimum solutions: it is immediately available, under the operator's control, and **supported by 100% of handsets.**

**The objective of this white paper is to deliver a brief overview of the way mobile operators worldwide are using larger cards to generate additional, and recurrent, sources of revenue.**

**GSM Association's Smart Card Group predicted**

- that 128K SIM cards would overtake 64K before the end of 2006
- and that the increase in SIM memory size would continue accelerating in coming years



## Deploying 256K SIMs – and using 128K

Today, every major mobile operator has deployed a significant number of 128K SIM cards, and some have even deployed 256K SIM cards. According to the GSM association, the rate of memory increase will accelerate in the coming years.

The phenomenon now extends beyond Europe, reaching countries in South Asia and Latin America where operators have found a real business rationale to support the deployment of these larger cards in significant volumes. One operator in Latin America, for example, found a 14% difference in the value-added services (VAS) Average Revenue Per User (ARPU) between 128K and 256K users, in favor of the latter. For this operator, it was clear that **the larger the SIM, the higher the ARPU**.

In order to understand this wave of change, Gemalto carried out a large-scale, in-depth survey on how mobile operators are using the extra memory. The survey was performed on profiles ranging from 32K to 256K, with responses from more than 250 operators worldwide using Gemalto SIMs.

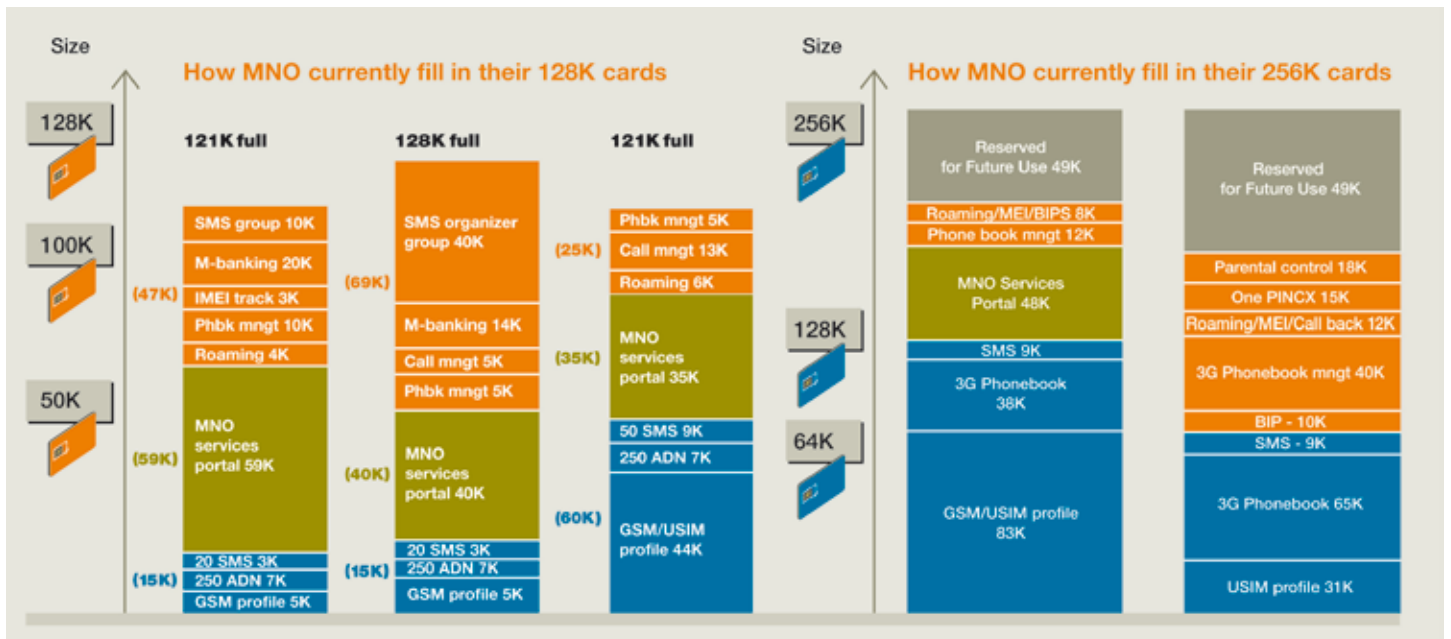
As one would expect, the first chunk of memory in any card is provisioned for traditional voice services (GSM profile, SIM phonebook and SMS). For 128K cards, a significant portion of

memory is used for an Information On Demand (IOD) application. This application is very similar to having shortcuts to the mobile operator's services using the SIM Tool Kit technology (STK).

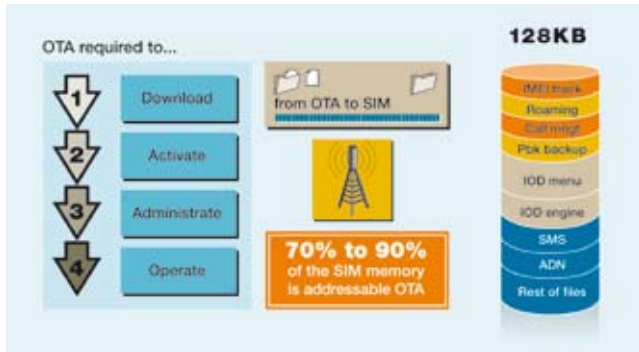
This type of applications has become very common. And last, the survey revealed an expanding application portfolio, with services ranging from roaming optimization to phonebook backup.

Though similar, the survey shows one significant difference between a 128K and 256K SIM: the latter card profile contains a new and sizeable chunk of Reserved for Future Use (RFU) memory. This RFU memory is the ultimate insurance policy against changes in user needs and in market conditions.

The argument goes like this. Operators deploying 256K SIMs expect to generate additional ARPU in the future by offering new services and applications to their subscribers. Such applications will either have to be deployed on new SIM cards or downloaded over the air into SIMs already in their subscribers' hands. Having this **extra free memory in a SIM issued today will avoid a resource issue and a time-consuming physical card replacement** in the coming 12 to 24 months. Unused memory in the SIM helps the mobile operator generate more revenue and save money - so long as that operator plans to leverage the installed SIM base and Over The Air (OTA) server synergies.



## OTA Management - a critical business process



Since 70% to 90% of the SIM's memory is addressable through OTA, downloading, activating, administrating and operating applications via this channel have become a must. Gemalto has long understood just how critical OTA platforms are to the mobile operators, and the OTA technology developed originally by Gemalto has continuously evolved and improved. For example, the improvement in throughput of OTA gateways that manage the operator's SIM cards is in part due to the increase in the servers' processing power, but most of the benefit derives from Gemalto's long term experience and huge R&D investment. Gemalto Xpress Campaign Technology™ reduces mobile operator campaign duration by **factors between 10 and 50** and maximise **success rate up to 90%**. In a recent real-life case, to enable an operator to benefit from the best negotiated roaming tariffs, Gemalto

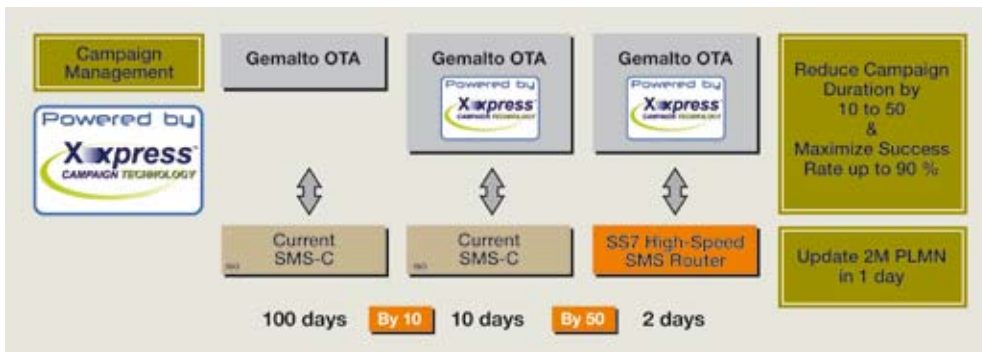
Xpress Campaign Technology™ performed an over-the-air campaign to modify the SIM roaming file for over 2M subscribers in just one day, with a close to **90% success rate**.

Downloading new applications and services onto already deployed cards has always been a technical challenge, but today it is a critical business process for most mobile operators. In 2005, IP Xstream Technology™, a Gemalto technology, successfully demonstrated its power by performing **three 'firsts'**:

- OTA management over IP
- Phonebook management over IP
- Service Portal management over IP

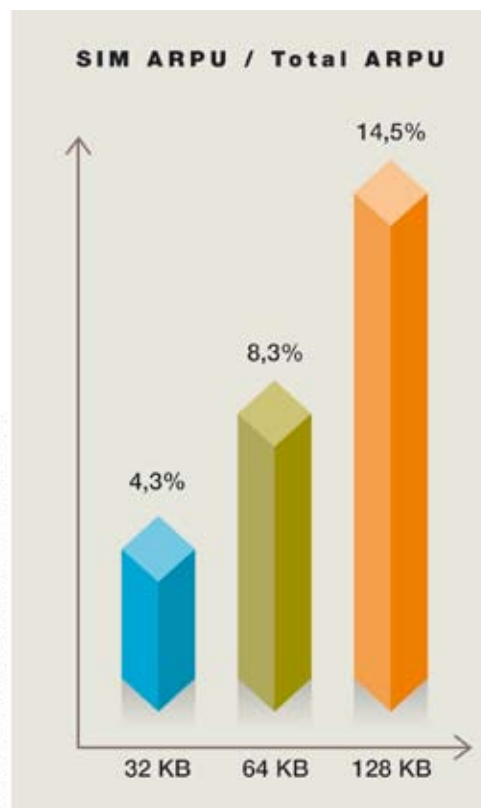


These unique technologies definitely offer new perspectives and business opportunities to the operator's marketing team, and today it is vital to have such technologies in order to adapt to ever-changing and volatile market conditions.



From the Gemalto survey, three clear drivers for the increase in SIM memory size emerged:

- There is a clear correlation between the size of the user's phonebook and the user's MoU (Minute Of Use): **the more entries in the user's phonebook, the higher the ARPU generated.** As a consequence, mobile operators are trying any and all means to drive up the size of the SIM phonebook - over which they still have a degree of control - and to provide tools to help the user populate it faster. As a result, we can see a significant increase in the number of entries in the SIM phonebook, and even more marked when the operator migrates from a 2G network to 3G. In parallel, the deployment of 2G and 3G phonebook backup services, synchronization applications, and applications to help the user populate the SIM phonebook, such as those from our partners OnePIN and SendM, also increase the SIM memory requirement.
- The mobile operator service portal increases the size of the SIM. Numerous examples worldwide show that **the larger the service portal, the more ARPU the SIM generates.** Because of the correlation between the size of the service portal (in the SIM) and the generated ARPU, operators are led to deploy larger cards to provide even larger service portals - there are examples of operators who launched a 59K STK service portal in a 128K SIM profile!
- The new demand for Reserve for Future Use (RFU) memory also drives the size of the SIM up. For many mobile operators worldwide, choosing between a memory-tight 128K SIM, fully loaded with today's applications, or a 256K-SIM card loaded with the same applications and services while leaving a chunk of RFU memory spare, is easy. In the first case, the operator will have to spend additional time, resources and cash to replace the cards in order to deploy new services. In the second, the operator needs only to download the new services and applications over the air into the deployed cards, using Gemalto **Xpress Campaign Technology™** or **IP Xxstream Technology™**, and then activate the applications to start generating **additional revenue from the existing subscribers.**



#### Larger SIM, 3 Key drivers :

- Larger phonebook → Higher voice usage
- Larger SIM MNO Portal → Higher data ARPU
- Larger RFU Memory → Higher Service ROI



Most mobile operators agree that the SIM should play a more major role in their strategy, because it is the only device in the mobile user's hand that still belongs to them. The SIM, by definition, incorporates the features required to manage three key areas - access, services and the user's personal data:

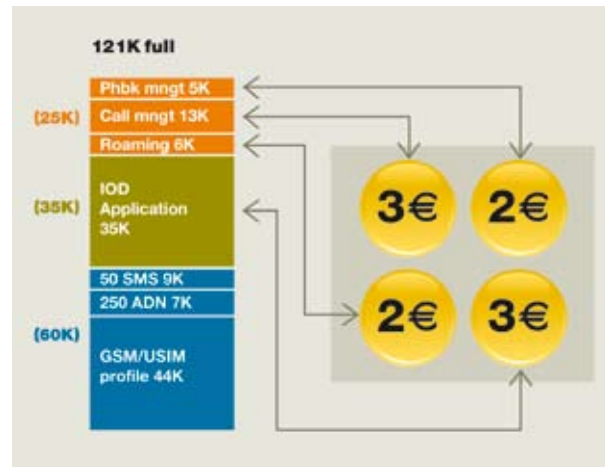
- **Access management** consists in identifying the user, determining whether the user is at home or in roaming, or simply accessible. The SIM gives the mobile operator an ever-present link to subscribers in a digital convergent world.

- The SIM is essential to the mobile operator's **service management**, allowing the operator to configure the user's device, to promote new services or adapt the service portal and simplify access to operator's services. Thanks to the SIM, operators can grow their business beyond voice.
- The SIM is at the heart of user **personal data management**, offering backup and restoration of the user's phonebook, as well as data synchronization in 2G or 3G networks. The SIM also allows renumbering of the user's phone numbers or Peer-To-Peer synchronization. The SIM protects the user's personal data on behalf of the operator.

These applications can make a significant contribution to the mobile operator's revenue because they generate recurrent, additional ARPU from a large number of users. For example:

- Major mobile operators have launched **access management services**, such as SMS-based chat, "@Home" rate plan management and 2G/3G authentication. The most significant ones are roaming traffic management and missed call management (which prevents the user from missing a call and limits revenue leakage for the operator). These applications have generated 2 Euros and 1.2 Euros respectively of extra ARPU (per active user) a year, for these operators.
- Mobile operators such as Turkcell have grown their business beyond voice through **service management applications**. The SIM plays a key role in this class of applications by providing key International Mobile Equipment Identity (IMEI) information for device configuration, or by tailoring dynamically the operator's menu portal inside the SIM. They have generated extra ARPU by using the SIM in promoting new VAS services. Additionally, by proactively targeting users, they have succeeded in increasing the uptake of these services and adding an extra 1.2 Euros ARPU, and also increased the number of active users (three additional Euros ARPU).
- Other mobile operators have generated extra revenue by **personal data management**. Applications such as CallerXchange, from our partner OnePIN, help increase the number of the user's contacts, resulting in an actual increase of ARPU by a significant 1.2 Euros. Gemalto's

flagship SIM phonebook synchronization combined with PIM vendor applications (Voxmobili, for example) increases the operator's ARPU by 2 Euros. Re-numbering applications and phonebook management are also significant contributors to operators' personal data management revenues. For instance, a major Brazilian operator succeeded in generating an extra 2.5\$ ARPU for its active subscribers, by deploying 4.5M SIM cards with Gemalto phonebook backup applications (38% adoption rate). In a press release in February 2007, French operator SFR announced that it had already recorded over 3.5 million SIM phonebook synchronizations, using Gemalto's solution. According to the press release, SFR opted for an affordable pay-per-use billing scheme, favoring a high penetration rate. As a result, since its launch in July 2005 this service has reached a high uptake rate of almost 20% - a fantastic performance, compared with the usual uptake of other mobile value-added services.



From the field deployments worldwide described in this paper, we can draw a number of useful conclusions:

- It is possible to fill 128K-256K SIM cards with field proven, revenue-generating applications.
- The value of deploying larger SIM is clear and present, with numerous real-life implementations.
- Adding larger IOD application and phonebook, with associated phonebook management, call management and roaming services could generate up to 10 Euro additional ARPU a year from active users, which definitely more than covers the cost of a larger SIM.
- Provisioning extra free memory in newly deployed cards ensures the mobile operator a better ROI on newly deployed services.

**CallerXchange is a peer-to peer mobile application that helps people stay connected and share information**

Gemalto can help mobile operators build their own success stories, both through its advanced technology and by a comprehensive set of support activities such as the SIM Happy Day, dedicated workshops and business case simulators. For more information, please contact your usual Gemalto representative.

# LinqUs™

## Bringing life to your subscribers base



[www.gemalto.com](http://www.gemalto.com)