



## **Why do CDMA Subscribers Need the R-UIM?** **A White Paper by Pura Font, Gemplus Corporation**

CDMA wireless subscribers around the world are using a smart card in the back of their R-UIM-enabled CDMA handsets. These CDMA smart cards, called Removable User Identity Modules (R-UIMs), are used to hold and protect all of the subscriber's data necessary to receive wireless services. Subscribers remove R-UIMs from one phone and insert them into another without loss of subscription data or phone book. This portability makes it easy for users to change phones while keeping the same operator.

Asian operators have led the world in the adoption of R-UIMs. A year ago, China Unicom was the only CDMA operator using the R-UIM; today, fifteen CDMA operators, including some in Eastern Europe, have launched value-added services on their smart cards.

Other regions are also evaluating the use of R-UIMs. Several Latin American CDMA operators are currently conducting trials with the intention of deploying services based on smart cards as early as this year. In North America, several CDMA operators are in the process of implementing trials as well.

Today CDMA subscribers can make and receive calls in handsets without an R-UIM. Why then would they need one? The answer is simple: R-UIMs bring many benefits both to the operator and to the wireless subscriber, but among the most important ones are roaming, portability, trust, and operator control.

R-UIMs are key to international and inter-standard roaming. Roaming represents around 30% of the operator's total revenues in many cases. When using an R-UIM, CDMA world travelers can have access to the same benefits and convenience available to other technologies today. With the appropriate roaming agreement in place and a dual-mode R-UIM, subscribers can switch from a CDMA phone to a GSM one by inserting their R-UIM into the new phone, thus keeping a seamless interface to their services, phone book and personal data. In addition, they enjoy the convenience associated with the simplified access.

World travelers want more than just voice services: they want their phones to work everywhere they go, and the same look, the same services, the same interfaces they always access at home.

On January 29<sup>th</sup>, 2004, the International Herald Tribune published an article entitled "The Phone Americans Can't Use Abroad", in which an American subscriber, Joe Sharkey, complained about the difficulties North American wireless users encounter when trying to use their handsets abroad. Joe Sharkey wrote in his article, "...I am still unhappy with it [his CDMA phone]. That's partly because, like most people who occasionally travel overseas, I am unable to use my cell phone once I am out of the United States. On two recent trips abroad, I've had nothing but frustration trying to arrange for adequate cell



phone service.” And later on, he added: “Why is it so difficult for Americans to make a simple, cheap call from a hotel in, say, London?”

Mr. Sharkey is not alone. Consumers like him are quickly realizing the convenience other subscribers enjoy when they roam abroad, and demanding the same of their CDMA phones.

But North American CDMA subscribers can easily do today what Mr. Sharkey wants. R-UIM-enabled handsets are available as well as a plethora of attractive solutions that are currently being used by other CDMA users around the world. North American consumers who benefit from the obvious advantages of CDMA technology should not have to complain when they travel.

Handsets with and without R-UIM can coexist in a network. Therefore, consumers should have a choice, and world travelers should be able to pick and choose the handset that best suits their needs.

The benefit of having an R-UIM for both GSM and CDMA is that the subscriber can have one phone book, one number, as well as the same interfaces and menus. No matter what technology the subscriber is using, convenience and ease-of-use are crucial to customer satisfaction and to avoid churn. Currently, a CDMA subscriber who roams in Europe will not make as many calls as he possibly could because of the hurdles involved in the process. A roaming subscriber with easy access to his contact list will make more calls and use more services, thus increasing the operator’s revenues.

“Portability” is another area where CDMA subscribers can benefit. Today CDMA subscribers who need to replace their phones spend valuable time at the Point of Sale or retail store, thus creating unnecessary expenses in customer care. Buying a new handset and keeping the same services, phone book and personal data are simple tasks when the handset is R-UIM-enabled.

Imagine going to a retail store with your old handset. You choose the CDMA handset you want, buy it, remove the R-UIM from your old phone, insert it in the new handset, and go. There is no need to start all over again creating a contact list for your phone book every time you decide to upgrade your handset. This is possible today.

“Trust” is essential to subscribers. They must trust their operators or they will easily churn. R-UIMs and smart cards in general rank high in customer confidence since they are globally regarded as trusted and secure tokens. Operators who have both GSM and CDMA networks have implemented R-UIMs to bank on their subscribers’ perception of security and trust.

Furthermore, smart cards represent security for businesses and mobile users alike. M-commerce and m-banking services fully take off only when the appropriate secure and trusted network is in place. CDMA subscribers can easily pay their bills with their mobile



phones if the CDMA operator guarantees security for their personal data and creates the right partnership with the smart card provider and the bank. Gemplus' collaboration with operators and banks has resulted in over 160 successful mobile commerce applications deployed worldwide.

Finally, the CDMA operator is always in control of its R-UIM. While the subscriber can change handsets at will, the R-UIM remains the only element in the network that is completely controlled by the operator. Only the handset changes, not the subscription.

The CDMA Development Group, and specifically its International Roaming team, has been instrumental in promoting the advantages of the smart card for both international and inter-standard roaming. It is just a matter of time before we see North American subscribers enjoying the commercial benefits and convenience of CDMA R-UIM-enabled phones.

Gemplus International S.A. (Euronext: LU0121706294 – GEM and NASDAQ: GEMP), the world's leading provider of smart card solutions, is currently offering R-UIM-based services to CDMA operators around the globe. In close collaboration with QUALCOMM, the CDG, CDMA handset providers and other third parties, Gemplus is bringing the world closer together by facilitating international, inter-standard roaming and by allowing CDMA subscribers to enjoy easy-to-use, secure solutions in conjunction with their superior technology.

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