

## Safest Way To Mobile Authentication?

Channelling energy into the mobile authentication market, which has lately become a hot topic, GO-Trust joined the Fast Identity Online (FIDO) Alliance in the battle to address the existing lack of interoperability among strong authentication devices. Its R&D team had recently developed a secure microSD to support Android devices – a project which its CEO, Darren Lee sees as a goldmine as he says the SWP microSD or antenna built-in microSD are the best roads to travel for mobile authentication. GO-Trust's secure microSD are utilised by many Chinese banks for online money transfer authentication in smartphones and it is expected to take off in Korea and the US as well.



Darren Lee, CEO, GO-Trust

**PAN :** Tell us about your faith in mobile NFC applications as well as any fear for this market. Why do you believe it will definitely take off and what must be done for this technology to achieve even greater success?

**Darren :** I believe that mobile NFC applications eventually will take off but the timing may not be in the coming one or two years. Wireless is the trend and the market is not turning back to wire. This is why I believe it will eventually pick up. However, when people are talking about NFC, most of us only address NFC payment but ignore other applications such as physical access, keyless application and other daily applications based. This is why NFC applications are not booming today, because mobile NFC payment is a very complicated and still considered an immature system for now. For example, the terminals/contactless readers are not widely deployed, so how is this going to encourage people to use NFC payment? In addition, banks and mobile network operators still need to solve many conflicts of interests and it delays many pilots. Today, we have experienced many pilots worldwide for the past two years, but most of them have since gone quiet. There are still many issues in every supply systems that we need to overcome.

In addition to NFC payment, there are many places you can use NFC applications right away with simple deployment. For example, there is physical access. Contactless readers exist in the market and people already have the habit to tap and go.

However, if anything requires a secure element (SE) outside of payment, you have no way to communicate with the SIM or embedded SE in the phone but only the secure microSD. Therefore, the market needs alternative SE outside the SIM or embedded SE to help service providers develop more NFC applications. Today, what we see as the best options are SWP microSD or antenna built-in microSD.

**PAN :** Why did GO-Trust decide to join the Fast Identity Online (FIDO) Alliance? What is the company's role as a member – how do you contribute to the growth and development of the organisation's mission and strategies?

**Darren :** Strong authentication is always the key factor for internet applications and ID/Passwords are too vulnerable to compromise on. I am very glad to see the US market finally moving forward into 2nd factor authentication, aside from ID/Passwords. In addition to 2nd factor authentication, FIDO will only keep one token or biometrics to login all service sites associated with it. It is a big jump from traditional OTP or PKI Tokens. By the traditional way, users may need multiple tokens to login to multiple sites, but now only one token will do for login wherever you go!

Strong authentication for mobile internet is one of the key businesses of GO-Trust and we definitely want to participate in this great opportunity to promote our secure microSD as a 2nd factor authentication token.

We currently work closely to support specifications of the FIDO Alliance and our first milestone is to be the first FIDO-certified secure microSD soon. After that, we will work with our partners to launch FIDO secure microSD in the US market by the end of this year. I believe that FIDO login will have a big impact on the US authentication market because many service giants are members and have committed to using the FIDO login.

**PAN :** Explain to us your envisioned role of NFC & biometrics in mobile authentication and do you think it is only a matter of time before it kills off traditional, non-secure methods of mobile authentication entirely?

**Darren :** If users use the reader mode of NFC phones and use contactless smart cards to authenticate, it will be very reliable and quick to deploy today. As we know, fingerprint authentication of the iPhone 5S was compromised by German professional hackers in two days after it was launched in Germany. Apple has not responded to this issue up to today. If you look at the quote from this professional group, they state clearly that it is not wise (they used the word "stupid") to use fingerprint as an authentication token because you hold your finger at the same place every day and you can't change it.

It is hard for me to say if biometrics will take off, but I will say that biometrics still has many security leaks in mobile authentication. For example, where do you keep the enrol template and where do you process matching? Either of these two items operating in a phone will result in attacks easily.

After reading the news of the compromising iPhone 5S, hardware tokens such as secure microSD are still the best choice for mobile authentication today.

**PAN :** Is your R&D team working on any new and exciting project, developing microSD cards for multi-factor authentication to address the lack of interoperability among strong authentication devices? Give us a preview of what the market can expect from you soon.

**Darren :** Our R&D recently enabled the GO-Trust secure microSD to support Android devices 100%, especially for devices without a microSD slot. Users can insert the secure microSD into a micro-USB reader and plug into the device port. This way our secure microSD can support 1B Android devices today (by Google 09/2013) and 99.9% laptops. Besides that, our secure microSD can support most IP Cameras and Linux devices if they support an SD slot. So, I will say that it has the best compatibility compared to any other forms of tokens.

Because it has the best compatibility, our secure microSD are used by many banks in China for on-line money transfer authentication in smartphones as well as same applications in Korea. Korea is undergoing the certification process by our partner, TMonet. Once we pass certification, banks in Korea will launch this application. Our next big project is working with FIDO alliance and we expect the US market to launch this application by end of this year or early next year.

**PAN :** Briefly elaborate on the SDencrypter Hardware SE's application and the markets it has impacted.

**Darren :** SDencrypter is the world first hardware security module (HSM) in the microSD form factor under FIPS 140-2 Level 3's pending list. Our main purpose was to design a product that is able to support all PKI functions, key management (support DUKPT algorithm), high throughput cryptographic operations and all process are inside the microSD SE. The performance is much faster than conventional smart cards or USB tokens. SDencrypter allows users to complete all cryptographic operations including real time streaming data encryption/decryption inside the microSD itself, instead of exporting any keys or data to run in devices.

This product will completely change the way people adopt hardware SE in embedding systems, portable devices, IP cameras, tablets and smartphones, because there is no need to make custom devices. As long as devices support SD or microSD slots, they can adopt hardware security applications. For example, one of our projects in the US was to adopt the SDencrypter into IP cameras to deliver a FIPS-certified secure surveillance system. GO-Trust also develops complete privacy protection solution for Android users to protect voice communication, SMS, sharing, cloud data and local storage based on the SDencrypter.

In addition, the SDencrypter is able to be cost effective solution to replace expensive HSM for less number key management market. We are working with one of the US leading POS companies to develop this solution and it will be in the market shortly.

There are many more projects and applications using our SDencrypter and all of our clients are impressed by the power of this product and we give them the imagination they had never thought of before. **PAN**