Why haven't Biometric EMV cards taken off yet?

There have been many biometric EMV card pilot trials around the world, apparently very successful, and there have been two commercial launches (one Visa & one Mastercard)***** but there are no current signs of an imminent take-off in further commercial launches. Why?

In my opinion there are two major factors involved – one fact-based, and a second more speculative:

1. A new generation of EMV specifications, where publication has only recently started
2. A desire on the part of EMV card schemes & issuers to explore the commercial options for the additional new features covered by these specifications

New Generation of EMV Specifications

The previous attempt to create a set of Second/Next Generation of EMV specifications required major changes to the EMV terminal infrastructure. The current new specifications avoid this obstacle.

The first specification, the EMV Contactless Kernel Specifications, Book C-8, Kernel 8 Specification (5 October 2022), adds a general EMV contactless software kernel to the existing set of card-scheme-specific kernels in EMV terminals worldwide. The card's EMV application chooses the kernel to be used.

The key features of this new kernel are:

- Enhanced security including a secure channel between the card and the kernel, and a stronger public key algorithm (ECC).
- A framework for a variety of biometric cardholder verification methods. The first one of these looks like being a fingerprint captured and authenticated in the card.

The second specification will be Version 4-4 of the original EMV ICC (contact) Specification. Version 4.3 was published back in 2011. Version 4.4 is due to be published before the end of 2022. This specification is expected to match the contactless kernel specification already published.

Together they will form the basis for the future EMV card application specifications of the six card scheme members of EMVCo.

These specifications will be matched against EMV and card scheme type approval specifications. In the case of the six card schemes there will also be card personalisation specifications and personalisation validation software specifications.

It is easy to see that the worldwide migration of the new EMV card and terminal software will take time.

Since the biometric (fingerprint) matching takes place within the card, biometric EMV cards should be able to be used with current EMV terminals. However many card issuers may prefer to combine the migration to biometric cards with next generation card applications, the start of the installation of the new contactless kernel, and terminal type approvals. Type approvals last for 4 years.

Commercial Strategy for the new EMV Card Features

Judging by the first two commercial launches of biometric cards* the initial common strategy seems to be based on:

- Targeting premium cardholders who already pay an annual fee.
- Offering two separate voluntary additions – Improved Security and Biometric in-card authentication.
- Charging an additional annual fee for each feature

Future modifications to this strategy will depend on feedback from the cardholders who choose each option, and on the card issuers and the card schemes involved.

The delay due to the new generation of specifications gives card schemes and card issuers the opportunity to carry out a final field test of the new cards and new terminal software.

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* see previous article "The First Commercial Launches of Biometric EMV Payment Cards"