

CLAIMS

1. A card comprising:

a secure element (20);

at least one external interface (12, 14) configured to permit communication between the secure element and an external card reader (50);

a user interface (35);

a user interface processor (31);

an internal interface (38) between the secure element (20) and the user interface processor (31);

wherein the secure element (20) is capable of hosting a plurality of applications (23) each having an application identifier and the card is configured to allow a user to select one of the plurality of applications (23) for use when the card communicates with the external reader (50) by:

signalling, between the user interface processor (31) and the secure element (20) an indication (29) of a mode selected by the user at the user interface (32);

storing, at the secure element, the mode indication (29);

storing, at the secure element, response data (26) for use when responding to interrogation by the external card reader (50), the response data (26) comprising data about the applications (23) hosted by the card;

storing, at the secure element, correspondence data (28) which indicates, for each of the modes, a correspondence between the mode and the response data (26) to be sent for that mode;

receiving, from the external card reader (50), a selecting command to select one of the plurality of applications, the selecting command including the application identifier of the application to select.

2. A card according to claim 1 wherein the correspondence data (28) is a table and the mode indication (29) is an index value which indicates an entry in the table of correspondence data (28).

3. A card according to claim 1 or 2 wherein the response data comprises a set of records or templates for the applications hosted by the card and the correspondence

data indicates, for each of the modes, a particular record or template to be sent for that mode.

4. A card according to any one of the preceding claims wherein the at least one external interface comprises at least one of a contact-based external interface (12) and a contactless external interface (14), and the table of correspondence data (28) comprises:

first correspondence data which indicates, for each of the modes, a correspondence between the mode and the response data (26A) for use with communication via the contact-based external interface (12);

second correspondence data which indicates, for each of the modes, a correspondence between the mode and the response data (26B) for use with communication via the contactless external interface (14).

5. A card according to claim 4 which is configured to signal, between the user interface processor (31) and the secure element (20), an indication (29) of whether the contactless external interface (14) is to be used.

6. A card according to claim 4 or 5 wherein the first correspondence data is for a Payment System Environment, PSE, and the second correspondence data is for a Proximity Payment System Environment, PPSE.

7. A card according to any one of the preceding claims wherein the secure element (20) is configured to only send the response data (26) corresponding to the user-selected mode via the external interface (12, 14) and not to send the response data (26) corresponding to the non-selected modes when the secure element (20) is interrogated by the external card reader (50).

8. A card according to any one of the preceding claims wherein the secure element (20) is configured to perform authentication with the external card reader (50) when a change is made to the response data via the external interface (12, 14) and wherein the secure element (20) is not configured to perform authentication with the user interface processor (31) when a new mode is signalled to the secure element (20) via the internal interface (38).

9. A card according to any one of the preceding claims which is also configured to operate in a mode in which, when the secure element is interrogated by the external card reader (50), the secure element (20) is configured to send the response data (26) corresponding to all of the applications supported by the card.

10. A card according to any one of the preceding claims wherein the response data comprises a set of records or templates associated with the applications (23) hosted by the card respectively, each record or template including the application identifier of a respective application;

the secure element (20) is configured, upon receiving an interrogation command from the external card reader (50), to retrieve one of the records or templates stored in the secure element, based on the selected mode as indicated by the stored mode indication, and to return the retrieved record or template to the external card reader thereby forcing the latter to select the application associated with the returned record or template,

wherein the selecting command is received subsequently to the returning of the retrieved record or template, and includes the application identifier of the application associated with the retrieved and returned record or template.

11. A method of operating a card comprising a secure element (20), at least one external interface (12, 14) configured to permit communication between the secure element and an external card reader (50), a user interface (35) and a user interface processor (31), the method comprising:

hosting a plurality of applications (23) on the secure element, each having an application identifier; and

signalling, between the user interface processor (31) and the secure element (20) an indication (29) of a mode selected by a user at the user interface (32), the mode corresponding to one of the plurality of applications to be used when the card communicates with the external reader (50);

storing, at the secure element, the mode indication (29);

storing, at the secure element, response data (26) for use when responding to interrogation by the external card reader (50), the response data (26) comprising data about the applications (23) hosted by the card;

storing, at the secure element, correspondence data (28) which indicates, for each of the modes, a correspondence between the mode and the response data (26) to be sent for that mode;

receiving, from the external card reader (50), a selecting command to select one
5 of the plurality of applications, the selecting command including the application identifier of the application to select.

12. A method according to claim 11 wherein the response data comprises a set of records or templates for the applications hosted by the card and the correspondence
10 data indicates, for each of the modes, a particular record or template to be sent for that mode.

13. A method according to claim 11 or 12 further comprising:
only sending the response data (26) corresponding to the user-selected mode
15 via the external interface (12, 14) and not sending the response data (26) corresponding to the non-selected modes when the secure element (20) is interrogated by the external card reader (50).

14. A method according to any one of claims 11 to 13 wherein the at least one
20 external interface comprises a contact-based external interface (12) and a contactless external interface (14) and the table of correspondence data comprises:

first correspondence data which indicates, for each of the modes, a correspondence between the mode and the response data (26) for use with communication via the contact-based external interface (12);

25 second correspondence data which indicates, for each of the modes, a correspondence between the mode and the response data (26) for use with communication via the contactless external interface (14).

15. A method according to any one of claims 11 to 14, wherein the response data
30 comprises a set of records or templates associated with the applications (23) hosted by the card respectively, each record or template including the application identifier of a respective application;

the method further comprising, upon receiving an interrogation command from the external card reader (50), retrieving one of the records or templates stored in the

secure element, based on the selected mode as indicated by the stored mode indication, and returning the retrieved record or template to the external card reader thereby forcing the latter to select the application associated with the returned record or template,

- 5 wherein the selecting command is received subsequently to the returning of the retrieved record or template, and includes the application identifier of the application associated with the retrieved and returned record or template.