**Technical Reference for national authentication framework
– Authentication operator interface messages**

AMENDMENT NO. 1
July 2012

1.   Page 13, 4.1.7.2 Out of band response

Add new error code after Code 1012 as follows:

Status code	Status message
2011	Invalid SMS device ID (existed)

2.   Page 34, Section 2 – Protocol message definitions

Add the following new clauses after 4.5.10.2:

4.6   Verifying the validity of the end-user's NAF username and user identifier (optional)

This process is used by the SP to send query to NAF AO for the verification on the NAF username and user Identifier of an end-user of NAF AO. This is for the SP to ensure that their account holder is the legitimate user of the NAF AO. This verification is to be carried out prior to the linking of a 2FA device to a SP.

4.6.1   Verification of the NAF username and user identifier

This is for the SP to query the NAF AO on the validity of the NAF username and user identifier.

Input fields for the NAF username and user identifier verification request

Input field	Mandatory	Field type	Description
NAF username	Y	String	Uniquely identifies an end-user in an NAF AO. The username is created by the end-user at the NAF AO web portal when activating the NAF authentication service for the first time.
User identifier flag	Y	String	Indicates the type of user identifier (e.g. NRIC or FIN).
User identifier (UIN)	Y	String	This follows the end-user's user identifier (e.g. NRIC or FIN).
AO ID	Y	String	Uniquely identifies the AO in NAF that issued the 2FA device to the end-user.
SP ID	Y	String	Uniquely identifies the SP making the request.

4.6.2   NAF username and user identifier verification request status response

This is for the NAF AO to respond to the SP's NAF username and user identifier verification request query.

Output fields for the query on validity of NAF username and user identifier response

Output field	Mandatory	Field type	Description
Status code	Y	String	States whether or not the request has been successful.
Status message	Y	String	Provides an explanation of the status code.

Status codes and messages

Status code	Status message
0000	Successful

Error codes

Status code	Status message
1011	Invalid AO identifier
1012	Invalid SP identifier
2001	Invalid user identifier flag
2002	Invalid user identifier
2003	Invalid NAF username
2010	Invalid user identifier and NAF username
3502	End-user NAF account is lockout
3503	End-user NAF account is suspended
3504	End-user NAF account is revoked

NOTE – UEN & Other User Identifier parameters are validated and Status Codes 2001, 2002, 2003 & 2010 are used as Error Codes when validation fails.

3.   Page 64, C.9 Service provider identifier (SP ID)

Replace the text of C.9 as follows:

The SP ID is assigned by AO to uniquely identify an SP in the eco-system.

Service provider	SP ID
First SP in NAF	000001
Second SP in NAF	000002
Subsequent N^{th} SP in NAF	N^{th}

The "SP ID" has the format of up to 6 numeric characters. Leading zeros are optional.

4. **Page 64, C.10 User identifier flag**

Replace the table of C.10 as follows:

Type	Flag
NRIC number	0
FIN number	1
Passport number	2
Unique Entity Number (UEN)	3

5. **Page 64, C.12 Field length**

Amend the SP ID as follows:

Field name	Field type	Field length
SP ID	String	SHALL be <=6 numeric characters in length

6. **Page 65, C.13 Status codes**

Insert the following new codes after Code 2009:

Status code	Status message
2010	Invalid user identifier and NAF username
2011	Invalid SMS device ID (existed)