



Transportation Security Administration

NOTE: This Technical Advisory describes an issue which may impact your product.

TWIC Technical Advisory TA-2009-TWIC001-V1.0

FORMAT FOR A TWIC CARD WITH NO FINGERPRINT BIOMETRIC DATA

Introduction

This Technical Advisory details the form of TWIC card fingerprint biometric data when no fingerprints were enrolled.

Background and Definition

This Technical Advisory was precipitated by the need to have TWIC readers understand how to process fingerprint biometric data when no fingerprints were enrolled for the cardholder.

The fingerprint biometric data on all TWIC cards are formatted per Section 6, Table 7 of the NIST January 2007 edition of SP 800-76-1.

Problem Statement

In 2007, TWIC implemented a particular format for the no fingerprint biometrics case as no definitive guidance for this possibility was available.

The audience for this Technical Advisory is TWIC reader manufacturers and other entities that perform biometric matching using the reference biometric stored on the TWIC card.

Description of New or Unique Process

For the situation where no fingerprint biometric was enrolled, the TWIC biometric data is formatted as follows:

- A) A Common Biometric Exchange Formats Framework (CBEFF) Header is populated,
- B) The CBEFF Biometric Record is null, and
- C) The CBEFF Signature Block is populated.

The CBEFF Header will indicate a null Biometric Record follows as the Biometric Data Block Length field of the CBEFF Header shall be set to 0 (0x00 0x00 0x00). [Refer to Example].

A TWIC reader should indicate to the operator that an alternate means of authentication should be used as no fingerprint biometric is available for comparison with a live sample.

Use of New or Unique Process

The unique process described in this Technical Advisory should either be implemented prior to any deployment of

TWIC readers to the field OR implemented as a field upgrade to installed TWIC readers.

Design Features of New or Unique Process

What is unique about this process is the CBEFF Header provides immediate indication to the TWIC reader there is no fingerprint biometric data for comparison. Further, the lack of any template in the CBEFF Biometric Record avoids confusion on expected usage as well as possible conformance issues with specifying no biometric data.

Comments

Questions on this Technical Advisory should be addressed to the TSA TWIC PMO TWIC Reader Hardware and Card Application Specification Project Editor, Gerald.Smith@associates.dhs.gov.

Subject References

TWIC Reader Hardware and Card Application Specification, Version 1.1 Amendment 1, 30 May 2008.

Keywords

TWIC
CBEFF
BIOMETRIC RECORD
FINGERPRINT MINUTIAE

Standard Details

Refer to Section 2 *References* in the Subject Reference document.

Specifications or Special Provision

TWIC Reader Hardware and Card Application Specification, Version 1.1 Amendment 1, 30 May 2008.

Supersedes Dates

There is no previous Technical Advisory issued that addresses this unique process.

This Technical Advisory shall be active until further notice.

Obtain more Information

More technical information on TWIC can be obtained at:

http://www.tsa.gov/what_we_do/layers/twic/pilot_test.shtm

END

```
// Test TWIC System TWIC credential with Zero Fingerprint Minutiae Record
//
// Data parsing performed by Gerald Smith of ID Technology Partners, SME to the TWIC PMO
//
// XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
// GENERAL

// The data object is formatted per NIST SP 800-73-1 (and within the data object per SP 800-76-1)...
```

// DETAILED DESCRIPTION OF THIS RECORD

```
// A Decimal Data Offset counter for the CBEFF Header added for convenience of reading
// Fingerprint Data Object extracted from the PIV Card Application using Tag 5F C1 03
```

53 82 02 f6		Tag '53' (Binary Follows) Length of 758 bytes (0x02F6) As per SP 800-73-1 Appendix A
bc		Tag "BC" (Fingerprint "I")
82 02 f0		Length of 752 bytes (0x02F0)
		Per SP 800-73-1 Appendix A, Page 46 Fingerprint "I" data organized as CBEFF HEADER BIO DATA BLOCK SIG BLOCK
Offset counter in Decimal (Start)		
VVVV		
CBEFF Header Data		Explanation of Each Field
vv vv vv vv vv vv vv vv		
0000 03		Patron Header Version (per 800-76-1 Table 8)
0001 0d		Value means Digitally Signed, NOT Enciphered
0002 00 00 00 00		<u>BIOMETRICS DATA BLOCK LENGTH</u>
0006 02 98		SIGNATURE BLOCK LENGTH of 664 bytes (0x0298)
0008 00 1b		BDB Format Owner (INCITS M1 Standards Org)
0010 02 01		BDB Format Type (Fingerprint Minutiae)
0012 00 00 00 00 00 00 00 5a		Biometrics Creation Date (Null in this case)
0020 14 08 07 11 13 1e 1b 5a		Validity Period (Not Before)
0028 14 0d 07 12 13 1e 1b 5a		Validity Period (Not After)
0036 00 00 08		Biometric Type of "Fingerprint"
0039 80		Data Type is "Use of MINUSTD templates"
0040 fe		Value means Quality Value not supported by the implementation
0041 4d 79 49 44 00 00 00 00		Creator "MyID" (right padded
0049 00 00 00 00 00 00 00 00 00 00		with NUL per SP 800-76-1)
0059 d7 03 39 db 81 9c ec 10		FASC-N (25 Bytes) for this
0067 c2 08 e5 a1 68 58 21 08		test System TWIC Credential
0075 42 4a f0 50 87 03 39 a3 fc		
0084 00 00 00 00		RESERVED FOR FUTURE USE
XXXX (End offset counter)		NULL BIOMETRICS DATA BLOCK
30 82 02 94 06 09 2a 86 48 86 ... fe 00		DIGITAL SIGNATURE (truncated) + EDC Field