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German National Body comments to the ISO/IEC JTC 1/SC 37 working draft on a  
Signature/Sign Based Biometric Data Interchange Format

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**German NB Contribution to NP SC37 N162**  
**"Signature/Sign Based Biometric Data Interchange Format"**

Reference document: ISO/IEC JTC 1/SC37 N86

Document Title: US Contribution to SC37/SG 3 on Signature Interchange Format  
(Ref. Document: Signature / Sign Image Based Interchange Format Version C)

Comments:

*General*

- The term signature/sign image leads to confusion with the aim of the proposed standard. The proposed standard mixes raw data, feature data and template data as well as transformation. The suggested terms should be homogeneously used within biometrics landscape. We suggest distinguish between signature capture data level and signature feature level. Both levels are worth to be standardised.
- The proposed standard is limited to digitizer. Besides digitizer special pens are also usable. The standard should be open for every capture device.
- All common biometric definitions like biometric data, identification or template update should be checked against existent standards of biometric capture or feature data. All standards and proposals should be harmonised by using such terms.

*Specific*

4 Definitions

- 4.1 The chosen definition limits the standard to digitizer that are well known today. The term "optionally" to use pressure values has to be deleted. Pressure is an important feature of writing movement.
- 4.2 This definition corresponds to the understanding of signature capture data level.
- 4.7 The term "T" leads to confusion with units of time. As described "T"-resolution is a frequency. A frequency is shortened in scientific publication as "f" or if it is a circle frequency as " $\omega$ ".
- 4.11 This definition corresponds to the understanding of signature feature level.
- 4.12 This definition corresponds to the understanding of signature capture data level.
- 4.13 We are not sure if a system could be defined in this manner.
- 4.16 The term "claimant" is not in common use. The usability should be checked.
- 4.17 The terms "biometric feature data" and "biometric reference template" are not defined.

5 Sign Image Format

- 5.1 The term "biometric verification" is not defined before.
- 5.3 Signature / Sign Data Record Format
  - 5.3.1 Where are the used record format identifiers defined?
  - 5.3.2 The version number shall be "10" instead of "20".
  - 5.3.6 Please change the term "The recorded caters" to "The recorded data".
- 5.4 Signature / Sign Feature Data
  - The term "feature data" lead to confusion. It is not clear if a preprocessing was carried out or not.
  - Add 8 bytes for the absolute time of the first vector, seconds since 1.1.1970 GMT.
  - Add Tilt / rotation resolution, or 0
- 5.4.1 The term "biometric template" is not defined.

- 5.4.2 The description differs from list 5.3. 2).  
The digitizer ID should be defined by an independent organization,  
e. g. IBIA
- 5.4.3 The description differs from list 5.3. 2).
- 5.4.5 The term "biometric template" is not defined.
- 5.5 Raw Signature / Sign Data  
With one byte the proposed max pressure value of 65535 is not usable.  
The proposed two bytes of T resolution allows 65536 sample data per  
second. As result this is a frequency of 0,0015 Hz. Add Tilt horizontal /  
vertical, or 0.  
The proposed structure is limited to digitizers. Alternative capture devices  
like capture pens are not usable.

Recommendations / Open items:

- Reduce the name of standard to "signature based interchange format" or  
enlarge it to "dynamic signature interchange format"
- Harmonize common biometric definitions
- Enlarge signature interchange format with a checksum value to secure the  
integrity of data
- If the proposed standard will use for templates
  - o Security aspects should be described.
  - o Access of verification / identification engines to the same template  
should clarified.
- Think about a signature ID which prevent twice use of captured signatures