



CJIS Information Letter

February 10, 2014

Implementation of FBI Universal Control Numbers

The Interstate Identification Index (III) is an integral part of the Integrated Automated Fingerprint Identification System (IAFIS) and will transition into the Next Generation Identification (NGI) system when Increment 4 of the NGI is implemented in April 2014.

Historically, the III has used FBI numbers (FNUs) to index a subject's criminal record. Under the NGI system, subjects will be indexed based on fingerprint-based identities and will be referenced by an FBI universal control number (FBI UCN).

While, in the past, receipt of an FNU has indicated the existence of criminal history record information, the transition to a universal number in the NGI system for all identities is changing this long-standing concept. Receipt of an FBI UCN under the NGI system simply means the individual has an identity in the NGI system. The FBI UCN will be compatible with, but distinguishable from, an FNU. If an identity currently has an FNU, the FNU will be used as the FBI UCN. This change is expected to take place in April 2014.

Identities in the NGI system will have a unique identifying number, regardless of submission type (e.g., criminal retained fingerprint submissions, civil retained fingerprint submissions, or unsolved latent records). Criminal fingerprint submissions for new identities will be assigned an FBI UCN, and any civil fingerprint submissions that are later submitted and identified as belonging to the same individual will append to this identity/FBI UCN. The NGI system will link criminal and civil records already in existence (legacy identifiers) in the IAFIS and reference the identity using the existing FNU, which will be referenced as the FBI UCN.

Implementing FBI UCNs may require programming changes at the agency/state level to enable fluid fingerprint processing of criminal and civil prints, as well as the associated unsolicited and maintenance messages. Agency and/or state systems must modify validation codes to ingest both the FNU and the FBI UCN and validation codes that affect outgoing messages, including the III message keys.

Additional details will be provided in a forthcoming Technical and Operational Update to the *III/National Fingerprint File Operational and Technical Manual*.

FBI UCN Format

The FBI UCNs must be unique, and the format cannot convey when the FBI UCN was assigned or the type of any event associated with the identity. The FBI UCN must be random. Also, the FBI UCNs must have a check character to assist in identifying invalid FBI UCNs.

In addition to these requirements, the following characteristics were considered in developing and assigning the FBI UCNs:

- ❖ Restricting the format to 9 alphanumeric characters to be compatible with existing *Electronic Biometric Transmission Specification* identifier fields. The first eight characters will be uniquely selected from a limited character set, and the ninth character will be a calculated check character.
- ❖ Allowing contributors to continue to reference identities using legacy IAFIS identifiers, e.g., FNUs.

The FBI UCN is defined as:

FBI UCN = $U_7U_6U_5U_4U_3U_2U_1U_0U_c$

Where:

$U_x \in \{0,1,2,3,4,5,6,7,8,9,A,C,D,E,F,H,J,K,L,M,N,P,R,T,V,W,X\}$

U_0 through U_7 are randomly assigned from this set such that the FBI UCN is unique and does not match any excluding strings or ranges (explained below).

The check character, U_c , is calculated as follows:

$$V(U_c) = (V(U_7)*2 + V(U_6)*4 + V(U_5)*5 + V(U_4)*7 + V(U_3)*8 + V(U_2)*10 + V(U_1)*11 + V(U_0)*13) \text{ MOD } 27$$

Where:

$V(U_x)$ comes from the **Table – 1 FBI UCN Check Digit Lookup**

U_c is found by lookup of the calculated $V(U_c)$ in **Table – 1 FBI UCN Check Digit Lookup**

Table – 1 FBI UCN Check Digit Lookup

U_x	$V(U_x)$
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7

8	8
9	9
A	10
C	11
D	12
E	13
F	14
H	15
J	16
K	17

L	18
M	19
N	20
P	21
R	22
T	23
V	24
W	25
X	26

The following is an example illustrating the check character calculation:

Compute the FBI UCN check character for “1234ACDE”

$$\begin{aligned}
 V(U_c) &= (1*2 + 2*4 + 3*5 + 4*7 + 10*8 + 11*10 + 12*11 + 13*13) \text{ MOD } 27 \\
 &= 544 \text{ MOD } 27 \\
 &= 4
 \end{aligned}$$

$U_c = \text{“4”}$ (found by equating the $V(U_x)$ value in **Table – 1 FBI UCN Check Digit Lookup** to the corresponding U_x)

UCN = 1234ACDE4

The set of FBI UCN characters is consistent with those allowed for current FNUs, in restricted positions, that eliminate potentially confusing pairs such as the digit “0” and the letter “O” or the digit “8” and the letter “B.” The check character calculation is based on a combination of Luhn and Mod X algorithms which are commonly applied in industry.

Many legacy identifiers are known by internal and external contributors and the NGI system must support the ability to continue to use these identifiers as references to the NGI system. As such, the NGI system will handle legacy identifiers in one of the two following ways:

1. If the legacy identifier is consistent with FBI UCN parameters, the legacy identifier will become the FBI UCN.
2. If the legacy identifier is not consistent with the FBI UCN parameters, the NGI will assign a new UCN to the identifier and will link to the legacy identifier.

Table – 2 Identifier Transition Approach summarizes the approach, strategy, and rationale for transitioning existing identifiers.

Table – 2 Identifier Transition Approach

Legacy Identifier	Identifies	Transition Strategy	Rationale
FNU	Criminal subjects	Maintain FNU as FBI UCN	Maintained in contributor files. Primary identifier for communication with contributors.
Civil Record Number (CRN)	Civil subjects	Assign FBI UCN; maintain CRN as “other identifier”	CRNs are not used outside the FBI. Translation can occur for legacy references.
Special Population Cognizant (SPC) numbers	SPC subjects	Assign FBI UCN; maintain CRN as “other identifier”	SPC numbers are not used outside the FBI. Translation can occur for legacy references.

For questions related to the III, please contact the III staff by telephone at (304) 625-5759 or by e-mail at <FBI-III@leo.gov>. For questions related to the NGI system or the transition to the use of the FBI UCN, please contact Mr. Bartsel Keener by telephone at (304) 625-2187 or by e-mail at <bartsel.keener@ic.fbi.gov>.

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