

# **CIBER Records, MEID and EUIMID**

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# Overview

- **The migration to MEID and EUIMID provides a second identifier to replace the 32-bit ESN and/or UIMID.**
- **The 32-bit identifier is always associated with a subscription.**
- **The 56-bit identifier is *not always* associated with a subscription.**
- **CIBER records allow either a 32-bit ESN-like identifier to be included or a 56-bit IMEI/MEID.**
- **CIBER does not allow both records to be included.**
- **Billing systems traditionally perform MIN/ESN validation.**
- **It is recommended that carriers continue to include a 32-bit identifier in CIBER records to allow continued validation.**



# Migration to MEID and EUIMID

- **MEID is a 56-bit identifier that can uniquely identify a phone.**
- **A pseudo-ESN (pESN) is derived from MEID for backwards compatibility.**
- **Expanded UIMID (EUIMID) is an identifier that can uniquely identifier a R-UIM.**
- **EUIMID can either be Short Form (SF\_EUIMID) based on MEID or Long Form (LF\_EUIMID based on ICCID.**
- **A pseudo-UIMID (pUIMID) is derived from EUIMID for backwards compatibility.**
- **The SF\_EUIMID *may* replace the MEID.**

# What is Transmitted?

## 32-bit Identifier

- Integrated devices will transmit pESN.
- R-UIM devices will normally transmit pUIMID

## 56-bit Identifier

- Integrated devices will transmit MEID upon request.
- LF\_EUIMID devices will also transmit MEID.
- SF\_EUIMID devices will probably transmit SF\_EUIMID in place of MEID.

# Identifier Relation to Subscriptions

## Integrated Devices

- Both MEID and ESN will be associated with the subscription.

## Unique UIMID Devices

- UIMID will be associated with the subscription.
- MEID will not.

## LF\_EUIMID Devices

- pUIMID will be associated with the subscription.
- MEID will not.

## SF\_EUIMID Devices

- pUIMID will be associated with the subscription.
- 'MEID' may be associated with subscription (if SF\_EUIMID) or not associated (if MEID).

# CIBER Record Identifier

- **Several CIBER Records Contain the 19 digit ESN/IMEI/MEID field.**
- **This field has enough room for MEID (18 digit decimal format plus 1 check digit).**
- **Hexadecimal (14 digit) format cannot be included.**
- ***Only one of the ESN (including the forms pESN, UIMID, pUIMID) or IMEI or MEID can be included.***
- **In an environment where both a 32 bit 'ESN' is available and a 56-bit MEID (or SF\_EUIMID), which should be included?**

# MIN/ESN Validation

- **MIN/ESN validation is traditional in ANSI-41 and billing systems supporting ANSI-41 systems (e.g. CDMA)**
- **Protects against billing records from an unsubscribed phone getting on a legitimate subscriber's bill.**
- **MIN and ESN are stored in HLR and billing system, and system simply verifies that a matched pair are received.**
- **R-UIM mobiles generally transmit UIMID (or pUIMID) instead of ESN (or pESN).**
- **MIN/'ESN' validation is maintained when a true ESN is not available by including a pESN, UIMID or pUIMID in the ESN field when appropriate.**
- **A mismatch will result in the call record being rejected.**

# Validation Failure Situations

- **KDDI identified some scenarios in a June, 2006 presentation to CDG IRT:**
  - **Unvalidatable phones can make calls in some networks, e.g. using a credit card.**
  - **Calls to specific numbers may be allowed from unvalidatable phones.**
  - **Systems without pre-call validation still exist.**
- **These calls should not appear on customer bills and definitely should not be charged to customers.**
- **MIN/‘ESN’ validation allows these calls to be filtered out.**

# CIBER Recommendation

- If the ESN/IMEI/MEID field is filled with an 'MEID' it will often be an identifier that is not associated with a MIN/IMSI.
- This 'breaks' MIN/ESN validation.
- It is recommended that the 'ESN/IMEI/MEID' field continue to be populated with the 32-bit identifier: pESN or pUIMID.
- This recommendation should stay in place until:
  - It is agreed that MIN/ESN validation in billing systems is no longer needed.

**AND**

- All carriers are prepared to accept a non-32-bit identifier in CIBER records.

# Thank You

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