



# MAC Address in Decimal Format for P-GW

This feature enables the SaMOG Gateway to encode the User Equipment's MAC address in the IMEISV IE value in decimal format, in order to support inter-operability with P-GW from third party vendors.

The following sections provide more detailed information:

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## Feature Description

During call establishment, the SaMOG Gateway encodes the UE MAC address in the IMEISV IE value to decimal format and sends the Create Session Request message with the encoded value to P-GW. This ensures inter-operability between SaMOG and some third party vendor's P-GW that requires the UE MAC address in decimal format.

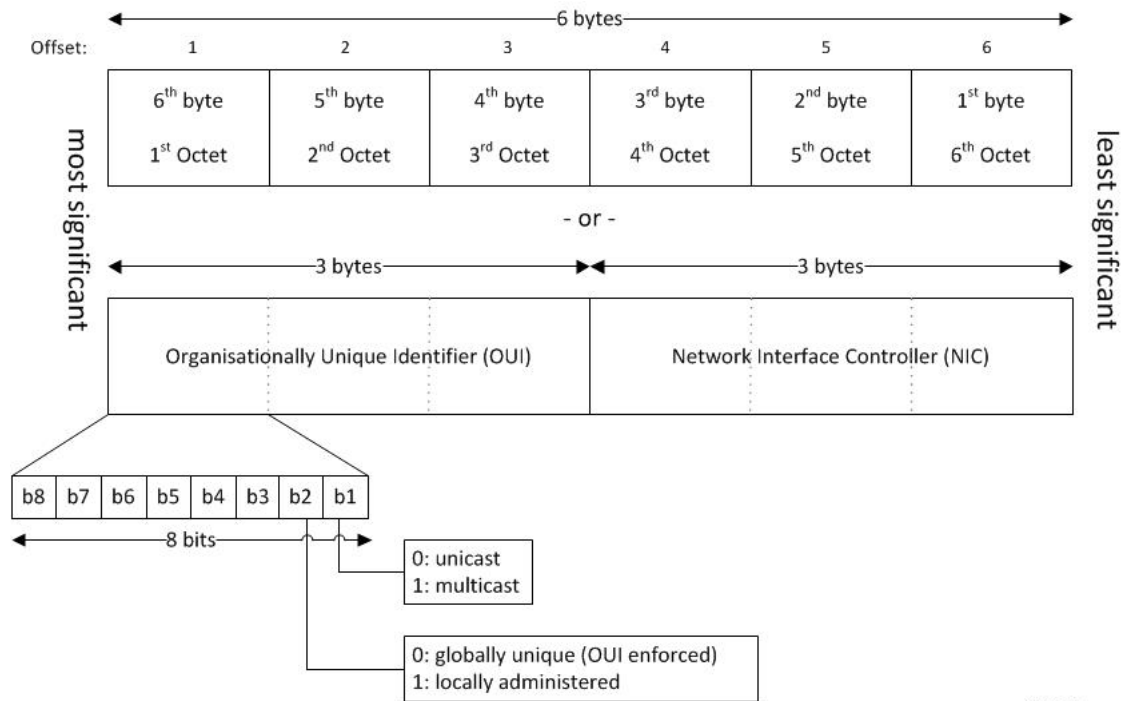
This feature can be configured by enabling the **decimal** keyword in the **samog-gtpv1** and **samog-s2a-gtpv2** commands under the Call Control Profile Configuration Mode. For more configuration information, refer [Configuring MAC Address Encoding, on page 3](#).

## How it Works

### Architecture

The IMEI is a 15 digit decimal number that consists of a 14 digit value and 1 check digit, while the IMEISV field is a 16 digit decimal number that consists of a 14 digit value and 2 digit software version. The User Equipment's (UE) MAC address is a 6 byte or a 48 bit hexa-decimal value. As the maximum value of 6 bytes exceeds the 15 digit value in the IMEI field, 2 bits of the UE MAC address are removed and the remaining bits are left shifted. The SaMOG Gateway converts this value into decimal format and sends it to P-GW.

The following figure displays the bit representation and conversion of the MAC address:



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The **b1 bit** represents the MAC address as unicast or multicast, and the **b2 bit** represents the MAC address as globally unique or locally administered.

#### Examples:

- UE MAC Address: 8AF9ABD5C613  
After bits 1 and 2 are removed: 22F9ABD5C613  
Decimal converted value: 38455725114899  
TBCD encoded value (sent to P-GW): 83547552118499F0
- UE MAC Address: FFFFFFFF00000000  
After bits 1 and 2 are removed: 3FFFFFFF00000000  
Decimal converted value: 70368744177663  
TBCD encoded value (sent to P-GW): 07637844716736F0
- UE MAC Address: 0034567890AB  
After bits 1 and 2 are removed: 0034567890AB  
Decimal converted value: 224789041323  
TBCD encoded value (sent to P-GW): 00227498403132F0

## Standards Compliance

The interface between the SaMOG Gateway and P-GW complies with the following 3GPP standards:

- 3GPP TS 23.002

- 3GPP TS 29.060
- 3GPP TS 29.274

# Configuring MAC Address Encoding in Decimal Format

## Configuring MAC Address Encoding

Use the **decimal** keyword in the **samog-gtpv1** and **samog-s2a-gtpv2** commands under the Call Control Profile Configuration mode to enable SaMOG Gateway to encode the IMEI attribute in decimal format to send to P-GW.

### configure

```
call-control-profile profile_name
  samog-gtpv1 send imeisv value ue-mac decimal
  samog-s2a-gtpv2 send imeisv value ue-mac decimal
end
```

- By default, SaMOG sends the IMEISV value in hexa-decimal format.
- Use the **no samog-gtpv1 send imeisv** and **no samog-s2a-gtpv2 send imeisv** commands to disable decimal encoding.
- For further information on the other command keywords and the use of the command prefixes, refer to the *Command Line Interface Reference* for Release 20.0.

## Verifying Configuration

Use the **show call-control-profile** command to verify the configuration of this feature.

### show call-control-profile full name *profile\_name*

```
Samog-GTPv1:
  Sending IMEI(SV) IE           : Enabled
  IMEI(SV) IE Value Type       : UE MAC in Decimal
Samog-S2a-GTPv2:
  Sending IMEI(SV) IE           : Enabled
  IMEI(SV) IE Value Type       : UE MAC in Decimal
```

