

MDB per SUB

1. Background:

OEMs have been looking for ways to configure the LTE/NR settings per carrier SIM / PLMN. For example: if SIM=TMO and roaming to China PLMN for CU => configure NR setting to value x. Some OEMs also have been looking for ways to update the individual records of the MDB via API.

2. New changes:

Legacy MDB is device level. We introduced SUB level MDBs to meet the new requirement. Plz find below for the name for SUB MDBs and the MDBs that can be configured as SUB level.

NR:

DEV MDBs: mcc2arfcn.mdb, plmn2freqlist.mdb, plmn2cacombos.mdb, plmn2features.mdb

SUB MDBs: plmn2freqlist_sub.mdb, plmn2cacombos_sub.mdb, plmn2features_sub.mdb

LTE:

DEV MDBs: mcc2arfcn_lte.mdb, plmn2freqlist_lte.mdb, plmn2cacombos_lte.mdb, plmn2features_lte.mdb

SUB MDBs: plmn2freqlist_lte_sub.mdb, plmn2cacombos_lte_sub.mdb, plmn2features_lte_sub.mdb

3. Configuration:

SUB MDB XML structure is same as DEV MDB. We should add the new features to either the device specific or carrier specific MDBs based on the need. DEV MDBs should always be configured in HW MBNs, SUB MDBs should always in SW MBN.

Please use mcfgvariant as '2' for dev mdb and '23' for sub mdb.

Sample example to configure DEV MDB:

```
<NvEfsFile name="plmn2features.mdb" id="" description="" comment="" category="" subscription_mask="0x07" mcfgAttributes="0x19" mcfgVariant="2" targetPath="/mdb/nr/plmn2features.mdb" buildPath="modem_proc/mmc/policyman/MDBs/build/BUILD_FLAVOR/plmn2features/plmn2features.mdb"/>
```

Sample example to configure SUB MDB:

```
<NvLargeEfsFile name="plmn2features_sub.mdb" id="" description="" comment="" category="" subscription_mask="0x07" mcfgAttributes="0x19" mcfgVariant="23" targetPath="/mdb/nr/plmn2features_sub.mdb" buildPath="modem_proc/mmc/policyman/MDBs/build/BUILD_FLAVOR/plmn2features/plmn2features_sub.mdb"/>
```

Q&A:

1. How to generate SUB MDBs?

Same as legacy way, plz refer to KBA-201118190404.

2. What's the behavior when we have both DEV MDB and SUB MDB?

We first lookup SUB MDBs with PLMN, then DEV MDB if failed. Plz refer to below example.

```
plmn2cacombos_lte.mdb (per device MDB)
<entry plmn="460-03 460-11"
... ...
  <combinations>
    "5AA-1A-mAll;5A-1AA-mAll;3AA-1A-mAll;
    3CA-mAll;"</combinations>
  </entry>
```

```
plmn2cacombos_lte_sub.mdb (per carrier MDB)
<entry plmn="460-03"
... ...
  <combinations>
    "7AA-1A-mAll;"</combinations>
  </entry>
```

1. When camp on 460-03, lookup SUB MDB, get combo “7AA-1A-mAll;”.
2. When camp on 460-11, first lookup SUB MDB, then DEV MDB, get combo “5AA-1A-mAll;...”
3. When camp on other PLMN, SUB/DEV MDB lookup failed, get NULL combo.