

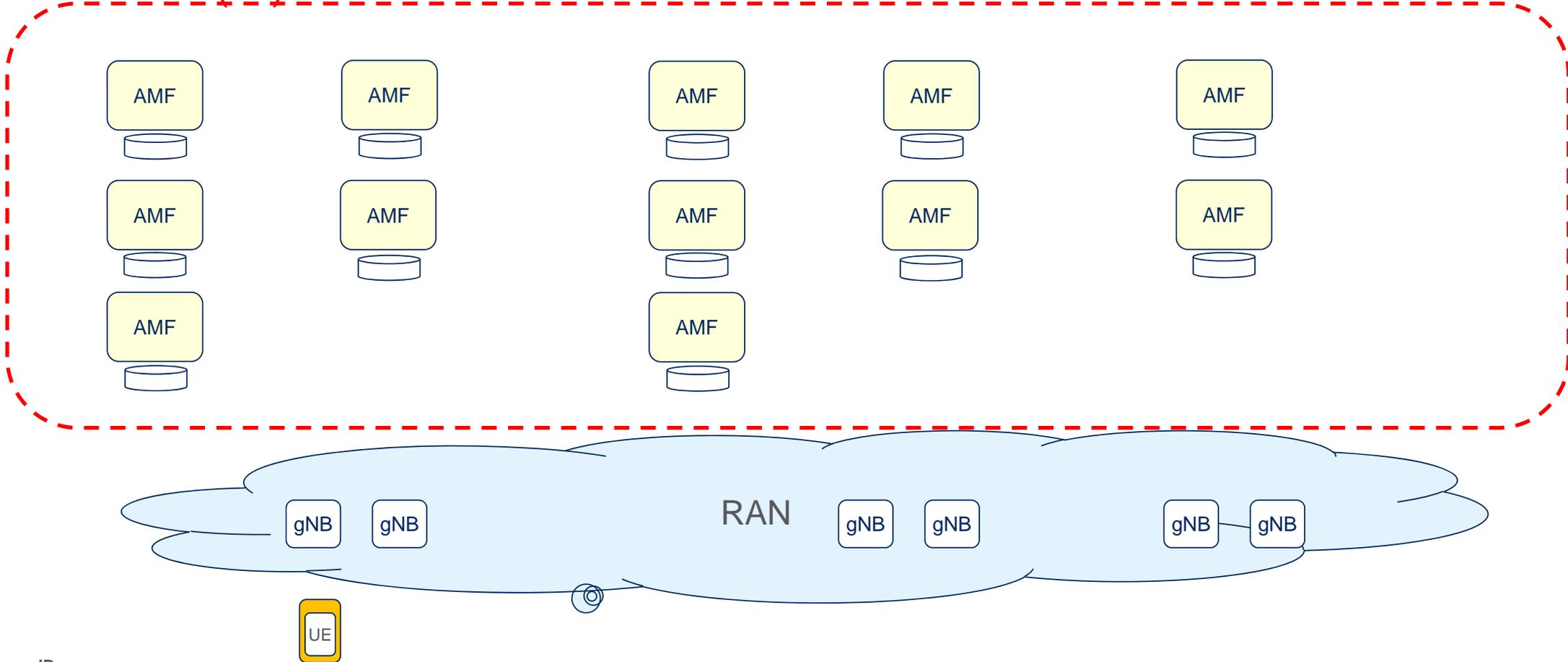
AMF Selection Terminology & Scenarios

S2-171811

TERMINOLOGY



Nw Slice(es)



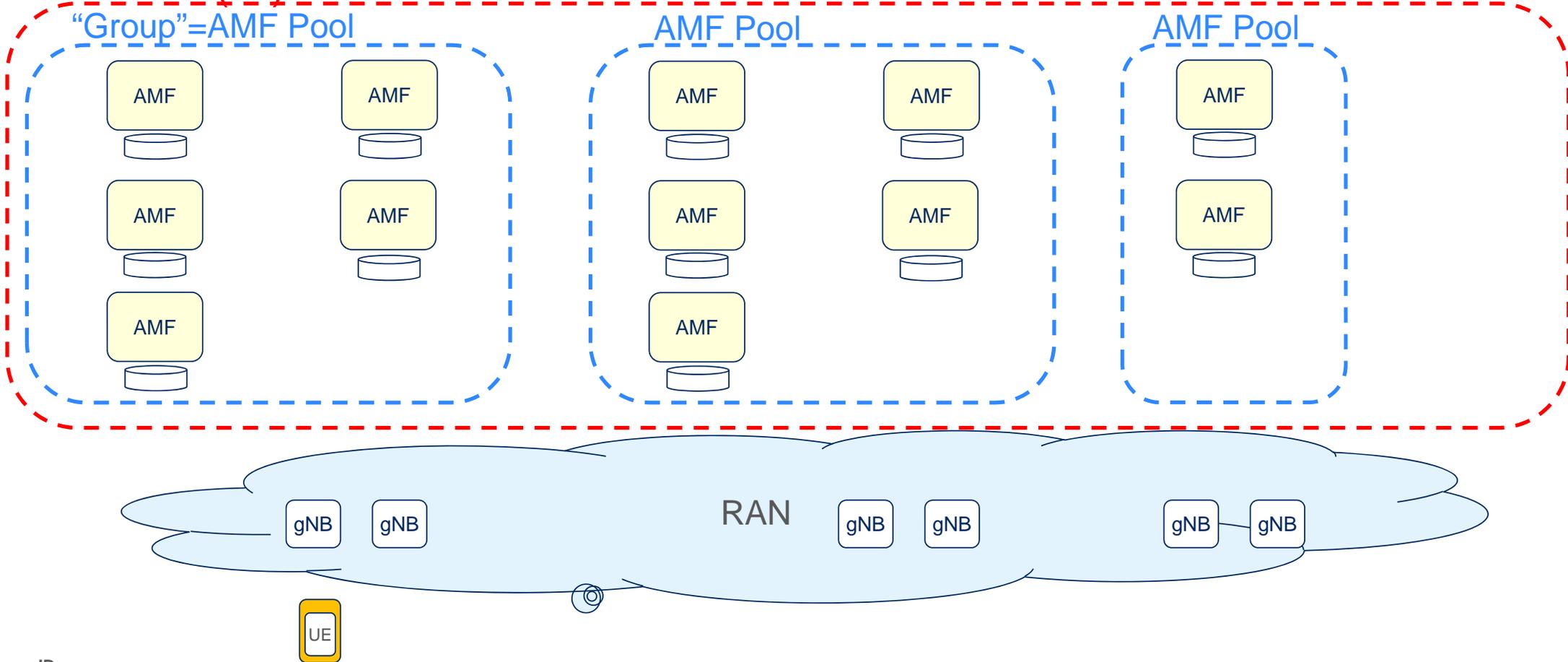
Temp ID:
{AMF group, AMF subgroup, AMF instance, impl info}

TERMINOLOGY – GROUP/AMF POOL



Nw Slice(es)

“Group”=AMF Pool



Temp ID:
{AMF group, AMF subgroup, AMF instance, impl info}

“GROUP” = AMF POOL

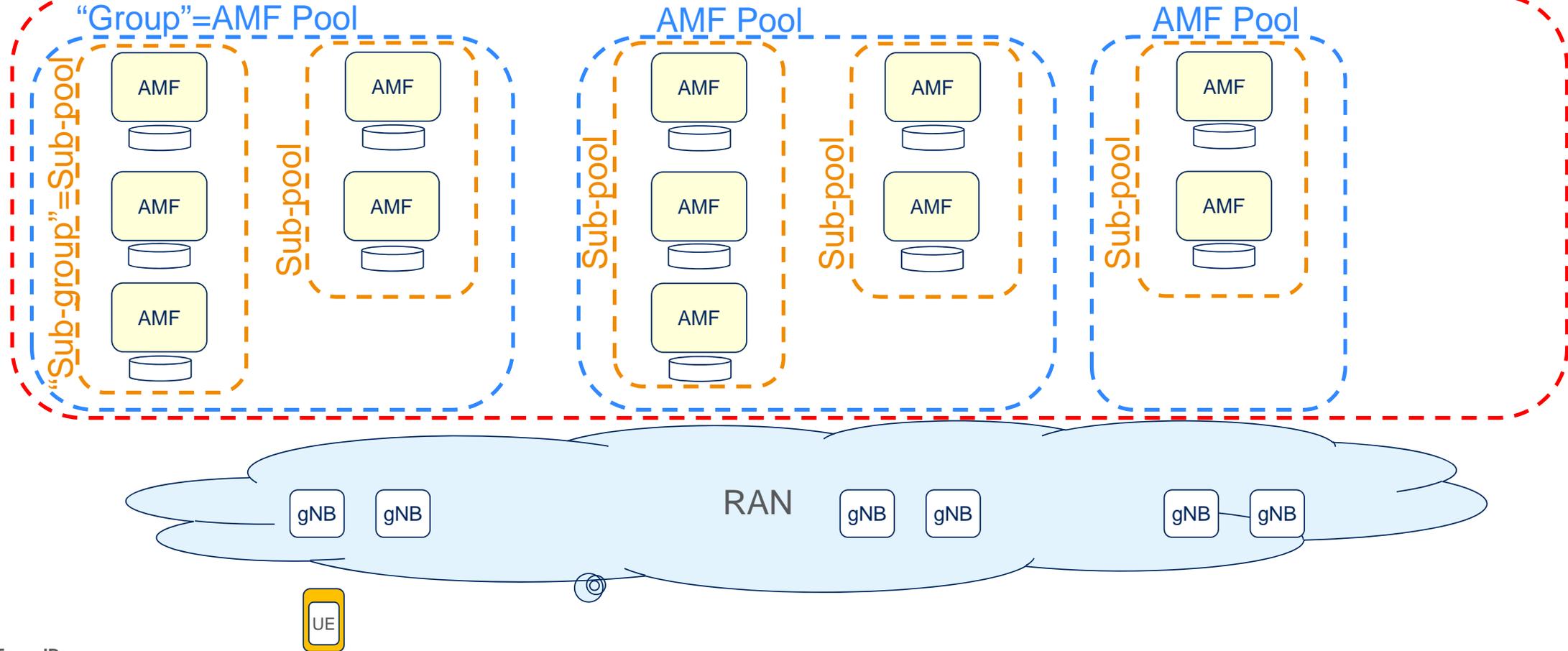


- › A “group” in this discussion is by Ericsson interpreted to be similar to a (MME) pool concept in EPC
 - Thus, “Group” = AMF Pool
- › The same or similar characteristics are applied to an AMF pool as to the MME pool in EPC

TERMINOLOGY – SUB-GROUP/POOL



Nw Slice(es)



Temp ID:
{AMF group, AMF subgroup, AMF instance, impl info}

“SUB-GROUP” = SUB-POOL

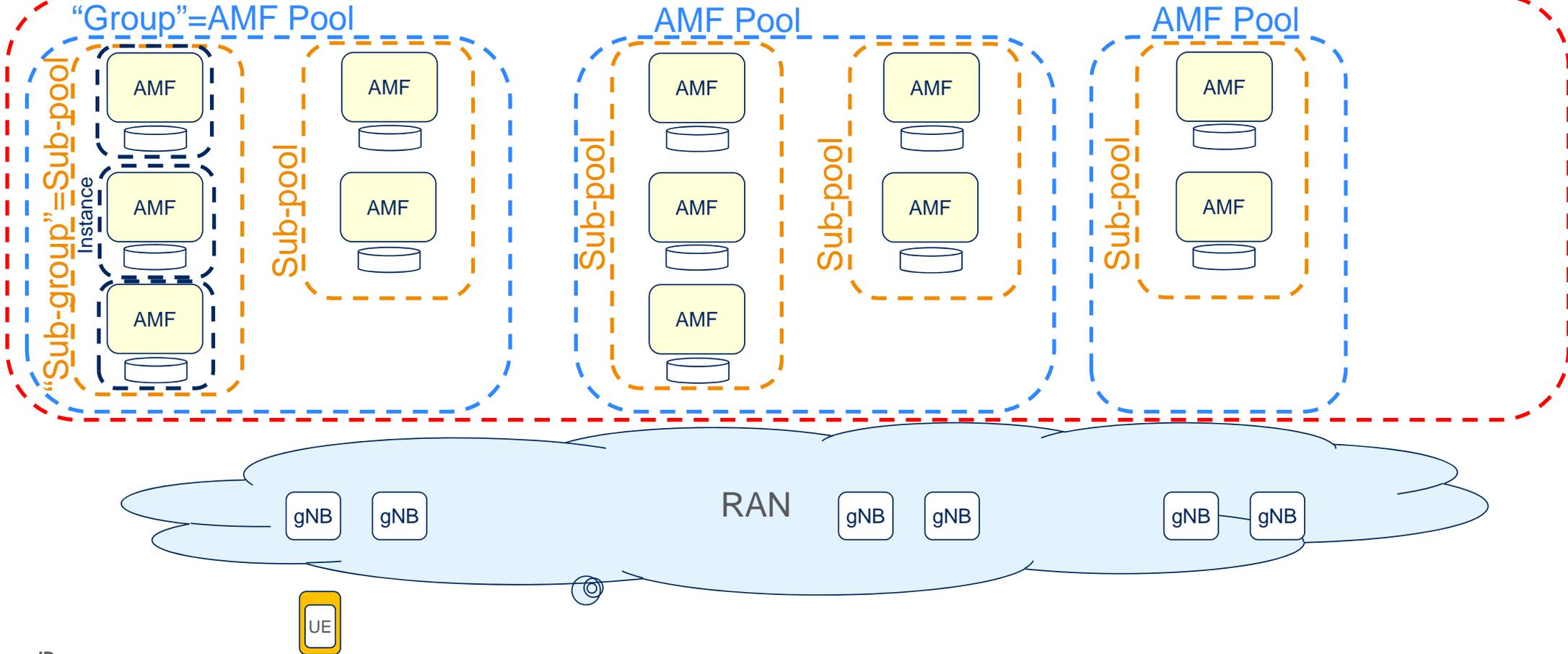


- › A sub-pool is characterized by the following criteria
 - For all AMF instances within the sub-pool the RAN uses one selection mechanism/property towards the AMF instances within the sub-pool (“direct forwarding” or “random select”)
 - The sub-pool only contains AMF instances from one vendor (otherwise standardized mechanisms for context transfer within the sub-pool may be needed)
- › The sub-pool is normally (but not necessarily) limited to one physical location
 - Spreading of a sub-pool over multiple geographical locations is possible but requires that the sub-pool can be configured to include RAN-CN interfaces to instances at different locations
- › It is optional for the operator to use sub-pools in the network
 - It is up to operator deployment if sub-pools are used or not
 - For keeping the same Temporary Id in all scenarios, deployments “without sub-pools” shall be configured as all AMF instances are part of the same sub-pool

TERMINOLOGY – INSTANCE



Nw Slice(es)

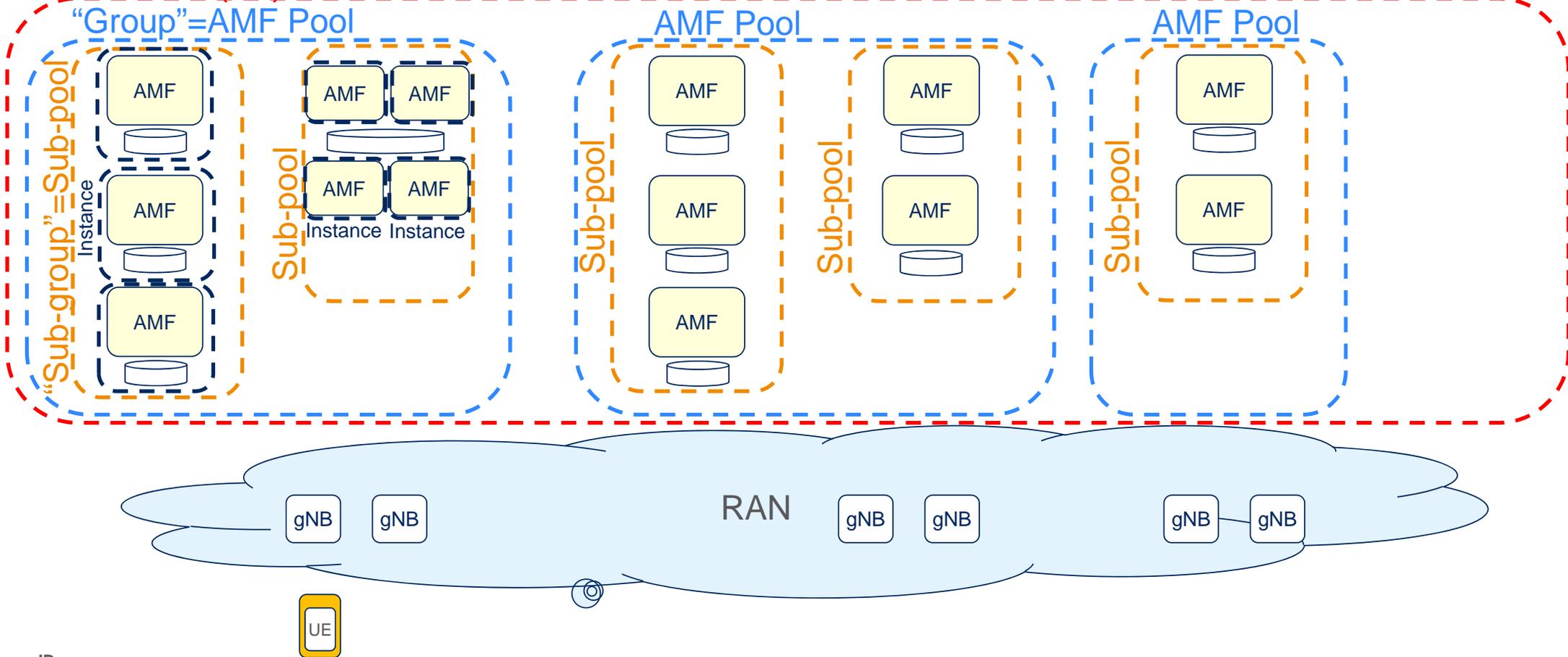


Temp ID:
{AMF group, AMF subgroup, AMF instance, impl info}

TERMINOLOGY – INSTANCE



Nw Slice(es)



Temp ID:
{AMF group, AMF subgroup, AMF instance, impl info}

INSTANCE



- › An “instance” in this case is an NF (AMF) instance within the sub-pool (if sub-pools are used)

- › The use of “instances” is applicable regardless of RAN selection method (“direct forwarding” or “random select”)
 - The difference in use of “instance” in the Temporary Id when RAN selects receiver
 - › “direct forwarding” method => select receiver also based on “instance” in Temp Id
 - › “random select” method => randomly select receiver in AMF group and AMF subgroup not considering “AMF instance”

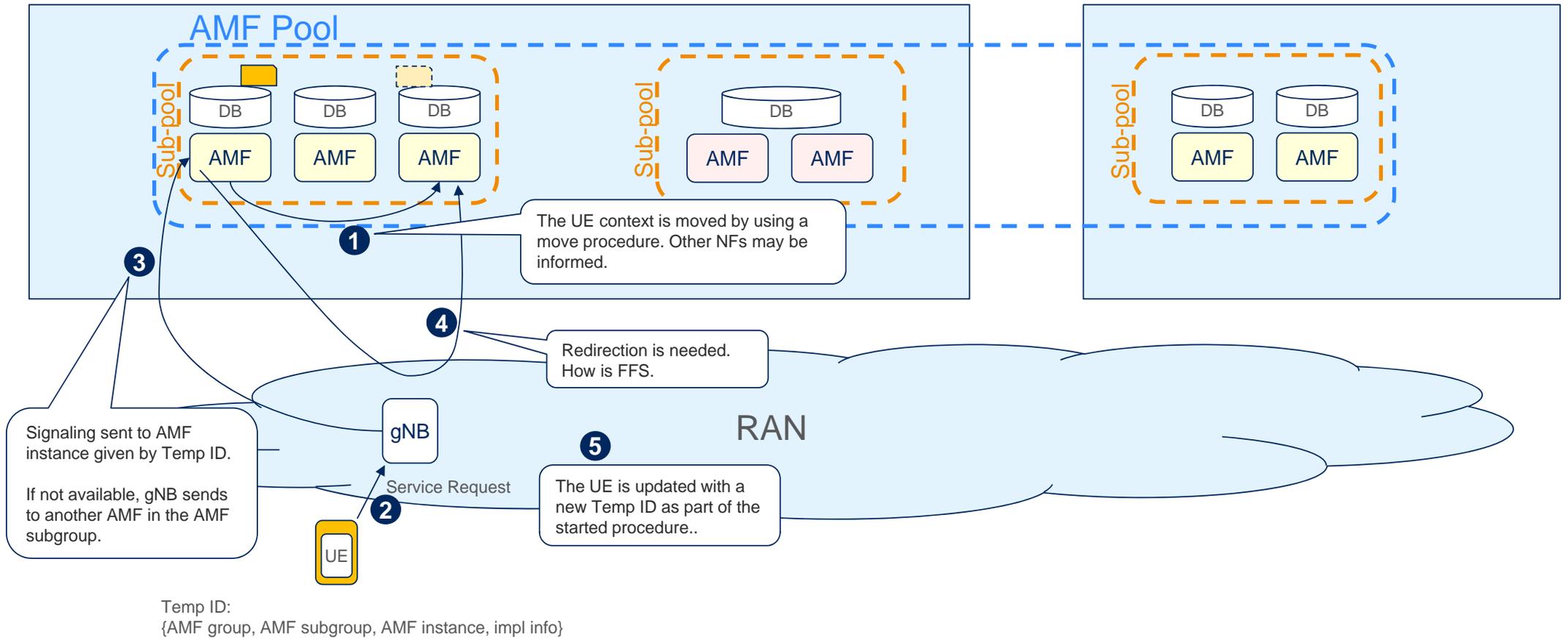
Selection mechanism: direct forwarding



- AMF change within AMF subgroup, UE in CN-IDLE

Site A

Site B



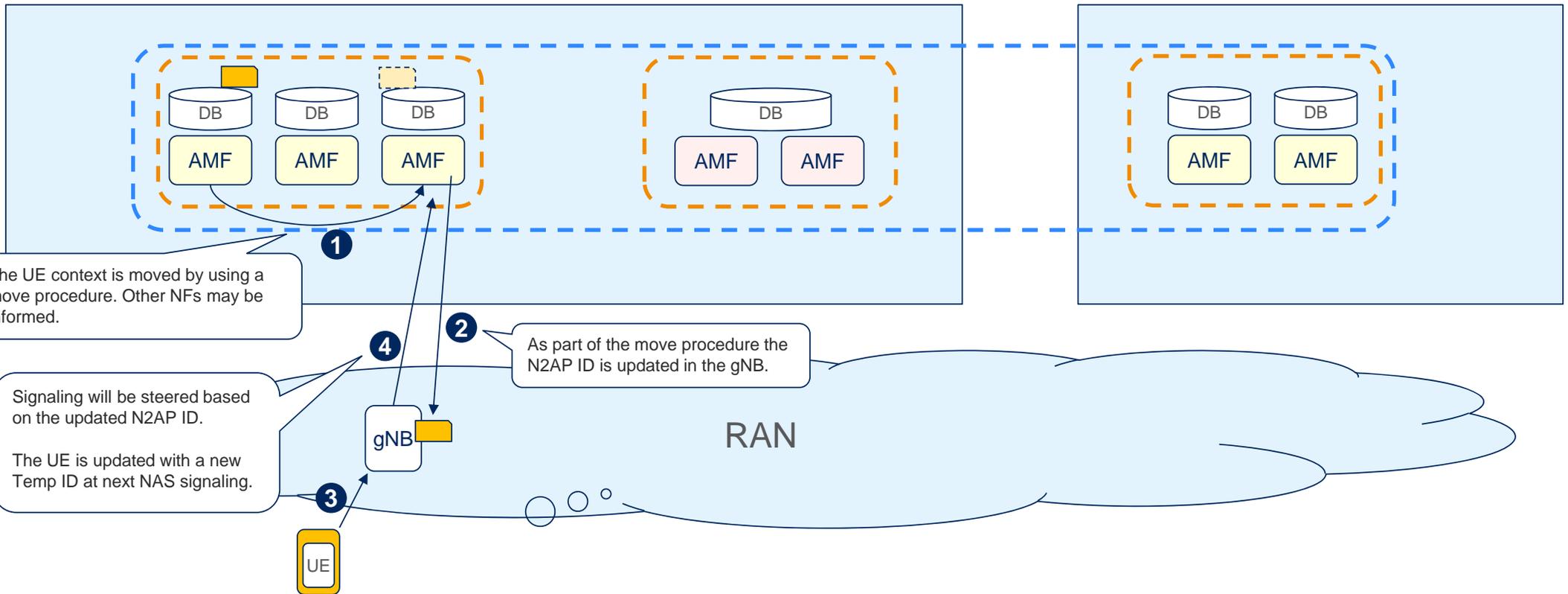
Selection mechanism: direct forwarding



- AMF change within AMF subgroup, UE in CN-CONNECTED

Site A

Site B



Temp ID:
{AMF group, AMF subgroup, AMF instance, impl info}

Selection mechanism: direct forwarding

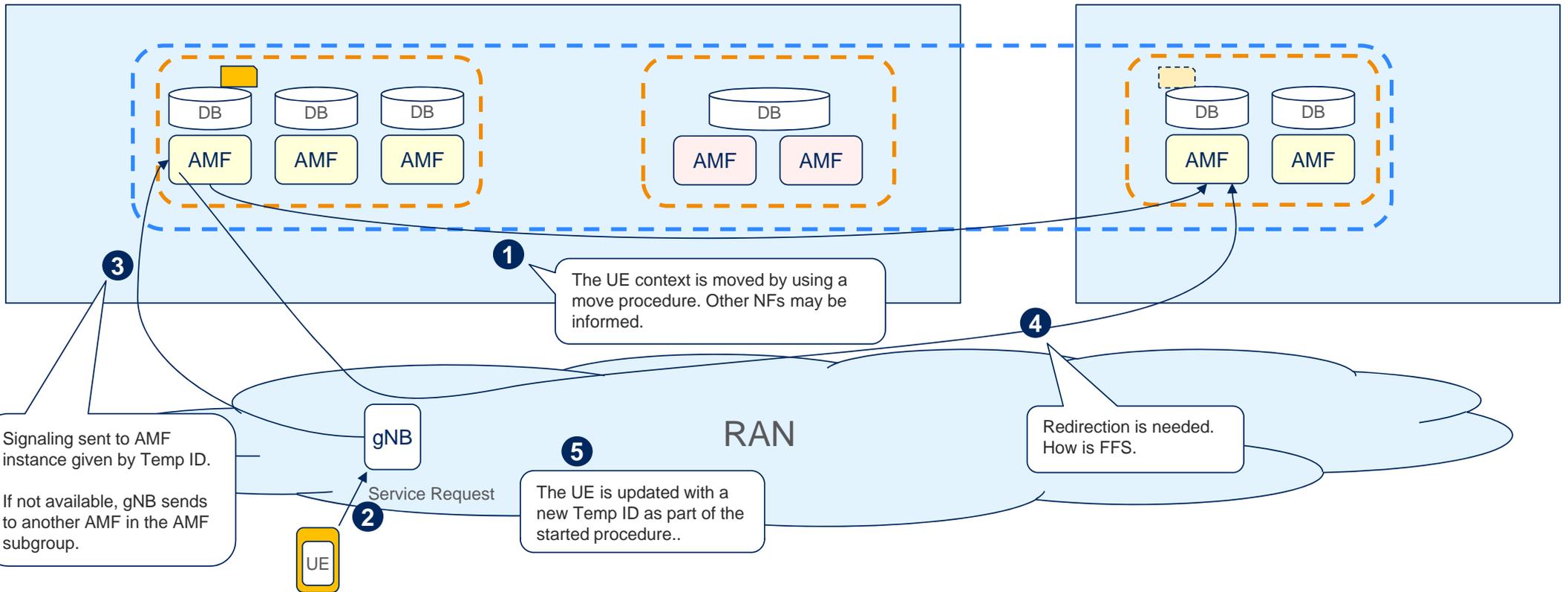
- AMF change to other site, UE in CN-IDLE

The yellow (implementation compatible) AMFs in the two sites may belong to the same or different AMF subgroup(s).



Site A

Site B

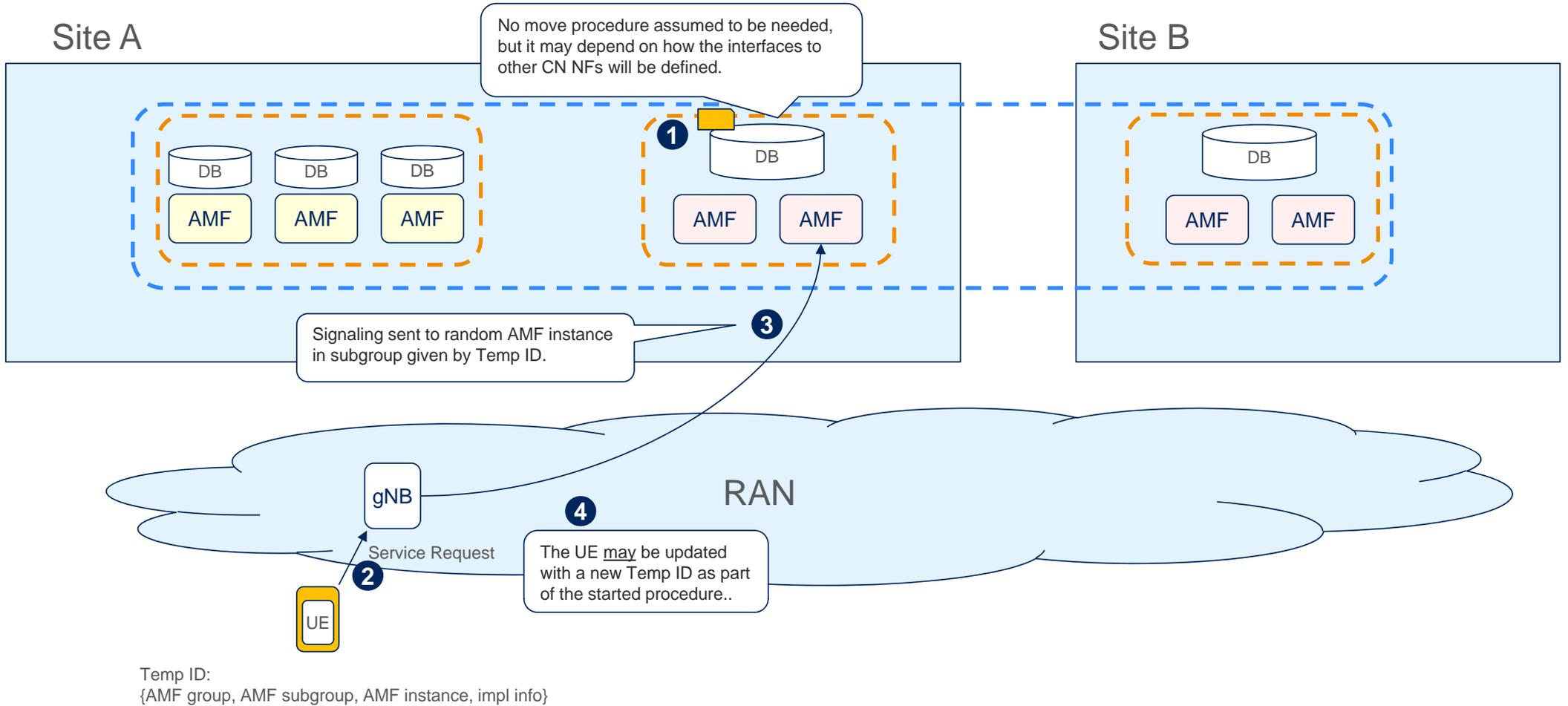


Temp ID:
{AMF group, AMF subgroup, AMF instance, impl info}

Selection mechanism: random selection

- AMF change within AMF subgroup, UE in CN-IDLE

The pink (implementation compatible) AMFs in the two sites belong to different AMF subgroups.



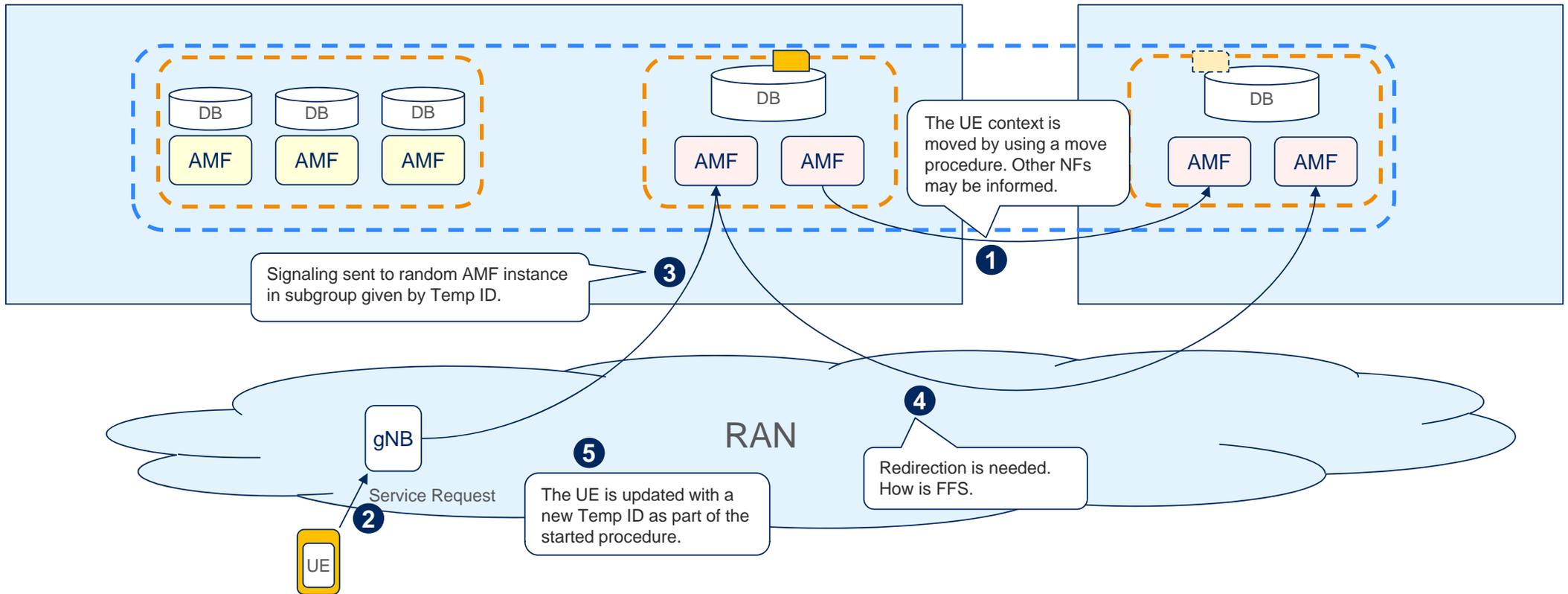
Selection mechanism: random selection



- AMF change to other site, UE in CN-IDLE

Site A

Site B



Temp ID:
{AMF group, AMF subgroup, AMF instance, impl info}

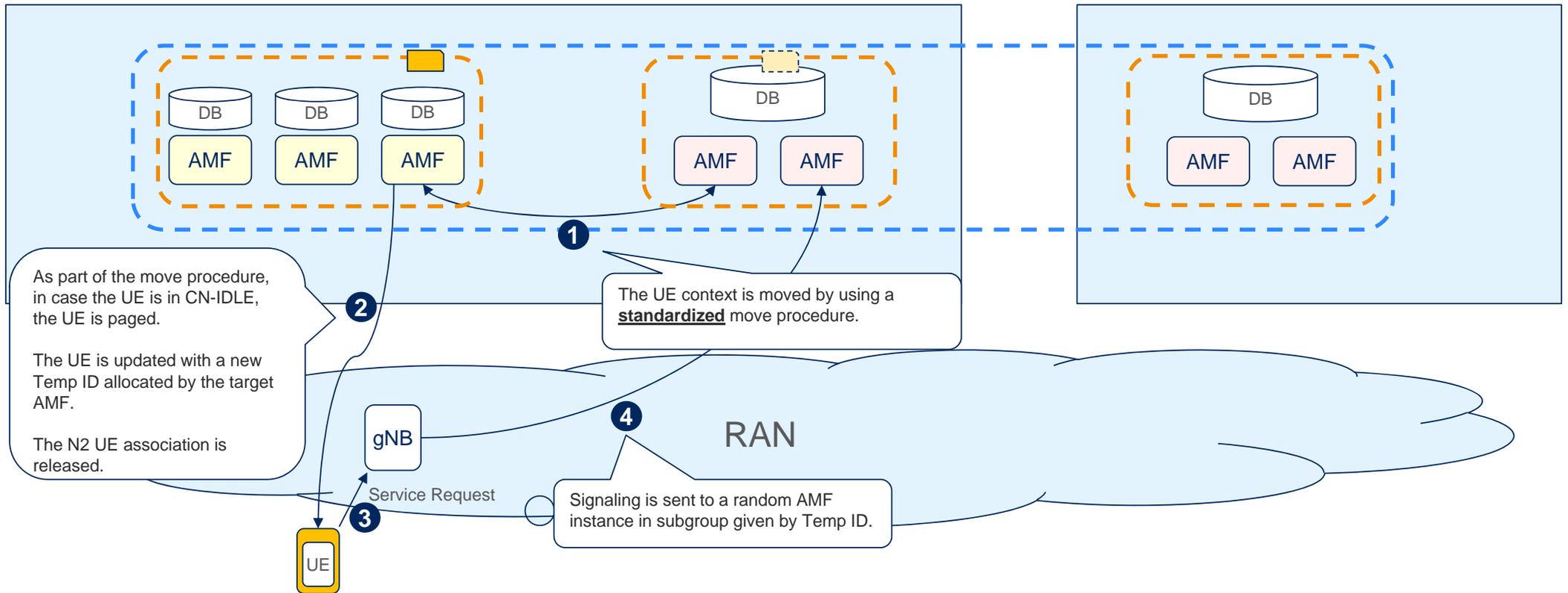
Selection mechanism: move from direct forwarding to random selection



- AMF vendor change, UE in CN-IDLE or CN-CONNECTED

Site A

Site B



Temp ID:
{AMF group, AMF subgroup, AMF instance, impl info}

Selection mechanism: move from random selection to direct forwarding



- AMF vendor change, UE in CN-IDLE or CN-CONNECTED

Site A

Site B

