**3GPP TSG- Meeting # *S5-247150d1***

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network | **X** |

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| ***Title:***  |  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** | SA5 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | As agreed in S5-246289, WT-2 Management aspects of Indirect Network Sharing is agreed.According to the definition in clause TS 22.261 and TS 23.501, Indirect Network Sharing is a type of NG-RAN Sharing in which the communication between the Shared NG-RAN and the Participating Operator’s core network is routed through the Hosting NG-RAN Operator’s core network. In RAN Sharing operations, NG-RAN resources can be used by multiple network operators. Indirect Network Sharing is one of the possible sharing methods. |
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| ***Summary of change:*** | Add concepts and background for Indirect Network Sharing |
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| ***Consequences if not approved:*** | Missing the explanationof the concepts and background for Indirect Network Sharing |
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| ***Clauses affected:*** |  |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **1st Change** |

## 4.1 RAN sharing scenarios

Various network sharing scenarios exist, amongst which one category is RAN sharing which can be divided into the following (non exhaustive) list of sub-categories:

- Passive RAN sharing, also known as infrastructure sharing (including site sharing).

- Active RAN sharing, where active network elements of the RAN are shared:

- RAN-only sharing (MOCN; see TS 23.251 [5] and TS 23.501 [7]), i.e. BTSs / BSCs (respectively NodeBs / RNCs and eNodeBs) in a 2G Radio Access Network (respectively a 3G Radio Access Network and an E-UTRA network) , and gNBs in a 5G NR network;

- Gateway Core Network (GWCN; see TS 23.251 [5]), in which not only the Radio Access Network elements are shared but also part or all of the Core Network elements (there is no passive core network sharing).

- Indirect Network Sharing (see TS 23.501[7]), in which Core Network functions are connected and Radio Access Network functions are shared through the connections of Core Network functions.

The following figures depict the MOCN scenarios:



Figure 4.1-1: E-UTRAN MOCN network sharing scenario



Figure 4.1-2: NG-RAN MOCN Network Sharing with same cell identity broadcast scenario



Figure 4.1-3 NG-RAN MOCN Network Sharing with multiple cell identity broadcast scenario

In GWCN, besides sharing Radio Access Network nodes, the POPs also share Core Network nodes (see TS 23.251 [5] – clause 4.1).



Figure 4.1-4: GateWay Core Network (GWCN)

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| **End of Changes** |