**3GPP TSG-SA5 Meeting #136e *S5-212157***

**e-meeting 01st Mar – 09th Mar 2021**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **28.313** | **CR** | **0015** | **rev** | **-** | **Current version:** | **16.1.0** |  |
|  | | | | | | | | |
| *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:*** | Update of PCI configuration for D-SON and C-SON | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SON\_5G | | | | |  | ***Date:*** | | | 18/02/2021 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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 can be 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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In the current specification TS28.313 the definition for D-SON PCI and C-SON PCI is not clear. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | To make it clear that:  D-SON PCI configuration function supports the Distributed SON or Domain-Centralized SON function of PCI configuration;  C-SON PCI configuration function supports the C-SON function of PCI configuration. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The definition of the PCI configuration will be confused. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.1.3, 7.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **N** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **N** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **N** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **Start of the first change** |

### 7.1.3 PCI configuration

#### 7.1.3.0 Management service components used for D-SON PCI configuration

#### The MnS components used for D-SON (Distributed SON or Domain-Centralized) PCI configuration are listed in the following clauses 7.1.3.1, 7.1.3.2 and 7.1.3.3.7.1.3.1 MnS component type A

Table 7.1.3.1-1: PCI type A

|  |  |
| --- | --- |
| MnS Component Type A | Note |
| Operations and notifications defined in clause 11.1.1 of TS 28.532 [3]:  - createMOI operation  - getMOIAttributes operation  - modifyMOIAttributes operation  - deleteMOI operation  - notifyMOIAttributeValueChanges operation  - notifyMOICreation  - notifyMOIDeletion  - notifyMOIChanges | It is supported by Provisioning MnS for NF, as defined in 28.531 [11]. |

#### 7.1.3.2 MnS Component Type B definition

##### 7.1.3.2.1 Control information

The parameter is used to control the D-SON PCI configuration function.

Table 7.1.3.2.1-1: PCI contol

| Control parameter | Definition | Legal Values |
| --- | --- | --- |
| PCI configuration control | This attribute allows authorized consumer to enable/disable the D-SON PCI configuration functionality. See attribute pciConfigurationControl in TS 28.541 [13]. | enable, disable |

##### 7.1.3.2.2 Parameters to be updated

The table below lists the parameter related to the D-SON PCI configuration function.

Table 7.1.3.2.2-1: PCI update

| Parameters | Definition | Legal Values |
| --- | --- | --- |
| PCI list | The list of PCI values to be used by D-SON PCI configuration function to assign the PCI for NR cells. (See attribute pciList in TS 28.541 [13]). | List of integers |

#### 7.1.3.3 MnS Component Type C definition

##### 7.1.3.3.1 Notification information

The table below lists the notifications related to D-SON PCI configuration.

Table 7.1.3.3-1: PCI notifications

|  |  |  |
| --- | --- | --- |
| Notifications | Description | Note |
| PCI change notification | When the PCI configuration function changes the PCI of a cell, this change is notified using a notifyMOIAttributeValueChanges notification. See attribute nRPCI in TS 28.541 [13]. |  |

##### 7.1.3.3.2 Alarm notification information

The table below lists the alarm notifications related to D-SON PCI configuration.

Table 7.1.3.3.2-1: PCI alarm notifications

|  |  |  |
| --- | --- | --- |
| Alarm notifications | Description | Note |
| PCI configuration function failure | This alarm notification indicates that the PCI configuration function has failed to resolve PCI collision or PCI confusion problems. |  |

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| **End of the first change** |

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| **Start of the second change** |

## 7.2 Management services for C-SON

### 7.2.0 Management service components used for C-SON PCI configuration

The MnS components used for C-SON PCI configuration are listed in the following clauses 7.2.1.1, 7.2.1.2 and 7.2.1.3

### 7.2.1 PCI configuration

#### 7.2.1.1 MnS component type A

Table 7.2.1.1-1: PCI type A

|  |  |
| --- | --- |
| MnS Component Type A | Note |
| Operations and notifications defined in clause 11.1.1 of TS 28.532 [3]:  - createMOI operation  - getMOIAttributes operation  --- modifyMOIAttributes operation  - - deleteMOI operation  - - notifyMOIAttributeValueChanges operation  - notifyMOICreation  - notifyMOIDeletion  - notifyMOIChanges | It is supported by Provisioning MnS for NF, as defined in 28.531 [11]. |
| Operations defined in clause 11.3.1.1.1 in TS 28.532 [3] and clause 6.2.3 of TS 28.550 [12]:  - notifyFileReady operation  - reportStreamData operation | It is supported by Performance Assurance MnS for NFs, as defined in 28.550 [12]. |

#### 7.2.1.2 MnS Component Type B definition

##### 7.2.1.2.1 Control information

The parameter is used to control the C-SON PCI configuration function.

Table 7.2.1.2.1-1: PCI control

| Control parameter | Definition | Legal Values |
| --- | --- | --- |
| PCI configuration control | This attribute allows authorized consumer to enable/disable the C-SON PCI configuration functionality. | disable, enable |

##### 7.2.1.2.2 Parameters to be updated

The table below lists the parameter related to the C-SON PCI configuration function.

Table 7.2.1.2.2-1: PCI dpdate

| **Updated parameters** | **Definition** | **Legal Values** |
| --- | --- | --- |
| NR PCI | This parameter contains the PCI of the NR cell. | Integer |

#### 7.2.1.3 MnS Component Type C definition

##### 7.2.1.3.1 Notifications information

The table below lists the notifications related to PCI configuration are generated from the NR cells.

Table 7.2.1.3.1-1: PCI notification

|  |  |  |
| --- | --- | --- |
| Notification information | Description | Note |
| PCI collision notification | The collision notification is used to indicate two neighbouring cells are using the same PCIs. |  |
| PCI Confusion notification | The confusion notification is used to indicate that a serving cell has 2 neighbouring cells that are using the same PCI value. |  |

##### 7.2.1.3.2 Performance measurements

Performance measurements related to the PCI configuration are collected from the NR cells.

Table 7.2.1.3.2-1. PCI related performance measurements

|  |  |  |
| --- | --- | --- |
| Performance measurements | Description | Note |
| PCI of candidate cells | The measurement contains cumulative counter with subcounters that is identified by the PCI value(s) of the candidate cells, and is derived from *MeasResultListNR* (see clause 6.3.2 in TS 38.331 [9]) where it contains PCI in *PhysCellId*, and RSRP/RSRQ in *MeasQuantityResults* of candidate cells. It is generated when the RSRP received from the candidate cells exceeds certain thresholds. |  |

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| **End of the second change** |