**3GPP TSG- Meeting #**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** | 1 | **Current version:** |  |  |
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| *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 |  | Core Network | **X** |

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| ***Title:***  |  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** | CT4 |
|  |  |
| ***Work item code:*** | TEI16,  |  | ***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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | Clauses 5.8.1 clarified “A CP function or a UP function shall be identified by a unique Node ID. A Node ID may be set to an FQDN or an IP address (see clause 8.2.38).” It’s not clearly defined when the Node ID can be set to an IP address.If the Node ID set to an IP address when CP/UP exposes multiple IP addresses, it may cause some problem. For example:1)SMF initials the Association Setup Request (via Local configuration or DNS/NRF lookup) and set the Node ID as one of the exposed multiple IP addresses.2)Upon receiving the Association Setup Request, UPF will only know one IP address that belong to the SMF. Although the SMF have exposed multiple IP addresses for this association.Moreover, a CP/UP function support one or more PFCP entities where the CP/UP function is identified by Node ID and PFCP entity is identifed by IP address. So, IP address is more about identifing an PFCP entity but not a function. When IP address is set in Node ID to identify a function, it’s shall indicate that the CP/UP function only exposes one IP address for this association. |
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| ***Summary of change:*** | Clauses 3.1 and clauses 5.8.1. Clarified when a Node ID is set to IP address, it indicate that the CP/UP function only exposes one IP address for this association. |
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| ***Consequences if not approved:*** | Some IP informations might been missing during information exchange between CP and UP in Association Setup procedure. |
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| ***Clauses affected:*** | 5.8.1 |
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|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\* \* \* First Change \* \* \* \*

### 5.8.1 General

A PFCP Association shall be set up between the CP function and the UP function prior to establishing PFCP sessions on that UP function. Only one PFCP association shall be setup between a given pair of CP and UP functions, even if the CP and/or UP function exposes multiple IP addresses. A single PFCP association may also be setup between a SMF set and a UPF (see clause 5.22.2).

The CP function and the UP function shall support the PFCP Association Setup procedure initiated by the CP function (see clause 6.2.6.2). The CP function and the UP function may additionally support the PFCP Association Setup procedure initiated by the UP function (see clause 6.2.6.3).

A CP function may have PFCP Associations set up with multiple UP functions. A UP function may have PFCP Associations set up with multiple CP functions.

A CP function or a UP function shall be identified by a unique Node ID. A Node ID may be set to an FQDN or an IP address (see clause 8.2.38). When set to an IP address, it indicates that the CP/UP function only exposes one IP address for the PFCP Association.

The IP address configured as Node ID or IP addresses resolved by Node ID (if it is FQDN) shall be possible used for both PFCP Association level and Session level signalling.

The PFCP entities shall accept any new IP address allocated as part of F-SEID other than the one(s) communicated in the Node Id.

NOTE: The source IP address to send PFCP Association Setup request can not be used as the destination IP address when the peer sends a PFCP Association Update Request message, e.g. for a scenario when a NAT is deployed in the network.

Prior to establishing a PFCP Association, the function responsible for establishing the PFCP Association (e.g. CP function) shall look up a peer function (e.g. UP function), e.g using DNS procedures (see 3GPP TS 29.303 [25]), NRF procedures (see 3GPP TS 29.510 [43]) or local configuration. If the peer function is found to support multiple IP addresses (in the look up information), one of these addresses (any one) shall be used as destination IP address to send the PFCP Association Setup Request. Once the PFCP Association is established, any of the IP addresses of the peer function (found during the look-up) may then be used to send subsequent PFCP node related messages and PFCP session establishment requests for that PFCP Association.

NOTE 1: The look up information (e.g. in DNS, NRF or local configuration of the function responsible for establishing the PFCP association) needs to be configured consistently with the addressing information of the peer function. If a FQDN is configured to identify a function in DNS or NRF, then the Node ID of that function included in PFCP messages need to be set to the same FQDN. For instance, if the CP function is responsible for establishing the PFCP association, a UP function that exposes multiple IP addresses (for PFCP node related messages and PFCP session establishment requests) needs to be configured in the look up information as one (single) UP function that is associated to multiple IP addresses. The Node ID needs to be set to an SMF set FQDN when a single association is setup between an SMF set and UPF (see clause 5.22.2).

NOTE 2: PFCP session related messages for sessions that are already established are sent to the IP address received in the F-SEID allocated by the peer function or to the IP address of an alternative SMF in the SMF set (see clause 5.22). The former IP address needs not be configured in the look up information. See  4.3.2 and 4.3.3.

\* \* \* End of Changes \* \* \* \*