**3GPP TSG CT WG3 Meeting #135 *C3-243xxx***

**Hyderabad, IN, 27 - 31 May, 2024 was C3-243240**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **29.507** | **CR** | **0307** | **rev** | **1** | **Current version:** | **18.5.0** |  |
|  |
| *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 |  | Core Network | **X** |

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|  |
| ***Title:***  | eNS\_Ph3 relared corrections |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | eNS\_Ph3 |  | ***Date:*** | 2024-05-31 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *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)* |
|  |  |
| ***Reason for change:*** | There are some eNS\_Ph3 related corrections (e.g., wrong attribute name) that need to be applied. |
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| ***Summary of change:*** | This CR proposes to:* Correct the name of the "Change of Allowed NSSAI" PCRT to align with the other corrections in the TS and additional corrections to respect the drafting rules.
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|  |  |
| ***Consequences if not approved:*** | * eNS\_Ph3 related provisions continue to contain errors.
 |
|  |  |
| ***Clauses affected:*** | 4.2.2.1, 4.2.3.1, 4.2.4.2, 5.6.2.2, 5.6.2.5, 5.8 |
|  |  |
|  | **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 does not impact the OpenAPI descriptions of the APIs defined in this specification. |
|  |  |
| ***This CR's revision history:*** |  |

\* \* \* \* Start of changes \* \* \* \*

#### 4.2.2.1 General

The procedure in the present clause is applicable when the NF service consumer (e.g. AMF) creates an AM policy association when the UE registers to the network, and when the AMF is relocated (between the different AMF sets) and the new AMF selects a new PCF. The procedure for the case where the AMF is relocated and the new AMF selects the old PCF is defined in clause 4.2.3.1.

The creation of an AM policy association only applies for normally registered UEs, i.e., it does not apply for Emergency Registered UEs.

Figure 4.2.2.1-1 illustrates the creation of a policy association.



Figure 4.2.2.1-1: Creation of a policy association

When a UE registers and a UE context is being established, the AMF can obtain Service Area Restrictions, RFSP index, subscribed UE-AMBR, subscribed UE-Slice-MBR(s) and GPSI(s) from the UDM during the Access and Mobility Subscription Data retrieval procedure, and the list of NWDAF instance IDs used for the UE and their associated Analytic ID(s) consumed by the AMF, the Allowed NSSAI and the Target NSSAI from local configuration or from the NSSF during the slice selection procedure and shall decide based on local policies whether to request policies from the PCF.

To request policies from the PCF, the NF service consumer (e.g. AMF) shall send an HTTP POST request with: "{apiRoot}/npcf-am-policy-control/v1/policies" as Resource URI and the PolicyAssociationRequest data structure as request body that shall include:

- Notification URI encoded as "notificationUri" attribute;

- SUPI encoded as "supi" attribute;

- if the "SliceSupport" feature, the "DNNReplacementControl" feature and/or the "NetSliceRepl" feature is/are supported in the NF service consumer and the UE is registered via a 3GPP access, the Allowed NSSAI in the 3GPP access within the "allowedSnssais" attribute; and

- if the "PartNetSliceSupport" feature and/or the "NetSliceRepl" feature is/are supported in the NF service consumer and the UE is registered via a 3GPP access, the Partially Allowed NSSAI in the 3GPP access within the "partAllowedNssai" attribute;

and that shall include when available:

- GPSI encoded as "gpsi" attribute;

- if the feature "MultipleAccessTypes" is not supported, the access type encoded as "accessType" attribute;

- Permanent Equipment Identifier (PEI) encoded as "pei" attribute;

- User Location Information encoded as "userLoc" attribute;

- UE Time Zone encoded as "timeZone" attribute;

- the identifier of the serving network (the PLMN Identifier or the SNPN Identifier)encoded as "servingPlmn" attribute;

NOTE 1: The SNPN Identifier consists of the PLMN Identifier and the NID.

- if the feature "MultipleAccessTypes" is not supported, the RAT type encoded as "ratType" attribute;

- Service Area Restrictions (see clause 4.2.2.3.1) derived from the Service Area Restrictions obtained from the UDM by mapping any service areas denoted by geographical information into Tracking Area Identities (TAIs) and encoded as "servAreaRes" attribute;

- RFSP index (see clause 4.2.2.3.2) as obtained from the UDM encoded as "rfsp" attribute;

- a list of Internal Group Identifiers encoded as "groupIds" attribute;

- if the NF service consumer is an AMF, the GUAMI encoded as "guami" attribute;

- if the NF service consumer is an AMF, the name of a service produced by the AMF that expects to receive information within Npcf\_AMPolicyControl\_UpdateNotify service operation encoded as "serviceName" attribute;

- Alternate or backup IPv4 Address(es) where to send Notifications encoded as "altNotifIpv4Addrs" attribute;

- Alternate or backup IPv6 Address(es) where to send Notifications encoded as "altNotifIpv6Addrs" attribute;

- Alternate or backup FQDN(s) where to send Notifications encoded as "altNotifFqdns" attribute;

- trace control and configuration parameters information encoded as "traceReq" attribute;

- if the feature "UE-AMBR\_Authorization" is supported in the NF service consumer, the subscribed UE-AMBR (see clause 4.2.2.3.3) in the "ueAmbr" attribute;

- if the "DNNReplacementControl" feature is supported, the mapping of each S-NSSAI of the Allowed NSSAI, and if the "PartNetSliceSupport" feature is supported, the mapping of each S-NSSAI of the Partially Allowed NSSAI to the corresponding S-NSSAI of the HPLMN within the "mappingSnssais" attribute;

- if the "PartNetSliceSupport" feature is supported in the NF service consumer and the UE is registered via a 3GPP access:

- the list of the S-NSSAI(s) rejected partially in the RA, if available, within the "snssaisPartRejected" attribute;

- the list of the Rejected S-NSSAI(s) in the RA, if available, within the "rejectedSnssais" attribute; and/or

- the Pending NSSAI encoded, if available, within the "pendingNssai" attribute;

- if the feature "UE-Slice-MBR\_Authorization" is supported in the NF service consumer, the subscribed UE-Slice-MBR for each subscribed S-NSSAI of the home PLMN mapping to a S-NSSAI of the serving PLMN if available (see clause 4.2.2.3.5) encoded in the "ueSliceMbrs" attribute;

- when the "EneNA" feature is supported, the list of NWDAF instance IDs used for the UE and their associated Analytic IDs consumed by the NF service consumer, included within the "nwdafDatas" attribute; and

- if the feature "TargetNSSAI" is supported in the NF service consumer, the Target NSSAI generated by the NF service consumer or received from the NSSF encoded in the "targetSnssais" attribute.

Upon the reception of this HTTP POST request, the PCF shall:

- assign a policy association ID;

- determine the applicable policy (taking into consideration and optionally modifying the possibly received UE-AMBR, UE-Slice-MBR(s) for the Allowed NSSAI and the Partially Allowed NSSAI, Service Area Restrictions, RFSP index, Allowed NSSAI, Partially Allowed NSSAI, list of the S-NSSAI(s) rejected partially in the RA, list of the Rejected S-NSSAI(s) in the RA and/or Pending NSSAI);

- for the successful case, send a HTTP "201 Created" response with the URI for the created resource in the "Location" header field

NOTE 2: The assigned policy association ID is part of the URI for the created resource and is thus associated with the SUPI.

and the PolicyAssociation data type as response body including:

- conditionally AMF Access and Mobility Policy (see clause 4.2.2.3), i.e.:

a) if the PCF received the "servAreaRes" attribute in the request, Service Area Restrictions encoded as "servAreaRes" attribute; and/or

b) if the PCF received the "rfsp" attribute in the request, RAT Frequency Selection Priority (RFSP) Index encoded as "rfsp" attribute. If the feature "RFSPValidityTime" is supported and the PCF determines to provide an RFSP index value that indicates EPC/E-UTRAN access is prioritized over 5GS access, the PCF may provide, based on operator policies, a validity time for the RFSP index value within the "rfspValTime" attribute;; and/or

c) if the feature "UE-AMBR\_Authorization" is supported and the PCF received the "ueAmbr" attribute in the request, the authorized UE-AMBR encoded as "ueAmbr" attribute;

d) if the feature "UE-Slice-MBR\_Authorization" is supported and the PCF received the "ueSliceMbrs" attribute in the request, the corresponding authorized UE-Slice-MBR(s) encoded as "ueSliceMbrs" attribute;

e) if the feature "AMInfluence" is supported, the PCF for the UE determines that the access and mobility policies may be influenced by the traffic of PDU session(s) and local operator policies indicate that the PCF for the UE shall subscribe with the PCF for the PDU session for established/terminated PDU session(s) event notifications via the AMF and the SMF, the PCF for the UE information within the "pcfUeInfo" attribute, and the DNN and S-NSSAI of the concerned PDU session(s) within the "matchPdus" attribute. The "pcfUeInfo" attribute shall include the PCF for the UE callback URI via which the PCF(s) for the PDU session shall send notifications about the related PDU session(s) established/terminated events within the "callbackUri" attribute, and if available, the associated PCF for the UE instance ID, PCF set ID, and the level of SBA binding within the "bindingInfo" attribute;

f) if the feature "5GAccessStratumTime" is supported and the PCF receives the access stratum time distribution parameters from the TSCTSF as defined in 3GPP TS 29.534 [26], the 5G access stratum time distribution parameters encoded as "asTimeDisParam" attribute as defined in clause 4.2.2.3.6; and/or

g) if the "NetSliceUsageCtrl" feature is supported and the PCF determines that one or more S-NSSAI(s) of the UE's Allowed NSSAI is/are on-demand S-NSSAI(s) and subject to network slice usage control, the network slice usage control information (e.g., slice deregistration inactivity timer) within the "sliceUsgCtrlInfoSets" attribute as specified in clause 4.2.2.3.7;

NOTE 3: In this release of the specification, network slice usage control information provisioning by the PCF is not supported in roaming scenarios.

- optionally one or several of the following Policy Control Request Trigger(s) encoded as "triggers" attribute (see clause 4.2.3.2):

a) Location change (tracking area);

b) Change of UE presence in PRA;

c) if the "SliceSupport" feature, the "DNNReplacementControl" feature and/or the "NetSliceRepl" feature is/are supported, Change of Allowed NSSAI;

d) if the "DNNReplacementControl" feature is supported, change of SMF selection information; and

e) if the "EneNA" feature is supported, change of NWDAF data;

f) if the "TargetNSSAI" feature is supported, Generation of Target NSSAI;

g) if the "NetSliceRepl" feature is supported, S-NSSAI Replacement;

h) if the "PartNetSliceSupport" feature and/or the "NetSliceRepl" feature is/are supported, Change of the Partially Allowed NSSAI;

i) if the "PartNetSliceSupport" feature is supported, Change of the S-NSSAI(s) rejected partially in the RA, Change of the rejected S-NSSAI(s) in the RA and/or Change of the Pending NSSAI;

- if the Policy Control Request Trigger "Change of UE presence in PRA" is provided, the presence reporting areas for which reporting is required encoded as "pras" attribute;

NOTE 4: If the PCF uses a Presence Reporting Area identifier referring to a Set of Core Network predefined Presence Reporting Areas as defined in 3GPP TS 23.501 [2], the PCF includes the identifier of this Presence Reporting Area set within the "praId" attribute.

- if the Policy Control Request Trigger "Change of SMF selection information" is provided, the SMF selection information representing the conditions upon which the AMF shall request a DNN replacement (see clause 4.2.2.3.4) encoded as "smfSelInfo" attribute;

- if the Policy Control Request Trigger "Generation of Target NSSAI" is provided, the RFSP Index associated with the Target NSSAI encoded as "targetRfsp" attribute; and

- if the "SLAMUP" feature is supported, and operator policies indicate the AMF should select same CHF that is selected by the PCF for a UE, the PCF may provide the CHF address and if available, the associated CHF instance ID(s) and/or CHF set ID(s) encoded as "chfInfo" attribute;

and

- if errors occur when processing the HTTP POST request, apply error handling procedures as specified in clause 5.7 and according to the following provisions:

- if the user information received within the "supi" attribute is unknown, the PCF shall reject the request and include in an HTTP "400 Bad Request" response message the "cause" attribute of the ProblemDetails data structure set to "USER\_UNKNOWN";

- if the PCF is, due to incomplete, erroneous or missing information in the request, not able to provision an AM policy decision, the PCF may reject the request and include in an HTTP "400 Bad Request" response message the "cause" attribute of the ProblemDetails data structure set to "ERROR\_REQUEST\_PARAMETERS"; and

- if the PCF rejects the AM policy association establishment, the NF service consumer shall apply the policy retrieved from the UDM if available; otherwise, the NF service consumer shall apply the operator configured policy.

If the PCF received a GUAMI, the PCF may subscribe to GUAMI changes using the AMFStatusChange service operation of the Namf\_Communication service specified in 3GPP TS 29.518 [14], and it may use the Nnrf\_NFDiscovery Service specified in 3GPP TS 29.510 [13] (using the obtained GUAMI and possibly service name) to query the other AMFs within the AMF set.

If the PCF received a "traceReq" attribute, it shall perform trace procedures as defined in 3GPP TS 32.422 [18].

If the PCF received the list of NWDAF instance IDs used for the UE and their associated Analytic IDs within the "nwdafDatas" attribute, the PCF may select those NWDAF instances as described in 3GPP TS 29.513 [7].

The PCF may retrieve AF requirements on Access and Mobility policies from the UDR as specified in 3GPP TS 29.519 [17] and consider them for determining the Access and Mobility policies to be provisioned.

\* \* \* \* Next changes \* \* \* \*

#### 4.2.3.1 General

The procedure in the present clause is applicable when the NF service consumer modifies an existing AM policy association (including the case where the AMF is relocated and the new AMF selects the old PCF to maintain the policy association and to update the Notification URI).

Figure 4.2.3.1-1 illustrates the update of a policy association.



Figure 4.2.3.1-1: Update of a policy association

The AMF as NF service consumer invokes this procedure when a policy control request trigger (see clause 4.2.3.2) occurs. When a policy control request trigger that does not require the subscription as defined in table 5.6.3.3-1 (e.g. Service Area Restriction change trigger) occurs, the NF service consumer (e.g. AMF) shall always invoke the procedure. When a policy control request trigger requires the subscription as defined in table 5.6.3.3-1 (e.g. location change trigger) occurs, the NF service consumer shall only invoke the procedure if the PCF has subscribed to that event trigger.

If an AMF knows by implementation specific means that the UE context has been transferred to an AMF with another GUAMI within the AMF set, it may also invoke this procedure to update the Notification URI and the GUAMI.

NOTE 1: Either the old or the new AMF can invoke this procedure.

During the AMF relocation, if the new AMF received the resource URI of the individual AM Policy from the old AMF and selects the old PCF, the new AMF shall also invoke this procedure to update the Notification URI and the GUAMI. The new AMF may also update the alternate or backup IP addresses. If the feature "FeatureRenegotiation" is supported, the new AMF may perform feature renegotiation, as described in clause 4.2.3.4.

To request policies from the PCF, to update the Notification URI, to renegotiate features, to update the trace control configuration and/or to request the termination of trace, the NF service consumer (e.g. AMF) shall request the update of the AM Policy Association by providing the relevant parameters about the UE context by sending an HTTP POST request with "{apiRoot}/npcf-am-policy-control/v1/policies/{polAssoId}/update" as Resource URI and the PolicyAssociationUpdateRequest data structure as request body that shall include:

- at least one of the following:

1. a new Notification URI encoded in the "notificationUri" attribute;

2. observed Policy Control Request Trigger(s) (see clause 4.2.3.2) encoded as "triggers" attribute;

3. if a Service Area restriction change occurred, the Service Area Restrictions (see clause 4.2.2.3.1) as obtained from the UDM encoded as "servAreaRes" attribute;

4. if a RFSP index change occurred, the RFSP index (see clause 4.2.2.3.2) as obtained from the UDM encoded as "rfsp" attribute;

5. if a UE location change occurred and the Policy Control Request Trigger "Location change" was provided, the UE location encoded as "userLoc" attribute;

6. if the Policy Control Request Trigger "Change of UE presence in PRA" was provided, the current presence status of the UE for the presence reporting areas for which reporting was requested, if not previously provided, or the presence reporting areas for which reporting was requested and the status has changed encoded as "praStatuses" attribute;

NOTE 2: If the PCF included the identifer of a Core Network predefined Presence Reporting Area Set within the "praId" attribute during the subscription to changes of UE presence in PRA, the AMF only provides the presence reporting area information corresponding to the concerned individual Presence Reporting Area Identifier(s) within the Set. The "praId" attribute within each returned "PresenceInfo" data type hence includes the identifier of the concerned individual Presence Reporting Area.

7. if the trace control configuration needs to be updated, trace control and configuration parameters information encoded as "traceReq" attribute;

8. if trace needs to be terminated, the "traceReq" attribute set to the Null value;

9. if the "SliceSupport" feature, the "DNNReplacementControl" feature and/or the "NetSliceRepl" feature is/are supported, the UE is registered via 3GPP access, the Allowed NSSAI changed, and the Policy Control Request Trigger "Change of Allowed NSSAI" was provided, then the Allowed NSSAI within the "allowedSnssais" attribute;

10. for AMF relocation scenarios, if available, alternate or backup IPv4 Address(es) where to send Notifications encoded as "altNotifIpv4Addrs" attribute;

11. for AMF relocation scenarios, if available, alternate or backup IPv6 Address(es) where to send Notifications encoded as "altNotifIpv6Addrs" attribute;

12. for AMF relocation scenarios, if available, alternate or backup FQDN(s) where to send Notifications encoded as "altNotifFqdns" attribute;

13. for AMF relocation scenarios, the GUAMI encoded as "guami" attribute;

NOTE 3: An alternate NF service consumer than the one that requested the generation of the subscription resource can send the request. For instance, an AMF as service consumer can change.

14. if the feature "UE-AMBR\_Authorization" is supported, and a subscribed UE-AMBR change occurred, the UE-AMBR (see clause 4.2.2.3.3) as obtained from the UDM encoded as "ueAmbr" attribute;

15. if the feature "DNNReplacementControl" is supported, DNN replacement applies and the Policy Control Request Trigger "Change of SMF selection information" was provided, the "smfSelInfo" attribute including:

- the UE requested DNN in the "dnn" attribute; and

- the UE requested S-NSSAI in the "snssai" attribute and, if available, the corresponding mapped home S-NSSAI in the "mappingSnssai" attribute;

when:

- the UE requested an unsupported DNN and the "unsuppDnn" attribute is set to "true"; or

- the UE requested DNN and S-NSSAI matched one of the S-NSSAI and DNN provided in the "candidates" attribute;

16. if feature "DNNReplacementControl" is supported, the UE is registered via 3GPP access, the Allowed NSSAI changed and/or the mapping of a S-NSSAI of the Allowed NSSAI to the corresponding S-NSSAI of the HPLMN changed, and the Policy Control Request Trigger "Change of allowed NSSAI" was provided, then the mapping of each S-NSSAI of the Allowed NSSAI to the corresponding S-NSSAI of the HPLMN encoded in the "mappingSnssais" attribute;

NOTE 4: When the feature "DNNReplacementControl" is supported, the AMF applies DNN replacement for non-roaming scenarios and LBO. For a PDU session with home routed roaming, whether to perform DNN replacement is based on operator agreement.

17. if feature "UE-Slice-MBR\_Authorization" is supported, and a subscribed UE-Slice-MBR change occurred, the subscribed UE-Slice-MBR for each subscribed S-NSSAI of the home PLMN mapping to a S-NSSAI of the serving PLMN (see clause 4.2.2.3.5) encoded in the "ueSliceMbrs" attribute;

18. if the feature "EneNA" is supported and an NWDAF information change occurred, the list of NWDAF instance IDs used for the UE and their associated Analytic ID(s) with the updated values within the "nwdafDatas" attribute;

NOTE 5: The NF service consumer provides the complete updated list of NWDAF instance IDs and associated Analytic ID(s) used for the UE. If all NWDAF data is deleted an empty list is included.

19. if the feature "TargetNSSAI" is supported, a new Target NSSAI is generated and the Policy Control Request Trigger "Generation of Target NSSAI" is provided, the new generated Target NSSAI encoded in the "targetSnssais" attribute;

20. if the "NetSliceRepl" feature is supported, the AMF is aware that one or more S-NSSAI(s) become unavailable but cannot determine the corresponding Alternative S-NSSAI(s) and the Policy Control Request Trigger "SLICE\_REPLACE\_MGMT" was provided, these unavailable S-NSSAI(s) within the "unavailSnssais" attribute;

21. if "PartNetSliceSupport" feature and/or "NetSliceRepl" feature is/are supported, the UE is registered via 3GPP access, the Partially Allowed NSSAI changed and the Policy Control Request Trigger "Change of the Partially Allowed NSSAI" was subscribed by the PCF, then the updated Partially Allowed NSSAI within the "partAllowedNssai" attribute;

22. if the "PartNetSliceSupport" feature is supported, the UE is registered via 3GPP access, the Partially Allowed NSSAI changed and/or the mapping of one or more of the S-NSSAI(s) of the Partially Allowed NSSAI to the corresponding HPLMN S-NSSAI(s) changed, and the Policy Control Request Trigger "Change of the Partially Allowed NSSAI" was subscribed by the PCF, then the mapping of each S-NSSAI of the Partially Allowed NSSAI to the corresponding HPLMN S-NSSAI within the "mappingSnssais" attribute; and

23. if the "PartNetSliceSupport" feature is supported, the UE is registered via 3GPP access and:

- if the list of the S-NSSAI(s) rejected partially in the RA changed and the Policy Control Request Trigger "Change of the S-NSSAI(s) rejected partially in the RA" was subscribed by the PCF, then the updated list of the S-NSSAI(s) rejected partially in the RA within the "snssaisPartRejected" attribute;

- if the list of the Rejected S-NSSAI(s) in the RA changed and the Policy Control Request Trigger "Change of the Rejected S-NSSAI(s)" was subscribed by the PCF, then the updated list of the Rejected S-NSSAI(s) in the RA within the "rejectedSnssais" attribute; and

- if the Pending NSSAI changed and the Policy Control Request Trigger "Change of the Pending NSSAI" was subscribed by the PCF, then the updated Pending NSSAI within the "pendingNssai" attribute.

Upon the reception of the HTTP POST request, the PCF shall:

- update the corresponding individual AM Policy resource based on the information provided by the NF service consumer;

- determine the applicable policy based on local policy;

- for the successful case, send a HTTP "200 OK" response with the PolicyUpdate data type as body with possible updates for that applicable policy and Policy Control Request Trigger(s) encoded as described in clause 4.2.3.3 and according to the following provisions:

a) if the PCF received the "servAreaRes" attribute in the request, Service Area Restrictions encoded as "servAreaRes" attribute;

b) if the PCF received the "rfsp" attribute in the request, RAT Frequency Selection Priority (RFSP) Index encoded as "rfsp" attribute. If the feature "RFSPValidityTime" is supported and the PCF determines to provide an RFSP index value that indicates EPC/E-UTRAN access is prioritized over 5GS access, the PCF may provide, based on operator policies, a validity time for the RFSP index value within the "rfspValTime" attribute;

c) if the feature "UE-AMBR\_Authorization" is supported and the PCF received the "ueAmbr" attribute in the request, UE-AMBR encoded as "ueAmbr" attribute;

d) if the PCF received the "smfSelInfo" attribute in the request, the "smfSelInfo" attribute encoding the PCF selected DNN in the "dnn" attribute corresponding to the S-NSSAI received in the "snssai" attribute;

NOTE 6: A PolicyUpdate data structure with only mandatory attribute(s) is included in the "200 OK" response when the PCF decides not to update the policies.

e) if the feature "UE-Slice-MBR\_Authorization" is supported and the PCF received the "ueSliceMbrs" attribute in the request, the corresponding authorized UE-Slice-MBR(s) encoded as "ueSliceMbrs" attribute;

f) if the feature "TargetNSSAI" is supported and the PCF received the "targetSnssais" attribute in the request, the RFSP Index associated with the Target NSSAI encoded as "targetRfsp" attribute;

g) if the "NetSliceUsageCtrl" feature is supported, the updated network slice usage control information (e.g., updated slice deregistration inactivity timer) within the "sliceUsgCtrlInfoSets" attribute for each on-demand S-NSSAI of the UE's Allowed NSSAI; and/or

NOTE 7: In this release of the specification, network slice usage control information provisioning/update/removal by the PCF is not supported in roaming scenarios.

h) if the "NetSliceRepl" feature is supported and the PCF received the "unavailSnssais" attribute in the request, the Alternative S-NSSAI(s) associated with the received S-NSSAI(s) within the "snssaiReplInfos" attribute containing these unavailable S-NSSAI(s), and for each unavailable S-NSSAI, the corresponding status information set to "UNAVAILABLE" and the corresponding Alternative S-NSSAI;

- if errors occur when processing the HTTP POST request, apply error handling procedures as specified in clause 5.7 and according to the following provisions:

a) if the PCF is, due to incomplete, erroneous or missing information in the request, not able to provision an AM policy decision, the PCF may reject the request and include in an HTTP "400 Bad Request" response message the "cause" attribute of the ProblemDetails data structure set to "ERROR\_REQUEST\_PARAMETERS".

b) if the "ES3XX" feature is supported and the PCF (service) instance has changed, the PCF may respond with an HTTP 3xx redirect response pointing to a new PCF (service) instance as defined in clause 6.5.3.3 of 3GPP TS 29.500 [5].

If the PCF received a "traceReq" attribute, it shall perform trace procedures as defined in 3GPP TS 32.422 [18].

If the AMF received the request of removal of Service Area Restrictions and/or RFSP Index and/or UE-AMBR and/or UE-Slice-MBR(s) from the UDM, the AMF shall remove the authorized Service Area Restrictions and/or RFSP Index and/or UE-AMBR and/or UE-Slice-MBR(s) provisioned by the PCF and apply the configured Service Area Restrictions and/or RFSP Index and/or UE-AMBR and/or UE-Slice-MBR(s) at the AMF without interacting with the PCF.

If feature "DNNReplacementControl" is supported and the AMF received the update of the SMF selection information within the "smfSelInfo" attribute in the response, the AMF shall apply the updated SMF selection information to the new PDU Sessions only, i.e. already established PDU Sessions are not affected.

If the feature "AMInfluence" is supported, the PCF determines that the access and mobility policies may be influenced by the traffic of a PDU session(s), e.g. based on the received policy control request trigger(s), and local operator policies indicate the PCF for the UE shall subscribe with the PCF for the PDU session for established/terminated PDU session(s) event notifications, the PCF shall provision/update the AMF with the PCF for the UE information within the "pcfUeInfo" attribute and the complete list of S-NSSAI and DNN combinations within the "matchPdus" attribute. The AMF shall then update the affected established PDU sesssion(s), by forwarding the received PCF for the UE information for the PDU session(s) matching the new S-NSSAI and DNN combination(s) and removing the previously provided PCF for the UE information for the PDU session(s) matching the removed S-NSSAI and DNN combination(s) as defined in 3GPP TS 29.502 [31].

When the "AMInfluence" fetaure is supported, and the SBA binding indication information for the PCF instance changes, the PCF may update the previously provided information in the AMF. The AMF shall apply the updated PCF callback information to the new PDU Sessions only, i.e., already established PDU sessions are not affected.

If the PCF received a new GUAMI, the PCF may subscribe to GUAMI changes using the AMFStatusChange service operation of the Namf\_Communication service specified in 3GPP TS 29.518 [14], and it may use the Nnrf\_NFDiscovery Service specified in 3GPP TS 29.510 [13] (using the obtained GUAMI and possibly service name) to query the other AMFs within the AMF set.

If the PCF received a "servAreaRes" attribute which resulted to a change of the Service Area Restrictions, it shall send notifications to any NF Service Consumer(s) (e.g. AF) that have subscribed to the related event by using the Npcf\_AMPolicyAuthorization service (see TS 29.534 [26]) and/or the Npcf\_EventExposure service ((see TS 29.523 [28]).

If the PCF received a new list of NWDAF instance IDs used for the UE and their associated Analytic IDs within the "nwdafDatas" attribute, the PCF may select those NWDAF instances based on this new list as described in 3GPP TS 29.513 [7].

\* \* \* \* Next changes \* \* \* \*

#### 4.2.4.2 Policy update notification

Figure 4.2.4.2-1 illustrates the policy update notification.



Figure 4.2.4.2-1: policy update notification

The PCF may decide to update policy control request trigger(s) and/or Access and Mobility policies related to an Individual AM Policy Association, e.g., in response to information provided to the PCF via external interfaces, (e.g., the Npcf\_AMPolicyAuthorization service (see 3GPP TS 29.534 [26]), notifications provided by the Npcf\_PolicyAuthorization service (see 3GPP TS 29.514 [25]), notifications received from UDR about new or updated AF requirements on Access and Mobility polices (see 3GPP TS 29.519 [17]), or in response to an internal trigger within the PCF, e.g., the activation of a pending policy counter provided via the Nchf\_SpendingLimitControl Service (see 3GPP TS 29.594 [33]). The PCF shall send for this purpose an HTTP POST request with "{notificationUri}/update" as URI (where the Notification URI was previously supplied by the NF service consumer) and the PolicyUpdate data structure as request body encoded as described in clause 4.2.3.3.

Upon the reception of the HTTP POST request, the NF service consumer shall enforce the received updated policy.

In case of a successful update notification:

- if the feature "ImmediateReport" is supported and the PCF provisioned policy control request triggers as defined in Table 5.6.2.9-1, a "200 OK" response code and a response body with the corresponding available information in the "AmRequestedValueRep" data structure shall be returned in the response;

- otherwise, a "204 No Content" response code shall be returned in the response.

If errors occur when processing the HTTP POST request, the NF service consumer shall send an HTTP error response as specified in clause 5.7.

If the feature "ES3XX" is supported, and the NF service consumer determines the received HTTP POST request needs to be redirected, the NF service consumer shall send an HTTP redirect response as specified in clause 6.10.9 of 3GPP TS 29.500 [5].

If the AMF as NF service consumer is not able to handle the notification but knows by implementation specific means that another AMF is able to handle the notification, it shall reply with an HTTP "307 Temporary redirect" response pointing to the URI of the new AMF. If the AMF is not able to handle the notification but another unknown AMF could possibly handle the notification, it shall reply with an HTTP "404 Not found" error response.

If the PCF receives a "307 Temporary redirect" response, the PCF shall resend the failed policy update notification request using the received URI in the Location header field as Notification URI. Subsequent policy update notifications, triggered after the failed one, shall be sent to the Notification URI provided by the NF service consumer during the corresponding policy association creation/update.

If the PCF becomes aware that a new AMF is requiring notifications (e.g. via the "404 Not found" response, via Namf\_Communication service AMFStatusChange Notifications, see 3GPP TS 29.518 [14], or via link level failures), and the PCF knows alternate or backup IPv4, IPv6 Addess(es) or FQDN(s) where to send Notifications (e.g. via "altNotifIpv4Addrs", "altNotifIpv6Addrs" or "altNotifFqdns" attributes received when the policy association was created, via AMFStatusChange Notifications or via the Nnrf\_NFDiscovery Service specified in 3GPP TS 29.510 [13] (using the service name and GUAMI obtained during the creation of the subscription) to discover the other AMFs within the AMF set), the PCF shall exchange the authority part of the corresponding Notification URI with one of those addresses and shall use that URI in any subsequent communication.

If the PCF received a "404 Not found" response, the PCF should resend the failed policy update notification request to that URI.

If the feature "DNNReplacementControl" is supported and the AMF received the update of the SMF selection information within the "smfSelInfo" attribute in the request, the AMF shall apply the updated SMF selection information to the new PDU Sessions only, i.e. already established PDU Sessions are not affected.

If the feature "AMInfluence" is supported, the PCF determines that the access and mobility policies may be influenced by the traffic of a PDU session(s) based on an AF request, UDR notification or other internal policies, and local operator policies indicate the PCF for the UE shall subscribe with the PCF for the PDU session for established/terminated PDU session(s) event notifications, the PCF for the UE shall provision/update the AMF with the PCF for the UE information within the "pcfUeInfo" attribute and the complete list of S-NSSAI and DNN combinations within the "matchPdus" attribute. The AMF shall update the affected established PDU sesssions, forwarding the received PCF for the UE information for the PDU session(s) matching the new S-NSSAI and DNN combination(s), and removing the previously provided PCF for the UE information for the PDU session(s) matching the removed S-NSSAI and DNN combination(s) as defined in 3GPP TS 29.502 [31].

When the "AMInfluence" features is supported, and the SBA binding indication information for the PCF instance changes, the PCF may update the previously provided information in the AMF. The AMF shall apply the updated PCF callback information to the new PDU Sessions only, i.e., already established PDU sessions are not affected.

NOTE 1: Alternatively, the PCF for the UE can subscribe with the BSF to notifications about the PCF binding information creation and/or termination for the affected PDU session(s) as described in 3GPP TS 29.521 [30].

If the PCF changed the Service Area Restrictions as part of the policy update, it shall send notifications to any NF Service Consumer(s) (e.g. AF) that have subscribed to the related event by using the Npcf\_AMPolicyAuthorization service (see TS 29.534 [26]) and/or the Npcf\_EventExposure service (see TS 29.523 [28]).

If the feature "5GAccessStratumTime" is supported and the PCF receives the access stratum time distribution parameters or removal of the access stratum time distribution parameters from the TSCTSF as defined in 3GPP TS 29.534 [26], the PCF may provision, update or remove the 5G access stratum time distribution parameters by provisioning the "asTimeDisParam" attribute as defined in clause 4.2.2.3.6. The AMF shall provision the 5G access stratum time distribution parameters to the NG-RAN when receiving it from the PCF.

If the feature "RFSPValidityTime" is supported and the PCF determines to modify the RFSP index value in use to indicate EPC/E-UTRAN access is prioritized over 5GS access, the PCF shall send to the AMF the RFSP Index value within the "rfsp" attribute and may provide, based on operator policies, the validity time for the indicated RFSP Index value within the "rfspValTime" attribute, as defined in clause 4.2.2.3.2.

If the feature "NetTimeSyncStatus" is supported and the PCF receives the clock quality detail level and optionally the clock quality acceptance criteria parameters from the TSCTSF as defined in 3GPP TS 29.534 [26], the PCF may update the clock quality detail level and if applicable the clock quality acceptance criteria parameters by provisioning the "asTimeDisParam" attribute as defined in clause 4.2.2.3.6. The AMF shall provision the clock quality detail level and the clock quality acceptance criteria parameters to the NG-RAN when receiving it from the PCF.

If the "NetSliceUsageCtrl" feature is supported, the PCF may check whether any of the S-NSSAI(s) of the UE's Allowed NSSAI are on-demand S-NSSAI(s) and subject to network slice usage control. If it is the case, the PCF may provision/update/remove via the Npcf\_AMPolicyControl\_UpdateNotify request the network slice usage control information (e.g., slice deregistration inactivity timer) within the "sliceUsgCtrlInfoSets" attribute of the PolicyUpdate data structure for one or more of these S-NSSAI(s).

NOTE 2: In this release of the specification, network slice usage control information provisioning/update/removal by the PCF is not supported in roaming scenarios.

If the "NetSliceRepl" feature is supported, then:

- when the PCF detects that one or more S-NSSAI(s) of the UE's Allowed NSSAI and/or Partially Allowed NSSAI become(s) unavailable for a UE based on an OAM trigger, a received NWDAF notification or PCF internal triggers, the PCF may indicate this to the AMF by providing the "snssaiReplInfos" attribute containing these impacted S-NSSAI(s), and for each impacted S-NSSAI, the corresponding status information set to "UNAVAILABLE" and optionally an Alternative S-NSSAI; and

- when the PCF becomes aware that one or more S-NSSAI(s) of the UE's Allowed NSSAI and/or Partially Allowed NSSAI become(s) available again, the PCF may indicate this to the AMF also by providing the "snssaiReplInfos" attribute containing these impacted S-NSSAI(s), and for each impacted S-NSSAI, the corresponding status information set to "AVAILABLE".

NOTE 3: The PCF can provide within the "snssaiReplInfos" attribute both information about S-NSSAI(s) that are currently unavailable and information about S-NSSAI(s) that are available again.

\* \* \* \* Next changes \* \* \* \*

#### 5.6.2.2 Type PolicyAssociation

Table 5.6.2.2-1: Definition of type PolicyAssociation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| request | PolicyAssociationRequest | O | 0..1 | The information provided by the NF service consumer when requesting the creation of a policy association |  |
| triggers | array(RequestTrigger) | O | 1..N | Request Triggers that the PCF subscribes. Only values "LOC\_CH", "ALLOWED\_NSSAI\_CH", "TARGET\_NSSAI", "SMF\_SELECT\_CH", "PRA\_CH", "ACCESS\_TYPE\_CH", "SLICE\_REPLACE\_MGMT", "PARTIALLY\_ALLOWED\_NSSAI\_CH", "SNSSAIS\_PARTIALLY\_REJECTED\_CH", "REJECTED\_SNSSAIS\_CH" and "PENDING\_NSSAI\_CH" are permitted. | (NOTE 1) |
| servAreaRes | ServiceAreaRestriction | O | 0..1 | Service Area Restriction as part of the AMF Access and Mobility Policy as determined by the PCF |  |
| wlServAreaRes | WirelineServiceAreaRestriction | O | 0..1 | Wireline Service Area Restriction as part of the AMF Access and Mobility Policy as determined by the PCF | WirelineWirelessConvergence |
| rfsp | RfspIndex | O | 0..1 | RFSP Index as part of the AMF Access and Mobility Policy as determined by the PCF. |  |
| rfspValTime | DurationSec | O | 0..1 | Validity time of the RFSP Index value provided within the "rfsp" attribute.It may be provided when the RFSP Index value within the "rfsp" attribute indicates the EPC/E-UTRAN access is prioritized over 5GS access. It shall be omitted for other RFSP Index values. | RFSPValidityTime |
| targetRfsp | RfspIndex | C | 0..1 | RFSP Index associated with the Target NSSAI. It shall be present if the Target NSSAI was received in the request and the trigger "TARGET\_NSSAI" is provided. | TargetNSSAI |
| pras | map(PresenceInfo) | C | 1..N | If the Trigger "PRA\_CH" is provided, the presence reporting area(s) for which reporting is requested shall be provided. The "praId" attribute within the PresenceInfo data type shall also be the key of the map. The "presenceState" and the "additionalPraId" attributes within the PresenceInfo data type shall not be supplied. The "praId" attribute within the PresenceInfo data type shall include the identifier of either a presence reporting area or a presence reporting area set. |  |
| smfSelInfo | SmfSelectionData | O | 0..1 | If the trigger "SMF\_SELECT\_CH" is provided, the conditions for SMF selection information replacement, as determined by the PCF shall be provided. | DNNReplacementControl |
| ueAmbr | Ambr | O | 0..1 | UE-AMBR as part of the AMF Access and Mobility Policy as determined by the PCF. | UE-AMBR\_Authorization |
| ueSliceMbrs | array(UeSliceMbr) | O | 1..N | One or more UE-Slice-MBR(s) for S-NSSAI(s) of serving PLMN as part of the AMF Access and Mobility Policy as determined by the PCF. | UE-Slice-MBR\_Authorization |
| pcfUeInfo | PcfUeCallbackInfo | O | 0..1 | Contains the PCF for the UE information necessary for the PCF for the PDU session to send events notifications to the PCF for the UE. | AMInfluence |
| matchPdus | array(PduSessionInfo) | C | 1..N | Indicates the matched PDU session(s) for which the PCF for the UE information in the "pcfUeInfo" attribute shall be forwarded to the SMF. It shall be present when the "pcfUeInfo" attribute is present.(NOTE 2) | AMInfluence |
| asTimeDisParam | AsTimeDistributionParam | O | 0..1 | Contains the 5G acess stratum time distribution parameters. | 5GAccessStratumTime |
| sliceUsgCtrlInfoSets | map(SliceUsgCtrlInfo) | O | 1..N | Represents the network slice usage control information.The key of the map shall be set to the on-demand S-NSSAI (provided within the "snssai" attribute of the corresponding map entry encoded using the SliceUsgCtrlInfo data structure) to which the network slice usage control information is related. | NetSliceUsageCtrl |
| chfInfo | ChargingInformation | O | 0..1 | The address(es) and, if available, the CHF instance ID and the CHF set ID of the Charging Function.(NOTE 3) | SLAMUP |
| suppFeat | SupportedFeatures | M | 1 | Indicates the negotiated supported features. |  |
| NOTE 1: The "ALLOWED\_NSSAI\_CH", "TARGET\_NSSAI", "SMF\_SELECT\_CH", "ACCESS\_TYPE\_CH", "SLICE\_REPLACE\_MGMT", "PARTIALLY\_ALLOWED\_NSSAI\_CH", "SNSSAIS\_PARTIALLY\_REJECTED\_CH", "REJECTED\_SNSSAIS\_CH" and "PENDING\_NSSAI\_CH" values in the "triggers" attribute apply under feature control as described in clause 4.2.3.2.NOTE 2: The DNN encoded within the PduSessionInfo element(s) of the "matchPdus" array contains a full DNN or only the DNN Network Identifier based on the DNN provided by the AF to the PCF in the AmInfluence API, as specified in 3GPP TS 29.522 [32]. When the DNN contains the Network Identifier only, the AMF shall match a PDU session for the received Network Identifier and for any value of the Operator Identifier.NOTE 3: This attribute may only be supplied by the PCF in the response to the POST request that requested the creation of an individual AM policy resource. |

\* \* \* \* Next changes \* \* \* \*

#### 5.6.2.5 Type PolicyUpdate

Table 5.6.2.5-1: Definition of type PolicyUpdate

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| resourceUri | Uri | M | 1 | The resource URI of the individual AM policy related to the notification.(NOTE 3) |  |
| triggers | array(RequestTrigger) | O | 1..N | Request Triggers that the PCF subscribes. Only values "LOC\_CH", "ALLOWED\_NSSAI\_CH", "TARGET\_NSSAI", "SMF\_SELECT\_CH", "PRA\_CH", "ACCESS\_TYPE\_CH", "SLICE\_REPLACE\_MGMT", "PARTIALLY\_ALLOWED\_NSSAI\_CH", "SNSSAIS\_PARTIALLY\_REJECTED\_CH", "REJECTED\_SNSSAIS\_CH" and "PENDING\_NSSAI\_CH" are permitted. | (NOTE 1)(NOTE 2) |
| servAreaRes | ServiceAreaRestriction | O | 0..1 | Service Area Restriction as part of the AMF Access and Mobility Policy as determined by the PCF. |  |
| wlServAreaRes | WirelineServiceAreaRestriction | O | 0..1 | Wireline Service Area Restriction as part of the AMF Access and Mobility Policy as determined by the PCF | WirelineWirelessConvergence |
| rfsp | RfspIndex | O | 0..1 | RFSP Index as part of the AMF Access and Mobility Policy as determined by the PCF. |  |
| rfspValTime | DurationSec | O | 0..1 | Validity time of the RFSP Index value provided within the "rfsp" attribute.It may be provided when the RFSP Index value within the "rfsp" attribute indicates the EPC/E-UTRAN access is prioritized over 5GS access. It shall be omitted for other RFSP Index values. | RFSPValidityTime |
| targetRfsp | RfspIndex | C | 0..1 | RFSP Index associated with the Target NSSAI. It shall be present when the Target NSSAI was received in the request. | TargetNSSAI |
| smfSelInfo | SmfSelectionData | C | 0..1 | It may include updated conditions for SMF Selection information replacement. It shall include the PCF decision of the selected DNN when the "smfSelInfo" attribute containing the UE requested S-NSSAI and DNN was sent in the request. | DNNReplacementControl |
| ueAmbr | Ambr | C | 0..1 | UE-AMBR as part of the AMF Access and Mobility Policy. | UE-AMBR\_Authorization |
| ueSliceMbrs | array(UeSliceMbr) | O | 1..N | One or more UE-Slice-MBR(s) for S-NSSAI(s) of serving PLMN as part of the AMF Access and Mobility Policy as determined by the PCF. | UE-Slice-MBR\_Authorization |
| pras | map(PresenceInfoRm) | C | 1..N | If the Trigger "PRA\_CH" is provided or if that trigger was already set but the requested presence reporting areas need to be changed, the presence reporting area(s) for which reporting is requested shall be provided. The "praId" attribute within the PresenceInfo data type shall also be the key of the map. The "presenceState" attribute within the PresenceInfo data type shall not be supplied. The "praId" attribute within the PresenceInfo data type shall include the identifier of either a presence reporting area or a presence reporting area set. |  |
| pcfUeInfo | PcfUeCallbackInfo | O | 0..1 | Contains the PCF for the UE information necessary for the PCF for the PDU session to send event notifications to the PCF for the UE.  | AMInfluence |
| matchPdus | array(PduSessionInfo) | C | 1..N | Indicates the matched PDU session(s) for which the PCF for the UE information in the "pcfUeInfo" attribute shall be forwarded to the SMF.It shall be present when the "pcfUeInfo" attribute is present and was not previously provisioned by the PCF for the UE.(NOTE 4) | AMInfluence |
| asTimeDisParam | AsTimeDistributionParam | O | 0..1 | Contains the 5G acess stratum time distribution parameters. | 5GAccessStratumTime |
| snssaiReplInfos | map(SnssaiReplaceInfo) | O | 1..N | Contains the network slice replacement related Information for one or more S-NSSAI(s) of the UE's Allowed NSSAI and/or Partially Allowed NSSAI.The key of the map shall be set to the concerned unavailable S-NSSAI provided within the "snssai" attribute of the corresponding map entry (encoded using the SnssaiReplaceInfo data structure). | NetSliceRepl |
| sliceUsgCtrlInfoSets | map(SliceUsgCtrlInfo) | O | 1..N | Represents the updated network slice usage control information.The key of the map shall be set to the on-demand S-NSSAI (provided within the "snssai" attribute of the corresponding map entry encoded using the SliceUsgCtrlInfo data structure) to which the network slice usage control information is related. | NetSliceUsageCtrl |
| suppFeat | SupportedFeatures | C | 0..1 | Indicates the negotiated supported features.It shall be included in the HTTP POST response when the NF service consumer provided the supported features in the HTTP POST request. | FeatureRenegotiation |
| NOTE 1: The "ALLOWED\_NSSAI\_CH", "TARGET\_NSSAI", "SMF\_SELECT\_CH", "ACCESS\_TYPE\_CH", "SLICE\_REPLACE\_MGMT", "PARTIALLY\_ALLOWED\_NSSAI\_CH", "SNSSAIS\_PARTIALLY\_REJECTED\_CH", "REJECTED\_SNSSAIS\_CH" and "PENDING\_NSSAI\_CH" values in the "triggers" attribute apply under feature control as described in clause 4.2.3.2.NOTE 2: The "SMF\_SELECT\_CH" trigger may be met only for new PDU sessions, i.e. it shall not apply to ongoing PDU sessions.NOTE 3: When the PolicyUpdate data type is used in a policy update notify service operation, either the complete resource URI included in the "resourceUri" attribute or the "apiSpecificResourceUriPart" component (see clause 5.1) of the resource URI included in the "resourceUri" attribute may be used by the NF service consumer (e.g. AMF) for the identification of the Individual AM Policy Association resource related to the notification.NOTE 4: The DNN encoded within the PduSessionInfo element(s) of the "matchPdus" array contains a full DNN or only the DNN Network Identifier based on the DNN provided by the AF to the PCF in the AmInfluence API, as specified in 3GPP TS 29.522 [32]. When the DNN contains the Network Identifier only, the AMF shall match a PDU session for the received Network Identifier and for any value of the Operator Identifier. |

\* \* \* \* Next changes \* \* \* \*

## 5.8 Feature negotiation

The optional features in table 5.8-1 are defined for the Npcf\_AMPolicyControl API. They shall be negotiated using the extensibility mechanism defined in clause 6.6 of 3GPP TS 29.500 [5].

Table 5.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
| 1 | SliceSupport | Indicates the support of AM policies differentiation based on the awareness of the allowed NSSAI. |
| 2 | PendingTransaction | This feature indicates support for the race condition handling as defined in 3GPP TS 29.513 [7]. |
| 3 | UE-AMBR\_Authorization | Indicates the support of UE-AMBR control by the PCF in the serving network. |
| 4 | DNNReplacementControl | Indicates the support of DNN replacement control. |
| 5 | MultipleAccessTypes | Indicates the support of AM policies for the multiple (i.e. 3GPP and non-3GPP) access and RAT types where the served UE is camping. |
| 6 | WirelineWirelessConvergence | Indicates the support of Wireline and Wireless access convergence. |
| 7 | ImmediateReport | Indicates the support of the current applicable values report corresponding to the policy control request triggers for policy update notification. |
| 8 | ES3XX | Extended Support for 3xx redirections. This feature indicates the support of redirection for any service operation, according to Stateless NF procedures as specified in clauses 6.5.3.2 and 6.5.3.3 of 3GPP TS 29.500 [5] and according to HTTP redirection principles for indirect communication, as specified in clause 6.10.9 of 3GPP TS 29.500 [5].  |
| 9 | UE-Slice-MBR\_Authorization | Indicates the support of UE-Slice-MBR control by the PCF in the serving network. |
| 10 | AMInfluence | Indicates the support of the alternative mechanism to support informing the PCF for the UE of PDU session(s) established/terminated events via the delivery of the PCF for the UE information necessary for the PCF for the PDU session to send notifications on PDU session(s) established/terminated events through the AMF and the SMF. |
| 11 | EneNA | This feature indicates the support of NWDAF data reporting. |
| 12 | TargetNSSAI | Indicates the support for RFSP Index associated with the Target NSSAI. |
| 13 | 5GAccessStratumTime | This feature indicates the support of 5G acess stratum time distribution parameters provisioning. |
| 14 | FeatureRenegotiation | This feature indicates the support of feature renegotiation during the update of a policy association triggered by UE mobility with AMF change. |
| 15 | NetSliceRepl | This feature indicates the support of the network slice replacement functionality as part of the enhancements of the network slicing functionality. The following functionalities are supported:- Support the network slice replacement information management. |
| 16 | RFSPValidityTime | This feature indicates the support of the provisioning of a validity time for the RFSP Index value that indicates the EPC/E-UTRAN access is prioritized over 5GS access. |
| 17 | NetTimeSyncStatus | This feature indicates the support of network timing synchronization status and reporting. This feature requires the support of the 5GAccessStratumTime feature as well. |
| 18 | NetSliceUsageCtrl | This feature indicates the support of the network slice usage control functionality as part of the enhancements of the network slicing functionality.The following functionalities are supported:- Support the provisioning by the PCF of the network slice usage control information (e.g., slice deregistration inactivity timer value).This feature requires the support of the "SliceSupport" and/or "DNNReplacementControl" features. |
| 19 | PartNetSliceSupport | This feature indicates the partial network slice support in a Registration Area functionality as part of the enhancements of the network slicing functionality.The following functionalities are supported:- Support the reporting of the changes in the Partially Allowed NSSAI, S-NSSAI(s) rejected partially in the RA, Rejected S-NSSAI(s) in the RA and/or the Pending NSSAI to the PCF. |
| 20 | SLAMUP | This feature indicates the support of the provisioning to the AMF of the CHF information of the CHF selected by the PCF. |

\* \* \* \* End of changes \* \* \* \*